

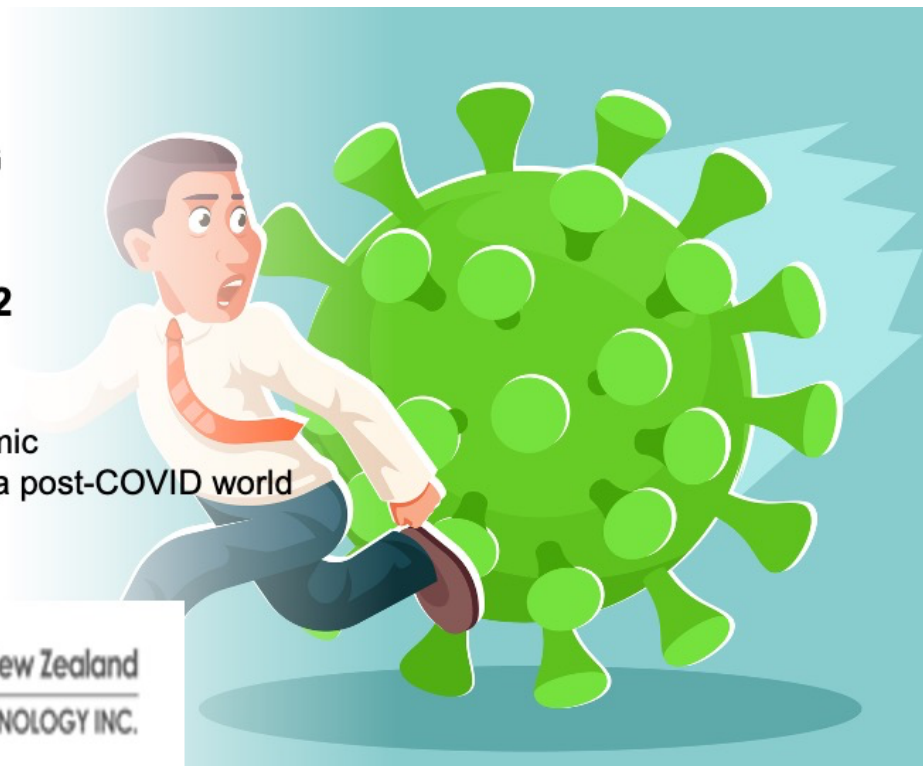
PROGRAM AND ABSTRACT BOOK

The 3rd

**ASI Education SIG
Annual meeting**

Friday 4th Feb 2022

Blame it on the pandemic
Lasting innovations in a post-COVID world



With special thanks to our sponsor



ELSEVIER

Conference organising committee:

Odilia Wijburg (Annual meeting coordinator, Education SIG)
Samy Sakkal (Chair, Education SIG)
Danica Hickey (Secretary, Education SIG)
Maria Demaria (Newsletter and Online Liaison Officer, Education SIG)

Meeting time zones:

Melbourne: 12.00pm - 3.30pm (AEDT)
Auckland: 2.00pm – 5.30pm (NZDT)
Brisbane: 11.00am – 2.30pm (AEST)
Sydney: 12.00pm – 3.30pm (AEDT)
Darwin: 10.30am – 2.00pm (ACST)
Adelaide: 11.30am – 3.00pm (ACDT)
Perth: 9.00am – 12.30pm (AWST)
(note the program below is shown in AEDT)

