IUPHAR-Ed NEWSLETTER

INTERNATIONAL UNION OF BASIC AND CLINICAL PHARMACOLOGY EDUCATION SECTION

The International Union of Basic and Clinical Pharmacology Education Section

OpenAI. (2025). A futuristic laboratory focused on physiology, drug response, and education [AI-generated image].

Welcome to the June edition of the IUPHAR Education Section newsletter. In this edition, we provide updates on various IUPHAR-Ed initiatives, including insights from the online meeting steering group and progress on the core concepts project. Please complete the survey on page 2 if the core concepts of pharmacology project has impacted your teaching practice. We also share some new infographic resources you might find useful in your teaching - see page 3 for more details.

There's no doubt that the use of generative AI is changing the way we think about assessment. We spotlight a recently published paper on student perceptions and usage of AI in a pharmacology assessment, and also feature an opinion piece on whether AI will replace educators!

A reminder that abstract submissions are now open for WCP 2026 in Melbourne. We encourage all pharmacology educators to submit their abstracts. We are also planning an education satellite and will share more details as they become available.

We'd value your feedback on the IUPHAR-Ed newsletter. Your input will help us improve the content and make it more engaging and relevant to our readers. Please take a few minutes to complete the survey on page 14 and share your opinions. We also welcome your contributions to future newsletters. If you'd like to be featured in an upcoming edition, please get in touch.

Professor Clare Guilding, Chair IUPHAR Education Section

IN THIS ISSUE

UPDATES ON IUPHAR-ED INITIATIVES

CORE CONCEPTS OF PHARMACOLOGY UPDATE

The IUPHAR-Ed Core Concepts of Pharmacology Project Expert Group met on the 14th May.

If you are interested in this project, please see here for the recording of this meeting.
Passcode: #HiHYf19

We are currently re-working the project website - coreconcept pharmacology.org. Thanks in advance to PhD student Katie Coubrough and supervisors Maggie Cunningham and Roisin Kelly-Laubscher.

Feel free to have a look and send any feedback to Paul White: paul.white@monash.edu.

What impact has the Core Concepts in Pharmacology project had you and your teaching practice?

We are interested to find out what impact the Core Concepts in Pharmacology project has had you and your teaching practice. The survey is anonymous and should take no more than 10 minutes to complete.

Last chance - survey closes 30th June 2025!

Scan the QR code or click here to complete the survey!

ONLINE MEETINGS STEERING GROUP UPDATE

The Online Meeting Steering Group met on May 19th 2025 to discuss plans for future online events. The group were updated on progress relating to the organisation of two proposed sessions, namely teaching pharmacology in an integrated curriculum, and assessing lab-based practical skills. These are likely to take place between Aug-Nov 2025, with dates to be confirmed. The Integrated Curriculum meeting is planned to be suitable for the Americas and European time zones, whilst the assessment of practical skills would be for an Asia-Australia time zone. There was a suggestion that watch-parties could be organised for those for whom the timing would be difficult, so they could watch a recording together and generate their own breakout rooms for discussion. Currently the proposal is for such gatherings to be ad hoc, but additional information will be provided once planning for these sessions is complete.

Further plans for early 2026 include a meeting focussed on education technology. We noted that the World Congress of Pharmacology is being held in July 2026 in Melbourne, Australia and therefore events planned for 2026 will need to take this into account. Steering Group members were encouraged to consider future online meeting topics and let the co-chairs know (Anna-Marie: ababey@une.edu.au and Jenny Koenig: jennifer.koenig@nottingham.ac.uk), so these can be raised for discussion.

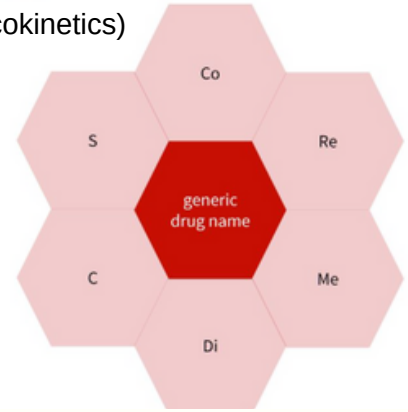
INFOGRAPHICS - A NEW INITIATIVE

One of the mission of the IUPHAR-Education Section is to promote sharing of pharmacology teaching and learning materials among members of our global community.

Look out for drug infographics that will be shared on our social media channels and future newsletters that are intended for both pharmacology students and pharmacology educators. We hope that students will be inspired by these infographics which in turn will enhance learning of pharmacology. As for educators, you may wish to incorporate these infographics in your teaching.

