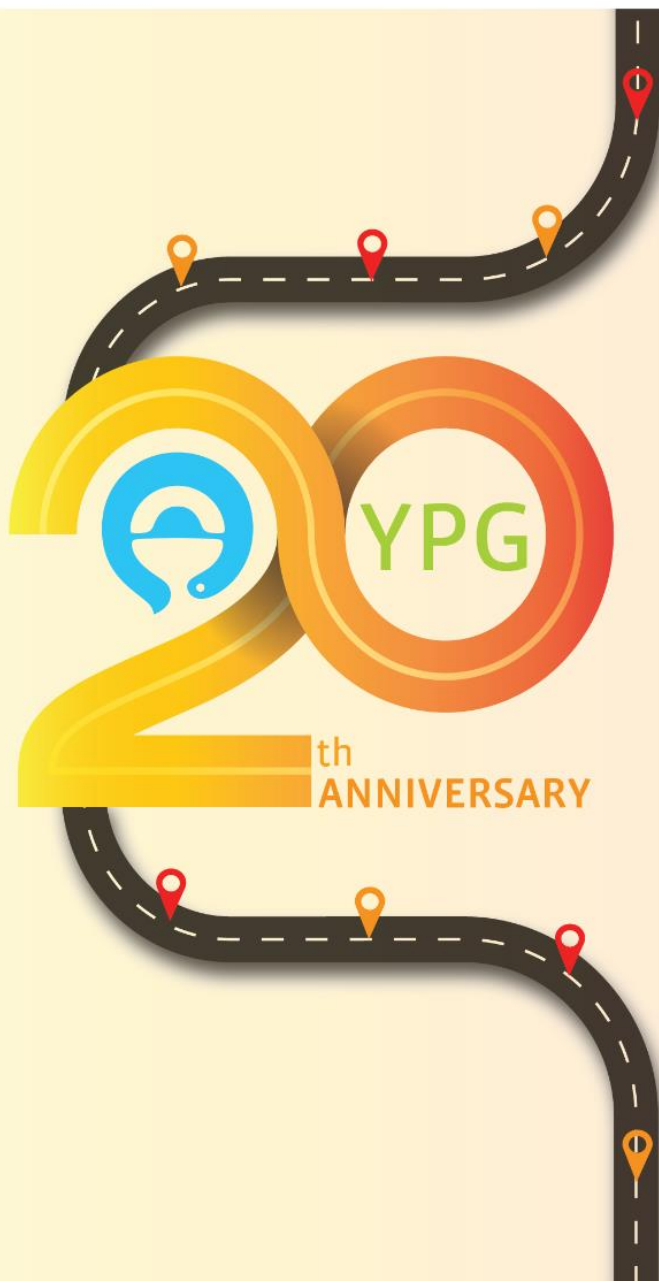


GLOBAL PHARMACISTS AND PHARMACEUTICAL SCIENTISTS

Twenty years of FIP YPG
— International
Pharmaceutical
Federation Young
Pharmacists Group

Past, present and future



Colophon

Copyright 2021 International Pharmaceutical Federation (FIP)

International Pharmaceutical Federation (FIP)
Andries Bickerweg 5
2517 JP The Hague
The Netherlands
www.fip.org

All rights reserved. No part of this publication may be stored in any retrieval system or transcribed by any form or means – electronic, mechanical, recording, or otherwise without citation of the source. FIP shall not be held liable for any damages incurred resulting from the use of any data and information from this report. All measures have been taken to ensure accuracy of the data and information presented in this report.

ISBN 978-9-083092-84-3

Publication date 16 October 2021

Editors

Renly Lim
Louisa Sullivan

Design and layout

Yogendra Kanchapu
Yeu Lou Lee
Renly Lim

Recommended citation

International Pharmaceutical Federation (FIP). Global pharmacists and pharmaceutical scientists: Twenty years of FIP YPG — International Pharmaceutical Federation Young Pharmacists Group. Past, present and future. The Hague: International Pharmaceutical Federation; 2021.

Disclaimer

The views expressed in this document are solely those of the contributors and do not necessarily represent the views of the International Pharmaceutical Federation or the FIP Young Pharmacists Group.

Contents

Foreword from the FIP president	4
Foreword from the FIP CEO.....	5
Preface.....	6
Chapter 1: The past and the present.....	7
Chapter 2: Academic Pharmacy Section.....	30
Chapter 3: Clinical Biology Section.....	33
Chapter 4: Community Pharmacy Section.....	34
Chapter 5: Health and Medicines Information Section.....	45
Chapter 6: Hospital Pharmacy Section	49
Chapter 7: Industrial Pharmacy Section.....	52
Chapter 8: Military and Emergency Pharmacy Section	55
Chapter 9: Social and Administrative Pharmacy Section	58
Chapter 10: Drug Delivery and Manufacturing SIG.....	61
Chapter 11: New Generation of Pharmaceutical Scientists SIG.....	64
Chapter 12: New Medicines SIG	67
Chapter 13: Pharmacy Practice Research SIG.....	71
Chapter 14: Personalised and Precision Medicines SIG.....	74
Chapter 15: Regulatory Sciences and Quality SIG.....	75
Chapter 16: Workforce Development Hub.....	76
Chapter 17: The FIP Foundation for Education and Research	81
Chapter 18: FIP-UNESCO UNITWIN Programme.....	83
Chapter 19: WHO Global Health Workforce Network (GHWN) Youth Hub.....	85
Chapter 20: YPG chapters around the world	87
Chapter 21: YPG: A look to the future.....	99

Foreword from the FIP president

It is my pleasure to congratulate the YPG on its 20th anniversary. Considering its evolution over the past 20 years, I can only be proud of its achievements. From year to year, its leaders knew how to build on the work of their predecessors to grow and to mature this vibrant group of young pharmacists. Congratulations!

YPG is very important to FIP. It is a crucial structure within FIP which attracts young pharmacists and pharmaceutical scientists, being a solid bridge between generations. Being part of FIP, YPG is not only playing a role internationally but it also incites the creation of YPGs on a national level in many countries. Because of its leaders' enthusiasm and passion, the solidarity among its members and the various actions initiated, YPG became a very trusted brand among pharmacists and pharmaceutical scientists.

I really enjoy seeing how members of YPG are getting involved in all the structures of FIP as well as in the most important working groups. This involvement is imminent as it secures continuity for future generations of pharmacists and pharmaceutical scientists. Therefore, it is mandatory for YPG members to participate actively in the evolution of our profession. The decisions taken today will influence the professional activities of tomorrow.

I highly appreciate YPG's support of our ONE FIP strategy, which unifies the profession around the world in Trust, Solidarity and Action while tending to the needs of the different regions.

In conclusion, I want to thank all the people involved in the creation and leadership of YPG for their vision, for their tenacity over the years as well as their innovative thinking and dedication to FIP. Today, FIP can rely on YPG's skills and support. Continue your way within FIP in this same exceptional spirit. As President of FIP, I will always be by your side.

Long live YPG!
Long live FIP!
Long live pharmacy!

Dominique Jordan
President, FIP

Foreword from the FIP CEO

What a pleasure it is to be CEO at the time of such an anniversary and such reflections — the FIP YPG 20th anniversary.

When we consider FIP and all its constituencies, YPG is not just an essential cog in the YPG wheel, it is fundamental. Without the next generation engaged and empowered to affect and influence the agenda of our entire profession, we lose an opportunity to grow, evolve and advance. Considering this anniversary is the 20th, I am amazed on two fronts: first is the true leadership shown two decades ago, and second is the fact that because the YPG is so essential to FIP it's impossible now to imagine the federation without it.

When I look at the list of YPG leaders and chart their career trajectories, I can only say we have been blessed at FIP to have had such a wonderful group of leaders. I also observe that all these leaders have gone on to great things, so not only have they been a force for good for YPG and FIP, their experiences have been beneficial for their careers. This is exactly how leadership should be: a nurturing, developmental experience for individuals, and a way for them to experience strategic management at a high level with colleagues from around the world. It is invaluable. Thereafter it provides a stimulating and enhancing skill set for young leaders to take with them in their portfolios and subsequent roles, both employed and voluntary.

As President Jordan says, the ONE FIP strategy unifies the profession around the world in trust, solidarity and action, while tending to the needs of the different regions and nations. And for it to be successful and sustainable, we need our YPG engaged at all stages and all levels, across all regions and nations, and aligned with all FIP constituencies. Where we have YPG engaged, we see synergy, energy and impact.

From my perspective as CEO, I am super-proud of the 20 years you have had as a fundamental group within FIP, and I cannot wait to see you flourish, grow and effect the change we need across and within our profession. Congratulations YPG! Here's to decades more of success!

Catherine Duggan
Chief executive officer, FIP

Preface

In 2021, we celebrate a significant milestone by marking 20 years of FIP YPG. We celebrate 20 years of leadership, 20 years of achievements and 20 years of camaraderie.

To commemorate this important milestone, we share with you a report containing stories from leaders within FIP. These leaders served tirelessly to build FIP YPG into what it is today — a thriving, vibrant and inclusive group representing early-career pharmacists and pharmaceutical scientists globally.

The 2021 FIP YPG Steering Committee had three priorities this year: (i) to strengthen relationship with FIP leaders to support the ONE FIP strategy; (ii) capacity building; and (iii) member engagement within FIP and externally. To strengthen YPG's relationship with FIP leaders, we have 16 subcommittee members who liaise with FIP sections, special interest groups, FIP Education, the FIP Foundation and external organisations, whose primary role is to build relationships and serve as a link of communication. In this report, we dedicate one chapter to each section and SIG within FIP; each chapter begins with a message from our FIP YPG liaison.

Capacity building is a key enabler for building a strong and sustainable YPG. The 2021 Steering Committee organised various capacity building activities for our members, many of which were initially developed by the past YPG steering committees. We revamped the Leadership Development Programme into an online training programme; the programme was first developed by the 2018 YPG steering committee. We continue to offer professional development opportunities such as the FIP YPG Mentorship Programme, Remote Volunteering Programme and through working groups. We now have YPG representatives at key FIP activities such as the FIP COVID-19 Global Expert Advisory Group and ONE FIP Data and Intelligence Commission, as well as outside of FIP including representation at the Lancet and Financial Times Commission “Growing up in a digital world: Governing health futures 2030” and the GSK Consumer Healthcare exclusive virtual roundtable. None of these would have been possible had it not been for the vision and hard work of past YPG leaders.

To those who are new to FIP and YPG, I hope you enjoy reading the stories and experiences shared by pharmacists and pharmaceutical scientists from around the world and that you get to know more about the people and the different structures within FIP.

To my FIP friends and colleagues, it's time to reminisce about the good old days. I hope you enjoy reading the stories and have fun looking for a photo of you!



Renly Lim
President, FIP YPG

Chapter 1: The past and the present

Paul Sinclair (Australia)

Chair, Board of Pharmaceutical Practice, FIP

It is a pleasure for me to contribute to this most important FIP report acknowledging the contribution of the Young Pharmacists Group and their role in the Board of Pharmaceutical Practice (BPP).

The BPP and its board represents the diverse groups of pharmaceutical practice that exist today within the pharmaceutical care landscape. The Sections within the BPP are:

- Academic Pharmacy
- Clinical Biology
- Community Pharmacy
- Health and Medicines Information
- Hospital Pharmacy
- Industrial Pharmacy
- Military and Emergency Pharmacy
- Social and Administrative Pharmacy

During the past 20 years we have seen young pharmacists take increasingly active roles within the BPP. Many of the executive committees of the various sections have younger pharmacists as office bearers and they bring the perspective and enthusiasm of the younger generation of our profession in influencing policy, practice and outcomes.

Pharmaceutical practice is changing rapidly with more accessible technology and new therapies driving the need for more highly skilled and educated practitioners. No group within our profession is better placed to exercise an increased scope of practice than our young pharmacists. I think back to my early days as a community pharmacist when I was principally a dispenser of medicine and provider of information and advice. Today, community pharmacists still have dispensing as a core competency, but also administer a wide range of vaccines, provide point of care testing, medication reviews, disease state management programmes and health literacy programmes.

New therapies such as biologics demand new skills and new knowledge to be delivered by our educators. Change is a constant across all areas of practice whether it be in industrial, hospital, community or military and emergency pharmacy. There has never been greater opportunity for pharmacists to play a more significant role in drug development, primary care and collaboration with other healthcare providers.

The 2017 BPP Future Trends Report highlights three pillars in identifying pharmacy's place in the healthcare system: (i) pharmacists providing value; (ii) interprofessional teams and collaborative care; and (iii) new technologies, e-health and m-health. To achieve these, we need to leverage the clinical expertise, skills and capacity of our young pharmacists. FIP has encouraged their participation at all levels of our organisation, including the BPP.

I congratulate all members of the FIP Young Pharmacists Group on their contribution to the BPP over the past 20 years and I look forward to their continued involvement as they help to influence pharmaceutical practice into the future.

Ross McKinnon (Australia)

Chair, Board of Pharmaceutical Sciences, FIP

As Chair, I am delighted to acknowledge the outstanding contribution of the Young Pharmacists Group to the Board of Pharmaceutical Sciences (BPS) and the broader FIP organisation over 20 years. The BPS seeks to advance the pharmaceutical sciences globally, promote excellence in the pharmaceutical sciences and support the continuing scientific education of pharmacists and pharmaceutical scientists globally. It achieves this through the work of its Special Interest Groups (SIGs).

Our current SIGs are:

- Drug Delivery and Manufacturing
- New Generation of Pharmaceutical Scientists
- New Medicines
- Personalised and Precision Medicine
- Pharmacy Practice Research
- Regulatory Sciences and Quality

Our SIGs were recently reconfigured to respond to the changing landscape in pharmaceutical sciences. Notably, a new SIG recognising the invaluable contribution of younger FIP members to the activities of BPS was formed at this time. This SIG also recognises the specific professional development requirements of younger pharmacists and pharmaceutical scientists. Along with the new SIG structure, the BPS Strategic Plan acknowledges the importance of younger FIP pharmacists and pharmaceutical scientists. The achievements of BPS have been inspired by the energy and drive of our younger members. The New Generation of Pharmaceutical Scientists SIG involving many YPG members has quickly grown to be one of our largest and most dynamic SIGs, leading critical scientific programming and policy work.

Pharmaceutical science continues to be a critical foundation of the pharmacy profession. We can have no pharmaceutical care without a scientifically informed pharmaceutical workforce. The complexity of many new drug therapies, the continued emergence of biotechnology-derived products, including vaccines, rapidly evolving digital technology, the adoption of precision medicine approaches and the increasing scientific literacy of our communities are among many healthcare trends that demand continued vigilance on the scientific foundations of the pharmacy profession.

The importance of pharmaceutical science has been highlighted by the COVID-19 pandemic. Together with public health measures, scientific innovation has been at the forefront of our attempts to control the pandemic. The importance of the YPG and our new generation SIG for the strategic ambitions of BPS and FIP have never been clearer.

Congratulations to the FIP Young Pharmacists Group on their contribution to the BPS and more broadly, FIP, over the past 20 years! It has been quite the ride. BPS is very excited by the opportunities that the rapid developments in pharmaceutical science offer to our profession and we look forward to the role that YPG will play in the ONE FIP strategy in future years.

Ralph Altieri (USA)

Chair, FIP Education

On behalf of FIP Education (FIP*Ed*), I am pleased to offer our collective congratulations to YPG on its 20th anniversary and to provide our contribution to this milestone report. YPG and FIP*Ed* are relative newcomers to FIP in that we both had our start in FIP in the early 2000s and developed our presence in tandem over the past 20 years. We have both seen and been a part of remarkable changes in pharmacy education and practice with our mutual goal of even more transformative changes to come. Let us look back on our beginning, where we are now and where hope to be in the future.

Past

YPG is actually older than FIP*Ed* is within FIP. Although the Academic Pharmacy Section (AcPS) has been in existence since 1972, FIP*Ed* had its initial start within FIP in 2006. In 2000, FIP adopted a policy on Good Pharmacy Education Practice that arose from earlier WHO-FIP conferences on the role of the pharmacist in healthcare systems and the role of education in developing an appropriate workforce. That subsequently led the FIP Executive Committee to pay closer attention to education and it convened a consultation of experts at the 2006 FIP World Congress in Brazil. A collaboration between WHO and FIP led to the formation of the FIP Pharmacy Education Taskforce (PET) in 2007 with its action plans developed through consultations with the global pharmacy education community. To meet its strategic objectives to reform pharmacy education globally, FIP established the Academic Institutional Membership (AIM) in 2010 to provide a network of global education leaders to help effect change. We now had three units contributing to education change — the AcPS, PET and AIM. To bring all education related programmes together, FIP then launched FIP Education Initiatives in 2011 with a Bureau level steering committee and the FIP*Ed* Internal Reference Group (IRG) consisting of the AcPS, PET and AIM, marking the official beginning of FIP*Ed* within FIP. The FIP-UNESCO UNITWIN programme also was established in 2010 and later brought into FIP*Ed* membership as a platform to implement education transformation. PET was succeeded by the Education Development Team (EDT) and later the Workforce Development Hub (WDH).

Where was YPG in these developments? YPG was invited to participate in FIP*Ed* IRG strategy meetings beginning in 2012 to provide input for early-career pharmacists to assure education was meeting their needs as well as those of society. From the very early stages, YPG has been an important contributor to FIP*Ed* development.

Present

YPG engagement with FIP*Ed* has continued as the FIP*Ed* IRG was transformed into the current FIP*Ed* Executive Committee (FIP*Ed* ExCo) in 2015 which is composed of its four major voting constituents — AcPS, AIM, WDH and UNITWIN — with contributing members from BPP, BPS, the International Pharmaceutical Students Federation (IPSF), YPG and PTAC (pharmacy technicians). In 2018, the FIP Council approved FIP*Ed* governance, making FIP*Ed* a recognised official constituent unit in FIP similar to BPP and BPS. YPG has always been invited to participate in FIP*Ed* strategy meetings and currently is a permanent contributing member of FIP*Ed* ExCo, attending all FIP*Ed* ExCo meetings to provide YPG input into FIP*Ed* strategies and projects.

Throughout this time, FIP*Ed* ExCo units have had engagement with YPG through liaisons with YPG and YPG members engaged with FIP*Ed* units WDH, AcPS and UNITWIN. Among the numerous contributions of YPG to FIP*Ed* are establishment of the annual AcPS-YPG Leadership Symposium inaugurated at the 2018 FIP World Congress, contributions to the UNITWIN FIP Pharmacy Education in sub-Saharan Africa report launched in 2020 and the FIP UNITWIN Pathfinder Toolkit launched in 2021, and FIP*Ed* and YPG collaborations on World Congress programming and webinars provided throughout the years. FIP*Ed* in turn was invited to contribute to the 2021 FIP YPG report on the role of early-career pharmaceutical organisations (ECPO) in global health and to this report, demonstrating the close working relationship between FIP*Ed* and YPG.

Future

Much has changed in the past 20 years and there are many changes coming our way now and in the years ahead, leading to new challenges and new opportunities. FIP*Ed* and YPG share the common goal of preparing pharmacists and pharmaceutical scientists to advance practice and science to meet the health needs of our communities. To meet this goal, pharmacy education must change to assure we are

preparing pharmacists for the future, e.g., expanded roles in primary healthcare and public health, assuring current and future pharmacists and scientists are prepared to engage in the digital health revolution, the expanded diversity of career opportunities and breaking new ground going forward, the need for leadership development to meet current and future challenges and opportunities, and more.

FIPEd looks forward to working even more closely with YPG to meet these goals because it is the future for YPG members, your careers and your contributions to local and global health for current and future generations. To do so, we need a robust academy to assure we have the academic capacity in terms of numbers and expertise to provide the education and practitioner training to meet these future needs.

To that end, looking forward to the next 20 years, together YPG, IPSF and *FIPEd* can build on our relationships to promote academic careers among our students and young pharmacists and the rewards that come with knowing that for each student, pharmacist or pharmaceutical scientist you educate or provide post-graduate training you are making an immense positive impact in the lives of thousands of patients receiving the care provided by pharmacists over the course of their careers. To quote a maxim that is attributed to teacher and civilian astronaut Christa McAuliffe and is as true today as when I first read it 35 years ago: "I touch the future. I teach."

Congratulations once again to YPG on its first 20 years of progress and contributions to FIP and pharmacy. We look forward to the next 20 years of working with you to touch and to shape the future of pharmacy.

Nilhan Uzman (Netherlands)

FIP lead for education policy and implementation & FIP YPG and IPSF account holder

What has changed or made the biggest impact on your career in the past 20 years?

I have been a pharmacist for almost 10 years. Including my five-year studies, I have been on my pharmacy journey for almost 20 years. I have experienced different practice areas of pharmacy during my internships, and my professional life and the biggest impact on my career was to first explore my interest in health policy and then to start working at FIP. During my studies, I have been active in students' associations (e.g., European Pharmaceutical Students' Federation) and I got more and more passionate about the pharmacy profession through these experiences. Now that I work at FIP, I truly enjoy advancing my profession. I empathise with my colleagues around the world and I understand their needs as I am a pharmacist too. This perspective and opportunity to serve my profession truly changed my career journey.

What was the biggest career challenge you have faced in the past 20 years? How has it improved since?

I have changed jobs, sectors, areas and even countries several times. Adapting to a new company culture, new line managers, new colleagues, new targets and priorities is rewarding and comes with challenges. Each change requires time and planned effort. I benefited from receiving mentorship for each job change and learned to be more adaptable, flexible and agile.

What was the biggest growth you've seen in the field of pharmacy for your country or region? What further changes do you expect in the coming years?

For this question, I will provide a global perspective of pharmacy as an employee of FIP. Going through the COVID-19 pandemic, FIP became a more agile and vibrant organisation, serving its members and our profession. We provide new services to our members to support their needs and development, and connect them to a "Pharmily", to a sense of belonging in these challenging times. This has been an important transition and growth for FIP as an organisation, and for global pharmacy.

FIP published the FIP Development Goals in September 2020, setting the goals for the next decade ahead for pharmacy. FIP Development Goals are a smart way to transform and advance our profession, and us as pharmacists, as by implementing each goal, we also contribute to the sustainable development of our communities and the world, as they build on the United Nations Sustainable Development Goals. The future of pharmacy is exciting and it will change completely by 2030. We are excited to have FIP YPG as you (we) will be the future of our profession and continue the legacy of the FIP Development Goals.

Do you have any stories to share on how a professional organisation (especially the YPG or FIP) has positively impacted your career trajectory?

I was a third-year pharmacy student in 2009, when FIP's World Congress was being held in Istanbul, Turkey, my home town. I was eager to have an international engagement, and I had the opportunity to work as a student staff at the FIP Congress in Istanbul, representing the Turkish Pharmacists' Association (the FIP member organisation and national body in Turkey). The congress was a milestone for me, as it was the moment I encountered global pharmacy and met colleagues and friends from around the world. After the congress, I set myself a target to become a global pharmacist. I worked at local, regional and international student organisations and explored career trajectories with multinational companies. More than 10 years after the congress, here I am working at FIP, and it's an absolute joy to be a global pharmacist and to tell the story that explains the huge positive impact of FIP on my career. I recommend each student and early career pharmacist to stay connected and become a member of FIP, and your regional/national professional organizations for a global vision and building a great "Pharmily".

Twenty years of the FIP YPG Steering Committee





Sally Arnison

Clinical pharmacist, Ascot Primary Care Network, United Kingdom

Together with a handful of IPSF alumni, I was involved in establishing the FIP YPG as an officially endorsed group within FIP, with the intent of bridging the gap between IPSF and the FIP sections. This took a number of years of sensitive negotiation in order to be taken seriously by FIP, and was finally ratified in 2001.

It is fabulous to see those small steps have grown into the thriving and dynamic YPG you have today. It is great to see that those same values hold strong and that your events and activities support the original aims.

Many of the skills I learnt during FIP YPG days have been helpful through my career as a community pharmacy owner, pharmacist prescriber and now clinical pharmacist, and many friends made in YPG remain friends in life 20+ years later. The highlight of my pharmacy career was receiving a Member of the Order of the British Empire (MBE) from Prince Charles for services to pharmacy and the community in 2018.

Congratulations and Happy Birthday FIP YPG!



Danielle Zammit

PhD, independent freelance health economist, Switzerland

Having poured my enthusiastic energy into IPSF since 1990, it was a very natural progression to get involved as Public Relations Officer on the first three-person steering committee of the FIP YPG in 2002, and then be Chair in 2003.

Those first two years were very exciting. Particular highlights included organising FIP Congress activities, in particular the FIP YPG educational forum, publishing and disseminating the YPG Newsletter, setting up and awarding the first FIP YPG Award for Professional Innovation (the first recipient was Nigel Hughes, from Ireland), participating in the meetings of the FIP Board of Pharmaceutical Practice, and writing regular contributions to the PharmacyNow newsletter in the United States of America.

It is absolutely fantastic to see how FIP YPG has grown and developed, and continues to inspire young pharmacists globally. My work in international pharmacy organisations was my induction and portal into a global mission to contribute to the improvement of health worldwide, leading me to live in Malta, Canada, the USA, Belgium and Switzerland, where I expanded my international outreach to set up and run a book club in 2013.

My time in FIP YPG was definitely a highlight of my pharmacy career. Other memorable events include receiving a FIP Foundation for Education and Research Scholarship in 2004 and IPSF Honorary Life Membership in 2007, and being part of the onsite staff at FIP congresses in 1996, 1997 and 2003. As a health economist, I have felt honoured to work in the pharmaceutical industry, and play a role on the continuum of the development of medicines and healthcare interventions from clinical studies to real world demonstration of benefit. Particular memories that stand out include the European Parliament forum on increasing awareness on Hepatitis B; participating in a roundtable between the European Society of Cardiology and the primary pharmaceutical companies in the cardiovascular field, and witnessing a meeting that revamped the healthcare system in Turkey.

The top highlight, however, is all my lifelong friends around the world and in my heart. This is where I learnt that we are all one. We live in one world, have the same needs, and borders do not exist when it comes to caring for fellow human beings and their health.

Happy Birthday FIP YPG!

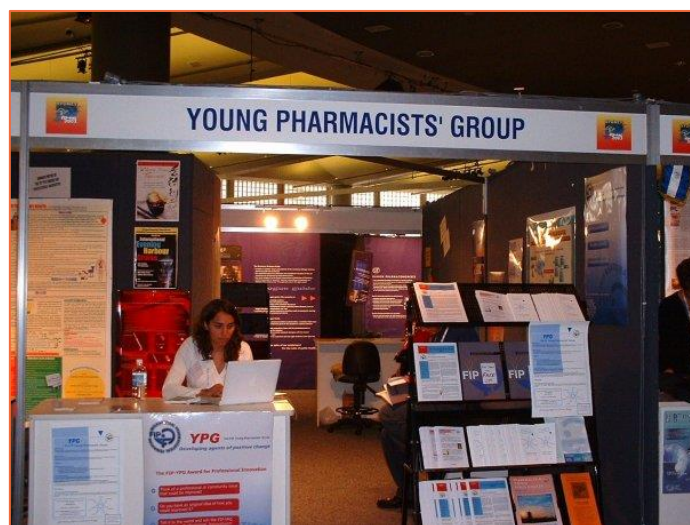


Ema Paulino

Professional secretary and member of the Executive Committee, FIP
President of the Portuguese National Pharmacy Association (ANF)

In 2001 we were re-launching the Young Pharmacists' Group within FIP after a long hiatus, so initially we had to work on the new Terms of Reference to affirm our mission and vision, and to establish how we wanted to cooperate and establish meaningful relationships with the other structures in the organisation. These Terms of Reference were amply discussed and approved at a YPG business meeting organised at the FIP Congress in 2002, held in Nice, and subsequently approved by the Bureau. After this initial setup, which also established how we aimed to increase young pharmacists' influence within FIP Sections, we launched the YPG Innovation Award. This award aimed to give visibility to the new structure and provide a platform for young pharmacists to share their creative ideas and get funding to implement them. Some of the first applicants eventually became involved in FIP and served in the YPG Executive Committee, and subsequently in other structures.

Another significant activity was liaising with the IPSF to provide a seamless transition for young pharmacists, and this also meant organising specific events at its annual conference, where pharmacy students and young pharmacists networked, and organising a "student package" to attract new participants to FIP events. In the initial years of YPG, the members of the executive committee also served as staff at FIP conferences, so I was often tasked to handle the YPG and FIP booths at the exhibition. This allowed me to inform participants about membership benefits and attract new members of FIP and YPG. It provided me with an ample knowledge of FIP activities, which has benefited me in subsequent years, for the adoption of various roles within FIP.



Ema Paulino (FIP YPG Chair 2003–04) at the FIP YPG stand at the 2003 FIP Congress Exhibition in Sydney, Australia



Lindsay McClure

Associate director, Medicines Pricing and Supply, NHS National Services Scotland

My favourite FIP YPG project was Global Weblogs, where young pharmacists from around the world maintained online diaries for six months. It demonstrated how similar pharmacy practice is around the world and how much we can learn from each other.



Left: FIP YPG members at the FIP YPG stand at the 2005 FIP congress exhibition in Cairo, Egypt
Top right: FIP YPG members at an event for congress first-timers during the 2004 FIP congress exhibition in New Orleans, USA
Bottom right: FIP YPG members at a social evening at a Cajun restaurant on Bourbon Street during the 2004 FIP congress in New Orleans, USA



Lisa (McDevitt) Potter

Clinical coordinator, Transplant Pharmacy Services, University of Chicago Medicine
Chair, Communications Committee, FIP Hospital Pharmacy Section

It was an honour and pleasure to lead the FIP Young Pharmacists Group in 2006, together with Boyan Todorov (Bulgaria/Netherlands) and Abualbisher Alshreef (Sudan). We were elected during the 2005 FIP Congress in Cairo, Egypt, and concluded our term during the 2006 FIP Congress in Salvador da Bahia, Brazil. In addition to organising the YPG Congress educational sessions and social events, three major accomplishments were made during this year.