Program

Annual meeting of Education Special Interest Group – 2022

4th February 2022	3 rd Annual meeting of the ASI Education Special Interest Group	PROGRAM
12.00pm (AEDT)	Opening address Welcome to the 3 rd Annual meeting of the Education SIG: 'Blame it on the pandemic: lasting innovations in a post-COVID world'	A/Prof. Odilia Wijburg, ASI Ed SIG Annual Meeting Coordinator
SESSION 1	Lasting changes in learning and teaching in a digital world (1)	Chair: Dr. Lisa Connor
12.05pm – 12.35pm (AEDT)	Keynote presentation: 'Higher Education at the cross-roads: learning and teaching for a digital world'	Prof. Margaret Bearman, Deakin University
12.35pm – 12.55pm (AEDT)	Invited speaker: 2021 winner of the ASI Cheers-Buchan Education Award. Title TBC (15 min (+5 min))	A/Prof. Maurizio Costabile
SESSION 2	Lasting changes in learning and teaching in a digital world (2)	Chair: A/Prof. Graham Leggatt
13.00pm – 13.15pm (AEDT)	National Immunology curriculum, experiences from AAI (title TBC)	Prof. Michelle Swanson-Mungerson, Midwestern University, IL, USA
13.15pm – 13.30pm (AEDT)	Round table discussion National Immunology curriculum	A/Prof. Maurizio Costabile and others
13.30pm – 14.00pm (AEDT)	Short (5min each) presentations selected from abstracts:	
	Using an online active learning strategy to enhance student engagement and retention of difficult immunological concepts	Dr. Kylie Shaddock (Webster), The University of Sydney
	The student engagement toolbox – incorporating online initiatives to foster supportive learning'	Dr. Daniel Clarke, The University of Melbourne
	Anthropomorphising immunology: putting the "I" in immunology	Dr. Samy Sakkal, Victoria University
	Student initiated workshops: enhancing understanding of research in practice for undergraduates – a model for research training for developing nations in post-pandemic world	Prof. Natkunam Ketheesan, University of New England
	Cooks and Chefs – integrating basic biomedical sciences and clinical experience	A/Prof. Odilia Wijburg, The University of Melbourne

	Group-work engagement during a pandemic: interdisciplinary hybrid approach exploration of disease and society interactions	Dr. Hamutal Mazrier, The University of Sydney
SESSION 3 (45 min)	Professional development for next gen educators	Chair: Prof. Natkunam Ketheesan
14.10pm – 14.40pm (AEDT)	Invited speaker: The Songlines between Scientific and Social Silos: A nomadic approach to teaching, learning and research"	Prof. Robyn Slattery, Monash University
14.40pm-15.00	Open Forum Two minute teaching videobytes International connections	Dr. Jessica Borger, Monash University Dr. Kim Murphy, Monash University
15.00pm-15.20pm (AEDT)	Launch Mentoring program Introduction and discussion	Dr. Danica Hickey and Dr. Jessica Borger
15.20pm-15.30pm	Closing address, awards presentation (Elsevier)	Dr. Samy Sakkal, Chair, Education SIG



Australian and New Zealand
SOCIETY FOR IMMUNOLOGY INC.

ABSTRACTS

SESSION 1

Lasting changes in learning and teaching in a digital world (1)

Keynote presentation:

Prof. Margaret Bearman, Deakin University:
'Higher Education at the cross-roads: learning and teaching for a digital world'

ASI Cheers-Buchan Education Award

A/Prof. Maurizio Costabile, 2021 winner of the ASI Cheers-Buchan Education Award

Keynote presentation

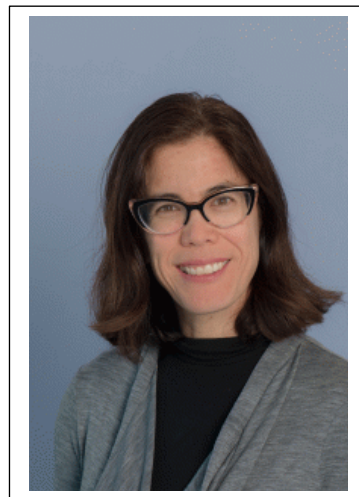
Higher Education at the cross-roads: learning and teaching for a digital world

Professor Margaret Bearman, Deakin University

Office of the DVC Academic

Abstract:

The pandemic has highlighted our new digital era. We often focus on technologies but not what this might mean for knowledge work more broadly. This presentation explores on how higher education can build capabilities for a technology-mediated society, particularly one where artificial intelligence is increasingly prevalent



Biography:

Margaret Bearman is a Professor within the Centre for Research in Assessment and Digital Learning (CRADLE), Deakin University. She holds a first class honours degree in computer science and a PhD in medical education. Margaret's interests are broad ranging and include: assessment in university education, feedback in healthcare contexts, simulation and learning in a digital world. Recognition for her work includes Program Innovation awards from the Australian Office of Learning and Teaching and Simulation Australasia.