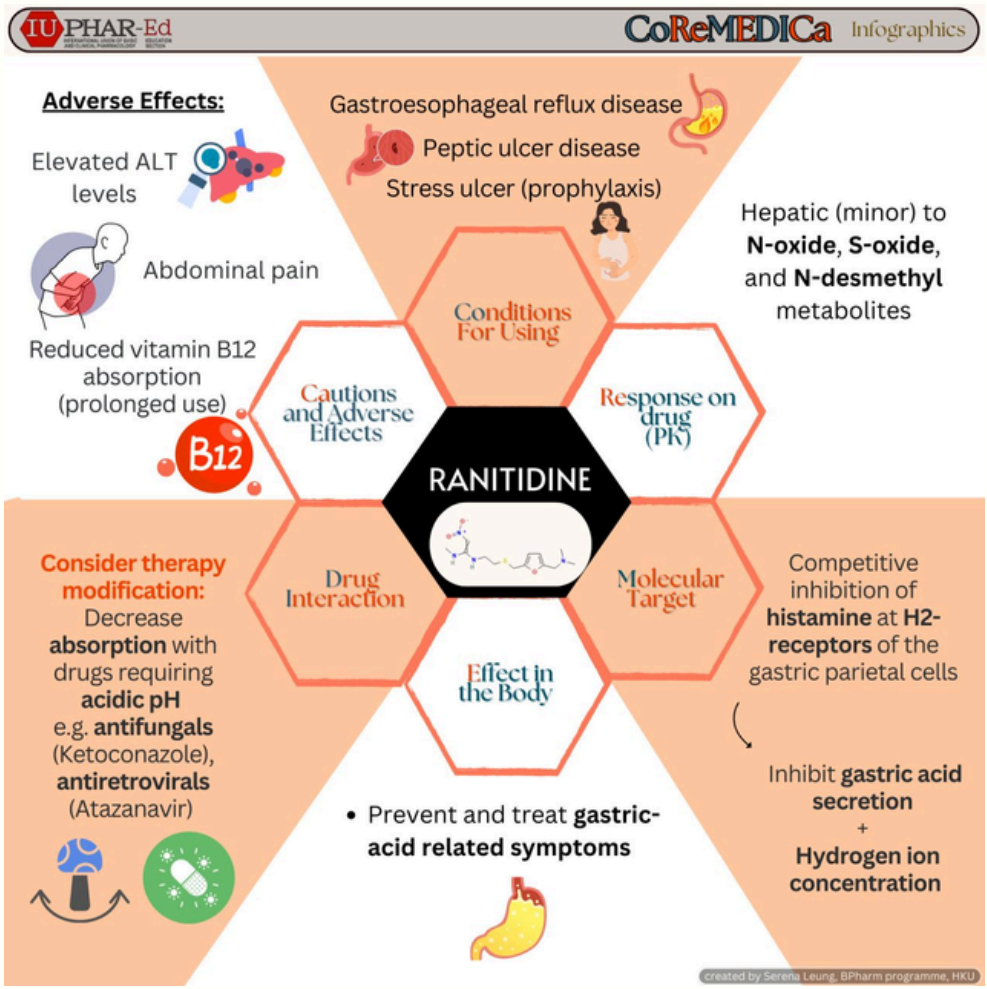
This series of infographics is entitled “CoReMEDICa” (sample template shown below). Each infographic will cover notable characteristics of a drug in 6 aspects, namely:

1. Condition for using drug
2. Response on drug by body (essentially pharmacokinetics)
3. Molecular target
4. Effect of drug in body
5. Drug interaction, and
6. Cautions and adverse effects.



CoReMEDICa infographics covering 6 aspects of a drug:

- Co: Condition for which the drug is used
- Re: Response of drug by the body, i.e. PK
- M: Molecular target of the drug
- E: Effect of drug in the body
- DI: Drug Interactions with other substances
- Ca: Cautions and/or adverse effects



Here is an example of an infographic for Ranitidine (creator: Serena Leung, supervisor: Willmann Liang, @HkuPharm).

If you wish to share your own pharmacology teaching and learning materials, please email Willmann Liang: willmann@hku.hk.

EDUCATION HIGHLIGHTS FROM ASPET 2025

The American Society for Pharmacology and Experimental Therapeutics (ASPET) meeting was held in Portland , Oregon (USA) from April 3-6 2025. Here are some words from current ASPET President Dr Carol Beck:

"It was fun to be in Portland, Oregon, for ASPET 2025. This was ASPET's third solo meeting since the end of the E.B. Era. There were just over 1000 people at the meeting. We are learning how to have FUN in a smaller setting. ASPET-- from the Council and officers to the division leaders and executive committees to the ASPET staff-- is working hard to be your Home for pharmacology.... And we think the annual meetings are sort of like being home for the holidays... it is not the only time you meet, but it's certainly fun to gather as a large group to compare notes, share science, and celebrate things that worked. And for DPE, it is great to compare notes (in person) about the best ways to teach pharmacology to all of our students!"

Casey Gerlach, Carol Beck and Carol Restini

Dr. Carol Beck in an Associate Professor in the Department of Pharmacology, Physiology, and Cancer Biology in the Sidney Kimmel Medical College at Thomas Jefferson University. Dr Beck is also the Associate Dean for Curriculum and MS Programs; Program Director, MS-Pharmacology; Jefferson College of Life Sciences.

