ASBTE NEWSLETTER

Jun 2023

The Australasian Society for Biomaterials and Tissue Engineering

INSIDE THIS ISSUE:

From the president,

Dear ASBTE friends and colleagues,

I hope everyone had a productive first half of 2023. I am so pleased that I was able to meet a lot of our colleagues at our **Annual Conference** in Christchurch in New Zealand. For the first time in 10 years, we finally brought our conference back to New Zealand, with a full 3 days of amazing science and networking. Huge thanks to the conference local organising committee for a fantastic conference organisation. Huge congratulations to all our conference presenters, especially our early career researchers. We had a new record of conference travel grants awarded by the society to support the conference attendance of our next generation scientists, and it was really awesome to see how our society is upholding our mission to continuously support our early career researchers.

I want to thank the members who attended the **2023 ASBTE Annual General Meeting**, where the general election decided the 2023/2024 ASBTE executive committee members and various regional support positions. I want to congratulate **A/Prof Kris Kilian** for being elected onto the committee as an Ordinary Member, **Dr Anna Waterhouse** for being elected as secretary/treasurer and **A/Prof Jelena Rnjak-Kovacina** for being elected as Vice President. I want to also convey special thanks to Dr Bryan Coad who stood down from the committee after many years of service. Bryan has been an integral member of the committee who continuously upheld our society values and previously served as the Executive Officer, Vice President and President of the society. Thank you so much Bryan for all your service over all these years, you will be heavily missed. A list of the executive team and their roles can also be found in this newsletter.

2022/2023 Goals and Focus areas

The ASBTE executive is committed to continue support our members with a range of initiatives. This year, we have the biggest cohort of our student and ECR representatives as part of the team, which will come up with a number of exciting developments for our members. Some ongoing focus areas:

- **Lab-travel Grant scheme** for funding international or national lab visits
- Continuing to strengthen **student/ECR engagement** in our local region bases by organising events
- Continuing our **mentoring and outreach** activities
- Exploring ways to engage with other **Biomaterials Societies**

More information about these are coming soon to your email boxes and online

Finally, I want to thank ASBTE members for continuously supporting the society. Your membership is important to help the society grow and thrive. Please remember to renew your memberships at the end of the year, and encourage your colleagues in Biomaterials and Tissue Engineering to join. If you have any ideas or feedback for the society, please do not hesitate to get in touch with members of the Exec Committee or your state representatives.

It is a great honour to be elected as President and I look forward to explore and create new opportunities for our members. I wish you all well, and looking forward to an amazing year ahead for us all.

Khoon Lim, President

Mark Allenby

Jelena Rnjak-Kovacina
(Vice-President)

Khoon Lim
(President)

Yu Suk Choi

Anna Waterhouse
(Treasurer)

Veronica Glattauer
(Executive Officer)

Jessica Frith

Kris Kilian

International Union of Societies for Biomaterials Science and Engineering (IUSBSE) Delegates

Penny Martens

Tim Woodfield

Science and Technologies Australia (STA) Liaison Officer

Kelly Tsang

State Representatives

- Elena M. De-Juan-Pardo (WA)
- Ashley Murphy (QLD)
- Vi Khanh Truong (SA)

ECR Representatives

- Ian Chin (NSW)
- Ann Na Cho(NSW)
- Kye Robinson (VIC)
- Ilze Donderwinkel (QLD)
- Aswathi Gopalakrishnan (QLD)

Student Representatives

- Danielle Vahala (WA)
- Donglin Cai (QLD)
- Angus Weeks (QLD)
- Jasneil Singh (NSW)
- Tiffany Goh (NSW)
- Johnny Wong (NSW)
- Shirin Nour (VIC)
- Kaiwen Zhang (VIC)
- Manh-Tuong Nguyen (SA)