Margaret's research interests are:

Assessment and feedback in higher and professional education

Including: feedback in work-based settings; evaluative judgement and standards; medical and health professional education; assessment practices; online experiences; the role of trust and "intellectual candour".

Technology-mediated and simulation-based education

Including: learning, teaching and assessment in a digital world; simulated and virtual patients; and shifting staff and student identities and practices in online education.

Winner Cheers-Buchan Education Award

Associate Professor Maurizio Costabile, University of South Australia

Clinical and Health Sciences

Abstract:

It is a great Honour to have been selected as the recipient of the ASI Cheers-Buchan Education Award for 2021. In my presentation, I will briefly outline my scientific and educational background. I will also discuss my approach to immunology education, the challenges I have faced in my teaching and the approaches that I have used to address them. I will also show several examples of some innovations that I have introduced which have made significant and continued impacts on student education.

SESSION 2

National Immunology curriculum Experiences from American Association for Immunology

Prof. Michelle Swanson-Mungerson, Midwestern University, IL, USA

Michelle is a faculty member at Midwestern University where she teaches immunology and infectious disease to multiple programs. She is also a member of the American Association of Immunology (AAI) and serves on their Education Committee. In that role, Michelle has been closely involved in the development of a National Immunology Curriculum in the US, endorsed by the AAI. She will join our meeting to share her experiences and provide expert advice.

[Immunohorizons](#) June 16, 2021, 5 (6) 448-465



Round table discussion National Immunology Curriculum

Associate Professor Maurizio Costabile, University of South Australia

Clinical and Health Sciences

Abstract:

Immunology is a rapidly evolving field with discoveries made daily. However, when educating undergraduate students in Immunology, “core” content should be taught before any cutting-edge findings are discussed. To ensure consistency in Immunology education, teaching staff should discuss and determine what content should be covered at an undergraduate level and within varying degree programs. The ASI Education SIG is expertly placed to address this requirement. This session will introduce members to the National Immunology Curriculum Review initiative. The review aims to determine the undergraduate Immunology curriculum taught in Australian and New Zealand. Secondly, decide which content should be covered in each of the major immunology sections, such as innate and adaptive immunology. The aim is to develop a standardised curriculum across Australia and New Zealand, which can then be reviewed over time to ensure the content is moving with the field.

Interested members from each state and NZ will be invited to nominate to be involved in the review process. A Delphi style method will gather a consensus on individual topics that should be taught and the content within each pillar, including laboratory-based teaching. Regular meetings will be held throughout the year to discuss the findings and move towards a unified curriculum. The information will be disseminated to all Immunology teaching staff through a peer-reviewed journal publication on reaching consensus.

Lightning presentations (selected from abstracts):

Kylie Shaddock (Webster), The University of Sydney	Using an online active learning strategy to enhance student engagement and retention of difficult immunological concepts
Daniel Clarke, The University of Melbourne	The student engagement toolbox – incorporating online initiatives to foster supportive learning'
Samy Sakkal, Victoria University	Anthropomorphising immunology: putting the "I" in immunology
Natkunam Ketheesan, University of New England	Student initiated workshops: enhancing understanding of research in practice for undergraduates – a model for research training for developing nations in post-pandemic world
Odilia Wijburg, The University of Melbourne	Cooks and Chefs – integrating basic biomedical sciences and clinical experience
Hamutal Mazrier, The University of Sydney	Group-work engagement during a pandemic: interdisciplinary hybrid approach exploration of disease and society interactions

Using an online active learning strategy to enhance student engagement and retention of difficult immunological concepts

Dr. Kylie Shaddock (nee Webster), The University of Sydney

Discipline of Infectious Diseases & Immunology, Education Innovation Theme, School of Medical Sciences, Faculty of Medicine and Health, The University of Sydney