Her current leadership roles at ASPET include:

- President, 2024-2025
- Council Liaison, Division for Pharmacology Education

Previous leadership roles at ASPET include:

- Secretary-Treasurer
- Councilor
- Chair, Division for Pharmacology Education
- Strategic Planning Task Force
- Co-Chair, Inclusion, Diversity, Equity, and Accessibility Task Force
- ASPET Journals Task Force

EDUCATION HIGHLIGHTS FROM ASPET 2025

Congratulations to Dr. Wael Eldahshan who received the prestigious ASPET Early Career Educator Award!
Dr. Eldahshan has also been selected as a member of the ASPET Faculty Scholars Program on Inclusive Teaching.

Dr. Atawia and Dr. Eldahshan co-chaired the ASPET scientific session titled “Leveraging In Silico Research to Advance Healthcare Education and Innovation.” Dr. Atawia also served as Chair of ASPET’s premiering workshop, “From Starting to Thriving in Academia, Industry, and Government: DEI & Career Tips.”

Congratulations Esther Park!
Dr. Eldahshan and Dr. Atawia’s mentee, Esther Park, a pharmacy student, was awarded second place in the ASPET Graduate Poster Competition: “Integrating Pathophysiology, Pharmacology, and Toxicology Concepts Through Peer-Reviewed Case Reports Enhances Pharmacy Education”.

Dr. Atawia, Esther Park, and Dr. Eldahshan.

Dr. Eldahshan received the prestigious 2025 Early Career Educator Award from the American Society for Pharmacology and Experimental Therapeutics (ASPET).

Dr. Eldahshan’s Credentials and contact:
Wael Eldahshan, B. Pharm., M.S., Ph.D. Assistant Professor of Pharmacology -Department of Pharmaceutical Sciences - College of Pharmacy, Southwestern Oklahoma State University (SWOSU)

EDUCATION HIGHLIGHTS FROM ASPET 2025

Congratulations to Casey Gerlach, Pooja Varanasi and Sophia Ripley!

Dr. Carolina Restini's mentees, Casey Gerlach, Pooja Varanasi, and Sophia Ripley, 2nd and 3rd year medical students, were awarded first place in the ASPET Graduate Poster Competition: "Medical Student as Teacher" Program to Promote Pharmacology Education in High School Curricula".

They presented outcomes from the "Students as Teachers" project, which engages medical students in teaching core pharmacology concepts to high school students. This initiative promotes community health literacy by introducing high school students to pharmacology through clinical case discussions aligned with their biology curriculum. Pharmacology, bridging foundational biomedical sciences and clinical therapeutics, benefits from this integrative teaching approach. The project explored medical students' communication skills to foster patient-centered care and meet accreditation standards for an integrated curriculum.

Dr. Carolina Restini, PharmD, PhD, FAAPE is an Associate Professor and Thread Director of the Pharmacology Pre-clerkship Medical Curriculum COM at Michigan State University, Department of Pharmacology & Toxicology, College of Osteopathic Medicine (USA).

She is pictured here (right) with her student, Casey Gerlach (left).

Congratulations Professor Helmut Gottlieb!

Dr. Helmut Gottlieb, a professor in the Department of Pharmaceutical Science, Feik School of Pharmacy, University of the Incarnate Word, USA won the **2025 P2 (2nd year pharmacy students) teacher of the year award.**

(Context: Each school year (1st, 2nd, and 3rd) elects a faculty member as their teacher of the year. Once you win one, you are ineligible to win another for the next 4 years. Students are asked to vote on who they think was their best teacher. 4th-year students elect the overall teacher of the year as they reflect on their education).

Dr. Gottlieb was also inducted into the Academy of Pharmacology Educators by ASPET's Division for Pharmacology Education for their exceptional contributions to the field (see page 12).

EDUCATOR HIGHLIGHT: DR SLADE MATTHEWS

MEET EDUCATORS WHO WILL BE PRESENTING AT WCP 2026!

In this edition of the newsletter, we are highlighting **Dr Slade Matthews.** Slade has taught pharmacology at the University of Sydney since 2006 and has been awarded two teaching prizes for his evidence-based student-focussed educational approach. He has coordinated toxicology since 2011 and has made toxicology the focus of his teaching, research and community engagement. He has developed two unique online resources for learning pharmacokinetics: PK_Sim and PK_Clalcs and an evidence-based online learning resource for pharmacology students: Pharmacology_ANKI. He was elected to the board of the Australasian Society for Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) in 2024 and is deputy chair of the toxicology special interest group. He was made a fellow of the Australasian College of Toxicologists and Risk Assessors (ACTRA) in 2025 and has published several in silico toxicological models appearing in high quality journals. His students have won prizes at ASCEPT and ACTRA ASMs. Slade has served as the NSW Governor nominated pharmacologist for NSW Health on the statutory poisons advisory committee since 2010 and collaborates with federal chemical regulators AICIS and TGA.