First, we achieved an important revision of the positioning of the YPG within FIP. Prior to our term, the YPG was seen as an entity on its own, similar to but outside the structure of the BPP Sections. During our term, the structure was rewritten to include and involve pharmaceutical scientists as well. As a result, the YPG achieved a presence within both the BPP and BPS, as a home for both young pharmacists and young pharmaceutical scientists.

Secondly, the FIP Young Pharmacist Award for Innovation in Pharmacy, first established in 2002, was renamed and reformatted into the FIP Young Pharmacists/Pharmaceutical Scientists Grant for Professional Innovation. It continues today in its revised format.

And last but not least, a second “season” of the Weblogs project was launched, with blogs again picked up by various international news agencies and organisations throughout the year. Two particularly memorable bloggers were Halil Tekiner (Turkey), who published his contributions in a book titled ‘A delicious cake on a golden plate: weblogs of a Turkish community pharmacist’, and Ayad Ali (Iraq), who shared his powerful personal account of what it was like to practise as a pharmacist during a time when his country was under attack and at war.

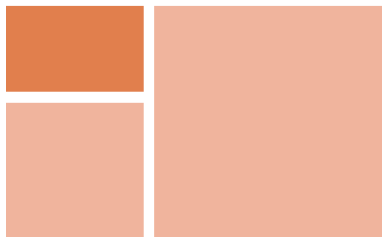
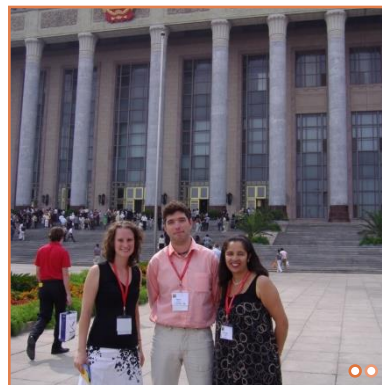
It's amazing to witness the growth and development of the YPG over the years, as well as the success of “YPG-ers” as they move through their careers. Happy Birthday and cheers to the FIP YPG!



Boyan Todorov

Global medical science director
Consultant, F. Hoffmann-La Roche AD, Basel Switzerland
President, Health and Medicines Information Section, FIP

I had the pleasure to serve the YPG during the year of our first Congress in China. It was an opportune moment to reach out to our colleagues in Asia and to expand further our network of colleagues. During the year we rebranded the award for professional innovation into a grant and linked it up with delivering the work within the FIP and working in close collaboration with the FIP Sections. We worked also directly with the Sections to support additional projects, including for example in collaboration with the FIP Community Section Foundation. But back to China . . . who could forget the best karaoke YPG night!



*Left: International night at FIP Congress in Beijing.
Right: YPG steering committee in front of People's Hall (the parliament building) in Tiananmen Square, Beijing, where the welcome reception was held.*



Gisselle Gallego

Senior research fellow, School of Medicine, The University of Notre Dame, Australia

FIP YPG represents the international pharmacy leaders of tomorrow. The information, new connections and most importantly insights gained at the annual FIP congress can last a lifetime, and shape young members' careers in ways they never imagined. In 2008 it was important to focus on the challenges both in the developed and the developing world. We partnered with the Community Pharmacists Section (CPS) and the IPSF for a session — Trends in Community Pharmacy: Debating the Future of the Profession". For the first time a new format was introduced in this joint symposium. Three contentious community pharmacy topics were chosen: economic models, ethical pharmacy practice and the expanding roles of pharmacists in primary healthcare. After a brief presentation of the topic young pharmacists and pharmacy students invited by YPG and IPSF challenged the views and provided their comments on the topic being discussed. The 2008 YPG educational symposium focused on "Primary healthcare in the developing world: What should be the role of pharmacists?". This forum debated the difficulties and obstacles faced by pharmacists in the developing world and the importance of primary healthcare. Ongoing support to YPG members also came in the form and restructuring/streamlining of funding opportunities, including the Young Pharmacists/ Pharmaceutical Scientist Grant for Professional Innovation and the Mike How Travel Award for Young Professionals and Pharmacy Students, as well as ongoing support from FIP CPS to encourage innovative community pharmacy projects, initiated and run by young pharmacists.



Left: FIP YPG members - Basel 2008

Right: FIP, YPG, IPSF joint dinner - The Hague 2007



Sónia Mota Faria

Laboratory medicine specialist, Unilabs

My YPG committee term was an amazing year with an amazing team. Our main project at the time was to provide the YPG with Terms of Procedures, which were almost non-existent. Our steering committee started developing the project, first presented in Istanbul, that allowed their existence later on.



Ryan Forrey

Associate director, Global Market Development and Training, Hazardous Drug Safety, Becton Dickinson & Company
Treasurer of the Hospital Pharmacy Section of FIP

Aside from the work we did promoting the work of YPG and FIP globally, we had a very engaged YPG night at the FIP Congress in Hyderabad, India. I continue to use the knowledge and experiences I gained through my roles and participation in FIP on a daily basis in my role at Becton Dickinson. The connections, experience, and knowledge sharing that has occurred in my professional career due to FIP, specifically, YPG and the Hospital Pharmacy Section, have provided me with valuable insight and skills that I use in my professional role.



Luís Miguel Lourenço

Professional secretary and Executive Committee member, FIP
President of the South Autonomous Regions' Branch
National board member and treasurer, Portuguese Pharmaceutical Society

In 2012, YPG attended both the BPS and BPP meetings, worked on the identification of the first Sections and SIGs liaisons and increased the interaction with IPSF (we participated in some of their events).

FIP also celebrated its centenary that year and YPG was heavy involved in the Centennial Congress organisation, not only contributing to the planning of some sessions, but also working with the Secretariat incorporating the mentoring project (which aimed to welcome first timers) into the official Congress programme.

The Steering Committee finalised and obtained approval at the Business Meeting for the official governance documents of the group: the “YPG Operating Guidelines” and the “Bureau Rules of procedures on conducting YPG activities” (which were approved by the FIP Bureau a few weeks after the Congress).

YPG was the stepping stone for my involvement in other structures within FIP, first the Community Pharmacy Section (for eight years) and now the BPP and Executive Committee as Professional Secretary.

Even today the skills I gained while serving the YPG help me to be a better professional and FIP Officer.





Tara Hehir

Secretary, Social and Administrative Pharmacy Section, FIP

During the two years I was involved in the FIP YPG, we converted the original mentoring programme into the First timers' meeting, where first timers were given a special introductory meeting/reception to introduce them to FIP, and make connections with each of the sections. This was continued for several years, only being phased out after nearly 10 years.



Mariet Eksteen

Professional Development and Support, Pharmaceutical Society of South Africa

During my term as FIP YPG chair, there were nine active projects and communications were mainly conducted via email, the FIP website and discussion forum, the Facebook page or newsletters.

From the 2013 YPG Business Meeting there were several motions that the steering committee had to implement, such as developing formal task descriptions for project managers, adopt Pharmabridge as a formal YPG project, and development of a five-year strategic plan. The suggestion of a FIP YPG Young Pharmacist of the Year award were not recommended for implementation at the time.

During 2014, BPS meetings were held in Sydney, Australia, and YPG was represented by one of the steering committee members residing in Australia. Due to a global nuclear safety summit hosted in The Hague in March 2014, BPP meetings were moved from The Hague to a different location in the Netherlands and were only attended by the chair. Under normal circumstances, the YPG mid-year meeting would have been held in The Hague in conjunction with the BPP meetings, but due to the above changes, the 2014 mid-year meeting was held in South Africa, where the chair hosted her two fellow committee members.

In preparation for the 2014 FIP Congress in Bangkok, Thailand, the YPG evening was a major focus with a Scribble party theme. The YPG steering committee invited the headquarters staff to join this event free of charge as a symbol of our appreciation for all their support during our term. Members were also

encouraged to bring book donations for the benefit of Pharmabridge, and in return could purchase their ticket at a reduced price.

It was a priority of the chair to email all individual YPG members during this term and to foster more personal connections with each member. Several individuals reached out to YPG for guidance in establishing national YPG networks in their local organisations.



Top: Newly elected steering committee for 2013/2014. From left to right: Sarah Sinclair (PRO, Australia), Mariet Eksteen (Chair, South Africa), Mrudula Naidu (PC, India); Bottom left: Making memories! YPG members “scribble” away at the 2014 YPG evening in Bangkok, Thailand; bottom right: Mariet Eksteen (YPG chair) with Mrudula Naidu (PC) who were elected incoming Chair of YPG for 2014/2015.



Seun Omobo

Senior consultant, McOlivia Consulting Limited, Nigeria

In 2016, FIP YPG members elected the first African Chair in the history of the YPG. The election inspired increased membership and more representation of young pharmacists from the African continent in the activities of FIP, thereby showcasing the possibilities in our diversity.

The Steering committee set up the YPG Mentorship programme, linking more experienced pharmacists with recent graduates within FIP.



Miranda Sertic

Professor, Faculty of Pharmacy and Biochemistry, University of Zagreb, Croatia

During my term, YPG published a professional development packet called “Leading with emotional intelligence”. The YPG Instagram account was created, and other social media platforms (Facebook, Twitter) gained a lot of followers. I assisted in the launch of the New Generation of Pharmaceutical Scientists SIG. I coordinated the MHealth project and the publication. With great pride and honour I served on the FIP Strategic Planning Committee. In collaboration with IPSF, we developed the International Day of Women and Girls in Science project.

For the first time, FIP YPG was presented at the EPSA congress. An improvement to the structure of YPG was put to motion to expand human resources and enable better succession planning. Today I am a professor at the Faculty of Pharmacy and Biochemistry in Croatia, a proud mentor, and I continue to be a pharmacy profession enthusiast supporting both local and international pharmacy and health related projects.



John Ly

Imes Pharmacy, Melbourne, Australia

During my time I was humbled to be elected and work with old IPSF friends Yuri Jung and Tommy Chen. We met circa 2008. I am proud our team was able to expand from a team of three to over 30 subcommittee members, including official YPG Liaisons to BPS and BPP, a new Projects subcommittee, a new Congress subcommittee and a new Publications subcommittee. I aimed to strengthen YPG leadership and expanded the ExCo from three to five members, including a succession planning role by introducing a two-year President-Elect role and a new Secretary role.

After founding the "Leaders In Training" for IPSF since 2007 which has expanded globally, I also introduced the Inaugural "Leadership Development Workshop" in 2018, which aimed to empower

young pharmacists to be more proactive within our profession locally across the globe, as well as give insight into YPG roles for future potential leaders. I am humbled that these programmes are still ongoing today with a large active YPG committee. I also lobbied for changes to the YPG Rules of Procedures to ensure a more fair and transparent voting process and allow national YPG membership organisations to be represented at our meetings since 2019. It was a fun, challenging and memorable year.



Carolyn Dewart

Clinical services supervising consultative pharmacist, Humana, USA

At the 2018 FIP World Congress in Glasgow, UK, myself as Chair, Project Coordinator Sherly Meilianti (Indonesia/UK), and Public Relations Officer Diana Ching (USA) were elected to the 2019 FIP YPG Steering Committee.

The 2019 Steering Committee worked to prioritise the inclusion of all international young pharmacists. The FIP YPG membership definition was expanded beyond pharmacists to include pharmaceutical scientists, and a motion was passed to add National and Regional YPG Observers to the FIP YPG structure to strengthen national YPG involvement, collaboration and communication.

Additionally, the 2019 Steering Committee lived by the ONE FIP initiative and purposefully worked to strengthen YPG's relationship within the FIP organisation. The role and responsibility of the YPG BPP and BPS Liaisons expanded, and the diligent work of the Sessions Proposal Working Committee led to the successful selection of six session proposals for the 2020 FIP World Congress and two for the 2020 Pharmaceutical Sciences World Congress. The 2019 Steering Committee officers attended the BPP and BPS 2019 Business Meetings and actively promoted the World Pharmacists Day campaign.

Relationships with international organisations were also prioritised. The FIP YPG Project Coordinator was appointed to the GHWN Youth Hub and a group of young pharmacists were selected to attend and collaborate with IPSF at the World Health Assembly.



Furthermore, professional development opportunities were publicized to our members, including webinars, the second annual World Congress YPG Leadership Development Workshop (LDW), LDW 2.0, and the initiation of the Mentorship Programme.

Left: FIP YPG members at the 79th FIP World Congress of Pharmacy and Pharmaceutical Sciences 2019 in Glasgow, Scotland.



Sherly Meilianti
 PhD candidate, UCL School of Pharmacy
 FIP data and intelligence specialist

Never have I imagined that I could become the president of FIP YPG. I had never previously been involved in any international organisations, and being involved in the YPG subcommittee in 2018 was my first experience. This was followed by having experience serving as the Project Coordinator in 2019 together with Carolyn Dewart (Chair 2019) and Diana Ching (Public Relations Officer 2019). Still, despite my doubt that I would be able to be FIP YPG President, I had a commitment to serve FIP YPG members and to grow FIP YPG opportunities more.

I am very grateful to have a chance to work together with my steering committee team: President-elect Renly Lim (Australia), Chairperson of Projects Ayodeji Matuluko (UK/Nigeria), Chairperson of Public Relations Funmbi Okoya (Nigeria), and Secretary Grace Nelson (Ghana). In 2020, we expanded the number of YPG subcommittees from the previous year to support us in delivering more projects and activities for FIP YPG members. They were a very passionate, enthusiastic team, and I could never have been more proud of what we delivered at the end of 2020.

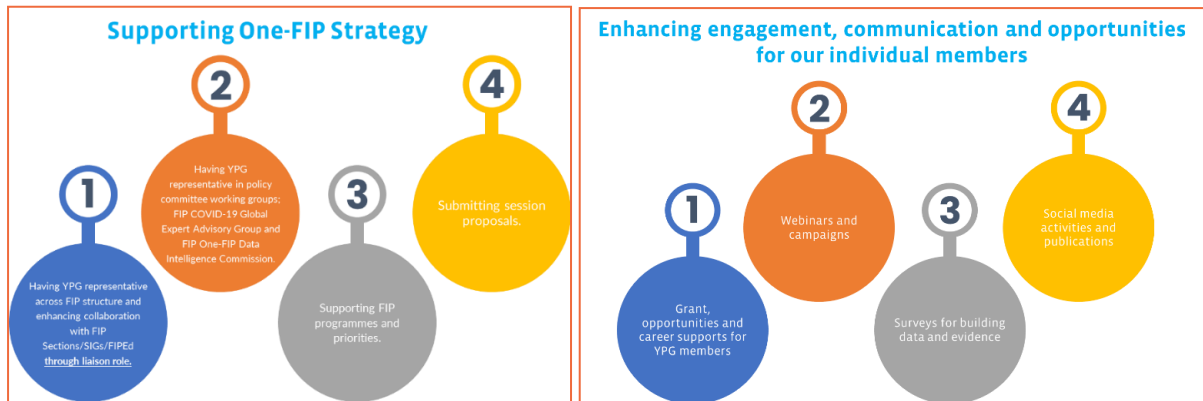
FIP YPG 2020 priorities

- ONE-FIP Strategy**
Supporting the one-FIP strategy through alignment of existing and new projects/ activities with FIP priorities
- Engagement with MEMBERS**
Enhancing engagement, communication and opportunities for our individual members
- YPG as a YOUTH platform**
Engaging and collaborating with external organisations to advocate for the meaningful engagement of youth at the policy level

We were the first team to serve during a pandemic and to organise virtual annual business meetings. We were pushed to innovate, be adaptable and stay resilient through any challenges that we faced. We were very fortunate to get lots of support from the FIP leadership and staff. This has never stopped us from thinking about how we can open more opportunities to YPG members and how we can support and develop the future leaders of the profession. We were transparent to our YPG members by sending a welcome email at the beginning of 2020, in which we highlighted our optimistic plans for the year ahead and promised to accomplish several programmes and activities. Little did we know what the year had in store. Yet, we were happy to share that we completed over 85% of our plans despite the various challenges brought about by the onset of the pandemic and our need to adapt our plans to adjust to these challenges.

We supported the ONE FIP strategy by increasing the YPG representation across the FIP structure and being involved in any decision-making agenda through liaison roles in Sections, SIGS and FIPeD. We increased YPG involvement not only in the FIP structure, but also in decision-making strategies and groups, such as the policy committee working group, the FIP COVID-19 Global Expert Advisory Group and the ONE FIP Data Intelligence

Commission. This has ensured that youth voices have been represented in policy making and give young pharmacists and pharmaceutical scientists a platform to learn from the more experienced leaders in the profession. We aligned and supported FIP programmes and priorities and have been involved in submitting session proposals.



Despite the challenges we faced during the COVID-19 pandemic, we innovated and increased our activities even more in 2020. We enhanced engagement communication and opportunities for our individual members by providing grants and career supports, organising webinars and advocating through campaigns, conducting surveys to build data and evidence, and promoting our activities through social media and publications.

We continued the intention from the previous years in stimulating and supporting young pharmacists and pharmaceutical scientists to conduct their research by providing grants and scholarships. We expanded our activities by organising a webinar specifically on tips and tricks for preparing a successful application for grant funding. We continued with the FIP Leadership Development Programme 2.0 from the previous year to equip our members with the skills and resources needed for future leaders. Following the success of World Health Assembly involvement in 2019, we participated in WHA 2020



virtually to raise the awareness of FIP YPG members on what happened. We finally launched our mentorship programme in 2020 after further refinement in 2019. We initiated our remote volunteering programme to provide more opportunities to YPG members to be involved in FIP global projects. Our massive achievement in 2020 was the launch of our [“Career development toolkit for early career pharmacists and pharmaceutical scientists”](#). The toolkit aims to guide early career pharmacists and pharmaceutical scientists to help them develop their careers and build their expertise in pharmacy and pharmaceutical sciences.

We were proud to deliver five FIP YPG-led webinars in 2020. Another innovation that we conducted in 2020 was to collaborate across FIP structures to raise awareness among members and non-members about some activities delivered by FIP Sections and SIGs. In addition, we also collaborated with national and regional YPGs to showcase their innovations and collaboration during the COVID-19 pandemic. We conducted campaigns during World Immunization Week, the World Drug Day campaign on the international day against drug abuse and illicit trafficking, the World Pharmacist Day campaign (in collaboration with national and regional YPGs) and the UN 75 campaign (in collaboration with IPSF). We also initiated our #YPGProductivityMondays on Mondays and #YPGMidweekHealthTip on Wednesdays.

FIP-YPG Campaigns

World Immunization Week
26th - 30th April 2020

#FIPYPGVaccinesChat

Recap Available On YouTube

International Day Against Drug Abuse and Illicit Trafficking

A Discussion on the Role of Pharmacists in Managing Drug Abuse and Addiction

Our Panel:
From Left to Right: Retrosakyne Ndlovu PhD, PharmD, MPH, CPPE, FIPMP (United States); Sourabh Wambhani, PharmD (India); Estash Okpota, B.Pharm (Nigeria); Chidinma Omereji, B.Pharm (Nigeria); Leah Osei, PharmD (United States)

World Pharmacists Day
25th September 2020

Young pharmacists are champions in transforming global health!

Watch this space!
#YPGforGlobalHealth

A Report on the UN 75 Campaign 2020

-AN FIP YPG-IPSF Collaboration-

April 2020

2 EARLY CAREER TRAINING STRATEGY

6 LEADERSHIP DEVELOPMENT

18 ACCESS TO MEDICINES & SERVICES

June 2020

2 EARLY CAREER TRAINING STRATEGY

6 LEADERSHIP DEVELOPMENT

14 MEDICINES EXPERTISE

September 2020

2 EARLY CAREER TRAINING STRATEGY

6 LEADERSHIP DEVELOPMENT

11 IMPACT & OUTCOMES

We were aware of the importance of data in providing evidence. We continued promoting the survey on job satisfaction of early-career pharmacists and pharmaceutical scientists, which was initiated in 2019. In addition, we conducted two other surveys related to soft skills in the pharmaceutical field and the roles of YPG in global health. We hoped that the former survey would be able to support us with identifying any programmes needed to develop to improve the soft skills of early-career pharmacists and pharmaceutical scientists, and the latter survey will provide evidence on the impact of early-career pharmaceutical groups in global health.

FIP-YPG publications

Findings from FIP YPG's needs assessment survey

February 2020

Methotrexate' safety

Methotrexate's safety profile is well known, **so why do we still see deaths related to use?**

June 2020

FIP's response to the COVID-19 pandemic

FIP's response to the COVID-19 pandemic: Global pharmacy rises to the challenge

July 2020

Findings from 2019 survey of YPG members in FIP PPR SIG

FIP VIRTUAL 2020

September 2020

FIP YPG 2020 surveys

Building data and evidence

1 ACADEMIC CAPACITY

2 EARLY CAREER TRAINING STRATEGY

4 ADVANCED AND SPECIALIST DEVELOPMENT

6 LEADERSHIP DEVELOPMENT

8 WORKING WITH OTHERS

11 IMPACT & OUTCOMES

12 PHARMACY INTELLIGENCE

13 POLICY DEVELOPMENT

Decent work

In collaboration with the Workforce Development Hub

November 2019 – May 2020

Soft skills in pharmaceutical field

In collaboration with the New Generation of Pharmaceutical Scientists SIG

September – October 2020

Roles of YPG in global health

In collaboration with national and regional YPGs

August – October 2020

We continued to expand our social media presence and increase our followers. We decided to initiate our Youtube channel to support and promote our activities more. We are proud to share that, in 2020, we published four articles, two in peer-reviewed journals. This showed how our works and programmes in supporting our members could be published to our wider community and our profession. To increase our communication with members, we initiated a regular bimonthly newsletter and a liaisons' corner to inform them about opportunities and programmes of FIP sections, SIGS and FIPed.

Our final priority for 2020 was to examine how YPG could be seen as a youth platform to engage and collaborate with external organisations to advocate the meaningful engagement of youth at a policy level. We expanded our network by increasing the number of YPG individual members and working collaboratively with national and regional YPGs and with other healthcare professionals through the Global Health Workforce Network (GHWN) Youth Hub. Following motions passed in 2019 and ratified by the FIP Bureau in 2020, we sent an invitation to national and regional YPGs to be part of our network. We also developed a draft "Guideline for creating YPG organisations" and initiated a Google Group platform to communicate with our national and regional YPGs network, besides other collaborative projects and campaigns. Our steering committee and subcommittee also represented pharmacy voice in the GHWN Youth Hub by being involved in the launch of its evidence paper at the WHO Executive Board meeting in February 2020 and the development of an advocacy toolkit for youth in the health and care sector.

Guidance for establishing FIP YPG

6 LEADERSHIP DEVELOPMENT

8 WORKING WITH OTHERS

Start on June 2020

June 2020 – January 2021

2 EARLY CAREER TRAINING STRATEGY

4 ADVANCED AND SPECIALIST DEVELOPMENT

Engagement with National/ regional YPGs



We are proud to share our videos to highlight our achievements: [FIP YPG Highlight 2020](#), [FIP YPG Journey 2020](#), and our poster [FIP YPG 2020 poster](#). In the spirit of ONE FIP, we would like FIP YPG to be seen as a platform where members can feel like family to support each other, a platform where members can learn from each other and grow together personally and professionally. Let's grow our profession together!

Long live pharmacy! Long live FIP YPG!

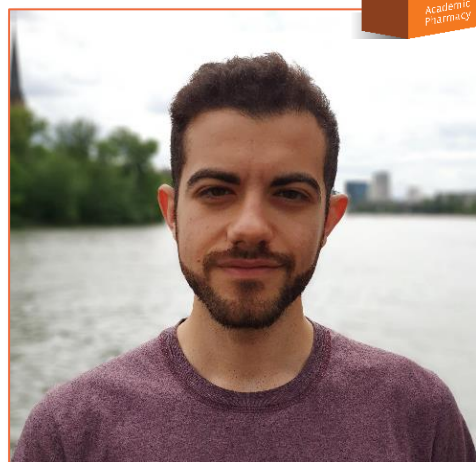
Chapter 2: Academic Pharmacy Section

Dimitrios-Ilias Balourdas (Greece), MPharm

FIP YPG Academic Pharmacy Section liaison 2021-2022
PhD Candidate, Goethe University Frankfurt, Germany



Drug discovery efforts have come a long way from early traditional approaches, which mostly involved serendipity. The landscape of drug development has been radically transformed during the past 20 years, implementing inter-disciplinary technologies, from the human genome sequencing and recombinant proteins to the rise of machine learning. It is a field intrinsically embedded with continuous challenge, which is progressing through collaboration, technology exchange and constant innovation. Pharmacists, among other healthcare professionals, are considered the main drivers of this research field, adapting and evolving through the rapid changes, overcoming challenges, but always focusing on benefiting the patient, who is at the epicenter of academic research. Academic pharmacists across the world aim to disseminate transparently scientific research, in order to contribute to patient safety and improve their quality of life.



Being fascinated by this challenge, I decided to focus my master's and doctoral studies on the rational development of small molecules. Since 2017, starting as a young pharmacist and undergraduate researcher, until today as a PhD candidate and a member of the Structural Genomics Consortium (SGC), a global open science collaborative network of multiple universities and pharmaceutical companies, my goals are to develop chemical tools aiming to enable research on understudied fields, accelerate scientific output and, ultimately, catalyse the creation of innovative new medicines.

Understanding the power of community, even more during the COVID-19 pandemic, and since I always wanted to contribute in an international capacity, I joined FIP and the Young Pharmacists' Group (YPG), being fascinated by their mission to connect professionals, foster collaboration and support them. Soon after, I had the chance and opportunity to get directly involved in the creation of the Career development toolkit for early-career pharmacists and pharmaceutical scientists, a publication that aimed to "help individuals develop ideas, set goals and build a sense of self-awareness and understanding of what they need to do to reach their full potential". My involvement with YPG strengthened once I was elected as Liaison between the Academic Pharmacy Section of FIP and YPG. Since then, I have been elated to participate in impactful meetings within my section, contribute in significant decisions but, most importantly, work with inspiring and highly skilled individuals with unmeasurable expertise in their field.

Even though my participation is only a fraction of YPG's 20-year history, I feel humbled and honoured to be part of an international multicultural organisation, such as FIP and YPG, and build meaningful collaborations with pharmacists from different backgrounds. Our YPG provides a platform for communication, education and constant improvement that motivates all young pharmacists like myself to focus on the bigger picture. It takes a community to achieve a change. Happy 20 years YPG!

Toyin Tofade (USA), MS, PharmD, BCPS, CPCC, FFIP

Secretary and president elect, Academic Pharmacy Section, FIP
Dean and professor, Howard University College of Pharmacy



Career Journey

My career journey started at the Obafemi Awolowo University in Ile-Ife, Nigeria, where I obtained a bachelor's degree in pharmacy. It was there I developed a keen interest in clinical pharmacy because of one of my final-year courses on the subject. After a conversation with my course master, Prof. Wilson Erhun and Prof. Eckel, programme director at the master's programme for the University of North Carolina at Chapel Hill in the early 1990s, I applied for a Master's programme in pharmacy practice at the University of North Carolina, which I completed in 1994. It was my exposure to clinical research and practice during my master's, in addition to the completion of a pharmacy practice residency, that further convinced me to pursue a PharmD degree. After completing my PharmD in 1997, I was grateful to have the opportunity to work full-time at the UNC hospitals as a pharmacist and eventually a clinical specialist. It was rewarding to be able to participate on rounds, care for patients, teach pharmacy students and pharmacy residents, and contribute to the training of medical students and residents as well.



This experience allowed me to work with different kinds of people and influence decisions regarding patient care and drug choices. I also had the opportunity to participate in medication use reviews and teach periodically at the pharmacy school. In this role, I went on to complete a board certification as a clinical specialist, which highlighted my growing expertise for my supervisors. My focus was on Internal Medicine, and at this job I was exposed to the world of academia. Select hospital preceptors were invited to attend some retreats with one of the departments at the UNC Eshelman School of pharmacy. In 2002, I moved to the Wake Area Health Education Center (AHEC) to serve as an associate director of pharmacotherapy. This role allowed me to continue to precept and train students and residents in pharmacy and medicine as before. I also participated in running an anticoagulation clinic with a colleague. The main difference was I was being paid to teach rather than taking care of patients as was the case in my prior clinical specialist role. This teaching and leadership responsibility also included leading continuing education sessions in the nine-county region. After I was promoted to the Director of pharmacotherapy, I oversaw student experiential training and site building in the region. The Wake AHEC saw a significant growth in clinical sites available due to partnerships developed in service of the student training programme. We also initiated a clinical scholars' programme to serve students who had interest in pursuing postgraduate residency training. This elevated the status of the Wake AHEC pharmacy programme for students training at UNC. The nine years at the Wake AHEC allowed me to grow professionally and personally. Several leadership training opportunities and participation on management meetings, all supported by my supervisor, Dr Cindy Wells, was very impactful and provided a strong foundation for my current job as an administrator.

My next move was to the University of Maryland School of Pharmacy (UMB) in 2012 to serve in a purely academic role as faculty and administrator in the experiential department. This role involved managing the entire state in serving our students. We had the opportunity to visit practice sites, develop partnerships that served the college, site, and students for experiences. A clinical track programme was expanded from one in the entire state to 15 by the time my tenure was over. Feedback from faculty, staff, students, preceptors, administrators, and alumni was critical to get the job done correctly. I am grateful to my supervisor, Dean Natalie Eddington for her counsel, guidance, and mentorship during my time there. It was from Natalie I understood how to navigate the administrative roles in academia and the different paths to accomplish my career goals. The feedback I received from other administrators at UMB, and the executive coaching provided was invaluable to my growth and development as an administrator. All during this time, research, scholarship, and professional service, locally, nationally, and internationally continued. It was during this role I attended the Academic Leadership Academy programme at the Academic Leadership Institute at Pennsylvania State University. This was a life-transforming experience as it really validated my career path in academia. The networking I have experienced at the trainings, workshops and professional meetings have created valuable friendships that continue to inform my decisions. I am grateful to God for these relationships over the years.