ASBTE state/ECR/student reps

State reps

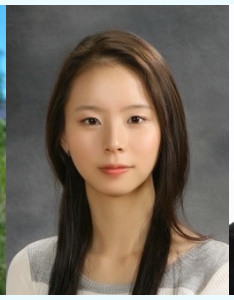

Elena M. De-Juan-Pardo


Ashley Murphy


Vi Khanh Truong

ECR reps


Ian Chin

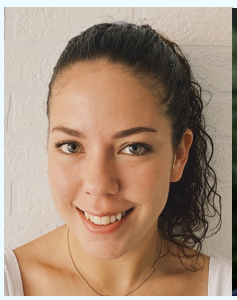

Ann Na Cho


Ilze Donderwinkel


Aswathi Gopalakrishnan


Kye Robinson

Student reps

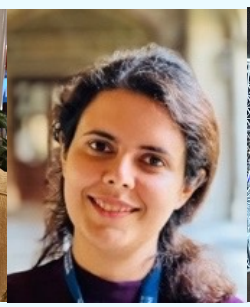

Danielle Vahala


Angus Weeks

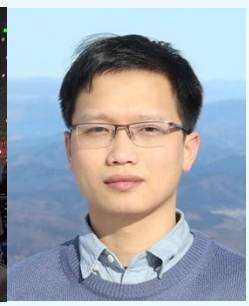

Jasneil Singh


Tiffany Goh


Johnny Wong


Shirin Nour


Kaiwen Zhang


Manh-Tuong Nguyen

ASBTE-NZ conference roundup

The 28th ASBTE Annual Conference was held at Te Pae Christchurch Convention Centre in Christchurch (New Zealand) from 16 to 18 April 2023. With more than 220 local and international delegates, including >50% students, it was an exciting 3 days with world-class presentations and social networking sessions. The conference had representations from >10 countries, 4 plenary talks, 13 keynote talks, 100 oral presentations and 80 poster presentations.

The organizing committee would like to thank the generous sponsors and exhibitors who supported the conference and helped to make it at successful and enjoyable as possible, The University of Sydney – School of Medical Sciences, Sydney Nano Institute, BioInx, Cellink, AXT, Readily3D, APL Bioengineering, NETZSCH, Rousselot Biomedical, RSC Biomaterials Science, Journal of Materials Chemistry B, Biofabrication, University of Melbourne – Graeme Clark Institute.

The conference kicked off with a very well attended early career research and development workshop, with thanks to Richard Tan and Rachael Wood for organising a great session. This was followed by a packed program of oral and poster presentations, addressing recent research developments in biomaterials, nanotechnology, drug delivery, biomimetic models, tissue engineering, stem cells, biointerfaces, immunomodulatory biomaterials, advanced imaging, diagnostics, biosensors and mechanobiology. We also had a special session focusing on the collaborative effort between Australasia and South Korea, special thanks to our partners from the Korean Biomaterials Society.

Congratulations to all the presenters on the excellent quality of the talks and poster presentations, especially to the very many students and early career researchers. The judges had a difficult task to select winners of presentation awards, thank you to our judges! The award winners were:

Best ECR oral presentation – Kieran Lau
Best student oral presentation – Tiffany Goh
Best young investigator poster presentation - Hui Xin Tan and Leila Hollis
Best rapid-fire presentation – Anna Trengove

ASBTE 2023 Annual Conference Organising Committee
Khoon Lim
Lyn Wise
Jelena Rnjak-Kovacina
Vipul Agarwar
Tim Woodfield
Simon Hinkley
Rachael Wood
Anna Waterhouse

Khoon Lim

ASBTE-NZ conference photos

ASBTE Award 2023

ASBTE Award of Excellence 2023

Penny Martens

Penny has served on the ASBTE Executive Committee in multiple roles over the past 16 years. She joined the committee as an Ordinary Member (2007 – 2009), then served as Treasurer for 8 years (2009 – 2017), followed by Vice President (2017 – 2018) and finally President (2018 – 2020). Penny had many accomplishments during her term as President, including the conceptualisation and execution of multiple policies that led to positive change in the Society, including the 1) Data management policy, 2) Inclusion, Diversity and Gender Equity Policy, and 3) Conference Policy. These policies ensure the Society's values are upheld and operationalised.