What inspired you to pursue a career in pharmacology and later, in higher education?

My honours year involved investigating the venom of the copper head snake using multiple techniques including biochemistry, organ bath and electrophysiology. I showed some talent for unsupervised research work and using connections with other students I was able to arrange the use of equipment outside of my department for biochemical analysis on weekends. My PhD explored applications of machine learning to biomedical problems, and I am still motivated by the pleasure I derive from building tools that can do useful work in pharmacology and toxicology. It is quite fun. Of course, since 2017 everything in machine learning has changed. As a Pythonista friend of mine recently quipped “the neural networks I developed in 1998 were stuck in a local minima!

How would you describe your teaching philosophy?

I think that as educators we are in the privileged position of being able to share our love of science with people who share our passions and curiosity. My teaching philosophy emphasizes developing pharmacological epistemology—an understanding of how knowledge in pharmacology is constructed and evaluated—while expanding students’ declarative knowledge. This approach ensures that students not only master key facts but also cultivate reasoning and analytical skills necessary for addressing complex pharmacological questions.

What teaching strategies or methods have you found most effective in engaging students in pharmacology?

My teaching strategy emphasizes student learning over teaching, inspired by Olsson and Roxa's model of pedagogical competence. This model involves a cyclical process from practice to observation, theory, planning, and back to practice. I demonstrated this cycle by developing the Pharmacology-ANKI flash card resource, starting with literature on student retention and spaced education, planning through a successful education grant, implementing the plan, and observing its impact on student responses in surveys.

>>> Link to Dr Slade Matthews profile

EDUCATOR HIGHLIGHT: DR SLADE MATTHEWS (CONT...)

Have you introduced any innovative practices, technologies, or pedagogical approaches in your teaching?
In addition to the Pharmacology-ANKI cards mentioned above I have also developed two online resources for students learning pharmacokinetics. The first, PK_Sim, is a simulation app that students can download and run on their own computers to observe the effects of changing PK parameters on plasma time curves. The second, PK_Clalcs, is directed at increasing students' familiarity with pharmacokinetic equations. It is a series of online Python notebooks with the equations written out in Latex and code sections where students can play with the PK parameters and observe changes in the plasma concentration-time curves.

Can you share an example of a course or project that you're particularly proud of?
This year I tried out a new tutorial-assessment task in toxicology. Students were given two papers to read, Sir Austen Bradford-Hill's famous Criteria for Causality speech and Smith's IARC paper on key criteria for carcinogens. They then came to class and did a short individual quiz on the Hill paper to get them stimulated. This was followed by a collaborative analysis of a molecule through the lens of the IARC criteria and was submitted as a group. Both activities are on paper only and students can bring the annotated papers but no devices. I was absolutely pleased to see the students collaborate during the activity and there was a real buzz in the room. The big idea is to motivate the students to engage in activities where "assessment drives learning" (as we know) in a collaborative atmosphere that provides a break from the instant gratification of e-devices. I believe (from feedback so far) they found this very stimulating.

What do you see as the biggest opportunities for innovation in pharmacology education?
Interdisciplinary collaboration shows great potential for extending our graduates. In the last few years, we have been running an interdisciplinary unit in pharmacology that encourages students to make connections between there pharmacological skills and knowledge and the needs and perspectives of other disciplines. Last year we focused on educational safety campaigns for specific audiences to reduce vaping. Students learned about vape juice contents and the production of toxic residues from the vaping process and also met with experts from our federal regulatory body, AICIS to discuss chemical safety. Once they had integrated this knowledge with their pharmacological and toxicological training, they were motivated to engage with other allied health professionals to discuss target groups and modalities for developing their campaign.

How do you support student success and inspire the next generation of pharmacologists?
In drug development the methods of drug safety assessment are rapidly moving toward non-animal models as evidenced by the FDA's growing acceptance of non-animal data for monoclonal antibody therapies. The number of new therapies that fall in the category of biologics also continues to grow. By keeping up to date with the latest developments in pharmacology and sharing updates with my students I try to pass on the excitement of scientific discovery that motivates us all!

What advice would you give to aspiring educators or early-career pharmacologists?
One constantly hears stories about Nobel prize winners who had to deal with some adversity but through tenacity they were proven to be good scientists. For example, Hans Krebs, who sent the TCA to Nature but was rejected only to go on to win the Nobel. My advice is to be tenacious!

What do you enjoy most about your role as an educator?
I derive enormous satisfaction from the interactions I have with my undergrad and research students. Their comments and smiles are my greatest rewards. I also love to acknowledge and reward their efforts and show them that I am invested in their success.

Outside of work, what interests or hobbies help keep you balanced and inspired?
Balance is tricky. I like watching YouTube videos to expand my mathematical and computer science knowledge and I often write Python code for fun on the weekend.