In 2016, I had the honour of being offered the deanship at Howard University. Since then, the College of Pharmacy has entered several partnerships providing fellowship opportunities in regulatory affairs and policy to our students. Partnerships with clinical track programmes, hospitals and community pharmacies have also been created. The college has also grown its international partnerships under the leadership of Dr Miranda Law, our Director for International Experiences and Engagement, from five to 18 sites in 16 different countries and six continents, benefiting students and practitioners. During my tenure as Dean, I received support to complete the Management Development Programme at the Harvard Graduate School of Education in 2017, and the Crises Leadership in Higher Education programme from the Harvard Kennedy School in 2020. These trainings, real-world experiences plus my certification as a professional coactive coach have allowed me to engage leaders, individuals and organisations achieve system-wide, organisational, personal and professional goals. I believe for success in academia, it is all about relationships and targeted effort.

Highlights of any changes in this area

Academia has largely remained the same in the structure and execution of the vision, mission and strategic goals plus the quality control existing through accreditation. What has changed is how learners access the opportunities available to them and the content that is now available in each university school or college. Regions of the world also focus their content based on community needs. For example, certain regions are more pharmaceutical science based while others are heavily clinically focused, and several have a balanced mix. I see more universities transitioning to the PharmD programme around the world. More recently, with the advent of the COVID-19 pandemic, digital health, telehealth and hybrid learning have become necessary. I expect the learning environment will be much different post-COVID with more creative solutions to deploying lab skills and experiential opportunities for learners.



Previous and current collaborations with YPG

During my time as secretary of the FIP Academic Pharmacy Section, I have had the distinct pleasure of working with YPG. This was first with the Leadership Development Training Programme led by John Ly and launched in Glasgow, UK, in 2018. It was a great opportunity to participate in the sessions focusing on personality management co-taught with Prof. Lisa Nissen. Due to my role on the programme committee, I had the honour and privilege to advocate, on behalf of the YPG leaders, a consistent presence of the leadership development programme on pre-congress programming. Given that YPG is about a third of the membership for FIP, this was embraced by the programme committee and the testimonials from the YPG leadership and attendees has been tremendous. Since 2018, the leadership development programme now runs on Saturday and Sunday pre-congress every congress year except 2020, due to COVID-19. A sequel Leadership Development 2.0, an online longitudinal leadership programme involving global leader facilitators, was created in 2019 after the Abu Dhabi congress and is now being launched in the 2021 programme year as a fully owned YPG programme with content delivery consultants from the Academic Pharmacy Section. YPG is a great place to belong and learn. It has been a pleasure to meet, work with and mentor our brilliant young leaders. The academic section continues to involve a liaison from YPG on ExCo meetings every other month.

Chapter 3: Clinical Biology Section

Hanane Kebaili (Algeria), PharmD

FIP YPG Clinical Biology Section liaison 2021–22

Since the appearance of medical sciences, clinical biologists have been heroes: their names are always related to great achievements in history, their inventions and discoveries saved humanity and made life easier. In the past 20 years, clinical biology has undergone significant transformations in all its fields (see below). Clinical biology pharmacists continue to expand their roles to serve their communities by providing professional and quality services.

Nowadays, with the COVID-19 pandemic, the world is facing big challenges to return to normal life. Clinical biologists around the world were in the first line to fight against the virus. They contributed to the understanding of the mechanism of the virus and its mutations, and then came the light at the end of the tunnel with the discovery of effective vaccines.

FIP Clinical Biology Section

Since its creation in 1972 the FIP Clinical Biology Section (CBS) has been the only international structure that represents pharmacists who practise clinical biology. The main objective of the CBS is to study and uphold the development and protection of the scientific and professional interests of all pharmacists engaged in clinical biology.

As the new FIP YPG CBS liaison, I would like to contribute to the workflow of the section within the FIP YPG. I thank the FIP CBS and the FIP YPG for their contributions to the pharmacy profession.

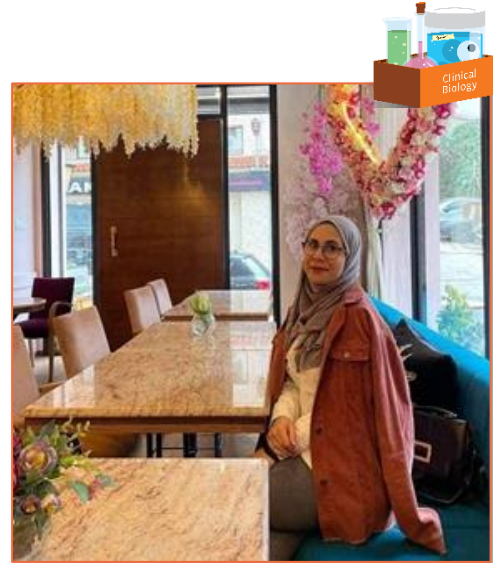
FIP Clinical Biology Section overview

Different professionals practise clinical biology in different countries. In most European countries this field dates back to the 1950s when community and hospital pharmacists developed it as an additional activity. It then became a separate discipline taught in schools of pharmacy and medical and scientific universities.

FIP's Clinical Biology Section, created in 1972, represents pharmacists, or pharmacy graduates, working in clinical laboratories or in any of the following fields:

- Clinical chemistry;
- Haematology;
- Immunology;
- Microbiology;
- Molecular pathology;
- Genetic testing;
- Laboratory accreditation, certification and quality control;
- Diagnostics; and
- Laboratory IT and automation.

The CBS is the only international structure that represents these pharmacy professionals. Its main objective is to study and maintain the development and the protection of the scientific and professional interests of all pharmacists engaged in clinical biology. It aims to increase international representation of these professionals.



Chapter 4: Community Pharmacy Section

Sarah Dineen-Griffin (Australia), PhD

FIP YPG Community Pharmacy Section Liaison 2021–22

Community pharmacies and community pharmacists are pivotal to the delivery of primary care — their accessibility, their role in promoting public health and the tangible support and trust from the public. Like everything in healthcare, community pharmacy practice has adapted and changed significantly in the past 20 years. Community pharmacists continue to diversify their clinical roles to serve their communities through the offering of professional services, such as vaccinations, in the management and monitoring of long-term conditions, e.g., asthma, diabetes, or mental health, and conducting medicines reviews to promote the quality and safe use of medicines.

The world is going through challenging times with the COVID-19 pandemic. Community pharmacies have continued to stay open to deliver essential counselling, information and medicines to patients and local communities. Community pharmacies have adapted their frontline services to meet demands as the pandemic has developed. They have given the community and individuals a sense of stability and assurances with reliable information to remain calm in the midst of the crisis and follow scientific advice on issues such as social distancing, use of masks and hygiene.

We have had a lot of change in the profession. We have seen the introduction of telehealth and electronic prescriptions, and COVID-19 has driven uptake of these much faster than anticipated. Pharmacists have modified their practices amid COVID-19 in order to guarantee care and support to their patients. The profession has had to be dynamic and flexible. I am really proud that our skilled profession continues its vital role in supporting our communities, at a time when pharmacists are needed more now than ever. Our communities will reflect and realise the important role their community pharmacist played during the pandemic.

Community Pharmacy Section of FIP

The Community Pharmacy Section (CPS) is the largest of the FIP Sections, reporting 1,632 members in December 2020. During 2020, the CPS launched a new vision for community pharmacy from 2020 to 2025, laying the foundation for the future of community pharmacy practice, as “One Pharmacy” and “One FIP”. The vision enables community pharmacies to have a viable, longer-term future as an integral part of global healthcare systems serving the needs of increasingly empowered health consumers.

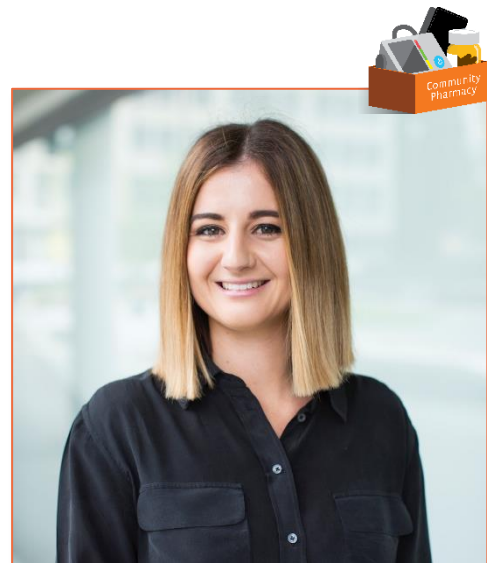
"Our vision document defines the direction for community pharmacy over the next five years, setting priorities for actions that can be implemented at national, regional and local levels. More importantly, it signals the intention to make the most of pharmacists' skills for the benefit of all citizens and in the heart of our communities,"

- CPS President, Lars-Åke Söderlund and CPS Vice President, Daragh Connolly (2020)

The CPS has continued to provide support and opportunities to young community pharmacists and those starting out in their careers. As an example, CPS Executive Committee members have opted to provide mentoring to our YPG colleagues in the 2021–22 YPG mentorship programme. Opportunities to learn and grow from leaders in the profession are invaluable for young pharmacists. If you've been lucky enough to have one or several great mentors during your career, you know that you likely wouldn't be where you are today without them. Prof. Söderlund couldn't summarise it better — young pharmacists are the future leaders of the pharmacy workforce.

"The YPG is an important part of FIP where we will find the future leaders of pharmacy worldwide. The YPG is a group of dedicated, passionate, proactive, creative, and innovative young pharmacists, developing pharmacy in science, education, and practice."

- CPS President, Lars-Åke Söderlund (2021)



The next 20 years of community pharmacy

As I reflect on my 16 years in pharmacy, I realise I have worked alongside many inspiring community pharmacists, and I feel lucky to directly help people in my community on a daily basis. The opportunities I see for the next 20 years of pharmacy are incredibly exciting. Pharmacists within the health system will be integrated within the primary care team and their role optimised. They will be practising to full scope and the remuneration and recognition for pharmacists will be more appropriate to this role. The COVID-19 pandemic has forced all businesses to reassess almost every aspect of how they work. In whatever “new normal” emerges — whether it includes interacting digitally or harnessing emerging technologies to innovate — it’s important to ensure that the workforce has the right skills and a willingness to embrace change.

To conclude, I would like to take this opportunity to thank both the CPS and YPG for their significant contributions to FIP and the profession more broadly, past, present, and future.

Community pharmacy — a positive force in Society

Lars-Åke Söderlund (Sweden)

President, Community Pharmacy Section, FIP

When I graduated from pharmacy school I said to myself — “I want community pharmacy to be perceived as a positive force in our society”. And this has been my motto ever since.

I think the pharmacy profession chose me as much as I chose to be a pharmacist. As I have always been interested in healthcare, I think I also — as a young pharmacist — saw where and how pharmacy could make a difference for our healthcare systems, and in people’s lives. It is cliché, but I love being a pharmacist because of the impact that I can play in my patients’ lives. I have been blessed to work in community pharmacy chain in Sweden, Apoteket, where I have been given the opportunity to become so much more than just a pharmacist, to develop the profession and our clinical services, to engage with our healthcare system, to develop strong and fruitful relationships with patient organisations, to work abroad in many countries, to speak at World Expo’s about a sustainable healthcare system with support from pharmacy, to engage and work with FIP and so much more, and in so many different leadership roles. It has been a true and fantastic journey within the pharmacy profession. What a privilege!



I think it would be difficult to find a different profession that garners the immediate respect from the community that a healthcare profession offers. However, community pharmacy is unique among healthcare professions as our accessibility naturally allows us the opportunity to do more than just counsel on the proper use of medicines. It allows us to do the rest of our job so much more effectively. We are the front-line of healthcare and that is a responsibility that I take very seriously. Our interactions with patients can truly change and save lives.

I can sum up my love of being a pharmacist in one word really: opportunity. My work has given me so many opportunities. I am not just talking about the financial or career path opportunities. I am talking about the social, cultural, educational and enriching opportunities that can otherwise be easy to miss in everyday life. Every patient and consumer is unique, every meeting is unique. I have since the early days in my career been fortunate enough to work with a multidisciplinary team, in the heart of my community, that taught me something new each day. Pharmacists are a trusted link between patients and their doctors. This position affords us a unique perspective into many facets of healthcare. I, literally, have learned something new every day and I am so appreciative of that.

I have been working with patients from any background imaginable, which has allowed me, and forced me, to learn and practise cultural sensitivity. The population is becoming more and more diverse. Healthcare needs to adapt to this by embracing and responding to differences in patients’ expectations based on their culture. As a pharmacist, I have always been in the perfect position to strengthen the healthcare message by tailoring my recommendations to patients.

I also have had to make decisions in my work each day that had a real impact on patients' lives. I evaluated drug interactions to avoid patient harm. Sometimes the patients were aware and thanked me; sometimes they were not and didn't. But it is always a satisfying feeling when I could have an impact.

The extraordinary thing, all of this is just the tip of the iceberg. Today I am an officer at FIP — a global pharmacy organisation — where I get to have experiences within science, education and pharmacy practice every day, and where I can only imagine what I could learn tomorrow. There is so much more out there to explore and, as a pharmacist, I will always have that opportunity.

I was fortunate to already have been in 1991 part of the development of Good Pharmacy Practice, Pharmaceutical Care, e-prescriptions, a range of clinical pharmacy services for non-communicable-diseases, quality standards for pharmacy, education, presentations, and developing our healthcare systems. I also worked for 12 years in the National Swedish Project “Check My Medicines”, whereby we have been able to improve medical therapy for hundreds of thousands of elderly people in Sweden (something I am extremely proud of as it significantly reduced the number of inappropriate medications for the elderly, improved health literacy and improved the therapeutic outcomes). I have been fortunate to have so many professional relationships all over the world. Subsequent to those activities, I am proud to say that I have been a member of FIP for so many years. I attended my first FIP Congress in 1989, which also more or less was the start of my international pharmacy career. In 2013 I was elected a CPS Executive Committee member, in 2015 I was elected a member of the FIP Congress Programme Committee, and in 2016 I became its co-chair. In 2018 I was elected President of the Community Pharmacy Section. And I am involved in various FIP Commissions and Boards. I am so proud to be part of the global pharmacy family of FIP.

Were you to ask me why I love being a pharmacist, my best answer is that pharmacy is not just a job or a profession, it is an all-encompassing lifestyle — and not only for me, but for the entire family. It is for the strong of will and conviction and for the soul tender enough to appreciate the deep-rooted pain of human suffering. Pharmacy has nourished my mind and my soul. It has made me a more caring, considerate and tougher person. Pharmacy has been my life. And now seven persons in my family work in pharmacy.

I am so happy that I chose to be a pharmacist. And I have experienced how community pharmacy is a positive force in our societies. It is a force that has become bigger and more important, year after year, benefiting our health systems, our patients and our consumers. And it is a force that is constantly growing thanks to FIP. My affiliation with FIP has exposed me to the broader global pharmacy perspective, which has been and is good for me personally and professionally. I hope that I have been to share that perspective at home and in other countries.

Pharmacy — always trusted for your health!

FIP Community Pharmacy Section overview **Lars-Åke Söderlund (Sweden)**

President, Community Pharmacy Section, FIP

As the worldwide pharmaceutical organisation representing the pharmaceutical profession and the pharmaceutical sciences, FIP is one of the older international organisations with a proud history dating back to 1912. But FIP is also a highly modern and proactive global organisation with an enviable record of accomplishments and always ready for the future — something we all have experienced during the past year with the COVID-19 pandemic.

The Community Pharmacy Section (CPS) was not one of the original Sections of FIP, which came about as a result of the 1947 FIP Statutes. A Commission for the General Practice of Pharmacy was set up in 1956, and in 1962 a Subcommission for the Techniques of General Practice of Pharmacy was set up. The CPS itself was not formally established until 1970.

The CPS is the largest of FIP's sections, and it has several objectives:

- To improve the professional standards of pharmacy and encourage realisation of the social aims of the profession as a part of public health and as a pharmaceutical service to the community;
- To plan and be responsible for the activities of FIP in the field of community pharmacy;
- To provide and exchange information that assists in the coordination and improvement of the scientific, technical and professional activities of community pharmacists;

- To organise meetings for CPS members during FIP congresses in accordance with approved general congress programmes; and
- To study and report on any matter of interest to community pharmacists.

Our mission is to assist pharmacists, wherever they live and practise, in the delivery of medicines, health products and services that will improve medicines use and advance patient care.

Historic work within community pharmacy

Historically, pharmacists' role in healthcare centred around dispensing medicines in accordance with a prescription, and providing a final check to ensure accurate delivery of medicines to patients. Although they receive training in preventive care, health and wellness, and patient education, pharmacists have traditionally leveraged their clinical knowledge to review prescribed drug regimens to prevent inappropriate dosing and minimise drug interactions.

Pharmacists' roles have expanded over time to include more direct patient care, such as primary care and disease management services, and their roles continue to evolve today. In an era of rapid change in healthcare delivery, the pharmacy profession is experiencing significant growth and development.

Traditionally, pharmacy was regarded as a transitional discipline between the health and chemical sciences and as a profession charged with ensuring the safe use of medicines.

In the early 1900s, pharmacists fulfilled the role of apothecary — preparing medicine *secundum artem* (according to the art) for medicinal use.

By the 1950s, large-scale manufacturing of medicinal products by the pharmaceutical industry, and the introduction of prescription-only legal status for most therapeutic substances, limited the role of pharmacists to compounding, dispensing and labelling pre-manufactured products.

In response, by the mid-1960s pharmacists had evolved toward a more patient-oriented practice and developed the concept of clinical pharmacy. This marked the beginning of a period of fast transition that was characterised by an expansion and integration of professional functions, as well as increased professional diversity and closer interaction with physicians and other healthcare professionals.

By the early 1990s the pharmaceutical care model was adopted to emphasise that the role of the pharmacist involves “the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life”. To varying degrees across the broad spectrum of practice environments and specialisation in pharmacy, pharmacists are currently recognised as medicines experts whose role is to work in collaboration with patients, physicians and other healthcare professionals to optimise medication management to produce positive health outcomes — because a medicine is an investment in health.

The current transition involves an expansion of the scope of pharmacy practice and, in some jurisdictions, the assumption of the authority to prescribe medicines in defined situations, as well as transforming pharmacy into a health hub and the gateway to care.

A new vision for community pharmacy

During 2020 the CPS launched a new vision. The world is going through challenging times as we all learn new ways to interact while fighting the COVID-19 pandemic. Challenging as it may be, now it has also proven to be a great time to connect and unite as we are all facing this together. Pharmacists and pharmacy staff are on the front line of this battle. At the same time healthcare is experiencing rising costs, changing patient demographics, evolving consumer expectations, new market entrants and even more complex health and technology ecosystems.

Healthcare stakeholders need to invest in value-based care, innovative care delivery models, advanced digital technologies, data interoperability, and alternative employment models to prepare for these uncertainties and build a smart health ecosystem.

In this perspective community pharmacy is ideally positioned to provide care, as an integrated actor within our healthcare systems, at the hearts of our communities.

The time has come for pharmacists to look for new ways of doing things. Our patients are now expecting and welcoming new ways of doing things. All these new ways of working can help us at a time when all healthcare professions are facing workforce shortages. Community pharmacy needs to focus on the things that will make the most difference to our patients and find better, quicker and easier ways of

doing things. New technologies, digital and automation, will be part of this, but we also need a behavioural mindshift.

Everyone in the pharmacy needs to step up and be able to work in different ways to provide new services and support each other. These are great opportunities to demonstrate new ways of thinking and working smarter. Technology also supports the provision of services beyond the pharmacy, with remote consultations and access to specialist knowledge possible from almost anywhere. One of the biggest mindset changes will be about looking outside the pharmacy and getting involved in local networks for providing healthcare.

Whether this comes through working with nearby pharmacies and doctors, developing connections with specialists at local hospitals, or even working with local public authorities, pharmacists will need to show how and why we should be part of the healthcare network. What we do know is that pharmacy has a long history of changing and adapting. We are always evolving the way that we work, the products we sell and the services we provide.

More services will be designed around patient needs, care will be delivered in local communities where pharmacy teams integrated with the primary healthcare will improve the health and wellbeing of the population.

There will be an increased focus on improving patient knowledge and use of their medicines as well as the importance for self-care. Pharmacists will focus on optimising therapeutic outcomes using tools that include prescribing. As such, pharmacy services will support and drive innovation and equitable access to new medicines and related technologies, providing seamless care for our citizens.

Community pharmacies are a vital and trusted part of our healthcare systems. I expect to see community pharmacies further integrated within primary healthcare, doing more to protect public health and taking on an expanded role in urgent care and medicines safety. The Vision document sets out a clear future vision for community pharmacy, providing universal care — a vision where community pharmacists with more information can make clinical decisions and provide clinical care that is seamless, more customised, more effective and, most importantly, safer for our citizens, our communities and our healthcare systems.

The CPS aims to unlock pharmacists' full potential so that we all can deliver maximum value to our patients and healthcare systems, thus contributing to the objectives of a country's health strategy.

Our Vision — pharmacists at the hearts of our communities — shows how community pharmacists can and must provide more value, care collaboratively and harness new technology through offering the full choice and access to the four unique skills of the expert and unique care we provide. To do any less would be to deny the people we care for our best and their best outcomes. The core competencies of community pharmacists across the globe can be distilled into these four unique skills:

- Pharmacists Prescribe
- Pharmacists Dispense
- Pharmacists Administer
- Pharmacists Review

The new Community Pharmacy Vision lays the foundation for the future of care, always learning, positively challenging and aiming to improve. Important focus areas are prevention, including immunisations, detection of diseases, minor ailments and fighting the silent pandemic of non-communicable diseases — and, of course, all linked to the development of digital health.

The Vision document offers an opportunity to define the direction for community pharmacy over the next five years, setting priorities for actions that can be implemented at national, regional and local levels. More importantly, it signals the intention to make the most of pharmacists' skills for the benefit of all citizens — in the hearts of our communities

The COVID-19 pandemic and the new normal

The COVID-19 pandemic has shown how quickly healthcare and the pharmacy profession can change, and how critical education and training are to meet evolving needs and demands from our healthcare systems and patients. The COVID-19 pandemic is changing every country's healthcare landscape every day, and presenting significant challenges for the world. Critical health policy changes are occurring at an unprecedented rate.

Pharmacies are often the first point of contact with health systems. As hospitals and other healthcare facilities are challenged with caring for large numbers of COVID-19 patients and as countries around the world restrict non-essential daily activities and services for the public, the community pharmacy becomes an even more vital access point for medicines and healthcare advice.

The valuable service that community pharmacists and their teams provide to communities, and their important contribution to easing the enormous strain being placed on our world's health systems during the COVID-19 pandemic is now clearer than ever. Pharmacists at community and hospital pharmacies and clinical biology laboratories are preventing the spread of the new coronavirus disease by advising the public and supporting the efficient management of infection by healthcare systems.

Around the world, our colleagues within community pharmacy are making sure that patients, particularly the vulnerable, receive their medicines despite the quarantines and lockdowns. They are continuing to ensure a robust and efficient medicines and medical product supply chain, in some cases compounding hand sanitisers themselves to relieve shortages.

As medicines experts, community pharmacists are true front-line patient care providers and trusted sources of information for patients. One of our most important roles is educating patients about their disease states and how to optimise their medications.

The impact of COVID-19 has extended beyond our hospitals and healthcare systems and challenged us to think differently when "business as usual" is no longer possible.

I want to reassure our member organisations and individual members that the CPS, as part of ONE FIP, will continue to work across multiple fronts to support your perspectives and needs as we collectively navigate the ongoing pandemic response as well as the years to come, so you can provide the best care possible for your patients.

Never has it been more important to strive towards universal health coverage and establishing the role of community pharmacy as a key profession than now, during the COVID-19 pandemic. Intensifying collaboration with our member organisations to increase the benefit of FIP for our members and to move the CPS and FIP into the future will be important for us.

In the past few years, we have seen a surge of new e-pharmacies across different countries that have digitised the value chain for both non-prescription and prescription medicines. As the healthcare industry evolves, pharmacies need to shift from the product-centric mindset to a service-centric approach, but beyond e-commerce and medicines home delivery, they need to transform into a health hub for patient care. In this context, innovators and pharma companies have an opportunity to use community pharmacies as a key stakeholder to achieve higher patient adoption rates in digital health.

The time has come to narrow the gaps between the different regions of the world in a pragmatic way. We have created the new vision for community pharmacy, and now it is time to be ONE FIP and deliver — together with the entire FIP — the vision and strategy to support our member organisations and individual members.

Thanks to the position of our profession at the hearts of our communities, we can act as a gateway to care, and an access point to medicines, advice and care for all. Our communities themselves know this now as never before. Alongside the need for guidance and interpretation of the emergent evidence base around tests, treatments, repurposed drugs and vaccines, our profession is united as never before too — united in our vision for all, and united in our support for all.

As the #healthcare industry evolves, #pharmacies need to shift from the product-centric mindset to a service-centric approach, but beyond e-commerce and #medication home delivery, they need to transform into a health hub for patient care. Don't miss your opportunity to connect with senior leaders to shape the future of digital health and pharmacy. Because only if you are prepared now can you lead the future.

The Young Pharmacists Group (YPG collaboration)

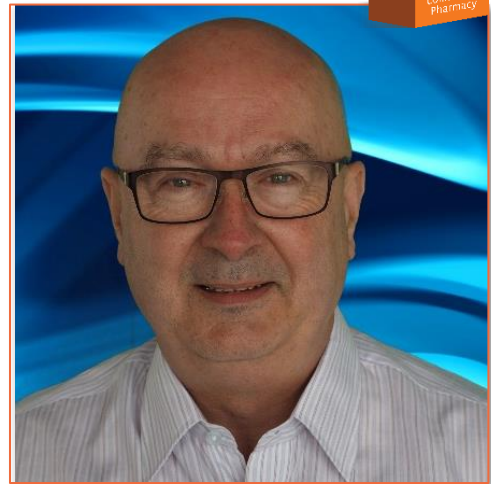
The Community Pharmacy Section is honored and happy to collaborate with the YPG.

The YPG is an important part of FIP where we will find the future leaders of pharmacy worldwide. The YPG is a group of dedicated, passionate, proactive, creative and innovative young pharmacists, developing pharmacy in science, education and practice. It is indeed a great honour and pleasure to collaborate with you all. Thank you for being a member of the CPS, and for everything that you do for your patients and our profession.

Warren Meek (Canada)

I love being a pharmacist. Always have. Always will. Many years ago, growing up in the rural countryside of Canada's smallest province, Prince Edward Island, I did not know what my life path would be. I am so happy to have chosen to be a pharmacist.

If we fast-forward through the years from my graduation and my early practice, we will come to a period of greater professional development. That includes my involvement in executive positions within provincial and national pharmacy bodies, and participation in various health projects, for example, Improving Cardiovascular Health in Nova Scotia (ICONS), where pharmacists were included from the inception of the project. This project led to the development of a provincial cardiovascular health programme. Two other involvements were in collaboration with Dalhousie University, first, on the early implementation of pharmaceutical care and, secondly, on community pharmacists monitoring and adjusting warfarin doses through a delegated authority action.



Subsequent to those activities, I am proud to say that I have been a member of FIP for several years. In my foundation years, it was about attending congresses, and presenting oral and poster presentations. As my circle of colleagues grew, I was able to offer myself to the executive committee of the CPS for several years. I was able to also offer support to FIP in other capacities such as chairing committees for policy statements.

In the past few years I have volunteered my services to a Canadian NGO delivering direct medical care in Tanzania. I have been blessed to engage in several levels of pharmacy practice in my local community and my global community.

Why did I do it? Part of the answer is The Wisdom of Crowds, and part is a matter of ability and availability. One does not need to have all the answers and all the top skills.

Do we have ability? We all have ability to varying degrees. And some of us will use that ability in our home community, and we are, and should be quite satisfied with that. Others see a curiosity in some other part of the profession, some other mission, and offer our abilities there. And sometimes there is a need for our abilities, and sometimes there is no need at that time.

Do we have availability? Some of us are so engaged in our family, our livelihood, and our local community, we feel that is our limit of availability. There is absolutely nothing wrong with that. Others may manage their lives differently and make themselves available to other causes.

I feel I have been able to create availability through my personal experiences —by learning from my peers, personal development, and leadership opportunities. I have tried to delete the clutter and while having good discussion on a given topic, be able to make a time-sensitive logical decision on the choices available.

The various teachings are from things like “handle a piece of mail/paper only once”. Another principle for me is the Pareto Principle: everything in life is 80/20. Without getting into a long dissertation on the principle, in essence 20% of what we do is really important. The rest is less important. As a pharmacist, I know I want to have a relationship with every patient, and I do. But, effectively, 20% of those patients really need the relationship. The other 80% accept it, but it is not as important to them. This allows me to focus my energy to achieve the best outcomes.

The change in pharmacy in the past 20 years has been constant. The biggest change is the migration from the focus on product to the focus on caring for the patient. In Canada we recognised this in our “Blueprint for Pharmacy”. This has required a change from a pure science focus to a communications and coaching focus.

While I have learned these things in practice, I have also learned them from my colleagues and contacts and presentations within FIP.

Pharmacy of the future will continue to migrate to more collaboration within healthcare systems and the responsibility for patient health outcomes. Medication reconciliation, medication review and use of care plans will become cornerstones of the profession.

I have some younger colleagues in my country who are stressed in practice. Years ago, one of my mentors explained it. He told me: "Warren, the stress is logical. We are asking students to do things (perhaps futuristic) without providing the proper education and tools." The moral of the lesson was to seek a practice site that provided necessary tools and support commensurate with the outcomes desired.

My affiliation with FIP has exposed me to the broader global pharmacy perspective, which has been good for me personally and professionally. I hope that I have been able to share that perspective at home.

Sherif Guorgui (Canada)

FIP CPS ExCo member

What has changed in your career in the past 20 years?