Abstract:

Active learning approaches are frequently incorporated into undergraduate immunology tutorials or workshops to enhance understanding of difficult concepts. Often used to complement conventional lectures, active learning activities require students to evaluate the information via discussion or problem solving. Activities such as group discussions, re-enactments and table-top / whiteboard creations or concept maps are well suited to face-to-face teaching, but they can be difficult to successfully translate to online learning. During the recent COVID-19 lockdown, an online role-playing activity was designed to complement a content-heavy lecture on V(D)J recombination and T cell development. In this activity, the students were to take on the role of a stem cell in the bone marrow harbouring a dream of becoming a helper T cell. Using the knowledge gained from the lecture, the students make decisions in order to progress their cellular self successfully through V(D)J recombination and thymic selection. The activity is set up with numerous decision trees leading to six alternate outcomes for the cell. Google forms, the online survey tool, was used to create the activity. Narrative detail and images created with BioRender were incorporated to engage cognitive processes. The students went through the activity in a Zoom 'break-out' room and were encouraged to discuss their progress with their group. Overall, the activity was well-received by the 3rd year immunology student cohort. Future work will involve a formal evaluation of the utility of the exercise for understanding and retaining these difficult concepts.

The student engagement toolbox – incorporating online initiatives to foster supportive learning

Dr. Daniel Clarke and A/Prof. Odilia Wijburg, The University of Melbourne

Dept. of Microbiology and Immunology, The University of Melbourne at the Doherty Institute for Infection and Immunity

Abstract:

Student learning is dramatically influenced by active engagement in the classroom and so an effective pedagogic style that facilitates this element is essential to drive achievement and wellbeing. This was especially highlighted during the move to online teaching over the past two years, where building a sense of community and maintaining collaborative interaction became even more important for students. In an attempt to enhance the student experience at the University of Melbourne, we implemented synchronous and asynchronous approaches to increase engagement in our undergraduate Immunology subjects, including weekly newsletters, pre-lecture cohort engagement activities, in-class interactions via Zoom chat and polling platforms, moderated discussion boards and online drop-in sessions, authentic learning workshops and interactive e-learning platforms, as well as feedback quizzes and an online assessment literacy tool. While some engagement methods were not as successful as we had hoped, others proved to be instrumental in increasing supportive learning and will continue to be incorporated as we move towards teaching in a Post-COVID world.

Anthropomorphising immunology: putting the “I” in immunology

Dr. Samy Sakkal, Victoria University

Institute of Health and Sport, College of Health and Biomedicine, Victoria University, Footscray Park, Victoria, Australia, 3011

Abstract:

Students at Victoria University have historically encountered immunology only briefly before the third year of their degree, exacerbating the challenge for students to engage with the complexity of the subject matter. Furthermore teaching strategies and assessments that were appropriate pre-COVID were no longer effective or permissible due to a shift towards COVID- mandated authentic assessments. Academics were required to fundamentally change their approaches to teaching in order to keep the remote learner engaged, especially since students are more easily distracted by technology in a remote setting and have the option of remaining anonymous. In semester 1, 2020 I introduced an assessment that required students to role play the immune response to a pathogen from infection to immunity. Students were split into groups of 4 and each student was required to assume the role of one of 4 characters: 1) a pathogen 2) an APC 3) a T cell or 4) a B cell. The students would have 10 minutes as a group to present (via an oral presentation via Zoom) the immune response from the perspective of one the aforementioned characters; thus bringing the cell to life through role play. The students were no longer students; they were now T cells or B cells, APC's or pathogens. I asked students to imagine that they were a certain cell type of the immune system as this could help them visualise complex immunobiology cellular interactions. The students would be encouraged to anthropomorphise the task by answering questions such as “if a pathogen could talk to an APC, what would it say?”. The, students were also required to summarise all the stages of the immune response on a concept map that would be displayed to the class whilst they were presenting their role-play. This assessment task was received well by the students and allowed educators to assess students depth of knowledge of the immune system in a manner that was truly reflective of the students ability. Furthermore, the assessment was formative rather than summative thus I was able to determine any shortfalls in their learning and apply appropriate interventions to improve their knowledge of the immune system leading to better outcomes in their summative assessments. We found these type of assessments were well received by students and we will provide advice for the implementation of such role playing techniques so that they can be implemented and further refined in a post COVID world. The combination of these activities created a learning environment that was engaging and above all allowed students to visualise the complex interactions between cells of the immune system; moreover this “just in time teaching strategy” reduced fail rates in the unit to almost negligible levels. Part of this work was recognised in 2021 by an Australian Award for University Teaching, Citation for Outstanding Contribution to Student Learning.