Anything else you'd like to share e.g. fun facts?!
Once I was a surf life saver and patrol captain and spent most weekends at the beach.

EDUCATION PAPER HIGHLIGHT

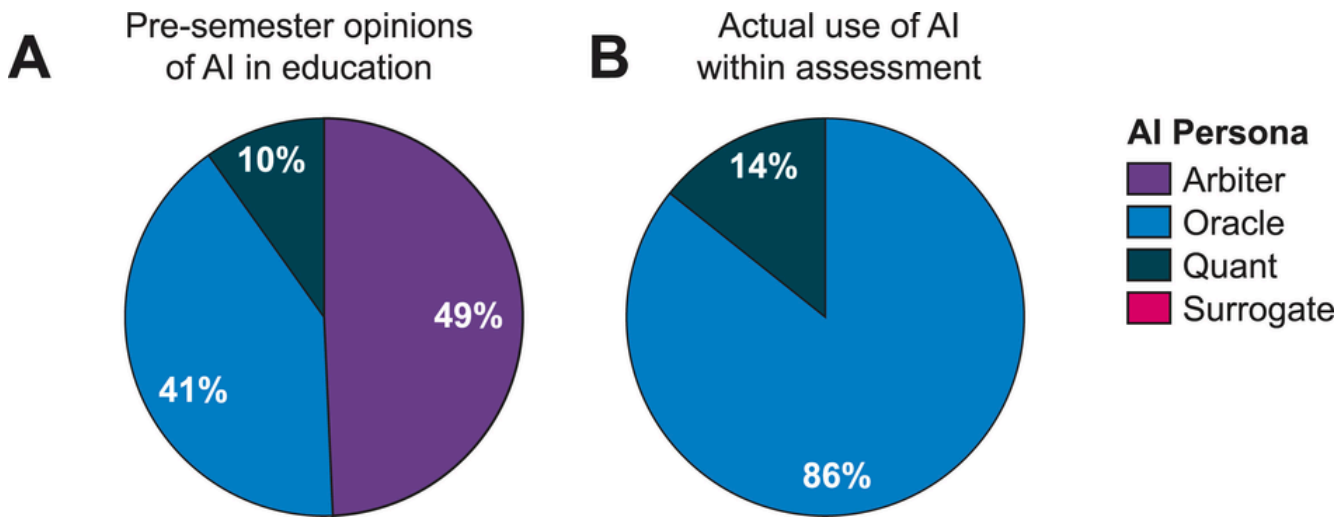
AI IN ACTION: CHANGES TO STUDENT PERCEPTIONS WHEN USING GENERATIVE ARTIFICIAL INTELLIGENCE FOR THE CREATION OF A MULTIMEDIA PROJECT-BASED ASSESSMENT

This study by Charles et al., investigates how final-year pharmacology students at the University of Sydney perceived and used generative AI in a collaborative group multimedia assessment aimed at creating educational campaigns on vaping. While students initially viewed AI as a powerful tool, particularly as a tutor and idea generator, they used it conservatively, primarily for brainstorming (Oracle role). No groups used AI to generate final written content or for evaluative tasks (Arbiter role), highlighting a disconnect between perceived and actual use.

>>> **Read the full paper here**

Key Insights:

- AI was mainly used early in the project for idea generation
- Students avoided using AI in final outputs due to concerns about authenticity and academic integrity
- Greater guidance is needed to help students ethically and effectively integrate AI in assessments



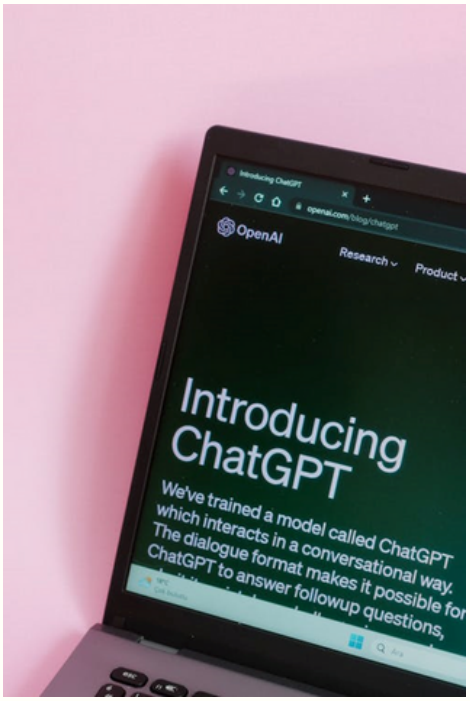
Student perceptions and usage of the roles AI used in higher education and assessment.

Conclusion:

- A significant gap exists between how students think they might use AI and how they actually apply it in assessments.
- Students were cautious, often avoiding deeper integration of AI in final outputs, possibly due to unclear academic norms, fear of plagiarism, or commitment to demonstrating authentic work.
- Educators need to guide students in ethical, critical, and constructive AI use while updating assessment strategies to support future-ready skills.