I have had an incredibly challenging and satisfying career in pharmacy over the past 20 years. Pharmacy is a very diversified profession, and I feel fortunate to have had the opportunity to experience many aspects of that. For instance, I have worked at, and served on boards in both the public and private sectors, as well as at for-profit and non-for-profit organisations, including unionised and non-unionised practice environments. Furthermore, I was an independent pharmacy owner, associate/franchise owner, in addition to holding progressive corporate leadership roles with top pharmacy retailers in Canada. I also possess comprehensive expertise in the retail, specialty, long-term care, addiction treatment, home infusion, industry, academic, regulatory, government affairs and advocacy sectors. In addition to being a mentor and guest-lecturer, I also volunteer my time and expertise on many professional boards and committees on the provincial, national and international levels. I contribute regularly to various pharmacy publications and I am also the host of the Voice of Pharmacy online show, an initiative created with the goal to inform, engage and empower pharmacy professionals.



Over the past two decades, I received numerous recognitions affirming the impact of my tireless work in promoting the value of the profession to patients, colleagues, government and stakeholders. Most notably, in 2015, I was named one of Canada's Top Immigrants, promoting the value and contribution of international pharmacy graduates to Canadian society. In 2017, I received the Voice of Pharmacy Award from the Ontario Pharmacists Association, recognising my significant role in promoting the value of pharmacists, the pharmacy profession, and the association through my advocacy efforts within the profession and community. In 2019, I was named to the Leaders In Pharmacy in Canada, which recognises individuals who are making their mark on the pharmacy profession in Canada and moving it forward. In 2021, I was the recipient of the global Top 100 Healthcare Leaders Award by the International Forum on Advancements in Healthcare.

How has a professional organisation (especially the YPG or FIP) positively impacted your career trajectory?

Over the span of more than 20 years, I have had the opportunity to be involved with numerous professional organisations, which certainly enriched and guided my career trajectory and progression. In particular, my involvement with FIP for almost 10 years has enabled me to have a comprehensive knowledge and understanding of all the different needs, challenges, and opportunities for pharmacy practice in all marketplaces, including developing countries.

I feel fortunate to be currently serving on the CPS Executive Committee alongside passionate colleagues from around the world who are driven by the goal to keep moving pharmacy forward on a global level.

Sham Moodley (South Africa)

BSc (UCD-Ire), BPharm (UKZN), PDM (HIV/AIDS),
MPhil (HIV/AIDS) (SU), PhD (UKZN)

Vice chair: ICPA Board of directors

PSSA

FIP CPS ExCo observer

Honorary research fellow, School of Health Science
UKZN



A journey of change in pharmacy

My early fascination with medicine started with a degree obtained from University College Dublin (UCD) with Pharmacology, Physiology and Biochemistry as my majors. Applying this in human science was the next step and pharmacy provided the ideal opportunity and a perfect fit allowing me a very successful career in community pharmacy. My first seven years in the public hospital sector provided the grounding to allow me to branch out and fulfil a dream of working and serving the community I grew up in. Many community pharmacists will agree that this is probably an ideal way to start as it provides the basis for a low-risk operation as you have the support of friends, family and a community that already knows and identifies with your values.

Making a success of a career in community pharmacy I quickly learnt, requires an exceptional skill set apart from the requisite qualification. This “exceptional skill set” need not necessarily reside within yourself but should certainly be available within your pharmacy practice team- a prerequisite for any successful operation. Within our current context, a community pharmacy requires practice/business acumen, including sound people and financial management strategy, insight into supply chain management dynamics and co-ordination, and an informed perspective to design the required systems to facilitate a flawless execution of the tasks. Key to effective management of patient clinical outcomes involves keeping abreast of new clinical knowledge, world-wide trends, and emerging innovation in pharmacy, all of which is crucial to enable your operation to grow and pivot appropriately in response to identified needs.

It is therefore incumbent upon young pharmacists entering this community space to play an active part in their local and national pharmacy association, participate in their activities, identify the link to the international environment, and to never be afraid to assimilate new ideas into their own practice environment. This exposure will demonstrate that pharmacists across the world have many common issues, needs and challenges and represent a global collegial team working together to find the necessary solutions. Becoming a part of this extended family — the ONE FIP idea — provides an incredible show of support and unity across the globe. I am a member of the Pharmaceutical Society of South Africa (PSSA), I serve on the Board of the Independent Community Pharmacy Association in South Africa (ICPA-SA). I am a member of the CPS Executive Committee as an observer. Further, I am fortunate enough to be an Associate member of the Royal Pharmaceutical Society in the UK (RPS-UK) and an Associate member of the National Community Pharmacy Association in the USA (NCPA-US). Many of the tried and tested ideas from these associations are integrated into my own practice model. They include Medicine Therapy Management (MTM), New Medicine Service (NMS), Refer to Hospital (RTH), Error Reduction, and AMR to highlight a few.

Young past leaders of FIP YPG have used their experience to influence and guide pharmacy related policy and legislation within their own countries and across the world. It is critical to ensure that external role-players without access to the dynamics pertaining to pharmacy are not left to execute this crucial undertaking — “nothing about us without us”.

I have learnt that immersing yourself as a key stakeholder in all matters that impact the health and wellbeing of the community you serve, is key to building a sustainable model. Finally, and most importantly, having utmost respect for every person that walks through your pharmacy door is imperative.

My largest investment of time has been my association with young pharmacy learners and graduates. We constitute an integral part of the University Externship Programme, having had 15 interns complete their one-year programme with us over the years, others completing their yearly eight to 12 week rotation on an ongoing basis, and a Master’s Internship Programme with three interns per year completing their 400 community hours as they complete their master’s degree in pharmacy at the local

pharmacy school. The advantage for ourselves is that new research is published annually on different community pharmacy initiatives, the current ones being around the COVID-19 vaccines. Supervising the interns each year allows us to contribute to the profession, impact and influence the development and thinking of new, eager young minds, and, more importantly, it allows new and up-to-date thinking to filter back into our own practice models in turn.

In terms of the greatest challenges facing pharmacy, over the past 25 years South Africa has had significant policy evolution in a few areas. The first, is that of open ownership allowing lay-persons to own pharmacies, and as in most parts of the world this has resulted in corporatisation of the practice with ownership vested in two or three large companies. We also practise in a highly regulated environment where the price of medicines is controlled via a Single Exit Price regulation, and the dispensing fee, which makes up a major part of the pharmacy income, is also regulated to a maximum fee. Regardless of the challenges, pharmacists remain resilient and adaptable, always finding new ways to expand their role in the healthcare system. Let me highlight a few examples. The early years in South Africa were dominated by the HIV and AIDS pandemic. Pharmacists now have the ability to treat patients upon completion of a course called Pharmacist Initiated Management of Anti-Retroviral Therapy. As a result they can initiate first line ART, and pre- and post-exposure prophylaxis, a significant adaptation to be part of the solution. Other similar initiatives are centred around NCDs. Most community pharmacies in South Africa have a dedicated clinic service to attempt to monitor and assist with this cohort of diseases. Asthma is a key area of focus and pharmacy has stepped up to provide an online intervention model to help patients manage their disease, a particularly useful programme especially during the COVID-19 pandemic. South Africa is at the start of the vaccine campaign, largely led by community pharmacy together with government. The point to be made here is that your practice model needs to adapt to the current needs of the healthcare system for the profession to remain relevant.

Over the past 10 years, meeting and interacting with YPG through the FIP congresses has been an absolute privilege. There are clear indications that the future of the profession will be in good hands and these young professionals are not afraid to demand a seat at the table. Wishing the YPG every success as we celebrate this 20th year!

Sari Westermarck (Finland), PhD

FIP CPS ExCo member

Pharmacy owner

Vice president in the Association of Finnish Pharmacies

What has changed or made the biggest impact on your career in the past 20 years?

I have been able to work in different organisations and in different positions as a pharmacist during my working years. I have worked in the pharmaceutical industry, in product development for 10 years where I started manager positions and also finalised my Ph.D. (Pharm.) studies. I have also worked in pharmaceutical wholesale in manager positions for six years and also worked for the Finnish Medicines Agency. I worked as a pharmacist for four years before I opened the first pharmacy of my own. Now I work in my second pharmacy and at the same time I am Vice President in the Association of Finnish Pharmacies and in FIP CPS ExCo. I think that the greatest thing during my career has been the possibility to work in different positions as pharmacist and develop myself during the working years. Also, during these years, I have received a lot of great and important international and national contacts and friends all over the world.



What was the biggest growth you've seen in the field of pharmacy for your country or region? What further changes do you expect in the coming years?

One big thing in pharmacies has been generic substitution. It has changed the prices of drugs, it has saved money for Finnish society and Finnish customers so that everyone can buy the drugs they need. The big change that is ongoing is digitalisation of pharmacies. We already have robots in many pharmacies that are helping with logistics. We have already more than 100 internet pharmacies in Finland that are owned by community pharmacies. The number of internet pharmacies will increase in

the future, and customers will learn to use them. They will provide the services that customers need and customers will also want to visit community pharmacies in the future.

Do you have any stories to share on how a professional organisation (especially the YPG or FIP) has positively impacted your career trajectory?

There is so much benefit to have an international view and knowledge of the pharmacies internationally. Also, CPS of FIP has provided me a great amount of important contacts and friends all over the world. At the moment I share the information from FIP and CPS in the Association of Finnish Pharmacies.

Chapter 5: Health and Medicines Information Section

Adam Rathbone (United Kingdom), PhD

FIP YPG Health and Medicines Information Section liaison 2021–22

Over the past 20 years our dependence on health and medicines information as a society has expanded exponentially. As pharmacists, we have a pivotal role in communicating information about medicines and health to communities, both local, regional and national. The introduction of digital technologies, the internet and artificial intelligence has increased access to health and medicines information for many people. Health professionals are no longer the sole arbiter of information about medicines and health — Siri, Alexa and Google can provide information directly in the homes of millions of people. This may make the role of pharmacists in medicines and health over the past 20 years sound like they are becoming obsolete, however the events of 2020 have shown that this is not the case. The COVID19 pandemic has demonstrated to the world that despite access to information at the touch of the button, when nature (or science) creates new obstacles for the human race, pharmacists and pharmaceutical scientists race to meet the challenge. This included generating data, creating new knowledge and preparing information for dissemination to governments, policy makers and the public. Access to health and medicines information was pivotal during the COVID-19 pandemic, informing decision-making at the highest levels of government, as well as in the homes and workplaces of individuals. It had and will continue to have an impact on the everyday lives of billions of people for years to come. The demand for access to information about health and medicines during the pandemic is just one example (of many over the past 20 years) where young pharmacists and pharmaceutical scientists as part of FIP YPG have been able to advance pharmacy, worldwide.



Boyan Todorov (Switzerland)

President, Health and Medicines Information Section, FIP

Happy Anniversary! I wish each and every one of you, along with all past, present and future colleagues, continued success, energy and the motivation to future proof the Federation and work for FIP as the home for pharmacy of the future!

It has been over 20 years now since I joined a meeting during the FIP Congress in Vienna in 2000: the first meeting of YPG. What I remember of that first meeting was the understanding and the motivation of the group of recent graduates that YPG needs to be different — not simply a “section for the pharmacy youth”, and not quite the “IPSF for the graduated”. We all recognised that we needed a network — a way to support and learn from each other while we grew in our respective fields of pharmacy and within the FIP Sections. To date, I remain a strong believer in this idea, this network that was created at that meeting spanning all Sections and the two Boards of the Federation, making sure FIP remains the home of the future of the profession.



It was only several years later that I put my hand up to become the YPG Project Coordinator and the following year, was elected chair of YPG. It was an exciting two years, where we worked together to strengthen our relations with IPSF and focused on reforming the Young Pharmacists Group Grant for Professional Innovation, given annually by YPG and the FIP Foundation to stimulate innovative work to be done by young pharmacists and within the FIP Sections. Since then, YPG has grown further still and built a strong regional foundation and a reliable



mentoring network, leading to a number of achievements, with YPG taking an active role in spearheading FIP policies across the Sections, such as the white paper on mHealth.

However, the true success of YPG is not in single projects, regardless of how greatly these have contributed to the profession. As the current President of the Health and Medicines Information Section, I am proud that I can state that five of every 10 members of the Section are also young pharmacists. This is the true measure of the success of YPG — by helping those young colleagues and recent graduates to find their way within the different and often complex structures of FIP and to help modernise it so that we can build our future home in pharmacy together.



Lindsay McClure (United Kingdom)

Past YPG chair and past HaMIS Executive Committee member



FIP YPG and the FIP Health and Medicines Information Section: long-standing professional collaboration and partnership

Health and medicines information underpins pharmacy practice. The FIP Health and Medicines Information Section (known as the FIP Pharmacy Information Section until 2015) provides a global forum for pharmacists and pharmaceutical scientists to share information and best practice in this area; key areas of interest include the strategic development of medicines information, pharmacists as health and medicines information experts, health literacy and health and medicines information technology.

The FIP Health and Medicines Information Section has had close links to the FIP YPG since its inception. At the first documented meeting between the two groups, at a Board of Pharmaceutical Practice event in The Hague in March 2002, Sally Arnison (YPG Chairperson 2001–02) and Han de Gier (FIP Pharmacy Information Section) agreed a range of initiatives to raise awareness of the FIP PI Section within the YPG membership, and vice versa. This led to a YPG article in the FIP PI Section newsletter, InfoLink in June 2002 titled “Meet the Young Pharmacists’ Group (FIP YPG) and Get Involved” by Ema Paulino, then YPG Project Coordinator, and sharing ideas on topics for sessions at the annual FIP World Congress of Pharmacy and Pharmaceutical Sciences. In 2008–09, the first YPG representative, Zhining Goh (Singapore) was formally co-opted on to the FIP PI Section Executive Committee, which supported closer working on projects including support from the FIP PI Section in updating the IPSE/YPG/FIP PI

Section patient counselling booklet. Ever since, each year the Section has co-opted both a representative of the FIP YPG and a representative from IPSF.

When the FIP YPG was established, it was hoped that it would help support the transition of young pharmacists into the profession and promote leadership in pharmacy; this aim has been achieved with a number of the FIP Health and Medicines Information current and past Executive Members previously serving on the FIP YPG Committee.

Amy Kruger Howard (USA), representative for the Americas Vivien Tong (Australia), representative for Asia/Pacific

Health and Medicines Information Section, FIP

Pathways of young pharmacists who are currently serving on the HaMIS Executive Committee

As the Chairperson of Media and Publications on the International Pharmaceutical Students' Federation (IPSF) executive, Amy attended her first FIP World Congress in Germany, which solidified her desire to be a changemaker in pharmacy practice. To further the interest of young pharmacists, she helped co-author white paper statements at the 68th and 69th World Health Assembly, collaborating with FIP representation to shape pharmacy workforce development and educational competency policy.

At home, connections with IPSF colleagues laid the foundation for Amy to secure approval for the first University of Maryland (UMSOP) advanced pharmacy practice experiential rotation in Egypt. After graduating with a Doctor of Pharmacy, she maintained

her engagement with FIP and was recognised as the American Pharmacist Association Ton Hoek Scholarship Recipient in 2019. The scholarship, awarded explicitly to student pharmacists and new practitioners, aims to facilitate exposure, mentorship, and discourse with leadership across multiple organisations and within the FIP infrastructure. Additionally, she was an invited speaker and poster presenter during the Abu Dhabi Congress.

During a two-year Pediatrics Fellowship at UMSOP, she also completed a master's degree in health sciences focusing on global health systems. Amy now works as a clinical pharmacist, teaching at UMSOP, and regularly collaborates on research projects with international partners such as the Institute of Human Virology in Nigeria. She hopes that her research efforts in paediatric medication adherence and health literacy will overlap with the interests of the Health and Medicines Information Section during her service as Representative for the Americas.

As a young pharmacist, Vivien's involvement with FIP HaMIS and YPG began when she attended her first FIP World Congress in 2013. Vivien received the 2014 YPG Grant for Professional Innovation for a study involving over-the-counter medicine labels that formed a critical component of her PhD. The grant provided funding to support the conduct of the research and the opportunity for Vivien to attend the 2015 FIP World Congress in Düsseldorf to present the study findings and continue her engagement with FIP. To date, she has been involved in Congress-related activities such as co-chairing and presenting at FIP World Congresses, poster judging, and session proposal planning.

From 2013 to 2018, concurrent with her involvement across several HaMIS activities, Vivien was an active contributing member of the HaMIS Working Group entitled "National Strategic Plans for the Development and Use of Medicines Information", which led to contributions towards a published FIP report entitled "Medicines information: strategic development", and revisions to the FIP Statement of Policy relevant to medicines information.



Currently serving her second term as HaMIS Executive Committee Representative for Asia/Pacific (2016–20 and 2020–24), Vivien's ongoing involvement has been a unique professional opportunity to have concerted involvement with early-career practitioners. This intentionally embedded partnership within the HaMIS Executive Committee aligns with both her aims and those of HaMIS.

Over the past 10 years, Vivien's research has centred on strategies to optimise health and medicines information quality, including side effect risk communication in Australian Consumer Medicine Information (CMI) leaflets, development and user testing of improved over-the-counter medicine labels and leaflets (PhD research), and CMI leaflets and dispensed prescription medicine labels (postdoctoral research). Her recent research directly underpinned new legislative and health policy changes at a national level. Vivien hopes that her research, ongoing FIP involvement, and engagement with other FIP members and HaMIS will ensure quality, evidence-based health and medicines information that promotes improved communication and consumer empowerment.

Future directions

Given the engagement and existing partnership between HaMIS and YPG, several opportunities continue to be available for HaMIS to partner with young pharmacists to support specific health and medicines information projects. Notably, HaMIS offers an annual stipend to fund pharmacy students, pharmacists or pharmaceutical scientists from low- or middle-income countries involved in medicine, disease or health information research or work. The funding subsidises attendance at a FIP World Congress.

Within HaMIS, we have specifically co-opted executive representation from the IPSF and YPG. These positions allow the Executive Committee to facilitate an ongoing relationship with up-and-coming pharmacists and pharmaceutical scientists and invite contributions from younger members in shaping the aims for FIP HaMIS. The Section hopes the stipend, the co-opted Executive Committee positions, and funding to support health and medicines information-related initiatives will continue to bolster younger membership involvement within the Section and FIP, where possible.

Chapter 6: Hospital Pharmacy Section

Deanna Mill (Australia)

FIP YPG Hospital Pharmacy Section liaison 2021–22

Like everything in healthcare and pharmacy, hospital pharmacy practice has adapted and changed significantly in the past 20 years. The FIP Hospital Pharmacy Section (HPS) has been at the forefront of these changes, working tirelessly to set the standard for practice and promote pharmaceutical care for all patients in hospital-related facilities. The section helps foster education, research and collaboration for hospital pharmacists around the world.

Perhaps the most significant achievement by the section in the past 20 years has been the development of the 2008 Basel Statements, consisting of 75 statements, developed over a two-day meeting by hospital pharmacists from around the globe, that reflected a vision for hospital pharmacy practice into the future. These were updated at a meeting in Bangkok in 2014 and now consist of 65 statements covering multiple areas of practice including procurement of medicines, influences on prescribing, preparation and delivery of medicines, administration of medicines to patients, monitoring medicines use, and training and development of the pharmacy workforce. Keeping with the times, the HPS has adapted these statements into a self-assessment webtool that individuals and organisations can use to benchmark their hospital service and practice. This is just one example of how the section has brought together the global workforce of pharmacy to work towards a common goal, a shining example for young pharmacists everywhere to strive towards.

The HPS has long been an avid supporter of young pharmacists. It continues to welcome young pharmacist liaisons and provide opportunities for young pharmacists to contribute to all its initiatives, and in my short term with it I have been able to connect young pharmacists with many important initiatives, including assistance with translation of the Basel Statements to make them accessible to everyone. An exceptional example of how attending an FIP world congress triggered involvement with YPG, which led to involvement with the HPS as a liaison and onto leadership position within the executive committee as regional vice president, to assistant secretary and then secretary is Rebekah Moles (current HPS secretary, see below). Her contributions to both YPG and the HPS are an example to us all and show how far we can come if we just take that step to get involved. I personally think that she highlights in her contribution how important connection with like-minded individuals can be for personal and professional growth. How lucky we are to have continued with the momentum started by YPG 20 years ago and enjoy the privileged of shared connection and learning today.

The inspiring Robert Moss, current HPS president (see below), couldn't summarise what YPG is about better — "enthusiasm, inquisitive and creative thoughts and ideas". We all know YPG is all about this, but perhaps what I have appreciated the most so far in my involvement is the support on offer. In 2021, while the COVID-19 pandemic continues to rage on and affect us all in different ways, it is so comforting to know that my global YPG family are just an email away armed and ready with support, a joke or an innovative idea. I am continually inspired by other YPG colleagues and their resilience, leadership and unwavering desire to improve global health through pharmacy practice. Here's to 20 more years!



Robert Moss (The Netherlands)

President, Hospital Pharmacy Section, FIP

How wonderful to have been asked to contribute to a book on the occasion of YPG's 20th anniversary. One of the very nice things of being actively involved in FIP is the inspirational encounters with young pharmacists who are full of enthusiasm with inquisitive and creative thoughts and ideas. I hope my reflections help young pharmacists to embrace this attitude and realise they help change the dynamics and help the pharmacy profession evolve at far greater speed.

The most prominent fact I was made aware of while becoming active in international pharmacy was the realisation of how differently pharmacy practices had evolved in various countries. And then realising how exchanging experiences could leapfrog development of practices in countries in which the parts of practice were not yet fully developed. Most of all, however, I came to realise that having a judgemental view on practices in certain countries limited my ability to improve my own practice. Exchange benefits all who participate. An example was my first encounter with a distinguished looking pharmacist from a low- to middle-income country. I had an immediate picture in my mind of his "level" of practice compared with my "highly" developed high-income country hospital pharmacy practice. When we started talking, I learned so much from his approach to pharmacy and his implementations. For example, with fewer pharmaceutical staff and financial resources, his country managed to really focus on improvements in medication safety. My "natural" impetus was needing more resources. It had optimised education for all levels of staff so everyone excelled at the job they were assigned (and loved) to do. In the years to come I was able to incorporate many other ideas I developed during my interactions with colleagues worldwide in the development of pharmaceutical services in my hospital settings.

The largest change in hospital pharmacy practice in many parts of the world, and certainly in Europe, during the past 20 years has been the shift from a product (logistic and financial) focus to patient-centred pharmaceutical care and working in multidisciplinary teams. This was greatly helped by the medical community embracing evidence-based medicine as the base of decision making instead of classic "eminence"-based doctors' decisions. The growing synergy in the vision of this view on hospital pharmaceutical care is exemplified best by the adoption of the Basel Statements as the aspirational goals for hospital pharmacy worldwide.

Another development was improving the continuity of services during transitions of care bridging community and hospital pharmacy practices. All seemingly normal now, even though there is plenty of room for improvement. As with many changes most developments were slowed down by legacy: a resistance to change a way of thinking or practising and legacy of automation systems developed in times when we didn't design for interoperability. With the evolving of digital health technologies, incorporation of data from various sources and better exchange of medical and pharmaceutical information I expect pharmaceutical care to become really patient-focused. The challenge will be to optimise the use of real-world data and personal data to create optimal outcomes and quality of life for individual patients in a sustainable healthcare system. Developments such as artificial intelligence will help us if we embrace them and incorporate them to work synergistically with the human factors that make pharmaceutical practice so exciting.

From a global perspective another challenge will be to have the best possible pharmaceutical care available for all and end the enormous inequity in the provision of healthcare in various parts of the world. The online availability of information has already contributed greatly. Where we used to send our expired textbooks around the world to countries that couldn't afford them, we now exchange views on the newest insights. I believe the current generation of young pharmacists can, and should, play a major role in breaking down (inequality) barriers. It will need the creativity and enthusiasm I mentioned. And by being active in FIP, their impact extends the local practice setting and has the potential to change regional and international pharmaceutical practice. This is what always inspired me and I hope it continues to inspire future generations of pharmacists.



Rebekah Moles (Australia), PhD

Secretary, Hospital Pharmacy Section, FIP



Thank you for the opportunity to be part of this awesome initiative to look back and celebrate the past 20 years of the YPG. I can recall my first FIP Congress very well. It was in 1998 in the Netherlands. At the time I was a young PhD student and it was the first time I had travelled to Europe. I was so excited to get on that big plane and fly across the world from Australia with my new passport. The conference was great, so of course I returned to the congress in 1999 and 2000 and then in 2002 — I was hooked! It was in 2002, some 19 years ago, that I then got involved with the YPG. My good colleague and friend Alison Roberts was voted onto the YPG executive that year, and we had lots to prepare as the 2003 congress was to be held in my hometown of Sydney. YPG was all about putting on sessions that we knew mattered to us at the time. We also had opportunities to apply for the Innovation grant that is still in existence today and I was lucky enough to receive that award back in 2006.



And of course, there was the YPG social events, where we got to meet so many like-minded, passionate pharmacy colleagues from all over the world. In 2003 and again in 2004, I was asked to be the YPG liaison for the HPS. This also, as luck would have it, aligned with the HPS needing a new Vice President for the Western Pacific Region so, there you go, the rest is history. I have served in the positions of Vice President, Assistant Secretary and now Secretary on this Executive Committee since the 2004 New Orleans congress.

So many things have changed in this time. New medicines and medical devices have meant that lives have been saved and prolonged. New ways of teaching have emerged through technology. A massive growth in respect for the role of the pharmacist has also been apparent. The Basel Statements for the future of hospital pharmacy were developed by our HPS members in 2008 and these are continuing to shape practice around the globe. Some things, however, have not changed, and I certainly hope that they never will. These include feeling like you are a member of the FIP family, enjoying the educational and social content that FIP has to offer, and continuing to learn, be mentored by and be inspired by the wonderful pharmacists around the globe.

Thank you FIP YPG, for without being part of the active YPG membership nearly 20 years ago, I would not be where I am today.

Chapter 7: Industrial Pharmacy Section

Maria Mantziri (Greece), MPharm

FIP YPG Industrial Pharmacy Section liaison 2021–22

The power of community and solidarity plays a pivotal role in the healthcare sector. As I was navigating the pharmacy curriculum in the University of Athens in Greece, as any young student, I was trying to find where my passion and talent lay. In order to choose my individual path I wanted to collect as much information as possible about the pharmacy profession and what it means to be a pharmacist, not only inside the borders of my country and my then inexperienced understanding. And so I stumbled across the FIP website and its YPG. I was fascinated by the variety of pharmacy practice sections and special interest groups but, most importantly, I had found a community of people with the same interests, questions and vision as my own, in different corners all over the world.



Soon after, I chose to follow the path of industrial pharmacy and public health, and I engaged more and more with the activities of the FIP Industrial Pharmacy Section (IPS) by reading the *Industrial Pharmacy* magazine and by attending webinars on pharmacovigilance, Antimicrobial Resistance (AMR) and the outlook of the pharmacy profession in the distant future, among others. In 2021, I had the opportunity to get directly involved in the IPS as the elected liaison between the section and YPG. This first involvement thanks to YPG, brought a simultaneous quick promotion within the Section, as an Associate to the Executive Committee, similarly to many of my liaison predecessors. I remember being very humbled at the first meetings with so many esteemed professionals in diverse, leading roles within the pharmaceutical industry. Witnessing a group of pharmacists working in such a fruitful and collaborative manner was and remains for me the most inspiring part of joining FIP.

The richness in different perspectives and skills has expanded my horizons in a unique and defining way, not only as a professional but as an individual. This was especially evident during the unprecedented COVID-19 pandemic, when our ExCo meetings were a window to the reality of the pandemic in Africa, Latin America, the USA and many other places. However, it was also a chance for vivid exchange of ideas and innovation, in a setting that changes constantly and rapidly, and industrial pharmacy is no stranger to continuous change and evolution.

As a young pharmacist, I rejoice that I have access to the knowledge and experience of so many experts in my chosen field. And this would not be possible, without the valuable foundations that were built by so many pharmacists before me, who created a group for pharmacy youth to connect, educate and support each other in order to grow together and make a worldwide impact. It is an honour to participate in the 20 years celebration of such a hard-working, diverse, fun and visionary group of colleagues. Happy 20th!

Sola Solarin (Nigeria)

President, Industrial Pharmacy Section, FIP

Twenty years in the life of any organisation is significant. It may be short or long depending on your frame of reference. In the pharmaceutical profession, the changes we have witnessed have been seismic. About 20 years ago, the human genome was completely sequenced, and all the genes mapped. This achievement triggered a development in healthcare that is impacting our profession today. In 2000, the 10 top selling drug products in the world were all small molecules. Twenty years later in 2020, eight of the world's top selling drug products were biologics. This development has also impacted diagnostics and personalisation of therapy. At the tail end of the past 20 years, the world witnessed the COVID-19 pandemic. But our experience this time is different from a century earlier when the Spanish Flu killed between 17 and 100 million people, and the virus that caused it was not identified until well after the pandemic had run its course. It is different with COVID-19. Within six weeks of notification of the strange ailment by China, the virus had been identified, and its genome fully sequenced and published. Within 12 weeks, diagnostics were available and by the end of the first-year, vaccines were already being injected into people's arms. Humanity had never shown such level of control and you should be glad as young pharmacists that you live in such interesting times.



The FIP Industrial Pharmacy Section (IPS) caters to the interests of pharmacists and pharmaceutical scientists who work in industry. You will find our members involved in drug manufacturing, quality management, supply chain, regulatory affairs and product research and development. Our members have been challenged by changes in biotechnology, information technology and combination products. I am proud to say that our response to the challenges has been shaped a lot by our engagement with the FIP YPG. Its members often arrive fully formed as digital natives and have guided the Luddites among us on how to engage with new technology.

Our incumbent secretary Igor de Castro (see below) rose through the YPG ranks. So did others who had served on the Executive committee in the past. Sini Eskola and Kerstin Neuman are worthy of mention. Filipa Ferreira, Maria Mantziri and Gerard Lee joined the IPS ExCo as YPG liaisons, but have stayed on as Associate ExCo members.