Student initiated workshops: enhancing understanding of research in practice for undergraduates – a model for research training for developing nations in the post-pandemic world

Sivarajah N¹, Irraniou JA¹, Krishnamoorthy S¹, Kalaineethan T^{1,2}, Kugathasan D¹, Sivanantham U¹, Ketheesan N^{3*} University of New England

¹Manitham, University of Jaffna, Jaffna District, Sri Lanka; AIRIS Software, Jaffna District, Sri Lanka; ³Science & Technology, University of New England, New South Wales, Australia 2351

Abstract:

The COVID-19 pandemic has significantly affected the ability to adequately train undergraduates to undertake research (Honours) in their final year. Members of an undergraduate run volunteer organisation “Manitham” at the University of Jaffna, reached out for support from academic researchers to implement a programme to bridge the lack of training in research practice. Based on merit, 45 undergraduates were selected by “Manitham” from the 120 who had expressed an interest in undertaking research, to participate in a “virtual programme” on research practice.

Using a pre-programme questionnaire, we found that 94% had a less than an average understanding of research practice. Based on the needs highlighted by the undergraduates, a programme with mini discussions and workshops was developed by academics located in institutions spanning 19 time zones with expertise in immunology (4), microbiology (2), biology (2) and science communication (1). A comprehensive workbook was developed by these academics in collaboration with members of “Manitham” and provided to the participants prior to the programme.

Post-programme, an overwhelming majority of participants (80-96%) rated their understanding on selection of research projects, preparation of oral presentations, manuscript preparation, compiling curriculum vitae, writing applications for research grants and HDR studies as either being good or excellent. They also recommended such a programme to be held annually for others.

Here we provide an innovative template on how a student-initiated programme developed with multi-institutional academic collaboration, could enhance training in research practice for undergraduates in developing countries in a post COVID world.

Cooks and Chefs – integrating basic biomedical sciences and clinical experience

A/Prof Odilia Wijburg, Helen Cain and Dr. Adam Jenney, The University of Melbourne

Dept. of Microbiology and Immunology, The University of Melbourne at the Doherty Institute for Infection and Immunity

Abstract:

The first year of Doctor of Medicine degree focuses on core biomedical science knowledge as well as development of skills in clinical practise through the delivery of lectures, practical classes and case supported learning sessions. The transition to a virtual campus in 2020 offered a unique opportunity to exemplify basic scientific knowledge in clinical context and to further support student learning and the development of clinical and scientific reasoning skills in the context of immunology and microbiology discipline. We designed online practical material to replace the face to face practical class sessions, and innovated by introducing a new webinar series presented by a biomedical scientist and a clinical specialist, where clinical cases are discussed and students are invited to contribute to the discussions through Q&A functions and polling. Much like cooks and chefs in a kitchen, biomedical scientists and clinicians each have their own view points about core scientific knowledge. The 'Cook and Chef' series have been well received, and demonstrate to the students that translation and application of biomedical scientific knowledge is never black and white and illustrates how the students may apply their clinical and scientific reasoning skills in clinical settings.

Group work engagement during a pandemic: interdisciplinary hybrid approach exploration of disease and society interactions

Dr Hamutal Mazrier¹, Assoc. Professor Greg Sutherland², Professor Dominic Murphy³, Dr Lucy Mercer-Mapstone¹ The University of Sydney

¹School of Life & environmental Sciences, Faculty of Science,

²School of Medical Sciences, Faculty of Medicine and Health,

³School of History and Philosophy of Science, Faculty of Science, The University Of Sydney.