WILL AI REPLACE EDUCATORS? NO - BUT IT WILL REDEFINE OUR ROLE

BY DR NILUSHI KARUNARATNE (MONASH UNIVERSITY, AUSTRALIA)



As an educator of foundational pharmacology students, I've spent a lot my time designing learning environments that blend scientific rigour with student-centered support. My work spans flipped classrooms, coaching programs, Objective Structured Practical Exams (OSPE) development, and international initiatives to foster belonging and resilience in our diverse student cohorts. Lately, though, the most frequent question I'm asked in my role as the Chair of the Digital Teaching and Learning in Education Committee at the Faculty of Pharmacy and Pharmaceutical Sciences at Monash University, isn't about pharmacology, skills or pharmacodynamics - it's: "Will AI replace educators?"
The short answer? **No.**
The longer, more important answer is: **AI is already redefining what it *means* to teach.**

The role of the educator is changing

In my first year and second year pharmacology units, students are already turning to AI tools like ChatGPT to explain pharmacological mechanisms, generate practice quiz questions, or summarise lecture content. It's clear that access to information is no longer the bottleneck. The real challenge lies in guiding students to critically interpret, apply, and reflect on that information. As a result, our roles as educators are shifting. While supporting learning has always involved more than just delivering content, the rise of AI has further highlighted the need for us to curate meaningful tasks that foster deeper engagement, coach students in developing their own thinking, and care for their growth, confidence, and sense of belonging - particularly for those in their early years of study or from international backgrounds.

Teaching in the age of AI: Designing for deeper learning

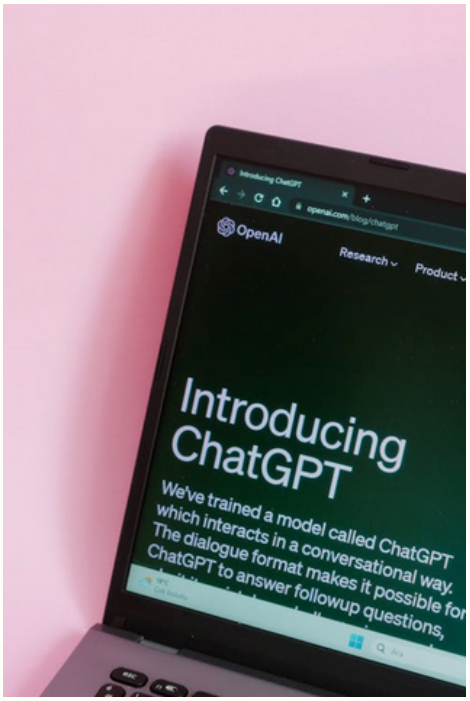
To teach effectively in this AI-enhanced landscape, we need to evolve our approaches to better support deep learning by creating opportunities for students to demonstrate depth of understanding, judgment, and reasoning. When generative AI can produce a response to a task, it prompts an important question for educators: does this task genuinely measure student learning? That question has guided much of my recent curriculum design. I've introduced assessments like Objective Structured Practical Examinations (OSPEs), structured oral assessments, and reflective evidence portfolios - not because they're perfect, but because they push us toward deeper, more human learning. These approaches help students articulate their reasoning, justify experimental design decisions, and reflect on how their skills are developing in authentic, transferable ways.

Framing complexity for understanding

Pharmacology is a field rooted in complexity - molecular interactions, time-dependent responses, and nonlinear concentration–response relationships. Teaching pharmacology effectively means helping students engage with that complexity, not oversimplifying it. Activities that ask students to analyse explanations, question assumptions, or justify mechanisms support the development of scientific reasoning. Whether those explanations come from textbooks, peers, or AI tools, the focus is the same: helping students become critical, confident interpreters of information. Our role is to design learning that challenges thinking while upholding the principles of good science and sound pedagogy.

WILL AI REPLACE EDUCATORS? NO - BUT IT WILL REDEFINE OUR ROLE

BY DR NILUSHI KARUNARATNE (MONASH UNIVERSITY, AUSTRALIA)



Resources for Educators

For colleagues navigating this space, here are a few resources I've found helpful:

>>> **What's the Future of Education in an AI World?**
A thought-provoking podcast episode from Inner Cosmos with David Eagleman exploring how AI may shape the future of education and cognition.

>>> ***Monash Teaching Community AI Tools for teaching and learning***
A Monash Teaching Community blog post on productive AI tools to use for teaching and learning, including practical guidance and examples.

>>> **Monash's AI in Education Learning Circle Open Resource**
Experience and expertise from across the Monash community, featuring resources, examples, and guidance to help educators navigate the impact of emerging AI tools on teaching, learning, and assessment.

>>> **AI Pedagogy – Curated Assignments**
A global collection of educator-submitted assignments integrating AI tools, with examples you can adapt for your own teaching practice.