The IPS sponsors an award every year that underwrites the cost of participation of the winner, who must be a young pharmacist, at a future FIP conference up to a maximum of EUR 1,500. The winner of the poster award at the IPSF conference also benefits from a separate award. The section has also set up a structure to support the YPG mentorship programme.

“Global Pharmacists and Pharmaceutical Scientists; 20 years of YPG, Past, Present, and Future is apt as a theme to celebrate the 20-year anniversary of the YPG. It is a good time to pause and reflect and interrogate the place of the pharmacist in the healthcare space of the future. Distinctions between the professions are blurring. Data science, cloud computing and artificial intelligence are challenging the traditional and statutory roles of the pharmacist. It is a good time to redefine our role and start retooling for the future. No group within FIP is better placed to lead the charge than the YPG. I wish you happy celebrations.

Igor Linhares de Castro (Brazil)

Secretary, Industrial Pharmacy Section, FIP

Back in 1999 in Sao Paulo, Brazil, when I started my studies at the Faculty of Pharmacy and Biochemistry Oswaldo Cruz, no one could ever imagine how would my career be. Neither did I. That was the year when the Brazilian Health Agency (ANVISA) was created, the first Brazilian legislation about generics was issued and, when I passed the entrance test to the pharmacy school. Community pharmacy, hospital, industry, laboratory, academia, military — so many areas, so many opportunities and so many questions popping in my head. Was I supposed to choose one for a lifetime career?

It was during my first college year that I heard: “Hey freshman, would you like to help the Student Association to raise funds for our next trip?” And then my career as a student leader started. In 1999–2002 I was on the directory board of the student's association, then in 2003 I joined the directory board



of the regional student's association, which covered all pharmaceutical students of Sao Paulo State. I was also student liaison at the Professional Board of Pharmacy of Sao Paulo State.

The year 2003 was also when my professional career started by having one year of pharmaceutical practice in a local compounding pharmacy.

My first job opportunity in the pharmaceutical industry occurred in 2004, when I joined the regulatory team of one of the most relevant national companies of Brazil, with generics, biologicals and innovative medicines in its portfolio. After registering dozens of products in Brazil, and making them available to Brazilian patients, the company put me in charge of international projects, helping business areas and partners to register the company's medicines abroad.

By 2010, my biggest challenge was to improve the technical dossiers, when there were no training courses in Brazil about international guidelines and regulatory affairs. While searching training options online, I finally landed on the FIP website. Why not network with my peers abroad? I may find the knowledge that I need or at least make some friends in discussions forums, I thought. So, I joined FIP and became a YPG member.

My first FIP Congress participation occurred in the same year in Lisbon, Portugal, through the financial support given by the Mike How Award of the Industrial Pharmacy Section, in collaboration with the YPG.

It is interesting to remember that at that time Brazilian participation in IPSF and YPG did not exist, not only because of lack of promotion, but also due to language and financial barriers. Neither was FIP familiar to pharmacists in Brazil. Social media were becoming popular among pharmaceutical students and young pharmacists, but was still a development that FIP was not keen to face.

The Lisbon FIP Congress was a breakthrough moment in my career. Although I did not have the opportunity to serve as a member of YPG's Steering Committee, I made several friends from the most diverse regions and professional areas, all united by the same interest — a passion for serving the pharmaceutical profession.

At the same time, I was extremely welcomed in the IPS. Besides my having received the award, everyone was very kind to introduce me to the FIP world and invite me to serve the ExCo as Associate member. Suddenly, I saw myself playing a Liaison role in FIP IPS and YPG in the Latin America region, an experience that led me to be elected to ExCo in the following year.

Since 2010, I have attended all FIP Congresses, organising, chairing and being speaker in many sessions. Such experience tailored the pharmacist I am today with all the knowledge gained by interacting with high-level professionals across FIP. Sooner or later, I would probably achieve my goals in the pharmaceutical field, but FIP pushed me to go faster and further than expected, with a solid career as the head of Regulatory Affairs in relevant pharmaceutical companies, as an international lecturer and invited speaker, and with a representation role within professional associations and health authorities.

I have now completed 11 years of FIP membership, 10 of them as a full member of the IPS ExCo, and I am still motivated to expand FIP's relevance around the globe, especially in developing countries.

I am extremely grateful to everyone that has been, and still is, part of my FIP journey in FIP.

Wishing you all the best, and congratulations to the FIP YPG on its 20th anniversary!

Chapter 8: Military and Emergency Pharmacy Section

Hazem Gammoh (Jordan), MS

FIP YPG Military and Emergency Pharmacy Section liaison 2021–22



One of the FIP's smallest section is the Military and Emergency Pharmacy Section (MEPS), which focuses on the emergency pharmacists that work in humanitarian and disaster relief. MEPS is considered the smallest section within the FIP body but the most specialised and unique one. MEPS has more than 128 members representing over 48 countries from all over the world. What makes it unique are several factors such as the MEPS members, the aim of the section, its involvement and engagement and the importance of this section especially nowadays.

MEPS members are a combination of military pharmacists responsible for military health logistics and emergency pharmacists responsible for the logistic operations of many non-governmental organisations. The section is open to any pharmacist or scientist interested in emergency preparedness, and humanitarian and disaster relief.



The aim of MEPS is to create a strong collaboration between pharmacists in the military and NGO's that are first responders in times of emergency, whether the emergency is a result of a natural disaster or man-made. Collaboration occurs by sharing experiences or related topics of pharmacy practice in this unique environment using MEPS as a platform for these communications.

The involvement and engagement of MEPS in the pharmacy world and with other sections during the past 20 years have been remarkable. In my opinion, one of the most important projects that MEPS was involved in is the FIP Global Humanitarian Competency Framework. This project started in late 2017 from a discussion between MEPS, the FIP CEO and several NGOs. The aim was to develop and construct an international competency development framework for pharmacists working in the humanitarian arena, supported by key organisations, that would be used to guide education programmes in this field of practice. MEPS has been involved in other projects such as the temperature management project that aims to give guidance for pharmacists about the proper way to store medicines and how to face environmental change without affecting medicines quality, especially in hot and humid countries. Another interesting project that MEPS was involved in is the resource to enable emergency management. In this project and over the years MEPS has developed several tools and resources to help pharmacists working in emergency situations and is creating an app to make these resources available to pharmacists around the world.

I believe the COVID-19 pandemic has been an eye-opener for the whole world of the importance of being prepared to face any crisis which can happen by having emergency preparedness education material, training sessions, and collaboration bridges with other countries. This has served to highlight the importance of MEPS nowadays. I think the pandemic will help in increasing the level of awareness in many countries about emergency preparedness and will support the idea of including it in curricula and continuous education. This field of pharmacy is becoming very important and essential for us to stay prepared and ready to face any crisis.

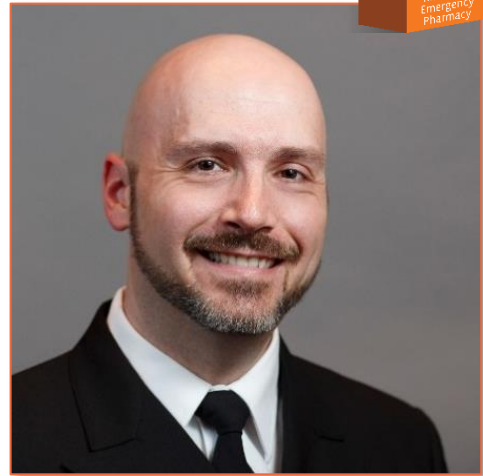
Finally, as a young pharmacist and a liaison of this great section, I encourage my fellow young pharmacists around the world who are interested in emergency preparedness, or love to work in a humanitarian arena, to join us because we have established a great collaboration between YPG and MEPS, and in the near future we will provide opportunities for you to engage more and be prepared to practise properly in emergency situations. "Together we can prepare better".

Sylvain Grenier (Canada), CD, BPharm, PharmD, FOPQ, FFIP President, Military and Emergency Pharmacy Section, FIP



I enrolled in the Canadian Armed Forces (CAF) in 1990. I completed a BPharm degree from Laval University, in Quebec City, through the Regular Officer Training Programme.

I have served in a variety of pharmacy and staff positions, including postings and taskings with the CAF Hospital Valcartier, the CAF Base Clinic Borden, where I also taught pharmacology to medical technicians and physician assistants at the CAF Medical Services School. I served as the Blackdown Cadet Camp pharmacist and in 1998, I had the opportunity to set up a satellite pharmacy that received over 3,500 Kosovar refugees. In 1999, I was deployed to Bosnia as the officer-in-charge of the Forward Medical Equipment Depot in Coralici. Upon my return, I was posted to 2 Health Services Operational Training Unit in Ottawa. From 2000 to 2005, I occupied various staff positions with the CAF Medical Group. In April 2005, I was promoted to the rank of Lieutenant-Commander and posted as the pharmacy policy and standards second-in-command within the Directorate of Medical Policy. In 2008, I completed a PharmD degree from University of Toronto and was then posted to the CAF Health Services Center Ottawa as the Head Pharmacist. In 2011, I assumed command of the Central Medical Equipment Depot and was deployed as part of a Technical Assistance Visit to Kandahar, Afghanistan. My last position in the Regular Forces was as the Senior Staff Officer for Pharmacy Policy and Standard as well as the National Practice Leader for pharmacy.



Upon my retirement from full-time military duty, I became the Director of the Plasma Proteins and Related Product Formulary Programme at Canadian Blood Services. I am responsible for ensuring that Canadian patients have access to plasma-derived products and their alternatives.

Aside from my full time work, I am also part of the CAF Reserve with the Canadian Field Hospital, I am an Adjunct Professor with the Faculty of Medicine of Ottawa University, where I teach Clinical Pharmacology for the Ontario Primary Healthcare Nurse Practitioner programme. I also practise one evening a week in a community pharmacy in Gatineau.

I have been recognised widely among my peers. I received the Pharmacy Practice Commitment to Care Award for Technology Innovation Honourable Mention, the Safe Medication Practices award from the Canadian Society of Hospital Pharmacists (CSHP), the Canadian Pharmacists Association International Leadership Award, and the Teaching, Learning and Education award from the CSHP. I also received the Associate Deputy Minister NOVA award and the prestigious GTEC award for my contribution as a member of the CFHIS project team. I am a Fellow of the Ordre des Pharmaciens du Québec and an FIP Fellow, and I received the Canadian Blood Services CEO Leadership Award of Excellence.

I have presented to numerous pharmacy conferences both national and international, including FIP congresses in Sydney, Cairo, Bangkok, Dusseldorf, Buenos Aires and Seoul, as well as the ICMM World Congress in India and the Pan-Arab ICMM Congress in Tunisia. I was also invited as a guest lecturer for University of Florida students and by the University of Monastir in Tunisia. I am the current President of the FIP Military and Emergency Pharmacy Section.

Throughout my diverse career, I have had the opportunity to be exposed to many areas of pharmacy practice, including community pharmacy, hospital pharmacy, academia and government. This provided me with a unique perspective on how pharmacists can positively impact patient care. I have witnessed the evolution of our profession from a more traditional dispensing role to a prescribing role. This change is most likely the most significant one that I have witnessed, as it changes the responsibilities of the pharmacist.

Having been involved in teaching and, with the government, I could experience multiple angles of the new challenges the profession was facing. Changing the focus from the medicine to the patient, while retaining the role of being the medicine expert, has been a major cultural change for the profession.

With 28 years as a military pharmacist, I had the opportunity to work in unique environments in Canada and around the world. Working under a tent, inside a sea container or in a modern building are examples of what pharmacists working in emergencies or in a humanitarian environment can encounter. With the continuous increase in disasters and the constant widening gap between those who have access to healthcare and those who don't, there is a growing need for training pharmacists to help in these areas of practice. FIP is leading a project to develop a Competency Framework for Pharmacists working in a Humanitarian environment, which is scheduled for release in October 2021. I was proud to be selected to Chair this project with the support of a highly experienced team of pharmacists.

I would say that there were two major drivers that influenced my professional life. First, getting an advanced degree in pharmacy, the post-graduate PharmD, and, secondly, being involved as a volunteer with various pharmacy professional associations (Canadian Society of Hospital Pharmacists, the National Association of Pharmacy and Regulatory Authorities and FIP).

Reaching a higher level of education provided me with opportunities, especially teaching opportunities, that would not have been available to me otherwise. It also provided me with a different perspective on how to approach problems and find solutions to them.

The time I have dedicated to professional pharmacy organisations was an investment that resulted in immeasurable benefits, from an extensive network of highly motivated and professional colleagues to the development of knowledge beyond my regular work. As part of a National Award committee, I have had the opportunity to review dozens of projects and award submissions from incredible pharmacists. I have also participated in several working groups, which allowed me to share my personal expertise and experience, and also learn from the knowledge of others.

Chapter 9: Social and Administrative Pharmacy Section

Sarah Emerson (New Zealand)

FIP YPG Social and Administrative Pharmacy Section
liaison 2021–22

Tara Hehir (Australia)

Secretary, Social and Administrative Pharmacy
Section, FIP

The term “social and administrative pharmacy” is used loosely to describe a collection of different interests, which outline the social aspects of pharmacy, sometimes labelled “social pharmacy”, other times “administrative pharmacy” but also including pharmacy management. Researchers in social and administrative pharmacy explore pharmacy and healthcare from the perspectives of psychology, sociology, economics, epidemiology, statistics, law, management, marketing and education.

Therefore, the Social and Administrative Pharmacy Section (SAPS) is a diverse section, bringing together FIP members from a wide range of backgrounds, including government departments of health, pharmaceutical companies, professional societies and many more. The uniting interest is that we all have an interest in social and administrative pharmacy.

SAPS overlaps with a number of other sections, and as such our members can also be community, hospital or academic pharmacists, or conversely may not work in traditional pharmacy settings at all, which means that the relationships we make through professional organisations are even more important and meaningful to us.

For 20 years, FIP YPG has provided SAPS members at the beginning of their career with the opportunity to connect with and learn from international colleagues working across the spectrum of pharmacy practice. As you will see in our members’ contributions, YPG has often been the conduit for SAPS members to contribute to the broader FIP community. It has provided our members with vital links to mentors and friends that have supported them throughout their careers and enabled them to negotiate and thrive in the ever-changing world of pharmacy practice.

As a one of the newer FIP sections (founded in 1981), we are constantly evolving new areas of interest and creating new areas for our members to be engaged in, either via creation of research awards or building our social media profile, and including more young pharmacist to help us with this area of rapidly growing engagement with our members. Our section is a small group, so we are often more accessible to younger members of FIP. We are not restricted in our elections by nominations of member organisations, and have fewer members, which means that we can offer more opportunities for young pharmacists to become involved in our work.

Due to its accessibility, SAPS has often been the first section that young pharmacists are able to have a significant role within. Our members have then moved into other roles within FIP, for example, as members of the Board of Pharmaceutical Practice, or within working groups. The relatively young average age of our members gives SAPS more of an insight into newer and evolving roles globally.

The collaboration and connection between SAPS and YPG presents a unique opportunity to demonstrate to pharmacy students and young professionals that there are many different and innovative opportunities within the scope of pharmacy — in the words of Prateek Jain, one of our section’s contributors to this report (see below): “SAPS has a unique blend of people bringing a variety of concepts. . . . Keep an open mind.”



Veronika Seda (Australia, Czech Republic)

FIP YPG Steering Committee — public relations officer 2011
First timers-mentor coordinator 2008–12

What has changed or made the biggest impact on your career in the past 20 years?

The biggest impact on my pharmacy career has been the friendships I developed during my student years from my involvement within the local pharmacy association in the Czech Republic through IPSF, all the way through to FIP. These have lasted until today, and even if we live far apart, it's fascinating how we can pick up our conversations where we left them whenever we meet. These lifelong partnerships are built on strong pillars of respect, honesty, curiosity and mutual desire in practising contemporary pharmacy. Every day, when I open LinkedIn, I see many fascinating stories from my pharmacy friends I met more than 10 years ago, driving and inspiring others to achieve more and achieve better. I believe the world of pharmacy does not have any borders. Realising opportunities and possibilities pharmacists have in other countries was such a strong motivator for me, which inspired me to “aim for the moon” (one of the phrases used at IPSF congresses), which benefited my pharmacy practice in both the Czech Republic, where I come from, and Australia, where I live now.



What was the biggest career challenge you have faced in the past 20 years? What has improved since?

After moving to Australia from the Czech Republic in 2013, I thought the biggest challenge was to become a registered pharmacist in Australia. Passing all the assessments while working as a pharmacy shop girl and starting my family simultaneously required a lot of inner strength and determination. However, the major challenge was to adapt to the completely new world of pharmacy, where pharmacies looked on the outside like big cosmetic shops, yet the services provided by community pharmacists inside were what many community pharmacists in the Czech Republic dreamt of. I have joined the local branch of the Pharmaceutical Society of Australia since and there I translated my passion for sustainable professional services in community pharmacy into advocating for pharmacists to practise to their full scope, and commenced works on developing a guide for implementation of professional services through my PhD at the University of Sydney School of Pharmacy.

What was the biggest growth you've seen in the field of pharmacy for your country or region? What further changes do you expect in the coming years?

I am now an observer, not an active participant within Czech community pharmacy, but I have witnessed an exponential growth regarding the utilisation of technological advancements, which make pharmacists' practice so much more efficient, increasing the time pharmacists spend with patients. On the other hand, Australia is progressing with technology at a slower pace; however, this could be due to other aspects of pharmacy developing at a much faster pace. For instance, subsidised professional services have become an inseparable part of pharmacy practice here in Australia, which is an inspiration for Czech pharmacy. I don't have a crystal ball, but I think that future and positive change in the world of pharmacy will be borderless and driven through technology and efficient, professional services fostered by multidisciplinary collaboration.

Do you have any stories to share on how a professional organisation (YPG or FIP) has positively impacted your trajectory?

Although the membership fee was a lot of money at the beginning of my career, I chose to invest in myself, and it paid off later. I am so grateful that I decided to go and spend all my half a year budget as a pharmacy student to go to the IPSF conference in Cairns, Australia. Six years later, one of the friends I met there became my best friend and later attended my wedding as my bridesmaid. During my role as a FIP YPG public Relations Officer, I got to engage with many different pharmacists during the FIP congresses. While working and living in the Czech Republic, I remember meeting the Pharmaceutical Society of Australia president at one of the conferences, having had a passionate discussion about the profession. Fast forward a few years, that conversation is still on, as he became my mentor and inspired me in my career progression here in Australia. Personally, joining a professional organisation, starting with IPSF and then FIP was the best decision I ever made in my career. Not only did I keep myself at a pace with the pharmacy progress worldwide, but I also became one of the members of “Pharmily”, a tribe.

Prateek Jain (Canada)

Project coordinator 2014/15, FIP YPG Steering Committee

One thing about FIP is that it gives equal opportunities to pharmacy students across the globe. Starting my professional career as a volunteer — at FIP 2011 India — was one of the most fortunate events for me. It helped me learn about the professional and cultural diversities around the world. It gave me a sense of belonging and inspired me to become more competitive and ambitious. I have never looked back. Apart from 2016 — when I was preparing to get my PhD — I have never missed the annual FIP congress, while making sure that I contribute to the scientific sessions of the congress.

In 2014, I became the project coordinator of the steering committee. My time at FIP YPG was definitely a highlight in my career. During my term, our team strengthened the partnership and increased our involvement with IPSF by attending the IPSF world congress. It enabled more IPSF members to attend future FIP congresses and get associated with YPG. I also got an opportunity to get integrated within FIP by regularly working with experienced professionals from many FIP sections. Of note has been my involvement with SAPS and IPS. I have been able to deliver sessions at the FIP congresses in 2018 and 2019 with these sections, that involved cutting edge scientific breakthroughs that can be utilised for the community. SAPS has a unique blend of people bringing a variety of concepts. The core ideology of the section aligns with my professional pursuits.

Presently, I live in Toronto, Canada, where I work on high-value market analysis for a multi-national bio-pharma consultancy. Having worked with multicultural FIP members helped me overcome many challenges at personal and professional levels. What brings me back each year to the FIP congresses is the amazing pharmacy friends from around the world, the warm FIP staff, and my inquisitiveness for new cultures. I would like to convey to my fellows that these are exciting times for our generation — keep an open mind, broaden your learning horizon, use technology to increase efficiency, and utilise modern resources as much as possible.

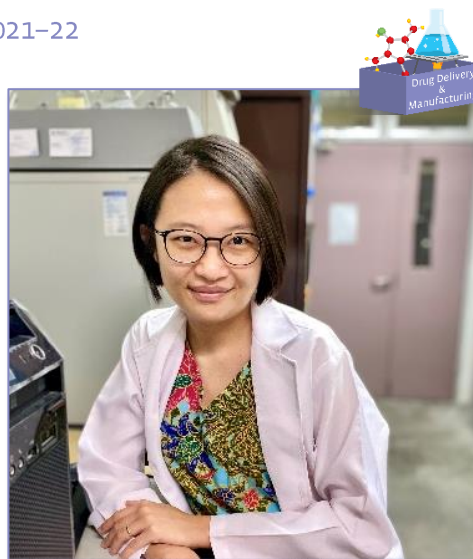


Chapter 10: Drug Delivery and Manufacturing SIG

You Zhuan Lee (Malaysia), PhD

FIP YPG Drug Delivery and Manufacturing SIG liaison 2021–22

The Drug Delivery and Manufacturing (DDM) Special Interest Group (SIG), one of the six SIGs within the FIP Board of Pharmaceutical Sciences (BPS), provides a dynamic international forum for the exchange of knowledge among FIP members who share a common interest in the design, manufacturing and testing of drug delivery systems. Its primary goal is to unite compounding pharmacists and pharmaceutical scientists from diverse scientific disciplines in the community, hospital, industry, regulatory agencies and academia to enhance their contributions to global health. Overall, the DDM SIG focuses on new developments in pharmaceutical technology and manufacturing, encompassing various aspects of conventional and novel dosage forms, including preclinical product development (pre-formulation, materials science, analytical sciences, modelling and simulation), advanced drug delivery systems (nanotechnology, 3D printing, digital health and others), manufacturing sciences (innovative processing, process analytical technology, quality by design), medical devices and combination products, biopharmaceutics and molecular pharmaceuticals, pharmaceutical compounding, and pharmaceutical analysis. To achieve its goal, the SIG currently has five focus groups on: Advanced Drug Delivery Systems; Manufacturing Science, Pharmaceutical Compounding, Pharmaceutical Analysis, and the latest, Paediatric Formulations.



Three salient trends in the past 20 years have made the field of drug delivery and manufacturing increasingly challenging yet exciting. First is the advancement of RNA and DNA technologies for therapeutic intervention, which drives the rising interest in tissue regeneration, 3D printing, nanomedicine, synthetic lethality and personalised medicine, gene editing (CRISPR/Cas9) and cancer immunotherapy. While these methods currently have limited applications in need of a viable delivery system due to the molecule size, poor stability and difficulty in translation from bench to bedside, they have great potential for future growth. Secondly is the development of smart systems and materials for delivering and targeting drugs more effectively and safely at affordable cost. This was highlighted as a key contemporary challenge by the chairs of BPS SIGs in their peer-reviewed article in 2016.¹ Third is the concept of quality-by-design (QbD) and risk-based approaches to improve control over quality and process safety in pharmaceutical manufacturing. Since its introduction in 2004, QbD, with the aim of minimising product variability and enhancing product development and manufacturing efficiency, has shaped the direction of drug delivery and manufacturing by providing benchmarks, not only in quality assurance, but also in innovative pharmaceutical development. Nevertheless, challenges to successfully implement QbD remain, with significant variations between sectors. Altogether, these trends present many opportunities for the DDM SIG to meet its goal to contribute to global health.

At present, the DDM SIG is chaired by Prof. Tetsuya Ozeki (Japan), supported by vice chairs Prof. Erem Bilensoy (Turkey) and Prof. Aliasger K. Salem (USA). Under their leadership, the SIG has collaborated with the YPG on various projects, including webinars, providing ongoing support that aligns with the SIG's focus on disseminating knowledge and facilitating networking between drug delivery and manufacturing professionals worldwide. The profiles of the SIG leaders and the SIG contribution to date are detailed below. Moving forward, the DDM SIG leaders aim to engage more effectively with colleagues from various BPS sections in joint activities to form invaluable partnerships in improving clinical outcomes through drug delivery and manufacturing.

References

1. Tucker G, DeSilva B, Dressman J, et al. Current challenges and potential opportunities for the pharmaceutical sciences to make global impact: an FIP perspective. *Journal of Pharmaceutical Sciences* 2016;105(9):2489–97.

Tetsuya Ozeki (Japan), PhD

Chair, Drug Delivery and Manufacturing SIG, FIP

Prof. Ozeki obtained his PhD in 1995 at Tokyo University of Pharmacy and Life Sciences in Japan. He is not only a pharmacist but also a pharmaceutical scientist researching drug formulation and drug delivery. From 2003 to 2004, he worked at the Department of Pharmaceutical Chemistry of the University of Kansas as a Visiting Researcher in Prof. Valentino J. Stella's laboratory. Since 2009, he has been a full professor at Nagoya City University. From 2013, he also concurrently serves as a professor at the Nagoya Institute of Technology working with the graduate schools to grow expertise of nanomedicine science.

Prof. Ozeki's research focuses on functional nano/microparticles for inhalation, PLGA nano- and micro-particles, 3D printed medicine, nose-to-brain delivery, and gold nanoparticles. Together with his team, they aim to design formulations to optimise drug delivery to a "necessary site" in a "necessary amount (concentration)" at a "necessary time" for higher efficacy, safety and reliability.



The rising trend of personalised medicine began in early 2000 and pharmaceutical scientists have made substantial progress in developing novel formulations, including "functionalised" nanoparticles to achieve targeted delivery of biotechnology products. Prof. Ozeki's research team has made scientific advancement in drug delivery system by developing "triggered drug release" — a promising strategy for delivering anticancer drugs to cancer cells and tissues. The liposomes co-encapsulated with anticancer drug and photosensitizer have been shown to release the drug upon irradiation with a near-infrared laser. The maximum cytotoxic effect in cells suggest that these novel light sensitive liposomes may be useful for drug delivery to cancer cells.¹ In addition, he and his team also developed gold nanoparticles with ranibizumab biosimilar and also siRNA-gold nanoparticles as a novel platform of delivery against angiogenesis-related diseases in local sites such as age-related macular degeneration.^{2,3}

Prof. Ozeki is a keen collaborator with the YPG. Besides webinars and projects, he has also contributed as a mentor in the FIP YPG Mentoring Programme recently from September 2020 to May 2021. Within FIP, he is also a committee member for the FIP Congress and PSWC Programme. Apart from the SIG and the committee roles, Prof. Ozeki has been invited to speak at national and international conferences on pharmaceutical sciences. He has received awards including Takeru and Aya Higuchi Memorial Award from The Academy of Pharmaceutical Science and Technology, Japan (APSTJ) in 2019. Outside FIP, he is the Vice-President of The Academy of Pharmaceutical Science and Technology, Japan; the President of the Forum for Pharmaceutical Technology Innovation, and the Executive Committee Member of the Japan Society of Pharmaceutical Machinery and Engineering.

References

1. Fuse T, Tagami T, Tane M, et al. Effective light-triggered contents release from helper lipid-incorporated liposomes co-encapsulating gemcitabine and a water-soluble photosensitizer. *International Journal of Pharmaceutics* 2018;540(1-2):50-56.
2. Hoshikawa A, Tagami T, Morimura C, et al. Ranibizumab biosimilar/polyethyleneglycol-conjugated gold nanoparticles as a novel drug delivery platform for age-related macular degeneration. *Journal of Drug Delivery Science and Technology* 2017;38:45-50.
3. Takeuchi T, Tagami T, Fukushige K, et al. Useful properties of siRNA-coated gold nanoparticles as a mini-nanocarrier platform for intraocular administration. *Journal of Drug Delivery Science and Technology* 2018;47:411-6.

Aliasger K. Salem (USA), PhD

Vice Chair, Drug Delivery and Manufacturing SIG, FIP

Prof. Salem is the Bighley Chair and Professor of Pharmaceutical Sciences at the University of Iowa College of Pharmacy. He was educated in applied chemistry at Aston University of Science and Technology, Birmingham, UK, and received his PhD in pharmacy at the University of Nottingham, UK, in 2002. He then received postdoctoral training at Johns Hopkins School of Medicine until 2004. He is an elected fellow of the American Association for Pharmaceutical Scientists and an elected fellow of the American Institute for Medical and Biological Engineering.

Prof. Salem's research interests primarily focused on self-assembling systems, rational design of novel drug and gene delivery systems, and development of vaccines that stimulate potent antigen-specific immune responses. His laboratory applies microfabrication techniques to develop novel drug and gene delivery devices and to optimise control over polymer-cell interactions. His research group is currently exploring the synergistic application of polymer particle technology, oligonucleotides, modified RNA, adenoviruses, and small molecules for generating sustained stronger immune responses against tumors. He has a parallel programme in the area of regenerative medicine.



One major change that Prof. Salem has observed over the past 10 years has been the development of modified RNA from an experimental platform used by researchers such as himself into a commercial product (e.g., the COVID-19 vaccine) being used by millions of people. Prof. Salem shared that the global scale in commercialisation of modified RNA as a therapeutic (as a vaccine) has established the potential of modified RNA as a viable therapeutic strategy, as the path to US Food and Drug Administration approval for modified RNA as therapies against a wide range of diseases has become significantly clearer. However, for biologicals like modified RNA, according to Prof. Salem, the delivery continues to be one of the major challenges that needs to be addressed because protecting biologicals from enzymatic degradation before they reach their target remains a critical factor in determining their success. Nevertheless, Prof. Salem thinks that the promising trend would impact the way pharmaceutical scientists work and would promote further development and use of modified RNA in the future.