Penny is particularly passionate about training the next generation of biomaterial and tissue engineering scientists. To this end, she spearheaded the 2019 Inaugural Early-Career Researcher (ECR) Workshop, which included sessions focusing on career advancement, publishing, CV building, and commercialisation/translation of research. Moreover, by working collaboratively with the ECR sub-committee, she has led the Society to commit a fixed budget every year to support ECR-led initiatives. Following feedback from the ECR workshop, Penny also established Society's mentoring scheme, an initiative aimed at pairing ECRs with more senior researchers in the Society to provide mentorship and career guidance. Both initiatives have become an integral part of the Society's offerings to its members, with the ECR workshop now a part of every annual conference and the mentoring scheme running twice/year, demonstrating Penny's lasting impact on the Society.

Penny currently serves as a board member on the International Union of Societies for Biomaterials Science and Engineering, representing ASBTE, thus continuing to make direct contributions to and advocate for the Society.

Penny's research has made a significant contribution to the discipline of biomaterials and tissue engineering, in particular in the development of new polymeric materials and biosynthetic hydrogels for biomedical applications. She has published 88 research outputs, including 64 journal articles, 1 book, 6 book chapters and 17 conference papers. Her publications have received >4300 citations (Scholar, h-index 34).

Penny has received $2.6M in research funding to date (CI and AI), and numerous awards including the prestigious NSW Young Tall Poppy Science Award which recognises the achievements of Australia's outstanding young scientific researchers and communicators (Australian Institute of Policy & Science). She has delivered 23 invited seminars, presentations and keynote lectures, demonstrating her reputation as a leader in the field. She currently serves on the editorial board of Regenerative Biomaterials and Biomaterials Research demonstrating the international recognition of her research and standing in the field.

Penny has demonstrated outstanding leadership and mentoring skills throughout her academic career. She has supervised 5 PhDs to completion as primary supervisor, with another one currently in progress. She has been an active co-supervisor on an additional 3 PhDs. She has further supervised 2 Masters by Research to completion. To date, 4 post-doctoral researchers have worked under her supervisor and mentorship. In addition, she has hosted 5 PhD candidates from other institutions for substantial periods of time. Previous mentees have gone on to leadership roles in academia, clinical practice and industry. Penny's passion for mentoring is also evident from the multiple ECR initiatives she has established in ASBTE, as outlined above.

ASBTE Award 2023

ASBTE Emerging Investigator Award 2023

Nathalie Bock

Over the years, Nathalie has made an impact in the biomaterials and tissue engineering society by publishing important papers and addressing a broad audience. In comparison with colleagues at a similar career stage, her outstanding track record is built via research outputs (>60 publications, average IF=8, >2000 citations) which are impactful in her field of research. Nathalie does regularly publish in leading journals (including Bone Research, Science Advances, Biomaterials, Acta Biomaterialia and Progress in Materials Science) which is peer reviewed evidence that she has capacity to deliver novel and important research outcomes. Her work has received several accolades from various funding bodies and include the Postdoctoral Queensland Award from the Australian Society for Medical Research (ASMR). Notably, for her earlier career stage she was already invited to give 26 invited talks or keynotes. In 2017, Nathalie was invited to present her research at the HOPE meeting with Nobel Laureates in Tokyo, as one of the 100 most promising ECRs worldwide.

Nathalie has been quick-thinking in grasping the potential applications of her biomaterials and tissue engineering expertise to converge into cancer research, with a clear view to advancing the understanding of the cancer/microenvironment interactions. Her work has been recognised by two national and state fellowships, respectively (NHMRC Peter Doherty ECR Fellowship, and Advance Queensland MCR Fellowship, AQIRF – Industry focused) and several grants as lead CI (15 grants) and co-CI (8 grants) from national and international funding bodies (including ARC, Cure Cancer, Cancer Australia, Lush UK, Queensland Government). Nathalie also holds two new grants as Lead CI (current-2024) with two biotechnology companies and two hospitals. Last year, she has contributed to the development and commercialisation of a novel bioink arising from her AQIRF fellowship, showing Nathalie has potential to straddle basic and translational space.