Dr Nilushi Karunaratne is a dynamic educator specialising in skill-based instruction and innovative practices. She is a discipline-trained pharmacologist and now an education focussed academic at the Faculty of Pharmacy and Pharmaceutical Sciences (FPPS) at Monash University in Australia. Nilushi has been a member of Monash's inaugural Learning Circle on AI in Education since late 2023 and is the Chair of the Digital Teaching and Learning in Education Committee at FPPS. Her key interests in the AI domain include AI implementation that is both innovative and aligned with educational best practices.

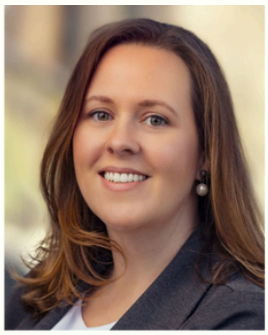
Nilushi was the recipient of the The IUPHAR Early Educator Award at WCP 2023.

AWARDS AND ACHIEVEMENTS

CONGRATULATIONS TO THESE PHARMACOLOGY EDUCATORS!

Congratulations to the three Fellows who have been inducted into the Academy of Pharmacology Educators by ASPET's Division for Pharmacology Education for their exceptional contributions to the field.

Dr. Helmut Gottlieb, Professor in the Department of Pharmaceutical Sciences at the University of the Incarnate Word (UWI), Feik School of Pharmacy.



Dr. Kelly Quesnelle, Clinical Professor and Chair of the Department of Biomedical Sciences at the University of South Carolina School of Medicine Greenville

Dr. Monzurul Roni, Teaching Associate Professor at the University of Illinois College of Medicine Peoria

>>> **Read more about the Fellows and their work here**

Congratulations to IUPHAR-Ed Councillor John Szarek on being awarded the Edward Patrick Finnerty Lifetime Achievement Award International at the Association of Medical Science Educators (IAMSE) conference in Canada! This award is bestowed upon an individual member who has demonstrated a sustained involvement in and commitment to the advancement of the IAMSE through their many types of service to the organization at the highest levels of performance.

>>> **Read more about the award here**

BPS Education Grant Awarded - Sustainable Pharmacology Learning on a Chip

Dr Maggie Cunningham (University of Strathclyde) and Dr Liam Rooney (University of Glasgow) have been awarded a British Pharmacological Society Education Grant for their project, "*Revolutionising Pharmacology Education – Designing a Human Body-on-a-Chip Laboratory for Multi-Level Learning*."

The project has created a sustainable, low-cost body-on-a-chip lab to enhance pharmacology education from primary through to university level. This project has been co-developed with undergraduate and PhD students from Strathclyde, and in collaboration with teachers from Vale of Leven Academy, Lennox Primary School, and Queen Margaret Academy's Supported Learning Centre. This initiative will deliver hands-on, curriculum-aligned learning while reducing reliance on animal models and make pharmacology more accessible, inclusive, and environmentally responsible.

If you are interested in getting involved email: margaret.cunningham@strath.ac.uk

UPCOMING OPPORTUNITIES/EVENTS

>>> **Sign up for the Educator Network Meeting here**

LOOKING FOR COLLABORATORS?

Open call for new collaborations on pharmacology education projects!

The aims of the IUPHAR-Education Section Newsletter are to highlight the ongoing activities within the section and to also serve as a catalyst for promoting opportunities for engagement, knowledge exchange, and collaboration in pharmacology education. Our aim is to help foster a sense of community among pharmacology educators by reaching a diverse audience and encouraging active participation from pharmacology educators worldwide.

If you have an idea for a new project or a project proposal you'd like to share, please let us know and we'll include it in the next newsletter.

>>> **Send your project proposals here**

NEWSLETTER CONTRIBITION AND FEEDBACK

IUPHAR-Education Section Newsletter

Would you like to contribute an article for an upcoming issue?

We welcome submissions in a variety of formats including features, spotlights, opinion pieces, and personal reflections. All content should be focused on pharmacology education.

We also welcome the sharing of any awards, achievements, job opportunities, recently published papers or educational resources, and upcoming events that may be of value to the wider community.

The IUPHAR-Ed newsletter is published quarterly on the 15th day in the following months – March, June, September, and December.

The deadline for contribution is the end of the month prior for each edition. For example, the deadline for the September newsletter is the 31st August, 2025.

The newsletter is disseminated directly via email to all our members and more broadly via IUPHAR- Ed's social media channels (X, LinkedIn, and Instagram).

If you have something you'd like to share, please send an email to Elly Djouma: e.djouma@latrobe.edu.au.

Please let us know what you think!

We value your feedback and would like to hear your thoughts on the IUPHAR-Ed newsletter. Your input will help us improve the content and make it more engaging and relevant to our readers. Please take a few minutes to complete this survey and share your opinions.