Prof. Salem has supported YPG in various projects. He recently discussed the use of modified RNA in regenerative medicine during a special seminar organised by the FIP YPG. In addition, he collaborated with YPG on a webinar titled "Introduction to FIP SIGs: Drug Delivery and Manufacturing, New Medicines, and New Generation of Pharmaceutical Scientists".

Chapter 11: New Generation of Pharmaceutical Scientists SIG

Nicole Savant (USA)

FIP YPG New Generation of Pharmaceutical Scientists SIG liaison 2021–22

In the ever-changing dynamic of global pharmacy, FIP stands at the forefront of innovation and education. As a part of its forward-thinking approach, FIP has increasingly focused on expanding the concentration on the foundational aspect of pharmacy, namely, pharmaceutical sciences. Clearly witnessed in the release of the new FIP Development Goals, pharmaceutical science has been given equal space with education and workforce to showcase the important role that science plays in all of the actions of FIP. While this equal inclusion of science in one of FIP's hallmark documents signaled the organisation's dedication, the creation of additional avenues of collaboration with individuals engaged in pharmaceutical science was also key, especially for those who were just starting out in their careers. As a response to this need, in 2019, the FIP Board of Pharmaceutical Sciences (BPS) established a whole new special interest group: the New Generation of Pharmaceutical Scientists (NGPS) SIG.



From its creation, NGPS SIG has had a strong relationship with YPG. I have been honoured to serve as YPG's liaison to NGPS SIG since the beginning and it is a position that I will always be grateful to have held. The leadership team of NGPS SIG has always been willing to collaborate with YPG and in their two short years of working together, they have accomplished one major research project (manuscript pending), multiple world congress proposals and several webinars. Additionally, NGPS SIG has continually sought ways in which to incorporate YPG into its activities and, because many members of NGPS SIG are also members of YPG, the natural working relationship between the two groups is consistently passionate and energetic.

For 20 years, YPG has added a unique perspective to FIP and worked towards increasing the opportunities and visibility of younger members within the organisation. In the same way, NGPS SIG serves as the voice of the younger generation of pharmaceutical scientists within the BPS and FIP as a whole. If the first two years of collaboration between YPG and NGPS SIG are any indication, these two groups will have a storied future ahead. I can hardly wait to see what the next 20 years will look like.

Congratulations YPG on 20 years of enthusiastic representation and unparalleled opportunity creation! May new relationships be continually fostered and innovative ideas supported. Here's to many years of success ahead!

Rebecka Isaksson (United Kingdom), PhD

Chair, New Generation of Pharmaceutical Scientists SIG, FIP

I first encountered FIP and YPG when I was asked to chair the organising committee of the first Young Scientists Conference (YSC) in 2017. I began my career in pharmaceutical sciences when I started my PhD in medicinal chemistry, having first completed an MSc in chemical engineering. It was challenging to make this career move as I had very little knowledge within the field of pharmaceutical sciences. My supervisor was supportive, and I was able to join a six-month research school focused on drug discovery and development that helped me broaden and deepen my knowledge in the field. The opportunity to chair YSC 2017 taught me a great deal about



FIP and YPG and showed me the important role that these global networks play in supporting pharmacists and pharmaceutical scientists, furthering my knowledge of the pharmaceutical sciences and the challenges and opportunities we all face. I now chair the newest special interest group within FIP — the New Generation of Pharmaceutical Sciences (NGPS) SIG — an opportunity I would likely not have come across had I not been involved in YCS 2017. It is a great honour to chair this SIG, working with an amazing and passionate global team dedicated to the global advancement of pharmacy and pharmaceutical sciences.

Since the start of NGPS SIG, we have formed a strong collaborative bond with YPG, both groups striving to support young pharmacists and pharmaceutical scientists with exciting events and content to help them in their early careers. Through the short, two-year history of NGPS SIG, we have submitted several conference proposals with YPG and other FIP SIGs. We have arranged webinars on career development and contributed to the FIP COVID-19 webinar series. We have also arranged a soft skills survey with YPG, and we are planning an upcoming webinar series on global educational differences. This collated information will be useful to members of both YPG and NGPS, and will help highlight global similarities and challenges, as well as regional differences. We look forward to the return of international conferences and congresses, during which we will see more YPG-NGPS collaborative events and sessions aimed at supporting education and career progression of young pharmacists and pharmaceutical scientists.

Brian Cicali (USA), PhD

Vice chair, New Generation of Pharmaceutical Scientists SIG, FIP

Being a member of FIP and YPG has significantly impacted my career for the best. I attended my first FIP event at the World Congress in Buenos Aires in 2016. Being my first experience of a FIP event, I took advantage of everything I could, including attending the YPG events, where I met many peers and role models, and attending all the “Meet the SIG” meetings I could. During a PK/PD and Systems Pharmacology SIG event I happened to meet the chair, Dr Stephan Schmidt, with whom I struck up a conversation and I asked how to learn more about his SIG’s topic. Being a pharmaceutical scientist by training and a MS in computer science student at the time, I was very interested in learning how these two disciplines can be combined to benefit clinical decision making and drug development around the world. Not only did I not know this meeting and a subsequent coffee meeting during the congress with Dr Schmidt would result in my decision to pursue a PhD in pharmacometrics two years later, I also did not realise that I was meeting my future PhD supervisor. Based on the great



FIP world congress experience I submitted an abstract and presented at the FIP Pharmaceutical Sciences World Congress in Stockholm in 2017 thanks to a travel grant from my university.

During this congress, I met many new colleagues, including meeting Dr Schmidt again. He and the other FIP YPG members encouraged me to continue to get involved within FIP and YPG, and I am forever grateful they did. I subsequently applied and became the YPG liaison to the PK/PD and Systems Pharmacology SIG, and a year later applied and was accepted into a PhD programme under the supervision of Dr Schmidt at the University of Florida. This is just one example of how joining and taking advantage of what FIP and YPG offers trainees like myself has helped me grow as a person, scientist and contributor to FIP.

Since then, I have served within multiple positions with the YPG and currently serve within the NGPS SIG leadership team within the BPS. From all these opportunities FIP has provided, I have met many great people and friends from all over the world whom I continue to enjoy learning from and working with. I also enjoy the ability to now provide other trainees the opportunity to grow and pursue their passions within the pharmaceutical field around the globe.

To summarise, throughout my short, five-year period within FIP YPG thus far, I not only found my career passion within the field of pharmacy and pharmaceutical sciences, but have also been able to hone those passions and provide support to many other aspiring pharmacists and pharmaceutical scientists around the world. I cannot emphasise enough how positive my career trajectory has been impacted by FIP and YPG; and I look forward to continuing to contribute to such a great organisation. FIP and YPG is

filled with passionate pharmacists and pharmaceutical scientists from around the globe who will help you grow into the pharmaceutical professional you aspire to be and I strongly urge those who are interested in this growth to reach out to members of FIP such as myself, who will be happy to speak with you and help you develop into not just a great pharmacist or pharmaceutical scientist but a great leader within the field as well.

Sifei Han (Australia), PhD

New Generation of Pharmaceutical Scientists SIG leadership team, FIP

My connection with FIP dates to 2007, when the annual FIP congress was held in Beijing, China for the first time. Back then my supervisor of my master's study (Prof. Yong Gan, from Shanghai Institute of Materia Medica, CAS) took me to the FIP meeting to broaden my view of the large scientific community. I listened to a very interesting talk during the congress, approached the speaker afterwards and thus made a connection. At that time I could not imagine that that connection actually bridged my way to Australia for PhD study in pharmaceutical sciences years later and that the speaker (Prof. Chris Porter) became my supervisor at Monash University.

During my PhD study at Monash, there were many occasions when I heard FIP, and it was a nice opportunity to rejoin two FIP events in 2014 — the Pharmaceutical Sciences World Congress in Melbourne, and the world congress in Bangkok. I heard more about YPG that year and attended the YPG meeting during the annual congress for the first time. It was great to know such an active group of pharmacists. What brought me even closer to FIP was the invitation by Prof. Giovanni Pauletti to join NGPSSIG early in 2020. It has been my great pleasure to work together with the team for the dedicated group for early career researchers in the field of pharmaceutical sciences. It was rewarding to hear other participants' feedback when they benefited from NGPS SIG webinars and other events.



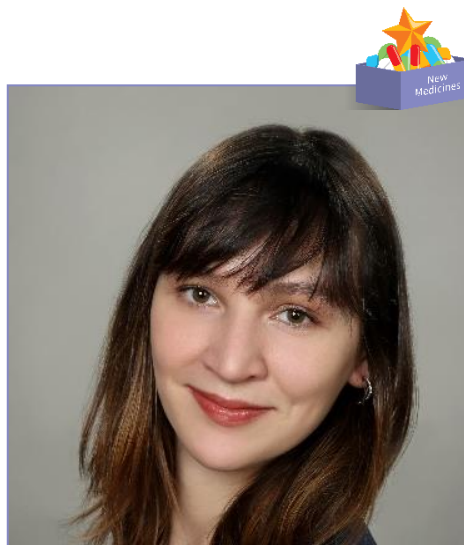
Chapter 12: New Medicines SIG

Liliana Kalita Palczynska (Poland)

FIP YPG New Medicines SIG liaison 2021–22

Every day each patient is battling a disease or coping with a chronic condition with hope for a better medicine that improves her or his health. During the past 20 years, the US Food and Drug Administration has approved more than 500 medicines. That proves the huge work of healthcare professionals involved in this process. The number of approved drugs is, however, changed depending on the year. For instance, in 2016 22 novel drugs were approved, in 2017 46, in 2018 59, and in 2019 the number of novel drugs approved by the FDA decreased to 48. This suggests that, despite a great deal of progress, there is still a need to improve the process of developing new drugs.

Before a medicine can be delivered to patients, it must go through many stages of development. One of the core steps is the identification of a potential molecule. There are different approaches during the early stage of drug discovery. By using the tools of pharmacology, scientists can try to design a completely new product, test a bioactive compound from natural sources, modify existing drugs or use innovative methods like cell and gene therapy. To achieve success, it is crucial that many different groups of professionals collaborate with each other. The New Medicines Special Interest Group (NM SIG) provides a unique opportunity to exchange knowledge and build a global network focused on areas such as natural products and traditional medicine, pharmacology, biologics and cell and gene therapy. Thanks to the activity of the group, young scientists can develop themselves, have an insight in emerging trends in drug discovery and development, and contribute to global health.



Takuya Kumamoto (Japan)

Chair, New Medicines SIG, FIP



SIG New Medicines: brief introduction

The Special Interest Group on New Medicines provides a platform for the discussion of a wide range of research topics in the pharmaceutical sciences related to drug discovery and development. Importantly, this includes early-stage drug development, with research areas in medicinal chemistry, natural medicines, pharmacology, cell and gene therapies and biologics. Synergy of these topics will corroborate the important role of pharmacists in healthcare, with new insights in emerging trends in drug discovery and development.

About my career (including my school days)

When I was in high school, I was interested in chemistry, so I chose to study pharmacy at university, with my motivation to contribute to life science in the field of chemistry in the future. For my undergraduate research, I chose the laboratory of synthetic organic chemistry to conduct research on the synthesis of nucleobases and nucleosides. Initially, I was planning to study molecular biology in graduate school, but on the recommendation of my mentor, I decided to continue my research in organic chemistry at a different university. During graduate school and a one-year postdoctoral fellowship, I was involved in research for pioneering new type of reaction of organic chemistry. After that, I started my teaching career as a research assistant at the faculty of pharmaceutical sciences of university. The laboratory focused on the research of total synthesis of naturally occurring biologically active compounds with complex structures, while promoting research on chemical constituents of medicinal plants as well as development of new reaction in organic chemistry. I was involved in the research on the total synthesis of anti-tumour active polyketide antibiotics, and this research continues. In this way, I have been involved in pharmaceutical science from synthetic organic chemistry.

Highlights of any recent changes in this area of pharmaceutical sciences

I was in charge of the section on drug design and discovery in “Challenges for the pharmaceutical sciences” written by BPS SIG leaders in 2016. In the article, “New anti-infective drugs” and “New drugs

for the treatment of diseases of CNS disorders” were listed as key items in “The need for new drugs to combat diseases with major impact on health and economics”. The former points out that the development of antibacterial drugs with new mechanisms of action is essential and that there is an unmet need for medicines to treat infectious diseases such as malaria, tuberculosis, dengue fever and Ebola virus, mainly in developing countries. The development of new antimicrobial agents continues to be an issue that needs to be addressed, including the cost of development and the reimbursement of medical care. It should be mentioned that the successful development of antiviral drugs, which won the Nobel Prize in Physiology or Medicine in 2015, has been a promising achievement, but the recent global spread of COVID-19 has not been resolved. As for the latter, the number of patients with dementia symptoms is rapidly increasing in an ageing society, and although anti-Alzheimer’s drugs such as donepezil and memantine are being used, we have not reached a solution. The recent FDA approval of anti-Ab monoclonal antibodies is still under debate, and further development of new drugs is eagerly awaited.

My activity in FIP

I became involved in FIP about 10 years ago, and I was appointed as the co-chair of the Drug Design and Discovery (DDD) SIG, newly developed from SIG Med Chem led by Prof. Ulrike Holzgrabe and Prof. Shigeki Sasaki. At that time, I thought how my knowledge and experience could contribute to the practice of pharmacists. In a sense, I got a chance to realise the hope I had in high school, contributing to life sciences from chemistry. As it is connected to synthetic organic chemistry, medicinal chemistry is related to pharmacy and pharmaceutical science. We prepared a joint session for a world congress about pain management which was co-organized by our SIG and the Hospital Pharmacy Section. The session included a university scientist as a speaker who was involved in drug discovery at a pharmaceutical industry including non-addictive opioid receptor agonists, and who later shifted to university. The session was well attended and encouraging. In addition, environmental science can contribute to pharmacy. A session on antimicrobial resistance and environmental pollution caused by antimicrobial agents was co-organised by the Community Pharmacy, Hospital Pharmacy and Industrial Pharmacy Sections and our SIG at the 2019 Abu Dhabi Meeting. Currently, the DDD SIG has been reorganised into the New Medicines SIG, which incorporates elements of natural products and traditional medicines, pharmacology, biotechnology, etc., to cover a wider field of pharmacy and pharmaceutical sciences.

Chun-Wai Mai (Malaysia), PhD

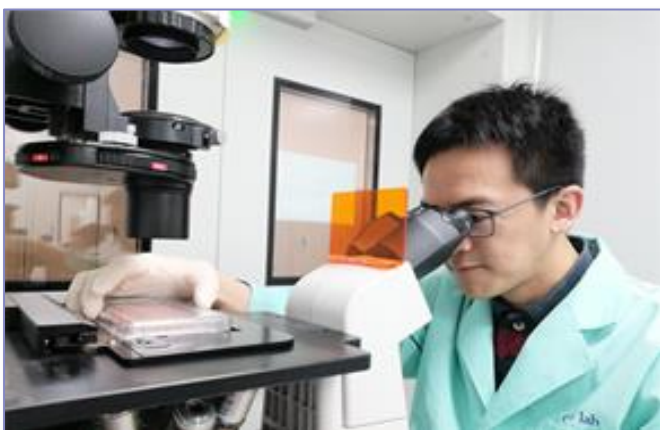
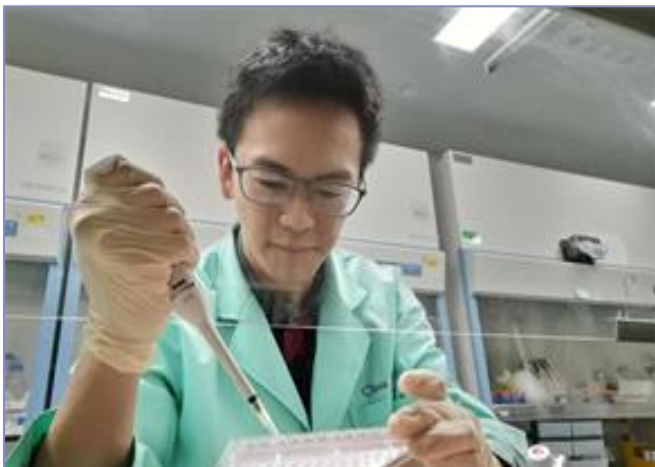
Pharmacology Focus Group Chair, New Medicines SIG, FIP

My journey with FIP began after I was the only Malaysian who secured an FIP Congress Travel Award to the 78th FIP Congress in Glasgow, 2018. I was the head of the Centre for Cancer and Stem Cells Research, Institute for Research, Development & Innovation, International Medical University, Malaysia. The sessions at the congress were very useful to broaden my horizons as a cancer researcher. More importantly, I was introduced to the FIP Board of Pharmaceutical Sciences. The congress connected me to eminent researchers and pharmacists whom I would not be able to talk to normally. The congress also expanded my international collaboration. I have several ongoing international research collaborations that began from a friendly chat during the congress. I was honoured to meet Prof. Takuya Kumamoto, New Medicines SIG head, during the congress and we began working together for this SIG. Prof. Kumamoto offers his guidance. I am truly grateful for his trust and support in my career development. The confidence and professionalism instilled in me drove me to break through my comfort zone and accept a two-year sabbatical leave to the State Key Laboratory of Oncogenes and Related Genes, Renji-Med-X Stem Cell Research Center, Shanghai Jiao Tong University affiliated Renji Hospital, Shanghai, China. It was a great challenge to change jobs during the COVID-19 pandemic. I have mastered new techniques since my arrival in November 2020. Shanghai is a vibrant city with lots of great scientists, together advancing science in human health. Of course, I have met new FIP friends here in China as well. I can thus testify FIP is certainly a good platform to foster friendship and collaboration.





Dr Chun-Wai Mai was awarded the FIP Travel award to the 78th FIP Congress at Glasgow, United Kingdom. A group photo with members of FIP Foundation of Education and Research as well as the other 10 recipients.



Dr Chun-Wai Mai is undertaking sabbatical leave at the State Key Laboratory of Oncogenes and Related Genes, Renji-Med-X Stem Cell Research Center, Shanghai Jiao Tong University affiliated Renji Hospital, Shanghai, China.

Juliet O. Obi (Nigeria), MSc, BPharm Biologics Focus Group chair, New Medicines SIG, FIP



I often consider myself a great planner, especially with my career plans, but I owe my career trajectory to the professional organisations in pharmacy that I have been involved in over the past nine years. I feel honoured to have been involved with IPSF, YPG and FIP for the past few years in one way or another. I have had the privilege to hone my leadership and networking skills, and I have been exposed to various career paths in pharmacy and the pharmaceutical sciences through my involvement with these groups.

I have had an interest in industrial pharmacy since my days in pharmacy school, but I was not certain what my career prospects would be in industrial pharmacy. My involvement with the IPSF exposed me to the area of pharmaceutical sciences through the scientific symposiums organised at its annual world congress and that changed my career trajectory in terms of how I wanted to pursue it. The experience I got from taking up leadership roles in IPSF, and networking with senior peers in YPG and FIP who were on the same career path I hoped to be on motivated me to pursue further studies after my pharmacy degree.

I was able to successfully complete my master's degree in pharmaceutical sciences, with my master's thesis research focused on epigenetics, specifically characterising the molecular details of histone binding proteins called bromodomains, which have been implicated in acute myeloid leukemia. During my master's degree, I had the opportunity to become more involved with the FIP YPG by volunteering as FIP YPG liaison to the Biotechnology SIG. This experience exposed me to the area of drug discovery and biologics research, which was my motivation for pursuing a PhD in pharmaceutical sciences in drug discovery.

I am currently pursuing my PhD and I often imagine what my career trajectory would have been if I had not got involved with any professional organisation during the formative years of my pharmacy career. I have had numerous opportunities and I have met other pharmacy professionals from all walks of life thanks to IPSF, YPG and FIP. I was appointed as the Biologics Focus Group chair for the FIP New Medicines SIG based on recommendation from YPG and I believe this will positively impact my career trajectory even further because of my current research interests in drug discovery.

I am not yet where I hope to be in my career journey, but I am certain I am on the right track to achieve all my career goals, which would have been rather difficult without my involvement and experience with professional organisations including IPSF, YPG and FIP. I am incredibly grateful for the opportunities and the rich network of professionals they continue to offer.

Chapter 13: Pharmacy Practice Research SIG

Lauren Blum (USA)

FIP YPG Pharmacy Practice Research SIG liaison 2021–22

As the world continues to face increasingly complex health challenges, it is more imperative than ever that pharmacists are utilised to their fullest potential in order to ensure all individuals can achieve optimal health. Pharmacists are an essential member of the healthcare team and have the expertise and knowledge to provide patient care in a wide variety of healthcare settings. However, as we continue to push for the advancement of pharmacy practice globally, we also need to ensure that we are building the evidence needed to support this transformation through pharmacy practice research. By conducting pharmacy practice research, we are able to highlight the impact pharmacists can have on local and global health priorities and influence change in the profession.



The Pharmacy Practice Research Special Interest Group (PPR SIG) has recognised the need for widespread pharmacy practice research and has dedicated its efforts to increasing the quality and quantity of pharmacy practice research through a variety of means as well as disseminating this information internationally. As a young pharmacist, I have seen just how important pharmacy practice research is to ensuring practice advancements are sustained long-term and I believe all young pharmacists should get involved with pharmacy practice research in some manner.

With the YPG celebrating its 20-year anniversary, this is an opportune time to reflect on how much YPG, the pharmacy practice research landscape and the pharmacy profession have grown over the past two decades. We have seen significant increases in published pharmacy practice research which has likely supported many advancements and transformation in the profession. Similarly, YPG has continued to expand the reach of its work while also supporting the professional development of young pharmacists around the world. As we look into the next decade, I am confident that young pharmacists will continue to play a key role in the transformation of the global pharmacy profession.

Victoria Garcia Cardenas (Australia) Charlotte Verner Rossing (Denmark) Fernanda Stumpf Tonin (Brazil)

FIP Pharmacy Practice Research SIG leaders



The expanded activities of pharmacists in many settings worldwide have been stimulated, among others, by health challenges, patient-centred demands and a natural professional evolution. Currently, pharmacy practice research can be defined as a scientific discipline that studies the different aspects of the practice of pharmacy, and its impact on healthcare systems, medicine use and patient care. The

scope of this field has significantly grown over the past 50 years and encompasses clinical, behavioural, economic and humanistic aspects of the practice of pharmacy, as well as practice change and implementation of healthcare innovations and patient-care services in daily practice. Considering this scenario, pharmacy practice research has an important role in continuously helping to shape the future of the pharmacy profession.

The PPR SIG was created in 2016 as one of the six SIGs embraced by the FIP Board of Pharmaceutical Sciences (BPS) aiming at increasing pharmacy practice contributions to global health through the provision of greater access to the latest high-quality international research. The PPR SIG specific objectives are: to disseminate information at an international level among pharmacy practice researchers; to increase the quality and quantity of pharmacy practice research; and to establish networks and enable collaboration on major themes for experienced researchers and higher degree students. The PPR SIG leadership structure is composed of: Prof. Victoria Garcia Cardenas (Australia), chair; Prof. Charlotte Verner Rossing (Denmark), vice chair; and Dr Fernanda Stumpf Tonin (Brazil), vice chair. Three focus groups on 'Research Methodology', 'Health Economics' and 'Pharmacoepidemiology and Medication Adherence' were created in the PPR SIG to encourage and foster greater communication, discussion and collaboration between pharmacists and pharmaceutical scientists interested in similar research topics. The PPR SIG has set up a Twitter account (@FIP_PPRSIG) and a Facebook group account (FIP — Pharmacy Practice Research, Special Interest Group). Through these channels the group aims to disseminate pharmacy practice research news and updates and promote scientific events (e.g., meetings, conferences, webinars).

In past years, the PPR SIG has been actively collaborating with several institutions, universities, organisations and research groups worldwide, including the FIP YPG. A recent survey (2019) among 24 YPG members showed that reasons for joining the SIG included mentorship, networking, participation in collaborative projects, expanding knowledge/skills in PPR, accessing high-quality research evidence, and raising awareness of PPR globally. The meetings and, more recently, the webinars such as the "Introduction to FIP Sections and SIGs" that usually take place during FIP congresses are an important approach to promote this knowledge exchange and partnerships.

Finally, in an additional effort to provide an overview of state of art and challenges of pharmacy practice research, the PPR SIG recently published a scientific article entitled: "Pharmacy practice research — A call to action" (Res Soc Admin Pharm 2020;16[11]:1602-08). Considering that the development, impact evaluation, implementation and sustainability of health interventions and patient-care services represents a key research area for pharmacy practice, the authors provided an approach for properly conducting these processes. The role of universities and pharmacy professional associations in supporting the advancement of pharmacy through pharmacy practice research was also discussed. A final call to action towards pharmacy practice research, education and practice of pharmacy was proposed, including: undertaking a societal health needs assessment before the development of patient-care services; using robust epidemiological research designs when evaluating pharmacist interventions and services; applying innovative research methods; implementing pharmacy practice teaching and research in all pharmacy curricula; consolidating a distinctive body of knowledge by creating consistent terminology and thesaurus and publishing in pharmacy journals; stimulating global collaboration across pharmacy practice researchers and educators; and reinforcing local and global pharmacy organisations' roles, support and contribution to pharmacy practice research for the advancement of best practice.



Prof. Shalom (Charlie) I. Benrimoj, Prof. Charlotte V. Rossing, Prof. Fernando Fernandez-Llimos, Dr. Fernanda S. Tonin, Prof. Victoria Garcia-Cardenas (FIP PPR SIG 2018 Lisbon conference)

Fernanda S. Tonin (Brazil), PhD



The scientific career of Fernanda Stumpf Tonin began with her graduation in pharmacy (2008–13), with an internship at the pharmacology department in the Federal University of Paraná (UFPR), Brazil. This first experience aroused her interest in research, especially in topics related to the optimisation of pharmacotherapy and patient-focused health decision-making. An international internship at the University of Lisbon (UL), Portugal, during her senior graduation year (2013) allowed Dr Tonin to shape her researcher profile to the pharmacy practice field. Aiming at following the academic and teaching pathways, Dr Tonin obtained her master's degree in pharmaceutical sciences (UFPR 2015) and more recently her double PhD degree in pharmacy (UFPR 2019) and socio-pharmacy (UL).



Dr Tonin is internationally recognised for her contributions in the field of health technology assessment, with special focus on methodological research of systematic reviews and network meta-analyses. This type of study is an extension of traditional pairwise meta-analyses and allows gathering in one single model both direct (i.e., from comparisons available in the literature) and indirect (i.e., mathematically estimated from a common comparator) evidence among all therapies available for a given clinical condition. As a relatively inexpensive and fast-running approach for evidence synthesis, the results from network meta-analyses can directly assist in the decision-making processes by health professionals, health managers and other stakeholders. In an unprecedented way, Dr Tonin's research team developed metrics of network geometry description, and additionally demonstrated the applicability of this technique in different contexts, including the evaluation of complex interventions such as clinical pharmacy services. The integration of Dr Tonin as vice chair of the PPR SIG since 2019 allows her to foster important discussions and initiatives to improve the dissemination of scientific knowledge.

Dr Tonin participates in several research projects in collaboration with organisations in Latin America, Europe and Australia. She also provides consultancy services and scientific advice in health economics and outcomes research and is a member of the editorial board of *Pharmacy Practice*. Dr Tonin's research journey has resulted in over 65 articles published in international journals, 30 oral/poster communications presented at scientific events, 10 awards and distinctions received, seven books/book chapters published and five concluded academic supervisions.

Chapter 14: Personalised and Precision Medicines SIG



Precision Medicine (also known as individualised medicine) is the science of using information about an individual patient (e.g., genetics, drug concentrations) to optimise the benefit and minimise the harm of medical interventions on a patient-by-patient basis. The Personalised and Precision Medicines Special Interest Group (PPM SIG) focuses on the development and application of patient-specific interventions utilising state-of-the-art scientific approaches to improve efficacy and safety, including PK/PD modelling, pharmacogenetics, dose optimisation, diagnostics, and devices linked to drug administration, prescribing and adherence.

Our goals are to:

- Establish a platform within FIP that fosters scientific exchange in the area of precision medicine;
- Disseminate the latest research and technological advancements in the area of precision medicine to pharmacists and pharmaceutical scientists;
- Enable the integration of different individualisation approaches (e.g., omics, therapeutic drug modelling, PK/PD) to optimise treatment selection for a particular patient or subgroup of patients; and
- Illustrate case examples of precision medicine applications at the bedside.

The PPM SIG is chaired by Prof. Stephanie Huang (USA) and vice-chaired by Prof. Hiroyuki Kusuvara (Japan) and Prof. Valvanera Vozmediano (USA).

Five focus groups have been set up on specific areas:

- Omics and big data;
- PK/PD and systems pharmacology;
- Implementation into clinical practice;
- Real world outcomes data; and
- Pharmacometrics (chaired by Dr Elizabeth Lakota [USA]).

More information can be found here: <https://www.fip.org/personalised-and-precision-medicine>

Chapter 15: Regulatory Sciences and Quality SIG



The Regulatory Sciences and Quality Special Interest Group (RSQ SIG) focuses on regulatory sciences in the field of bioequivalence, in-vitro dissolution, biosimilars and quality in different regions. If applicable, the RSQ SIG will strive for harmonisation of requirements. Education in new analytical technologies is also within our scope, and we will consider interest and relevance to practitioners in various settings.

The RSQ SIG evaluates regulatory guidance prepared by various agencies and provides sponsors of new drug products with the science-based information they need to apply for marketing authorisations. The regulatory sciences encompass a wide scope of activities, ranging from laboratory work to supporting drug product quality through pharmacokinetics and pharmacodynamics to post-marketing surveillance.

In the future, the RSQ SIG will also consider aspects, such as medical devices, digital technologies, nanomedicines, and other innovative trends looking into integrated healthcare. For these innovative trends, new analytical technologies have to be applied. Powerful analytical tools are also required to combat substandard and falsified medicines.