Nathalie's depth of knowledge and communications skills have contributed not only to her research but form the basis of her outstanding leadership and mentoring skills. She has undertaken several leadership roles on ARC ITTC projects and has been a Deputy Director of the Centre in Regenerative Medicine at QUT, successfully supporting projects and students in biomaterials and tissue engineering fields (completed >14 students). Since 2022, Nathalie is also the Deputy Director of the Max Planck Queensland Centre (MPQC) for the Materials Science of Extracellular Matrices, with 64 members from >10 different institutions. MPQC is the first Australian Max Planck Centre (23 worldwide in 10 countries). Nathalie is instrumental in coordinating the 7 research themes including Human ECM, Network and Soft Robotics based on biomaterials and tissue engineering. Nathalie also leads ECR initiatives and is the Academic Lead for Postgraduate Research in the School of Biomedical Sciences at QUT (180 students), demonstrating her distinctiveness as a role model to be a scholar who can lead postgraduate research.

ASBTE Conference Attendance Award 2023

Hazem Alkazemi	I presented my work at the ASBTE conference, learned from the field, networked with experts, and got inspired for future research.
Surakshya Shrestha	Overall, it was a great conference, very well organised, very friendly and with a great participation of impressive researchers in the field. I am looking forward to attending more of ASBTE conferences/workshops in future.
Laura Milton	The ASBTE 2023 Conference gave me the valuable opportunity to present my research, network with exceptional researchers in my field and create connections with my peers.
Jiayan Shao	Overall, my participation in the ASBTE conference enhanced my understanding of current research trends and fostered valuable connections with fellow researchers.
Matthew Hadden	The 2023 ABSTE conference in Christchurch was an amazing experience and allowed me to showcase my work to professionals around the Australasia region.
Miao Zhang	It was my first-ever international conference and definitely an unforgettable journey.
Christina Viray	As a first-time attendee, the ASBTE Conference was insightful, engaging, and well-organised. It showcased a diverse range of up-and-coming biomaterials and tissue engineering research themes.
Jordan Davern	ASBTE is one of the best societies for young ECR's to present, receive feedback and building connections. I believe being part of the society for the past two years and attending all events held has added extreme value to my PhD journey.
Ian Chin	A perfect excuse to see old friends and make some new ones too.
Bingyan Liu	Attending ASBTE 2023 Conference helps me stay up to date with the latest advancements in TE field, network with other researchers, and receive valuable feedback to improve my research project.
Johnny Wong	ASBTE is a great society, providing professional and welcoming platform for junior researchers like me to learn and discuss science and forge collaborations. 10 out of 10 would come again!
Shirin Nour	ASBTE 2023 at Christchurch was one of the most informative and well-organised conferences I have participated. Particularly, the welcome reception and meeting with the persons in both industry and academia on the first day was so inspiring.
Tiffany Goh	The ASBTE conference was inspiring, welcoming, and highly educational. I am extremely grateful for the international networks and valuable advice gained from the opportunity to attend and present.
Angus Grant	I had a great time not just listening to all the amazing talks but also meeting lots of new and really interesting people. Such a great community
Kieran Lau	The ASBTE conference was a good opportunity to catch up with colleagues as well as meeting new people and seeing all the interesting work that is currently ongoing.
Angus Weekes	The 2023 ASBTE Conference in Christchurch was a fantastic opportunity to network and engage with students and researchers from other research groups.
Yanushia Arasu	ASBTE conference 2023 was good experience, where I got to present my work and to do networking. Most importantly, I learned about research outside my own research area.