Abstract:

Exploring interdisciplinary links is a crucial skill for university graduates. Applying expertise learnt from their discipline to a real-world problem is essential when proceeding to a work-related environment. We designed an interdisciplinary Unit-of-Study, aiming to encourage an 'out of the box' approach. Current challenges of chronic, inflammatory and infectious diseases on society were explored by group-projects. Best practices for engagement of combined remote and in-campus students were established.

Third-year undergraduate students ($n=140$) from four undergraduate major streams, (Immunology & Pathology/Biology/Genetics & Genomics/History & Philosophy of Science) were divided to interdisciplinary groups ($n=23$). Aspects of disease and society interactions were discussed by expert panels (e.g., why interdisciplinary approach matters, gender-bias in medical research, ethics). In preparation for group work, soft skills workshops included negotiation skills, writing scientific reports & policy documents, and pitching ideas to media/industry. Selected interdisciplinary projects are described below.

Based on correlation analysis, alcohol and obesity identified as risk factors to Alzheimer's disease and awareness plan for year 12 students developed. To address the overconsumption of processed foods, associated with the Western Sydney higher risk of Type-2 Diabetes, an accessible food plan was recommended. A policy was proposed to diminish cultural competence barriers preventing indigenous Australians HIV/AIDS patients from accessing medical professionals, based on notification data and literature review. Other projects investigated COVID-19 mucosal transmission in essential workers and Ross-River-Virus threat with Climate Change.

The class cohort produced superb original recommendations for managing autoimmune, inflammatory and infectious diseases of national importance to Australia. This pedagogical success was reflected in the students' feedback.

SESSION 3

Professional development of next gen educators

Invited speaker

Prof. Robyn Slattery – The Songlines between Scientific and Social Silos: A nomadic approach to teaching, learning and research

Open forum

Two minute teaching videobytes
Dr. Jessica Borger, Monash University

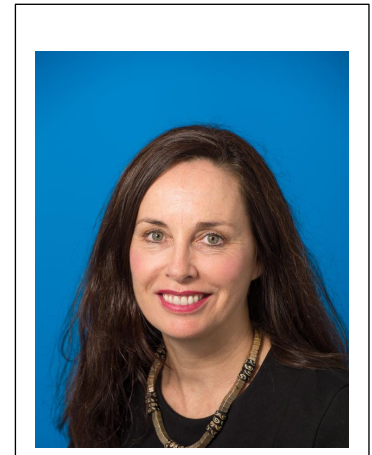
Mentoring program launch

Dr. Danica Hickey and Dr. Jessica Borger

Invited speaker

The Songlines between Scientific and Social Silos: A nomadic approach to teaching, learning and research

Professor Robyn Slattery, Monash University



Biography

Robyn works in the Faculty of Medicine, Nursing and Health Sciences at Monash University as a Professor. She is the Director of Education in the Central Clinical School of Monash University. She plays a major role in teaching Immunology to Science, Biomedical, and Medical undergraduate and post-graduate students at Monash University. For her contribution to teaching, Slattery received the Monash Central Clinical School Award for *Excellence in Teaching* in 2015, the *Inaugural Teacher Innovation and Impact Award* from the Monash University Office of Learning and Teaching in 2016 and the Monash Student Association (MSA) Teaching Award for *Outstanding Teaching for the Faculty of Medicine Nursing and Health Sciences* in 2016.