The special interest group is chaired by Dr Horst-Dieter Friedel (Germany). Seven focus groups have been set up on specific areas:

- **Analytical sciences** — chaired by Prof. Masaru Kato (Japan). This focus group provides support and education in the application of new analytical methodologies, esp. in separation science, spectroscopy analysis and surface analysis.
- **Quality control and QbD**
- **Dissolution/in vitro-drug release** — chaired by Dr Horst-Dieter Friedel (Germany). This focus group published the FIP “Guidelines for dissolution testing for solid oral products” in 2018. It also published a report on “Dissolution/in-vitro release testing of novel/special dosage forms” and the position paper on “Qualification of paddle and basket dissolution apparatus”. It organised workshops on biorelevant dissolution testing in the United States and Europe, and on nanomedicines. Its “Hands-on-dissolution” workshops in developing countries to improve drug product quality have been very successful outreach activities of FIP.
- **Bioclassification/biowaiver** — chaired by Jenny Dressman (Germany). This focus group provides a global, independent platform for scientific discussion among academia, industry and regulators on the possibilities and the limitations of biowaivers for in vivo bioequivalence studies. It stimulates optimisation of biowaiver methods, contributes to harmonisation of the application of BCS-based biowaivers and provides leadership in educating scientists worldwide about the BCS biowaiver and how it fits into the determination of bioequivalence. This focus group also reviews and publishes biowaiver monographs, reviews and comments on draft guidelines which impact BCS-based biowaivers. Most recently, the focus group participated in the drafting of the ICH guidance on BCS-based biowaivers (M9) by providing comments on the draft guidance. This document was published in November 2019. For 2020, this focus group is planning a workshop in South America to present and discuss the ICH M9 document.
- **Bioavailability/bioequivalence** — chaired by Shinji Yamashita (Japan). This focus group aims to offer up-to-date information on bioavailability/bioequivalence (BA/BE) of oral drugs and to discuss the international harmonisation in regulating and controlling the quality of oral drug products. Its goals are to understand (i) up-to-date science and technology relating to oral BA of drugs for contributing to the development of effective and safe oral drug products, and (ii) the current status of regulatory issues for oral drug products and proposing international standards.
- **Clinical bridging studies** — chaired by Oliver Hu (China Taiwan). This focus group conducts international workshops to harmonise the regulatory requirements for international drug approval process. Among its goals are: planning to initiate a discussion on harmonisation of bridging studies; understanding the current situation of bridging studies; evaluating 10 years of the E5 guidelines; and identifying the framework by which drug regulatory agencies could possibly harmonise the need for and interpretation of foreign clinical data.
- **Biosimilars**

More information can be found here: <https://www.fip.org/regulatory-sciences-and-quality>

Chapter 16: Workforce Development Hub

Anisha Kaur Sandhu (Malaysia)

FIP YPG Workforce Development Hub liaison 2021–22

FIP has dedicated substantial effort towards advancing pharmaceutical education worldwide. This began in 1972 with the establishment of the FIP Academic Pharmacy Section, which then grew to include the formation of the FIP Education (FIPeD) structure. Since 2016, FIP has devised 13 Pharmaceutical Workforce Development Goals (PWDGs) and a global roadmap for transforming workforce and education to consolidate FIP's progressive vision for pharmacy education.

This has resulted in the formation of the FIP Workforce Development Hub (WDH) in 2018, which comprises more than 40 pharmacy education leaders tasked with developing evidence, tools and frameworks in implementing the PWDGs. The WDH supports FIP in its goal to transform the global pharmaceutical workforce to meet the evolving health needs of communities worldwide. The hub aims to better understand pharmacy education and its innovation globally, as well as new methods and tools in specific areas of workforce development. This is achieved under the direction of its current lead, Prof. Ian Bates (see below), three associate directors and 13 teams classified according to the PWDGs. In 2020, the FIP Development Goals (DGs) were launched, consisting of 21 global goals targeted at pharmacy transformation in the elements of practice, science, workforce and education. These were designed to align with the United Nations Sustainable Development Goals. This five decade-long journey shows the major inroads that FIP has made towards prioritising education as a tool in building a future-ready, resilient, needs and sustainability-focused workforce via strong leadership from the WDH. The WDH accords a great deal of respect to YPG's early-career pharmacist perspective in all relevant projects and digital events in line with the ONE FIP aim to develop collaborations and empower members across different groups within FIP. As such, the collaborative ties between YPG and the WDH go from strength to strength with each passing year.



As the YPG WDH liaison, I connect with the WDH on a monthly basis via a hub business meeting to present YPG's current projects and seek collaborative opportunities with PWDG teams. I am ably supported by Lina Bader and Marwan Akel from the WDH, who facilitate YPG WDH collaborations. Together, in the first half of 2021, we have collaborated in five digital events. The WDH is also invested in nurturing the skill development and growth of YPG members by participating actively in mentoring roles for the annual YPG mentorship programme as well as collaborating in continuing education and early-career training projects. Additionally, the WDH is seeking ways to incorporate more YPG members within its structure via remote volunteering opportunities.

I have been grateful to be a part of YPG during these bleak times of the COVID-19 pandemic. Through this role, there were a myriad of virtual professional networking opportunities available which provided purpose, engagement, connection, collaboration and opportunity. It has been inspiring to observe, learn from and gain guidance from global pharmacy leaders, visionaries and policymakers. Working with YPG and the WDH encourages me to be a better pharmacist and academic every day. I hope YPG continues to connect and lead future generations of early-career pharmacy professionals and pharmaceutical scientists.

Ian Bates (United Kingdom), FRPharmS, FFRPS, FFIP, FRSS

Head education development, UCL School Pharmacy, UK

Director for FIP Workforce Development Hub

Director for FIP Global Observatory



My career journey in the health services, academia and with FIP

The start of my own career journey — way back in the last century — was in hospital practice and the National Health Service. At the time, structured post-licence (post registration) training was more or less non-existent, and I found myself having to “re-learn” my undergraduate education in a completely

new and different context. It was challenging to say the least and, in hindsight, profoundly affected my future career directions and my current global work in workforce development. However, at the time, I was trying to build on my interests adopted from my initial education and training at university in London, and I started work in a specialist unit for neurology and neurosurgery. This fuelled my interests in neurological therapeutics and neuropharmacology together with a professional interest in toxicology and poisoning. In all, I worked for around 10 years in the health service before I took a greater interest in education and training roles and it wasn't until sometime later that I rejoined academia teaching pharmacotherapeutics, pharmacokinetics and clinical pharmacy.

I developed deeper interests with workforce development and how we train young pharmacists, in particular on how we can better advance clinical skills into a wider scope of practice. It was around this time that I realised how an emphasis on workforce, and better training, is a necessary (but overlooked) precursor to enhancing service provision and clinical pharmacy — you can't have the latter without the former. The “bright lights” of clinical pharmacy work and patient-centred pharmacy were attractive to many, but no one was focusing on the significant “back room” work that needed to be done on fundamental workforce development. There is no health delivery without a functional and expert workforce. I applied my academic work on various national committees and policy groups and provided the evidence for foundational platforms for introducing competency-based education and training as a formative part of routine career support. I was honoured to receive several national and international awards for this fundamental work.

Working with FIP has provided many of my career highlights and I'm privileged to have been able to work with many smart and inspiring people and in particular the young practitioners of our profession. In retrospect, the most influential work we have conducted has been to focus on early career training and to ensure that the transition from pre-licence to post registration is seamless and constructive. We know from our evidence that this particular transition can be very traumatic and challenging for our young healthcare professionals (in all areas of healthcare, not just pharmacy. Just think back to your very first day as a newly qualified pharmacist. How terrifying was that! The widespread introduction of competency development frameworks for both early career and advanced practice has been one of the key workforce milestones of the past 15 years. Even though this work is not yet universally implemented, competency-based education and training has now become an accepted goal for the foundations of any national workforce development programme in the healthcare professions.

I believe it is only through having national generic infrastructures that we can achieve universal clinical pharmacy and a significant step towards pharmacists enabling universal healthcare for all of our national populations and communities. Focusing on young early-career pharmacists is an obsession for me and I cannot stress enough how important it is to have that fundamental support infrastructure in place. It is only through a focus on early careers that we can fulfil our future professional potential as the key healthcare workforce of the 21st century. As our national populations increasingly live longer lives (one of civil society's supreme global achievements with public health systems) at the same time we are living longer lives with more comorbidity and using significantly more medicines to treat the comorbid effects of extended lifespans. As medicines experts, pharmacists have never been more important in our healthcare systems and, by extension, young pharmacists have never been more important in our professional workforce. Our challenge is in ensuring that all young pharmacists have every opportunity to become these influential healthcare experts for our communities. It is clear that in this context, YPG working in partnership with the FIP Hub is a driving force for global policy implementation with this fundamental challenge of workforce development. I repeat, there is no healthcare without a workforce.

The achievements of FIP, coupled with the achievements of the YPG, have been remarkable over the past 20 years. But I would say that the next 20 years are going to be even more important, not just for individual career journeys but also for the communities and populations that we serve. Medicines expertise is the key ingredient of modern healthcare delivery and we must ensure that our young pharmacists have the best start and the best opportunities for advancement on this career-long journey.

Long live FIP! Long live YPG!

Shaun E. Gleason (USA), PharmD, MGS



The wonders of pharmacy — My career journey

Here's the truth. When I was young, I never wanted to be a pharmacist. I wanted to be a foreign language major, but my parents told me that wasn't practical. So, they encouraged me to spend time with a family friend who owned a pharmacy. It seemed interesting, fun, and challenging, so I became a pharmacist. And you know what? I am so happy I did. Why? First, because I found the study of medicines fascinating, but next, because of what I call the Wonders of Pharmacy". This profession has allowed me to achieve professional and personal goals well beyond what I ever imagined. Thirty years later, I'm still amazed by that, so attribute it to the Wonders of Pharmacy. When I think of what those "wonders" are, I usually note the foundation my pharmacy education, and the amazing opportunities I have seen in it. Let me share my career journey, hopefully demonstrating how the Wonders of Pharmacy have been so, well, wonderful!

Briefly, I have a PharmD degree and completed two post-graduate residencies, the first in general clinical pharmacy and the second in infectious diseases/pharmacokinetics. I worked for more than 10 years as a clinical pharmacist, specialising in the treatment and pharmacokinetics of extensively-drug resistant tuberculosis. From there, I spent over seven years in the medical affairs department of a major pharmaceutical company, and for the past 10 years or so have been an academician/administrator. All along that twisting and turning career path, I have consistently marveled at how my pharmacy background has led me to and prepared me for each.

When I think of what has had the most significant impact on my career journey, there are two main things that come to mind. First, as demonstrated by the twists in my career (clinical, industry, academia), I am continually amazed at how along each step of the way, my education clearly provided me the tools I needed, even when I was not so sure about it. My pharmacy education provided the technical knowledge and skills to succeed clinically, and in broad clinical areas, including those I had not specialised in. It also provided the communication and leadership skills to prepare me in becoming a valued member of interprofessional teams, whether in the clinical, business or academic environment. I love to share with students that while our education is challenging, it truly is a wonderful education, providing us the opportunity to do just about anything.

Next, I believe that professional organisations have been instrumental to my career, from providing continued education, to providing opportunity. While I did not become involved in a professional organisation until late in my career, I very much credit clinical professional organisations for teaching me not only information and skills I needed, but also in highlighting policy issues so important to my career and profession. Learning policy issues, in particular related to my clinical area of tuberculosis, prompted me to explore that further, eventually earning a Master's degree in Global Studies. That education furthered my interest in international issues. From there, the pharmacy profession provided a multitude of opportunities aligned with that passion. It led me to an international pharmaceutical company and eventually to an academic setting, where I've become passionate about the growth of our profession (and professionals) internationally.

It was not until this final step, nearly 20 years into my career, when I finally became more involved in professional organisations. I first thought there could not possibly be a role for me within a professional organisation since I had little experience. I quickly learned that wasn't true at all. Just getting involved was how I got the experience... volunteering for a little project here, a larger project there, and so on until I took on a leadership role within FIP. I can honestly say that getting involved in a professional organisation, especially FIP, has been one of the greatest gifts and highlights of my career. Importantly, it has brought greater understanding of our profession and leadership opportunities. The best gift it has brought, though, has been the collaboration and lasting friendships, which also help in further learning. In short, professional organisations have provided amazing opportunity, further supporting my concept of the Wonders of Pharmacy.

When thinking of my greatest career challenge I think it's the initial lack of confidence I had early in my career, wondering if I was prepared to take on various challenges, especially in my first transition to a new setting, the pharmaceutical industry. It was that challenge, and seeing how well I was prepared, where I truly began to appreciate the wonders of our profession, and in particular, our education. In comparing my education of 30 years ago to what we offer now, I think pharmacy education is improving immensely, and with that provides a greater educational foundation and thus, opportunity. In particular, I believe the communication skills, with both patients and interprofessional colleagues, collaboration and leadership skills, business application skills, healthcare technology skills and more, are going to be the keys to our success. They are the skills that will allow us to apply our immense clinical knowledge in a meaningful manner, in many settings.

While I am admittedly at a later stage in my career, I can't help but wonder what's next, if not for me, for our profession. I'm not sure, but my guess is that pharmacists will continue to expand their clinical roles to include more responsibility, such as increasing prescriptive authority. I also think we will continue to expand our role as respected members of the interprofessional healthcare team. Finally, I do believe there will be a rapid expansion of applying our vast drug knowledge to growing needs in the digital health arena. Whatever the future holds for our profession and the individuals in it, I firmly believe the Wonders of Pharmacy will allow us to continue to meet the needs of our patients and our communities, near and far, and allow each of us to continue to achieve our professional goals.

Astrid Czock



A pharmacy journey from Austria via USA and Germany to Switzerland

I studied pharmacy at the University of Vienna, Austria. After a successful master's thesis making morphine derivatives, I decided to pursue a PhD in medicinal chemistry in the same field. The latter taught me that undertakings not always follow a straight path. I learned to be persistent to achieve my goals. Near the end of my PhD thesis, I applied for a post-doctoral position in California, USA. I was accepted but needed to finish my PhD within two months. I worked day and night, took my final examination and presented my thesis in time to take up the position. Once again, being persistent and keeping the goal before your eyes will render you successful. I did not intend to work in a pharmacy but rather in academia or research, and this post-doc position was a good prerequisite.

My work as a post-doc at the University of the Pacific (UOP) in Stockton, CA, USA, consisted of organic chemistry developing colon cancer remedies — in short, lab work. After a year, I moved from lab to assisting the patent officer writing up chemistry patents, i.e., chemistry on paper rather than in the lab. I was supposed to move to the company's headquarter in Philadelphia but things turned out differently as the company had to downsize and I ended up having no job with a notice of 14 days. I needed to find a solution fast, so I decided to do my internship to obtain my pharmacy licence in Europe. Other than in Austria, where the one-year internship had to be done at one institution, in Germany, one could divide the 12 months into two parts at different institutions, as long as six months are in a community pharmacy. I decided to ask a professor at the pharmacy school of UOP if I could do my six-month internship working once again in morphine chemistry. I lived off unemployment benefits and after the six months, moved to Düsseldorf in Germany, where I found a community pharmacy for the second half of the required 12-month internship. In Germany, the final state examination to obtain the pharmacy licensure is after the internship, which unfortunately I did not know beforehand, so I ended up studying the relevant topics again. I realised that I enjoyed working in a community pharmacy and consequently, I found a job in a community pharmacy in Chur, Switzerland. During my university years, I worked in a pharmacy in the Swiss mountains for several months, so I already knew the Swiss community pharmacy system. From Chur, I moved further up the mountain and took up the management of a community pharmacy in the skiing resort of Lenzerheide for three years before moving to Davos for another 3.5 years. During this time, I became a member of the committee of the cantonal pharmacy association and in this role, I became a PR-delegate to the Swiss national pharmacists' association, pharmaSuisse. Later, I also was appointed a delegate of the cantonal association to the council of pharmaSuisse. In this role, I met the other cantonal delegates on a regular basis as well as the headquarters staff. The first year I could cast my vote as a cantonal delegate, a new pharmaSuisse president was elected: Dominique Jordan, the current FIP president. He stayed on as president for the following 12 years and evolved the pharmacy profession significantly. One of his first acts was to propose to us delegates that pharmaSuisse invests in installing a university chair for pharmacy practice and clinical pharmacy. Little did I know, that I would soon be part of this evolution of the pharmacy profession in Switzerland.

At one of the PR-delegates' meetings, the head of communications mentioned to me that pharmaSuisse was looking for a new Head for the department Science, Education and Quality (SEQ) which made me reflect on this for the rest of the meeting. He had placed this seed into my mind intentionally, as he later told me. As I was not sure what to expect and it also meant that I needed to relocate to Berne, I discussed the job with the Head of SEQ. I also consulted my future and current bosses. The latter encouraged me to take the job in spite of the fact that he would lose me as an employee.

Consequently, I became Head of SEQ at pharmaSuisse and could actively help move the pharmacy profession into the future as many of the main topics concerned my department. We installed a new quality management system specifically for pharmacists and managed to attach the requirement for quality management to the tariff contract with the insurances. We got two postgraduate specialist titles acknowledged and accredited by the Federal Government, in community pharmacy and in hospital pharmacy. Both titles are equivalent to the Federal medical specialisations and are now a requirement to manage a pharmacy. A leap ahead to providing services in pharmacies was the

development and implementation of vaccinations by pharmacists. The competency to vaccinate is now required by the Law for the Medical Professions (LMP) and pharmacists obtain it during their university studies. In order to provide this competency to all pharmacists, we also created a postgraduate certificate and included the training into the curriculum for the postgraduate specialist title. Due to this achievement as well as the implementation of the postgraduate specialist titles, I was awarded a fellowship of the Swiss Academy of Pharmaceutical Sciences. Another important advancement for the pharmacy profession was the implementation of netCare, which the current pharmaSuisse president, Martine Ruggli, was mainly involved in and which consists of algorithms, validated by physicians, to diagnose certain acute diseases in pharmacies. This now is also a competency required by the LMP and is included in the university curriculum to obtain the pharmacy degree.

As Head of SEQ, I also represented pharmacists in different national committees and working groups. One was the editing committee to write the expertise for the national strategy on non-communicable diseases (NCDs) where I represented the healthcare professionals together with the director of the interprofessional non-profit association QualiCCare. The work in this committee was intense and we achieved a change of mindset from all involved professionals to think of the patient's needs and not of what the professional can provide. This switch towards interprofessional patient-centred care is a central requirement for optimal care for patients with NCDs.

After 6.5 years with pharmaSuisse and a new president who decided to reorganise my department, I left the national pharmacists' association and was once again open for new challenges. After a year of reflection and working in several community pharmacies as a replacement pharmacist, the director of QualiCCare contacted me and asked if I wanted to succeed her. Once again, the career path went into a new direction and I now direct QualiCCare which brings together the relevant organisations along the care pathway of patients with NCDs: healthcare professionals, health insurances, patient organisations, cantonal health authorities, specialists, eHealth and logistics providers, and pharma and medtech industries.

As Head of SEQ at pharmaSuisse, I was reporting about Switzerland in several *FIPed* reports. Only afterwards did I become an individual FIP member. Now I am one of three Global Leads for FIP Development Goal 8, "Working with Others" and in the Workforce Development Hub. I am pursuing a MSc in Infectious Diseases at the London School of Hygiene and Tropical Medicine and have obtained the Certificates of Advanced Studies in Epidemiology and Biostatistics as well as in Health Promotion and Disease Prevention from the Universities of Zurich, Bern and Basel. Continuing to further your knowledge is important at any stage of your career as you never know which way your career path will go and which opportunities will arise.

Chapter 17: The FIP Foundation for Education and Research



Funmbi Okoya (Nigeria)

FIP YPG FIP Foundation liaison 2021–22

Janelle Sobotka (USA)

Chair, FIP Foundation



FIP FOUNDATION
FOR EDUCATION
AND RESEARCH

The FIP Foundation for Education and Research was set up in 1993 to promote pharmacists and pharmaceutical scientists' educational and research ventures and expand the role of the pharmacist in charitable projects towards better global health. This is done by soliciting gifts, donations, grants and bequests to support different projects and activities that contribute to this overarching goal.

Over the years, the foundation has continuously supported the development of young pharmacists and pharmaceutical scientists through various initiatives. Every congress year, the FIP Foundation awards the annual Ton Hoek scholarship for young leaders and a number of congress travel scholarships to early-career pharmacy professionals who live and work or study in a low, lower-middle or upper-middle income countries. Since 2002, YPG and the foundation have partnered to establish and award the annual Young Pharmacists/Pharmaceutical Scientists Grant for Professional Innovation, which involves a €1,000 grant for implementing a project from any field of pharmacy (practice, science or education) by a YPG member. These awards fund travel costs to the FIP world congress and offer additional benefits thanks to the generous donations from members.

The partnership with YPG has been built upon with the recent creation of the YPG liaison role on the foundation's board, to which Funmbi Okoya, a YPG member, has been appointed to start his tenure in September 2021. He will be representing YPG on the foundation's board of directors and contribute to the foundation's mission of promoting education and research. The foundation hopes to continue supporting YPG and has plans to collaborate on the YPG Leadership Development Workshop.

Other activities supported by the foundation include:

- **Pharmabridge** — a voluntary initiative aimed at strengthening pharmacy services and pharmacy education in low-income and emerging countries; and
- **Pictograms** — a project that uses images portraying distinct messages to improve the quality and accessibility of health information for patients.

For more information on the foundation or to donate, please get in touch with chair of the foundation, Janelle Sobotka (janelle.sobotka@uc.edu).



Immediate Past FIP foundation chair, the late John Ware with 2019 Ton Hoek Scholarship recipient (Margarita M. Gutierrez) at the opening ceremony of the 79th FIP congress in Abu Dhabi



FIP Foundation board members with congress travel scholarship winners and the Ton Hoek Scholarship recipient at the foundation board meeting at the 79th FIP congress in Abu Dhabi.

Chapter 18: FIP-UNESCO UNITWIN Programme

Khalid Garba Mohammed (Nigeria), PhD

FIP YPG FIP-UNESCO University Twinning and Networking (UNITWIN) programme liaison

In 2010, FIP and the United Nations Educational, Scientific and Cultural Organization (UNESCO) launched a unique global programme: the University Twinning and Networking (UNITWIN) — The Global Pharmacy Education Development (GPhEd) Network.

This FIP-UNESCO UNITWIN programme was the first in the field of higher education for health professionals and the first for global pharmaceutical education. The activities of the programme have been led by FIP-UNESCO UNITWIN director Prof. Ralph Altieri.

The programme sought to advance research, training and curriculum development in pharmacy education by building university networks and encouraging inter-university cooperation worldwide. It has been a platform for FIPed to implement its global pharmaceutical education and workforce strategies. Pharmacy schools in the GPhEd Network have been positioned as centres for excellence and innovation that actively contribute to the development of their respective fields at national, regional and international levels.



The FIP-UNESCO UNITWIN programme acted as a platform for the work of FIPed, where tools and resources were developed to help tackle challenges of academic capacity, quality assurance of educational systems and workforce competency in both high- and low-resource pharmacy education institutions. The programme enabled synchronised and powerful development in undergraduate training and continuing pharmacy and pharmaceutical sciences education, as well as improved communication for scientific innovation, healthcare outcomes, and, ultimately, the attainment of [FIP's Development Goals](#).

The Centre for Excellence in Africa has been the active GPhEd network. Its founding partners, who are the leaders of the sub-Saharan African schools of pharmacy, participate to facilitate the development of academic capacity, quality assurance of educational systems and workforce competency.

Now, looking back on a decade of experience of pharmacy education and innovation across Africa, through FIP-UNESCO UNITWIN Centre for Excellence in Africa, we seek to renew the agreement with UNESCO to strengthen the Centre for Excellence in Africa and roll out centres across other regions globally.¹

What has changed or made the biggest impact on your career in the past 20 years?

The PhD scholarship in pharmaceutical sciences I got from the Italian government through the University of Milan in 2017 has had the biggest impact on my career in pharmacy.

What was the biggest career challenge you have faced in the past 20 years? How has it improved since?

Quitting the PhD programme I started in Pakistan in 2017 was the biggest challenge in my professional career. Even though it later turned out to be a blessing, since I was offered two fully funded PhD scholarships in the same year afterward (a World Academy of Science PhD scholarship and an Italian Government PhD scholarship).

What was the biggest growth you've seen in the field of pharmacy for your country or region? What further changes do you expect in the coming years?

The increased number of pharmacy schools in Nigeria with a consequent increased output of the pharmaceutical workforce and pharmaceutical services in the country and beyond is the biggest growth in terms of the pharmacy profession. There is also this paradigm shift in the training from the product-oriented BPharm degree to PharmD) which is both product- and patient-oriented. In Nigeria, this is happening in two phases. Phase 1 is the conventional university degree which is now a six-year programme instead of five-year one, and it has begun in universities like Bayero University, Kano, and the University of Benin. The rest of the universities offering the BPharm degree are in an active transition phase to PharmD. I am glad to be part of this transition since the university where I lecture (Bayero University, Kano) is the first to run the PharmD programme officially in the entire country.

Phase 2 is the special PharmD conversion programme, which began in 2018, despite some controversies regarding its recognition by the National Universities Commission. The programme was initiated and is being hosted by the University of Benin, the Pharmacists Council of Nigeria, and facilitators from the Nigerian Association of Pharmacists and Pharmaceutical Scientists in the Americas. The programme aims to train university lecturers and hospital pharmacists with a BPharm qualification to empower the PharmD programme that is evolving in the country.

The biggest threat I have foreseen for the pharmacy profession in Nigeria is the increased number of young and talented pharmacists with limited job opportunities. At the moment, even the mandatory 12-month internship placement is becoming difficult for many pharmacy graduates across the country. I would therefore advise pharmacy students in Nigeria to pay attention to their entrepreneurial skills acquisition during their training so that they can be self-reliant after graduation. Moreover, the government must devise ways of properly utilising the potentials of these young professionals to avert brain drain.

Do you have any stories to share on how a professional organisation (especially the YPG or FIP) has positively impacted your career trajectory?

It always gladdens my heart to mention that I joined FIP YPG at the right moment. I first registered as a member in 2015, and that same year I won the prestigious travel grant by the YPG Nigeria to my first FIP World Congress in Dusseldorf, Germany (2015). Thanks to Seun Omobo, who is one of the champions that initiated the YPG in Nigeria and nurtured it to its current status. Since 2015, my engagements with FIP and FIP YPG have been excellent in many ramifications. In 2018, I was among the first set of young pharmacists to be selected as Publication Committee members during the initial expansion of the FIP YPG steering committee to include subcommittees with many portfolios. This expansion has significantly amplified the impact of FIP YPG on its members, including myself.

I was among the first set of FIP YPG members to be in the FIP delegation team to the 72nd World Health Assembly (WHA) of the WHO held in Geneva, Switzerland, in May 2019. This was another first-hand and life-changing experience in a bigger picture which enabled me to understand some technical and practical work of the FIP, the WHO, the WHA, and various other health professional associations across the globe. In the same year, I was awarded the FIP Congress Travel grant to the 79th FIP World Congress held in Abu Dhabi, UAE, in September 2019. This opportunity enabled me to share my PhD research work on 3D printing and personalised medicine with the entire world of pharmacy.

In January 2020, I was nominated as the FIP YPG liaison for the FIP-UNESCO UNITWIN programme. This is another life experience because it gave me the opportunity to be engaged in three major FIP-UNESCO UNITWIN projects: the FIP-UNESCO Centre for Excellence in Africa; the development and launch of the FIP Pharmacy Education in Sub-Saharan Africa Report in 2020; and the development and launch of the FIP-UNITWIN Pathfinder Toolkit earlier this year. Moreover, within the same FIP-UNESCO UNITWIN projects, I was nominated as the first FIP YPG intern (remote volunteer) in 2020, and my internship was renewed for 2021. Thanks to my FIP contact person and project supervisor Nilhan Uzman for her relentless guidance and inspiration. In 2020, I was also nominated as FIP YPG representative to the FIP COVID-19 Global Expert Advisory Group and as Associate Editor of the *Pharmacy Education Journal* of FIP.

Therefore, in summary, all these roles and trajectories from being an FIP member and most importantly by associating myself with FIP YPG have impacted positively in many aspects of my career, both personally and professionally. They helped improve my communication and critical thinking skills, developed my network of professional colleagues. They also tremendously amplified my organisational and teamwork spirit, leadership skills, as well as coordination of projects in a timely manner.

More information about the FIP-UNESCO UNITWIN programme is available at <https://www.fip.org/fip-unesco-unitwin-programme>.

Chapter 19: WHO Global Health Workforce Network (GHWN) Youth Hub

Hyunjin Kang (Korea)

WHO GHWN Youth Hub Steering Committee member
FIP YPG Youth Hub Liaison 2021–22

Think, advocate and act for Interprofessional collaboration — Past, present and ways forward

Past to Present

Interprofessional collaboration has been the topic that all healthcare professionals have acknowledged importance of through research and practices. The World Health Professions Alliance (WHPA) was established in 1999, bringing all the different healthcare professions, including dentists, nurses, pharmacists, physical therapists and physicians, under one umbrella to share knowledge and experiences. FIP's discussion and publications in the past regarding interprofessional collaboration have been limited and mainly focused on interprofessional education (e.g., "Interprofessional Education in a Pharmacy Context: Global Report [2015]"). However, recent FIP Development Goals show that interprofessional collaboration is an inevitable component for future professional development milestones towards achieving people-centred care eventually.



The WHO launched the Global Health Workforce Network (GHWN) in 2016 to promote comprehensive and coherent health workforce policies globally. Among seven hubs under the GHWN with respective themes, the youth hub operates to implement three main areas of work — advocacy, convening spaces and research. The GHWN Youth Hub was founded as a result of a pre-meeting for youth at the 4th global forum on Human Resources for Health in 2017. Caline Mattar (pictured left), the current youth hub chair, recalled the very beginning of the youth hub, "Initially, the hub had a rocky start, but in 2019, a decision was made to have leadership from within the hub, and I was tasked to chair it. I witnessed a strong commitment and great ideas from colleagues from various professions."