ASBTE Conference Travel Award 2022

Timothy Mitchell	My experience at ASBTE was a great opportunity to meet researchers in the field and expand the future possibilities of my research.
Huiwen Pang	Comprehensive understanding of the discipline: The conference has provided me with a comprehensive overview of the research field, including the current hot topics, challenges, and key areas of focus; Many talks have deepened my understanding of the subject and helped me identify potential directions for my own PhD research.
Gretel Major	Thanks to the ASBTE attendance award I was able to meet and network with other inspiring researchers in the field and received advice about how to successfully pursue my career as a researcher.
Wenlu Duan	I was able to showcase my research work on using hydrogel to model acellular fibrotic tissue for neuroelectrode application through poster presentation, making connections with academics and fellow students, and enjoyed the memorable exploration of the city.
Xuege Feng	Really great experience. I had a chance to network and had gained knowledge from this industry.
Leila Hollis	ASBTE was an inspiring experience for someone who is only just joining academia; I feel more knowledgable and connected to the greater field of tissue engineering in the Australasian region.
Xin Li	This conference was nice and informative as expected, and I have learnt a lot as a PhD research student and really enjoyed the conference.
Anna Trengove	As my first overseas conference, ASBTE Christchurch was motivating and thought-provoking, and it was great to get to know the community better.
Emily Liu	Attending ASBTE in Christchurch, NZ was a fantastic experience where I was able to share my research and participate in the Australasian tissue engineering research community.
Wiktor Zywicki	Attending the ASBTE conference at the Te Pae Convention Center in Christchurch was an eye-opening experience. An awesome array of tissue engineering presentations held in a beautiful venue.
Junyi Qian	It was a really memorable event as it is the first conference that I have ever attended. Everyone was so friendly and easy to chat with and I was able to show my research to a much larger audience. Great experience!
Kallyanashis Paul	Attending ASBTE conference is a fantastic opportunity to learn leading-edge research around biofabrication, immunomodulation and clinical translations.
Julien Clegg	I really enjoyed the conference as usual and the location this year. The conference is always a great place to see old friends and network with new people in my field and hope to continue in the future. It was a really well put together conference.
Danielle Vahala	Overall, this conference was extremely helpful in developing my research and providing insight into the relevance of what I am doing. I was also able to create new collaborations which I otherwise would not have been able to.
Anyu Zhang	The ASBTE conference was an enriching experience, presenting my plasma-biomedical research and initiating a promising collaboration. It's a testament to the importance of interdisciplinary work in advancing healthcare solutions.
Leila Mamizadeh	The conference and the provided information by the enthusiastic presenters were useful and inspiring. I enjoyed meeting new scholars in my field and learned from their experiences and ongoing projects.
Tao Huang	The ASBTE conference in Christchurch was an exceptional event, and for me personally, it was the most remarkable conference experience since the onset of the COVID-19 pandemic.
Elizabeth Footner	It was a great experience, I took down many notes that are so relevant to the work I am doing now.
Shuqian Wan	The ASBTE is a friendly and helpful family which will support young career to develop their own academic ability and build network.
Dhyey Shah	ASBTE conference is like one big happy welcoming family. I feel lucky to have presented in front of leading researchers in my field, but in a highly comfortable environment.
Shaveen Sasanka Bogahapitiya Gamage	ASBTE 2023 gave me the opportunity to meet and listen to several accomplished researchers in the biomaterials and tissue engineering community for the first time in New Zealand.

AGM 2023 roundup

The Society's 33rd Annual General Meeting was held during the ASBTE conference in Christchurch New Zealand with attendance of around 50 society members. The meeting was chaired by Khoon Lim in his role as president of the Society.

The meeting opened with confirmation of the previous minutes, and committee reports (President, Khoon Lim; Vice President, Bryab Coad; Executive Officer, Veronica Glattauer; Newsletter, Yu Suk Choi; Website and social media, Jess Frith; Awards, Anna Waterhouse; ECR initiatives, Mark Allenby; STA report, Kelly Tsang).

Financial statement was presented by Treasurer Jelena Rnjak-Kovacina, Main item that was noted was the establishment of a running account to facilitate and manage operational transactions. A healthy bank balance was pointed out by members which followed by discussions on future of assessment of new initiatives for ECR and students. The committee will address comments and assess how to best provide additional investments in our society members.

Membership subscriptions were confirmed to continue at current rates.

Penny Martens, along with Tim Woodfield provided a summary as IUSBSE delegates. Key items outlined were the MOU now signed with TERMIS to facilitate alignment with future conferences and Working Group established for developing guidelines for selecting future WBC locations.

Election of new committee members followed, with nominations received for open positions. A voting ballot was held for Ordinary members as 6 nominations were received for only 4 available positions. Congratulations to all!

New elected members,

President, Khoon Lim

Vice President, Jelena Rnjak-Kovacina

Executive officer, Veronica Glattauer

Treasurer/Secretary, Anna Waterhouse

Ordinary members, Kris Kilian, Jess Frith, Mark Allenby, and Yu Suk Choi.

Khoon Lim thanked Bryan Coad for his outstanding contributions as President and welcomed new committee member Kris Kilian.