Robyn's research background is in Immunology with a particular interest in using genetic engineering and interdisciplinary approaches. She undertook her PhD training at the Walter and Eliza Hall Institute under the supervision of Professor Jacques Miler, the forefather of modern immunology, who discovered the function of the thymus, T and B cells. She has spent 25 years, at DNAX Research institute, USA, The John Curtin School of Medical Research, Australia, and Monash University, Australia, developing genetic engineering tools for their application in the discipline of immunology. This pioneering work demonstrated that the direct interaction of cytotoxic cells of the immune system with the insulin-producing beta cells is a *late* event in the type I diabetes disease process, and the killer T cells responsible for destroying the insulin producing cells do not require direct contact with the insulin producing beta cells in order to become primed. These findings remain of paramount importance in understanding disease *initiation* for the rational design of immunomodulatory preventative strategies. Robyn's research team at Monash, together with international collaborator Prof. Pere Santamaria University of Calgary, has continued to pursue the mechanisms by which MHC class I and class II haplotypes confer disease susceptibility.

Since taking on a leadership role in education, Robyn's research interests are now collaborative, continuing in the interdisciplinary theme, involving the development of instrumentation with the Engineering department and the utilization of infra-red microscopy approaches from the Chemistry department, to probe the phenotype of immune cells.

Two minute teaching video bytes (2MTV)

Dr Jessica Borger¹, A/Prof. Odilia Wijburg², Dr. Samy Sakkal³

¹ Monash University

² The University of Melbourne

³ Victoria University

Abstract:

The COVID-pandemic forced educators around the world to experiment with various technologies, software and platforms to address the need to teach remotely. This shift to digitally supported education was rapid, meaning academics were required to make instant decisions about selecting teaching technologies and tools from an overwhelming number of options. Part of the challenge has been to align their own approaches to individual teaching styles and to the diverse needs of the students. To address this, we have modelled a 2 minute teaching videobytes (2MTV) repository, to be embedded within the ASI website, that will provide peer-reviewed, curated ideas and suggestions on how to address particular immunological concepts and teaching challenges. The 2MTVs provide a strategy for fast and efficient conveyance of teaching information via fostering productive and focused interactions, and to support stimulating student communities. 2MTVs will align with the following identified teaching challenges: immunological concepts, lecture conceptualisation and presentation, student assessment and feedback, building student communities, engaging students in active learning, inspiring students and applying immunological knowledge in professional, disciplinary and industry contexts. The 2MTV repository will offer the opportunity for researchers and educators to share, and be recognised by their peers for their teaching practices, providing the potential for a transfer of skills and knowledge, to build an academic community that fosters and recognises good teaching practice. The videos will also provide evidence of achievement and good teaching practice in future promotion, award or job applications.

Launch Mentoring program

Dr. Danica Hickey¹ and Dr. Jessica Borger²

¹ Queensland University of Technology

² Monash University

Abstract:

Access to senior academics as formal mentors can be difficult, especially if trying to build networks at different Universities or at a national level. In addition, the pandemic created an additional challenge for early career researchers (ECRs) with the loss of key mentoring opportunities; informal mentoring, incidental interactions at work, seminars, meetings and conferences, where essential networks are built.

To try to help with this, ASIs mid-career and senior researchers are now being provided with the opportunity to support ECRs, and be formally recognised by the ASI, through a new mentoring scheme. This scheme will use the Mentorloop portal, an externally managed website, specifically designed to connect mentors and mentees, and guide the mentoring relationship through access to materials and advice on the Mentorloop website. Mentees are responsible for scheduling meetings, with mentors and mentees receiving regular email prompts to ensure that the mentee's goals are clear, mentee/mentor expectations are clear, and the relationship is progressing. This online program will allow people to mentor anyone, regardless of location, building national networks for mentors and mentees.

In collaboration with the ASI Women's Initiative, the scheme will run for 6 months from April to September 2022, concluding with an in-person reception at the ASI conference in December, which will provide an opportunity to further extend networks with all ASI mentors and mentees participating in this inaugural ASI mentoring scheme. We would encourage mentors and mentees to meet around once a month for an hour for a mentoring discussion.

To support and acknowledge mentors, we provide access to guide materials from Mentorloop and acknowledge your time in an honour rollcall on the ASI website.

Closing address

A big thank you to our sponsor Elsevier. Presentation video

Thank you to all Education SIG state and regional representatives.
Thank you to all Education SIG members.

Dr. Samy Sakkal, Closing address

Virtual drinks and meet and greet session