However, FIP YPG was not one of the founding members of the youth hub. It officially joined it in January 2020. FIP YPG joining the hub was motivated by Sherly Meilianti (pictured below), who was FIP YPG President at the time. With her personal interests in health workforces focusing on youth with the multi-professional team, she has participated in the youth hub activities as an individual from March 2019. For the year of her FIP YPG presidency, she introduced opportunities from the youth hub into YPG to expose YPG members to several interprofessional activities and opportunities. With her proactive contribution and leadership, FIP YPG has been one of the organisations that have contributed the most.

In 2021, a new liaison position for the youth hub was introduced in FIP YPG, a position I currently occupy. Caline recalls that she was delighted to have FIP YPG joining the hub, realising that the representation of early-career professionals lay almost solely on the World Medical Association Junior Doctors Network, while various student organisations were represented. She says: "I had met colleagues from FIP through various meetings before, and I continue to hold them in very high esteem. I think FIP in general has supported and brought forward the importance of pharmacy as a profession but also overall advocacy for health workers. At that time, I asked whether anyone from FIP-YPG would be interested in joining the steering committee." Sherly also shares the first motivation back then: "I

thought that the youth hub steering committee would be a good training platform for the YPG to work together on interprofessional collaboration. Having Caline's suggestion to have YPG in the youth hub in mind, I wanted to open more opportunities for young pharmacists and pharmaceutical scientists to be represented."

Thanks to Sherly's impressive achievements, active participation of FIP YPG in the youth hub is still in progress. Reflecting on the first half of 2021, the contribution of FIP YPG to youth hub projects such as the advocacy toolkit project is ongoing, and a number of calls for external events and activities were shared, having some FIP and FIP YPG members represented. As a fellow member organisation in the youth hub, FIP YPG also communicates and collaborates closely with the IPSF on interprofessional education, especially in the pharmacy profession.

Ways forward

The Youth Hub is vital today more than ever to advocate for students and early-career professionals. COVID-19 has only worsened working conditions and pre-existing challenges. Caline added: "I believe that student and early-career professional organisations have a major role to play in global health in general, and particularly in support of health and care workers. Now more than ever we need motivated leaders from FIP YPG to continue to advocate meaningful lasting investments in decent jobs for early-career professionals." Sherly shared her expectation from FIP YPG on the youth hub involvement: "I look forward to FIP YPG being more involved and represented in the youth hub activities and events. And I hope those YPG members who participate in the youth hub activities learn how to work as a part of an interprofessional team."



I would like to share some thoughts on the future footsteps of FIP YPG for youth hub engagement. Having worked in the youth hub for the past half a year, I envision that the more we participate, the more we learn through this youth hub platform. Through youth hub activities, we learn how to work collaboratively with other health workforces to achieve the same goal of patients' health and well-being. In other words, we can review the strengths and weaknesses of the pharmacy profession in the integrated care and services, which will lead us to insights on milestones of professional development. At the same time, we get the chance to raise our voices to advocate the role of pharmacists and pharmaceutical scientists in interprofessional collaboration.

In addition to collaboration with other youth healthcare professionals, I believe the youth hub can also function as a platform for the youth pharmacy organisations such as FIP YPG and IPSF. Communication and collaboration between student organisations and young professionals can capture actual demands and avoid mismatch in initiatives regarding a continuum of interprofessional education and training to achieve FIP Development Goals successfully. Paul Darrel O. Meneses, IPSF Interprofessional Coordinator 2020–21, and Amira Rayene Abdelhadi, IPSF Chairperson for External Relations 2020–21, also relate to this, saying: "IPSF currently expects FIP YPG to professionally maintain its relations with both organisations as it currently serves as the bridging platform on combining both students and young professionals' minds for the betterment of the pharmacy profession through collaborative projects and campaigns, and joint initiatives through the GWHN Youth Hub."

Thanks to:

Caline Mattar, Current WHO GHWN Youth Hub Chair

Sherly Meilanti, FIP YPG President 2020

Paul Darrel O. Meneses, IPSF Interprofessional Coordinator 2020-21

Amira Rayene Abdelhadi, IPSF Chairperson for External Relations 2020-21

Chapter 20: YPG chapters around the world

Portuguese Young Pharmacists' Association

The Portuguese Young Pharmacists' Association (APJF) was born in 1989, with the main goal of defending and representing the interests of young pharmacists.

Currently, the pharmaceutical profession in Portugal is quite young, as more than 40% is composed of pharmacists under 35 years of age. Therefore, it is essential to have an official and regulated structure that is able to advocate for them.

In addition to the growing need to have a unified voice, young pharmacists still believe it is important to reiterate that we deserve a dignifying and gratifying professional future that also contributes positively to the profession as a whole, and to society.



The current team was elected with a two-year-mandate, from 2020 to 2022 and it comprises the board (nine members), the general assembly committee (three members) and the audit committee (three members). The board is led by a president, a vice president, a secretary general and a treasurer. Additionally, there are two members responsible for policy, one for communications, one for training and one for international affairs.

There has been considerable evolution during the group's 32 years.

As every organisation does before becoming official, APJF had to constitute and formalise its statutes. This process was approved and became public on 7 January 1989. Thus was created an important platform for young pharmacists to actively engage with each other and to launch initiatives that could be to their benefit. The first congress took place in 1992 and it already had an international component, with the theme "The pharmacist and Europe".

Some of the first public positions were featured in regional and national newspapers. For instance, APJF took strong positions against dispensing medicines without a pharmacist and in favour of generic medicines. It also encouraged the Ministry of Health to open more vacancies in hospital pharmacy and to withdraw the authorisation of pharmacies that did not have a technical director.

With some ups and downs, the association continued to grow and the activities started to vary and to reach different audiences. The first national meeting of young pharmacists (GoPharma) was in 2010 and this initiative continues to this day. Around this period, APJF's board achieved the first internship protocol with the pharmaceutical industry, in partnership with the Portuguese Pharmaceutical Society.

It was not easy to find a place to host the association for long periods so, after passing by Coimbra and Porto, APJF headquarters was established in Lisbon, in the Pharmaceutical Society's building.

The digital era also impacted APJF and instead of exchanging letters in the post, our members started to manage the organisation and its communications daily via email, social media. It launched a website and rebranded its logo and house style.

In 2021, APJF is proud to be associated with many noteworthy projects that impact not only young pharmacists but also the pharmaceutical profession and society. The board has launched a podcast, a new website and partnered with notable universities, the pharmaceutical industry and the Pharmaceutical Society for complementary training of our members. It is also important to mention its successful mentoring project, the Hospital Pharmacy Career eBook and the recently published "White Book —Young Pharmacists' 2030 Vision", which takes positions and makes recommendations in eight different topics.

Finally, APJF started to make its international presence official through FIP YPG and became a member of its network in September 2020. APJF is looking forward to continue to learn and share experiences with its fellow international young colleagues.

Cameroon Young Pharmacists (CYP) at the heart of the Young Pharmacists Group (FIP YPG) celebrations

Christine Ebelle, PhD

With the objectives of stimulating and developing leadership in young pharmacists in order to further capacitate them, facilitate their employability and participate in their socio-professional development, Cameroon Young Pharmacists (CYP) was created on 28 January 2017 through a general assembly of young pharmacists ambitious to contribute to the building of the profession through common actions. After four years of existence, CYP is on its second management team with several programmes designed that underpin the achievements to be credited to the team that will reach the end of its mandate in December 2021. These include:

- The organisation of the first CYP symposium on hospital pharmacy (<https://pharmed.datapharma.ch/1er-symposium-cyp-sur-la-pharmacie-hospitaliere-douala-cameroun-22-sept-2017/>);
- The organisation of the first CYP master class;
- The organisation of the first Cameroonian Pharmaceutical Studies Exhibition (SACEP 2019) (<https://lurgentiste.com/cameroun-trois-jours-pour-repenser-les-etudes-pharmaceutiques/>);
- The organisation of the first Pharma Meet Up (<https://cyp237.org/phama-meet-up-acte-1-immersion-au-coeur-de-la-profession-de-pharmacien-en-2021/>);
- Celebrations of the various World Pharmacist Days, especially among communities, in order to bring the pharmacist closer to the people (<https://agounda.wordpress.com/2019/10/04/les-pharmaciens-camerounais-agissent-au-coeur-des-communautes/>); and
- Contributions to several reflections on the progress of the profession in Cameroon.

The profession of pharmacist in Cameroon is facing many challenges. In keeping with the ambition of CYP, the next few years are going to be very interesting for recent graduates and young pharmacists as well as pharmacy students. The need to develop operational research on medicines and to strengthen the health system is important, as is capitalising on traditional knowledge for herbal medicine to serve communities.

It seems more than appropriate to salute the memory of the founding peers of our movement, who from the very first hours of their entry into the profession committed themselves to pooling their efforts in order to make the profession more dynamic and to put it more at the service of different beneficiaries.

Follow our news at www.cyp237.org.

Happy celebration to all of us!

Young Pharmacist Group of the Algerian Federation of Pharmacy (FAP)

Year of creation: 2018/2019
Current head : Djahdou Zakaria
Structure (Second board 2020-2022)

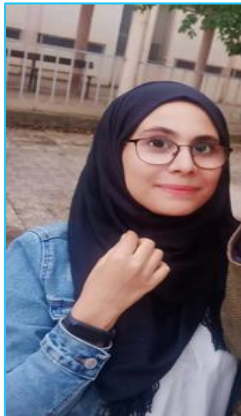
President: Djahdou Zakaria



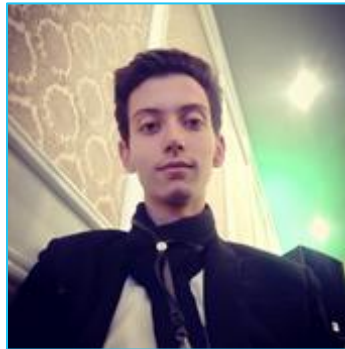
Secretary general: Nadra Fadila



Chairperson of professional development:
Hanane Kebaili



Chairperson of media & publications:
Housseem-Eddine Kellou



Chairperson of public relations:
Soraya Fekir



Since its creation, the FAP YPG has served pharmacy students and young pharmacists by:

- Guiding and orienting students and recent graduates to understand the opportunities of work, and to discover the roles of the pharmacy fields, to help them make the best choice for their career as pharmacists;
- Supporting young pharmacists with training about work in the different pharmacy fields;
- Organising sessions during the national congress of the FAP to make members more involved in national activities and to understand international collaborations; and
- Collaborating with the FAP in the organisation of its events and activities.

The FAP places a big importance on young pharmacists and involves them in all its activities, taking into consideration the youth visions and ideas to contribute in the strategic plan and to transform pharmacy.

Malaysian Pharmacists Society-Young Pharmacists Chapter (MPS-YPC)



Established in 2007, the Malaysian Pharmacists Society-Young Pharmacists Chapter (MPS-YPC) has been a prominent chapter under the umbrella of MPS. It was set up with the aim of bringing together young pharmacists, which currently form the largest cohort of the profession, to shape the future direction of pharmacy and healthcare in Malaysia.

At MPS-YPC, we represent the interests of young pharmacists from all sectors, including public, private, industry, hospital, community, and even non-traditional fields which pharmacists work in. Assuming the key role in MPS's quest to advance the pharmacy profession, MPS-YPC actively engages in advocacy, development and various other initiatives aimed at empowering young pharmacists to be future-ready.



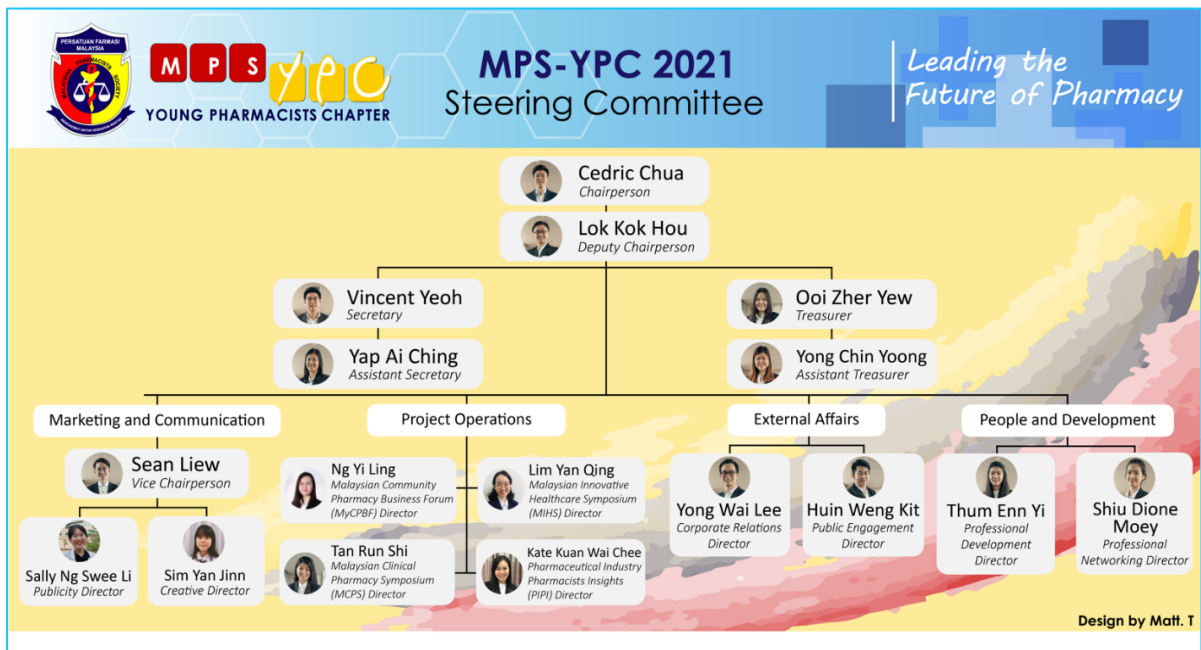
Fourteen years on, the MPS-YPC is now a growing national movement, counting more than 150 associates as its own along with representation that spans six regions.

Vision

Our vision is to bring together young pharmacists across the nation to shape the future of pharmacy and healthcare in Malaysia

Mission

1. To promote and strengthen the ties between young pharmacists through networking activities;
2. To provide young pharmacists with a channel to air their professional concerns and to express their views on pharmacy and health related issues;
3. To instil a sense of pride in the pharmacy profession;
4. To promote excellent pharmacy practice that reflects the highest degree of professionalism and ethical conduct;
5. To uplift the image and perception of pharmacy profession among the public and fellow healthcare professionals; and
6. To nurture and develop future healthcare leaders.



The MPS-YPC organisational structure enables a focused approach on these functions: marketing and communication, corporate relations, public engagement, professional development and networking. Meanwhile, flagship project directors in the areas of clinical pharmacy, community pharmacy, industry pharmacy and healthcare innovation are made steering members to ensure alignment of our key initiatives to the overall MPSYPC goals.

MPS-YPC continues to provide an elaborate platform for young pharmacists to drive innovative and impactful initiatives aligned with its goal.

Experience from past members:



Member #1

Past experiences:

- 2010-2013 Student Affair Officer
- 2012-2015 Secretary
- 2016-2018 Deputy Chairperson
- 2019-2020 Chairperson

Years with YPC: 10

From the personal perspective, I am grateful that MPS-YPC has provided a training ground for me to learn and organize documents and organising. MPS-YPC and MPS are never short of events to organise! More importantly, I learnt how to weigh the risk versus benefit in every decision to be made. No doubt, such training has built my confidence and professionalism. I got my promotion and recognition in my career as an academician and researcher.

Internationally, we built a stronger relationship with Asian Young Pharmacists Group (AYPG) and hosted the biggest AYPG Summit in Malaysia. MPS-YPC was promoted at FIP and FIP-YPG, and now is an active collaborator with both parties.

Nationally, we started advocacy for better welfare for provisional registered pharmacists (PRPs/fresh graduates). We had dialogue with government officials to express concerns from PRPs on job security (i.e., low payrolls, unfair terms in employment contracts, unfair overtime and sales target demands from supervisors, mental stress at the workplace). We also advocate better training for PRPs through 4 flagships programmes.

We have put in lots of effort in promoting MPS-YPC through our INFINITY (i.e., Instagram, Facebook, LinkedIn, Twitter and YouTube) platform and web page to reach out to young pharmacists, who are active in social media.

Member # 2



Past experiences:

- MIHS 2016 Chair, AYPG Leadership Summit 2017 Co-Chair, Deputy Chair, Chairperson

Years with YPC: 5

YPC involvement has been instrumental in developing my career outside of the workplace. Juggling between work and YPC commitments, I simply had to learn how to be more time efficient with added responsibilities laying over my shoulders.

YPC has also given me an early experience of working in groups. The various projects of YPC were a great platform for a healthy exchange of ideas, feedback and criticism, and it certainly helped shape me into a person who appreciates the value of teamwork and team spirit.

The pandemic hit at a time when my term was just about to get started, and that has arguably been the biggest challenge that has faced the team since. The fundamental lack of physical touch would increase distance between members and negatively impact upon team morale. Thankfully, our remedial efforts coincided with a time when resilience and the sense of understanding was building within the team. We got back on track courtesy of a brand-new team character and the grit of every individual member to see through the rough patches.

Member # 3



Past experience:
Chairperson

Years with YPC: 8

YPC allowed me to have a better ability to see things from others' perspective. Most important part is to build a network with like-minded individuals.

I would say that my proudest moments were to be able to:

1. Build a team to advocate for PRP placements on behalf of pharmacy graduates
2. Strengthen MPS-YPC branding and presence on Facebook

The biggest challenge for me was the lack of manpower. We started with a small team and organized events addressing issues and challenges faced by pharmacy graduates, PRPs and young pharmacists. Examples include CV workshops and sharing on experience of working in different sectors by accomplished individuals.

Member #4



Past experience:
MPS-YPC Deputy Chairperson (Executive & Operation) 2018/2020

Years with YPC: 5

YPC taught me to have better Event Management skills: I had the chance to be involved in many interesting events and learn to handle any sudden issues that occur. This skill is also useful for work in handling teams for projects. YPC also helped me in my career in terms of expansion of network and I had the chance to talk to multiple seniors who had vast variety of experience in the same industry. The challenge for me were differences in opinions from various people, whether it was event or society operation management. I try to be open and honest in giving and receiving feedback as communication is the key.

Find out more about us here: <https://mpsypc.com.my/>

Taiwan Young Pharmacist Group (TYPG)

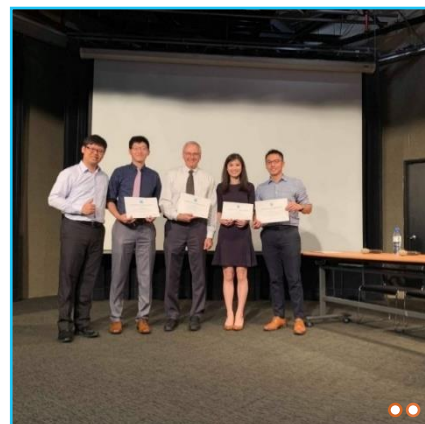
Responding to FIP's call, the Taiwan Young Pharmacist Group (TYPG) began organising itself in 2003 and was officially established as a non-government organisation in 2005. By encouraging young pharmacists' involvement and participation in public health decision-making, public health promotion and education, our mission is to foster Taiwan's pharmaceutical professional growth, international connections and participations, and to strengthen pharmacists' value in the changing healthcare environment.

Our organisation structure consists of three entities — a board of directors, a general assembly, and several special interest groups. The board has four executive directors, 10 directors, one executive supervisor, and five supervisors. The term of office for the board and the president is two years.

Our special interest groups are organised accordingly to plan and execute projects/activities regarding trending topics and issues in pharmacy. Our prior experiences include pharmaceutical education, telepharmacy (e-prescription), doping in sport and exercise, pharmaceutical industry, pharmaceutical marketing, AIDS and gender equality, employment rights of pharmacists, development of community pharmacy, and general public health. Through diverse channels, events and activities, we have successfully increased young pharmacists' awareness of and engagement with various issues. The impacts of our efforts have also been shared at a poster exhibition during an FIP World Congress.

TYPG has also been proactively involving with national health promotion projects, including tobacco control, betel nuts control, AIDS prevention and remote pharmacy services. We have not only facilitated pharmacy professional/leader growth, but also proactively affected public health policy-making, therefore increasing young pharmacists' influence on the society.

After over 15 years of growth and development, TYPG has become a sustainable organisation with capability of support and influence. In coordination with the Federation of Asian Pharmaceutical Associations, we have assisted with a good pharmacy practice training programme and facilitated networking among Asian young pharmacists. We are constantly dedicated to our commitment to enhance local and international public health, facilitate universal health coverage, and improve the pharmacy profession in the future.





○

○○

Indonesian Young Pharmacist Group (IYPG)

The Indonesian Young Pharmacist Group (IYPG) was founded in 2012 with Audrey Clarissa, former IPSF president (2006–07), as its first president. The foundation of IYPG was founded according to the principles of the FIP YPG. Legally, IYPG is part of the Indonesian Pharmacist Association. The main function of IYPG is to gather all young Indonesian pharmacist (aged under 35 years) under one umbrella so they can improve and develop their capabilities personally and professionally, improve their networks, and bring change in society locally or nationally.

Until the second tenure IYPG president Vania Gones, the group focused on three aspects: improving the professional capability of its members; acting as a communications platform; and rebranding the role of the pharmacist to the public as a healthcare professional. The goals of the organisation have evolved since then, including the number of its networks. During the third chapter of leadership under Arde Toga Nugraha, 10 out of 34 provinces in Indonesia formed their own local IYPG. Each local IYPG can develop its own local activities collaborating with local private and public stakeholders, the government structure, or other organisations with similar goals. During his leadership and with help from 12 executive committees, IYPG started to strengthen the organisation and set out its constitution.

Currently, the IYPG central committee is under the lead of Aldizal Mahendra, supported by 26 core members. The organisation consists of several departments including:

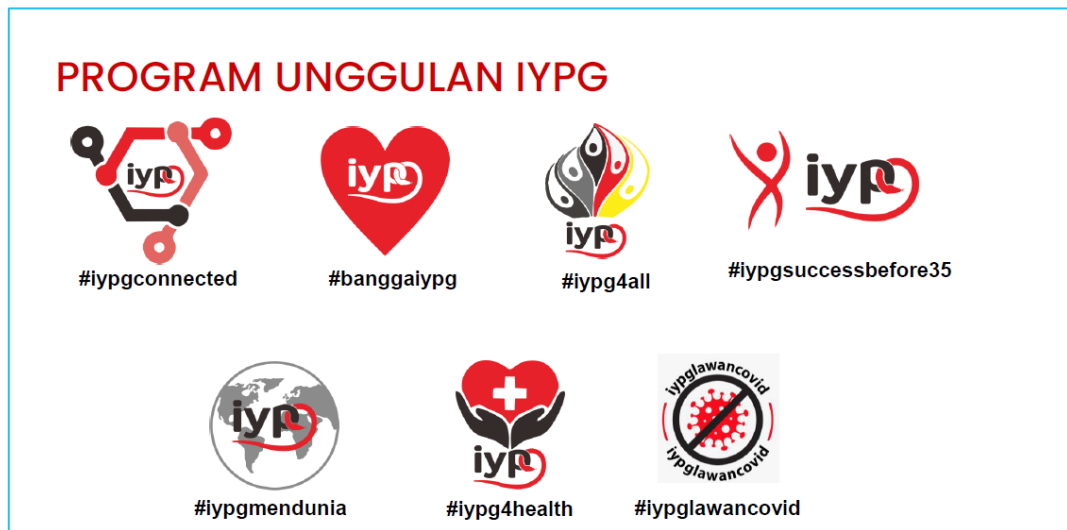
1. Secretary — to support the administrative needs of the organisation;
2. Treasury — performing basic accounting tasks for an organization;
3. Branding — to develop programmes that introduce pharmacists to the public;
4. Organisation — to build the foundations of the organisation’s structure;
5. Competency — to improve the professional and personal capability of its members;
6. Funding — to engage with donors and related stakeholders;
7. Communications — to connect the organisation with stakeholders and all local IYPGs; and
8. Liaison — to liaise with international organisation other than FIP and the Asian Young Pharmacist, as well as YPGs from other countries.



IYPG 2020–22 organisational chart

As a platform for all young Indonesian pharmacists, IYPG enforces the movements initiated by all pharmacists as one big movement. Under the current president, all the initiatives and programmes are based on at least one of these core points:

- #IYPGConnected — to connect all young Indonesian pharmacists;
- #BanggaiYYPG/ProudIYPG — to embed the honour of the pharmacist profession in its members;
- #IYPG4All — to expand the initiatives of IYPG to all young Indonesian pharmacists;
- #IYPGSUCCESSbefore35 — to boost members' success through development initiatives;
- #IYPG4Health — to actively participate in and raise awareness of all health-related campaigns
- #IYPGMendunia — to bring IYPG to the global network; and
- #IYPGLawanCovid — to actively participate in ending the COVID-19 pandemic.



IYPG Period 2020-2022 initiatives and programs

Indonesia consists of 17,504 islands that are widely distributed, and several are inseparable from the risk of natural disaster, including volcanic eruptions, earthquakes, tsunamis, landslides and floods. Based on that condition, one of the IYPG chapters, IYPG West Java initiated a programme to train pharmacists to become the first responders in natural disaster — Apoteker Tanggap Bencana (ATB)/Pharmacist Disaster Response. ATB continuously grows and has been adapted in other provinces such as Banten, Yogyakarta, and Celebes. Considered one of the most successful programmes of IYPG, ATB is collaborating with national and regional disaster agencies.

In its early phase, ATB developed a module to train pharmacists based on the guidance from national disaster agency and FIP. Following that, the organisation has trained and prepared young pharmacists to become first responders in natural emergencies in their local areas. The first national training prepared 85 young pharmacists from several districts and several pharmaceutical students. ATB has now been recognised as the latest affiliate organisation of the Indonesian Pharmacists Association. It has also had updated its module and training syllabus. Moreover, ATP members have been actively involved in emergency response in their local areas.

Currently, the world is dealing with the ongoing COVID-19 Pandemic. Six months after the pandemic declaration in Indonesia, 804 pharmacists tested positive for COVID-19 infection. Responding to that, IYPG initiated a movement under the hashtag #IYPGLawanCovid, which translates to "IYPG Against COVID". The movement focused on the pharmacists that volunteer in COVID-19 hospital. We gathered 90 registered pharmacists that actively volunteer in the COVID-19 hospital.

Under the movement, several online sharings and webinars were executed to update COVID-19 knowledge, including mental health webinars, national vaccination programmes and awareness. To scale up our support from a financial perspective, we facilitated several charity packages and donations that mainly targeted pharmacists under isolation. Ultimately, we held a charity event to increase our donation. The charity event was successfully executed with several activities. One of these was an online campaign that invited young pharmacists to prevent infodemics and hoaxes through social media. We echoed the importance of digital literacy to prevent hoaxes as one of the measures to reduce the burden of the pandemic.

In conclusion, IYPG is proud that we can participate and support the improvement of the pharmacist profession, including in response to the pandemic and national disasters. We are excited to improve our organisation and profession continuously. We are also looking forward to furthering collaboration with other YPGs and related organisations, including FIP. We would like to close this essay with our motto: "Simple, fun and young!"



Figure 3. 1st IYPG Summit in 2016



Figure 4. 5th AYPG Summit and 2nd IYPG Summit in 2019

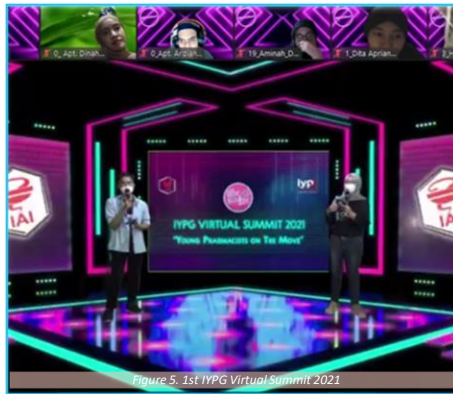


Figure 5. 1st IYPG Virtual Summit 2021

Chapter 21: YPG: A look to the future

Although we are not meeting in person at the annual FIP congress this year, we hope this report has brought you fond memories of colleagues and friends within the FIP and YPG membership. They represent some of the finest leaders our profession has to offer, and we are proud and happy to commemorate 20 years of YPG with their support.

One aim of this report was to share personal experiences and challenges faced within our profession in order to better prepare for whatever may lie ahead. By learning from the past, we can meet the future with confidence.

No one expected a global pandemic in 2020, but we have seen the global community of pharmacists and pharmaceutical scientists come together to accomplish amazing things during this time. From pharmaceutical development of vaccines with blinding speed to pharmacists vaccinating huge numbers of the population, we should be proud of our profession and its role in saving lives during this crisis.

While the pandemic has led to countless strains on our personal and professional lives, it has also changed healthcare in significant ways that will likely extend well into the future. Patients now regularly meet with healthcare providers via telephone or web conference rather than in-person and increased use of delivery services to limit physical contact has also become common, both of which are also convenient for those with mobility or time constraints. As always, in a time of great uncertainty, there is room for great opportunity. Our profession has the chance to continue to grow and change to suit the needs of the future in unprecedented ways.

As you've reviewed the past 20 years with us, I encourage you to look to the future with an open mind and motivation to use your knowledge and skills to continue to improve the lives of patients. By looking back at how far we have come, I hope you can see the boundless opportunities ahead for leaders such as yourself to make a huge impact on the profession.

YPG shares in this vision of pharmacists and pharmaceutical scientists of the future as not only adapting to challenges but also being drivers of change within healthcare to meet the needs of patients in innovative and thoughtful new ways.

Long live YPG! Long live Pharmacy!

Louisa Sullivan
President-Elect, FIP YPG
President, FIP YPG, 2022



fip