Kelly Tsang continues as STA presentative and ACT representative.

The ASBTE has gained great insights and enjoyed many events from our students, ECRs and State reps. Volunteers came forth at the meeting however many positions still to be filled, a follow up call was decide.

Finally, Khoon congratulated incoming elected committee members and representatives and huge thanks passed on to Bryan for his roles and contributions to the Society.

Veronica Glattauer

Meet the new exec member

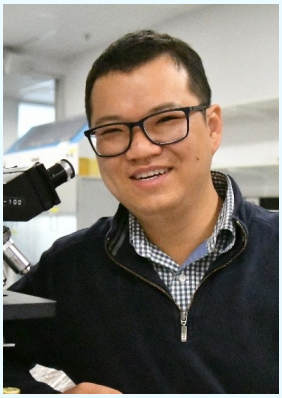
Kris Kilian, UNSW

Kris Kilian received B.S. and M.S. degrees in Chemistry from the University of Washington in 1999 and 2003 respectively. He worked for Merck Research Labs in the Methods Development group from 2000-2004 before travelling to Sydney, Australia to do his PhD at the University of New South Wales. In 2007, Kris joined the laboratory of Milan Mrksich at the University of Chicago as a NIH postdoctoral fellow to investigate new methods for directing the differentiation of stem cells. He was Assistant Professor (2011-2017) and Associate Professor (2017-2018) at the University of Illinois at Urbana-Champaign in the Department of Materials Science and Engineering, and the Department of Bioengineering, before returning to UNSW in 2018 as a Scientia Fellow between the School of Chemistry and the School of Materials Science and Engineering. Kris is a recipient of the Cornforth Medal from the Royal Australian Chemical Institute (2008), the NIH Ruth L. Kirchstein National Research Service Award (2008), a Kavli Fellow of the 19th German-American Frontiers of Science (2014), the National Science Foundation's CAREER award (2015), a Young Innovator of Cellular and Molecular Bioengineering (2017), the Australian Research Council Future Fellowship (2018), and the Dean's award for Excellence in Research (2020).

Kris is currently Scientia Associate Professor, co-Director of the Australian Centre for NanoMedicine, Theme Lead of the Biomedical & Health Theme in the School of Materials Science and Engineering, and full member of the Adult Cancer Program. Kris leads the Laboratory for Advanced Biomaterials & Matrix Engineering (LAB&ME), an interdisciplinary research group of stellar humans that hail from 13 countries. Kris is Associate Editor of Scientific Reports and the Journal of Biomedical Materials Research A. His research interests include the design and development of model extracellular matrices and dynamic hydrogels for biofabrication, cell engineering and fundamental studies in cell plasticity. When not doing science, Kris enjoys playing drums and spending time with his family and kelpie pups.

Meet the new rep

Vi Khanh Truong

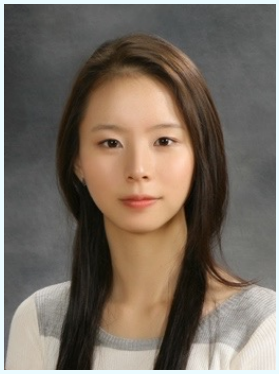


Dr. Vi Khanh Truong, a Lecturer in Medical Biotechnology, also serves as the Deputy Director of the Biomedical Nanoengineering Laboratory at Flinders University. Dr. Truong has created novel strategies to protect medical devices from bacterial colonization, with his research often resulting in practical applications like antimicrobial products. His research outputs extend beyond medical field too, contributing to non-medical products like soil-wetting agents. Currently, he continues his research at the Biomedical Nanoengineering Laboratory, investigating antimicrobial resistance and developing innovative strategies in his characteristic "PREVENT-DETECT-TREAT" approach. He has published more than 110 papers in reputable journals, accruing over 9,000 citations, a testament to his substantial influence in the field.

Ian Chin

Ian completed his PhD on cardiomyocyte mechanobiology in 2022 supervised by Dr Yu Suk Choi at UWA. During his PhD research, Ian mimicked healthy and diseased cardiac extracellular matrix (ECM) using stiffness gradient hydrogels, to better understand the biophysical interactions between cardiomyocytes and their surrounding ECM. Outside of the lab, Ian loves boardgames, jamming on the bass guitar, and exploring outdoors.