>>> **Please provide your feedback here!**

PHARMACOLOGY EDUCATION RESOURCES & JOB ALERTS

LINKS TO RECENTLY PUBLISHED PAPERS

Abdolrahimi Raeni, R., de Beaufort, A. J., & Pranger, A. D. (2025). Factors influencing the learning experience in pharmaceutical internships: A qualitative interview study. Eur J Pharmacol, 998, 177530.

Bloch, R.R., Noyes, K., Bautista, N. & Restini, C.B. (2025). Causal Mechanistic Reasoning as a Tool to Explore Medical Students' Predictions of Pharmacology Phenomenon: Connecting Core Concepts with Clinical Applications. Med.Sci.Educ.

Click I, Lewis NH, Karpa K. (2025). Assessment of individual disciplines before and after a shift to an active-learning and integrated curriculum. Br J Clin Pharmacol, 1-8.

de Jonge, R., Wessel, E., van Houwelingen, A. H., & Pandit, R. (2025). Using patient videos in pharmacology education within medicine and pharmacy curricula. Eur J Pharmacol, 996, 17743.

Donker, E. M., van Rosse, F., Janssen, B. J. A., Knol, W., Dumont, G., van Smeden, J., Atiqi, R., Hessel, M., Richir, M. C., van Agtmael, M. A., Kramers, C., Tichelaar, J., & Education committee of the Dutch Society for Clinical Pharmacology and Biopharmacy (2025). The impact of summative, formative or programmatic assessment on the Dutch National Pharmacotherapy assessment: A retrospective multicentre study.Eur J Pharmacol, 989, 177267.

Fitzjohn SM, Semenenko A, MacMillan F. (2025). Active Learning to Improve Numeracy Skills and Confidence using Quizzes in First year Biomedical Science Undergraduates. Adv Physiol Educ.

Okabe, S., Goto, T., Hirayama, D., & Nishimura, Y. (2025). Virtual rat web: A versatile simulation tool for pharmacology education in a variety of settings. Eur J Pharmacol, 997, 177618.

O'Shea, R., & Djouma, E. (2025). Attendance at pharmacology workshops correlates with academic achievement regardless of delivery mode (on-campus or online). Eur J Pharmacol, 997, 177616.

Pignatelli-Espejo, A., Kelly-Laubscher, R., & Barry, Ó. P. (2025). Exploring the knowledge demands of a pharmacology assessment using Legitimation Code Theory. Eur J Pharmacol, 996, 177411.

Ter Heegde, F., & van Houwelingen, A. H. (2025). Escaping a second time round: A replication and extension study on the motivational climate of and knowledge gain in a general pharmacology course. Eur J Pharmacol, 997, 177496.

Tobaiqy, M. (2025). Exploring medical students' preferences and challenges in clinical pharmacology education: insights and improvement strategies. BMC Med Educ 25, 374.

Wilhelmus, M. M. M., & Drukarch, B. (2025). Hands-on practicals in pharmacology teaching at university level: Outpaced by computer-based simulations, or is there a (blended) future?. Eur J Pharmacol, 996, 177437.

GLOBAL JOB ALERTS

See the full list of pharmacology jobs currently listed on ScienceCareers

Associate Professor in Medical Education (Clinical Pharmacology and Therapeutics). Brighton and Sussex Medical School (BSMS), UK. Closing date: June 23rd 2025.

Assistant Professor in Pharmacology & Therapeutics. Trinity College Dublin, The University of Dublin, Ireland. Closing date: 27th June 2025

UPCOMING PHARMACOLOGY MEETINGS

SAVE THE DATE!
WCP2026 IUPHAR Education Satellite Meeting
July 11 - 12th 2026

The IUPHAR Education Satellite Meeting, will bring together educators from across the globe to share their ideas, expertise, resources and innovations. There will be ample opportunities to meet and network with international colleagues, and engage in workshops, panel discussions, and oral presentations covering a broad range of pharmacology education topics.

Venue

Faculty of Pharmacy and Pharmaceutical Science, Monash University (Parkville Campus)
381 Royal Parade Parkville 3052, Melbourne, Australia

UPCOMING PHARMACOLOGY MEETINGS

>>> **Horizons in STEM Higher Education Conference, 25-26 June, Aston University, Birmingham, UK**

>>> **Pharmacology 2025 16-18 December 2025, Belfast, Northern Ireland, UK**

>>> **20th World Congress of Basic and Clinical Pharmacology (WCP) 12-17 July 2026, Melbourne, Australia**

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This issue of the newsletter was compiled by Elly Djouma, Alex Conibear, Nilushi Karunaratne, Betty Extinaris and Maggie Cunningham. Thank you to everyone that contributed content. The next issue will be distributed to members around mid-September 2025. If you would to be featured in a future newsletter or have any content to contribute please contact the communications team by sending an email to Elly: e.djouma@latrobe.edu.au. The deadline to contribute content for the **September newsletter is 31st August, 2025.**