Ann Na Cho



Dr Ann-Na Cho is a stem cell engineer and research fellow at Macquarie Medical School. Her research focuses on the development of bioengineered brain organoid for neurodegenerative disease (e.g., dementia, motor neuron disorder, epilepsy) modelling and the discovery of effective therapeutics. Dr Cho is recognised as an emerging researcher in neuroscience and named as an inventor on 7 patents and patents pending including international patent in US, EU and Korea (1 patent achieved technology transfer) by developing a bioengineering platform for humanised brain model. Her unique research covers the development of multiple tools to advance 3D human brain platform or therapeutic approach such as microfluidic device (Nature Biomedical Engineering 2018, Nature Communications 2021, Biomaterials 2018, 5 patent), nanomedical approaches (Nano letters 2019, Nanomedicine 2015, 1 patent pending), and regenerative medicine (ACS Applied Materials and Interfaces 2019, Biomaterials 2014, 1 patent).

Kye Robinson

I am currently a Postdoctoral Research Fellow at CSIRO in the Biomaterial Surfaces and Devices team carrying out research on bioelectronic interfaces – specifically, addressing the foreign body response, fibrosis, and microbial colonisation. I completed my PhD at Monash University developing nanoparticle-based sensors towards in vivo diagnostics before receiving a Swiss Government Excellence Scholarship to carry out postdoctoral work at the University of Geneva where I remained for 3 years before taking up my current role. I am very interested in all forms of surface characterisation, automating data analysis, and making sure my research reaches the wider community through outreach activities.

Meet the new rep

Angus Weeks

Angus Weekes is a PhD candidate at the QUT Centre for Biomedical Technologies, working in collaboration with the Herston Biofabrication Institute at the Royal Brisbane and Women's Hospital. With Bachelor's degrees in Engineering and Science, Angus has a strong background in medical engineering research and a keen interest in vascular tissue engineering and regenerative medicine. His research is focused on the biofabrication of tissue-engineered vascular grafts with the aim of producing improved treatment options in vessel bypassing.

Shirin Nour

I received my bachelor's degree in Biomedical Engineering-Biomaterials followed by a master's degree in Tissue Engineering from Amirkabir University of Technology (Tehran Polytechnique) working on the fabrication of hybrid bilayer scaffold containing angiogenic drug nanoparticles for the improvement of full-thickness wound healing. After continuing as a research assistant for another 2 years, I started my PhD at the University of Melbourne in November 2021 to focus on developing biomaterials with improved cellular response under the supervision of A/Prof. Daniel Heath, Prof. Andrea O'Connor, and Prof. Greg Qiao. Utilizing peptide functionalization of amphiphilic polymeric biomaterial and optimizing ligand properties, I am creating an engineered biointerface to understand how physicochemical cues and peptide-biomaterial properties can improve cell behaviour. I have expertise in polymer and peptide synthesis, various scaffold and nanoparticle fabrication/characterization techniques, cell biology and their combination in tissue engineering and regenerative medicine.

Manh Tuong Nguyen

Manh-Tuong Nguyen is a PhD candidate at Flinders University in South Australia, working in the Biomedical Nanoengineering Laboratory under the supervision of Professor Krasimir Vasilev and Dr. Vi Khanh Truong. His research focuses on understanding cell-material interactions with the aim of designing highly biocompatible biomaterials for use in implants and medical devices.

Kaiwen Zhang

I am a third-year PhD student at RMIT University, currently working under supervision of Dr. Amy Gelmi, Dr. Aaron Elbourne, and Prof. Kate Fox. I obtained a master's degree in Advanced Materials Science and Engineering from Imperial College London and a bachelor's degree in Materials Science and Engineering from Xiamen University, China. My PhD project revolves around temporal characterization of stem cells with Atomic Force Microscopy (AFM), specifically focusing on their response to external electrical stimulation. The objective is to explore the impact of different electrical stimulation parameters on directing the fate of stem cells while monitoring the changes in mechanical properties before, during, and after stimulation. By investigating how stem cells sense and respond to external stimulation, the findings will have implications for precisely controlling stem cell fate through electrical stimulation.

ASBTE Lab Travel Award 2023

Emma Gill, Swinburne University of Technology visiting Boston University

In the last quarter of 2022 I visited the Prof. Michelle Sander Ultrafast Optics group at Boston University in Boston, in Massachusetts, USA. Our research groups had an existing collaboration through an AFOSR Biophysics program research grant, which resulted in a publication in 2020 [1]. However, with the travel restrictions, as a result of a global pandemic, research output from this collaboration had significantly slowed, being mostly constricted to in silico based research. With the reopening of boarders, the trialling of covid-normal policies, and funding support from the ASBTE 2022 Lab Travel Grant, I was able to travel to Boston to continue our experimental research collaborations.

The Sander Ultrafast Optics Laboratory focuses on laser designs that can fuel applications for stimulating mid-infrared and infrared light interactions, in particular for photothermal imaging. Their photothermal microscope was custom built by their researchers, a set-up which is currently not developed or available in Australia.

As a novel microscopy tool for biology, we had scientific questions about what label-free biological contrast could be provided by photothermal microscopy. In particular, we were interested in how heat transport could provide information about localised extracellular matrix stiffness. In Melbourne, I used facilities at Swinburne University of Technology to design and grow lab-grown tissue samples that mimic simple skin and neuronal-like tissues. These samples were specially designed to answer the contrast questions we had about photothermal imaging, particularly questions about the light interaction with cells and its surrounding extracellular matrix. I spent 2 months at Boston University, first optimising the photothermal microscope, and then gathering data by imaging our samples one by one.

The team at BU were especially friendly and experts in their fields. Outside of research, we found time to celebrate team spirit by going to a BU vs NH ice hockey match, visiting the Museum of Science to see the Mathematics exhibit, and going to a vintage theatre for a combined showing of a prelude lecture from Harvard astrophysicist Dr. Grant Tremblay and multiverse themed Oscar winning movie Everything Everywhere All at Once.

During the middle of my visit, I flew to Washington DC to go to the Air Force Office of Scientific Research (AFOSR) Biophysics program. I met brilliant researchers here, listened to incredible research talks, and was invited to give a short presentation. Outside the conference, I found time to explore the Smithsonian museums, visiting the National Natural History Museum, the National Post Museum, the Spy Museum, and not one but two Air and Space museums (the National Mall and Steven Udvar-Hazy center).

ASBTE Lab Travel Award 2023

Emma Gill, Swinburne University of Technology visiting Boston University

Boston was an amazing city, which had many similarities to Melbourne. They had a tram network, a hub of universities, a large international population providing a diversity of culture and food, and friendly people. I had this pre-existing strange connection to Boston, my Kung Fu Wing Chun teacher Sifu Dana Wong was born and raised in Boston. Dana extended his family to me for my visit, and they were gracious exchange hosts who included me in their holiday celebrations for Halloween and Thanksgiving (aka Friendsgiving). Halloween was next level in America, filled with haunted corn mazes, spiced apple cider, a visit to the witch town Salem and set of Hocus Pocus, and of course trick or treating. During Thanksgiving, I spent time with the Wong family in the outer suburbs of Boston. As tradition, there was a giant turkey, casserole dishes of stuffing, cranberry sauce, pumpkin pie, yams (sweet potato), plenty of video games, and a visit to Joann's for Black Friday sales on fabric and craft supplies.

My sole focus at Boston University was to adopt the different models to answer these microscopy questions. Since returning to Melbourne, I've spent 2 solid weeks processing the data, of which is now ready to analyse and write into a paper for my PhD thesis, with hopes to publish by the end of 2023. As a point of interest to the microscopy community, I was also invited to present my research at the 27th Australian Conference on Microscopy and Microanalysis in Perth, January 2023. Visiting Boston was an incredible research and cultural experience. I hope to go back and gather more data before the end of my PhD. I'd like to thank the ASBTE for their generosity and belief in supporting students and early career researchers. Their support helps us create brighter futures that are enriched with worldly research experiences.

Brenna Devlin, Queensland University of Technology visiting Oregon University

During this exchange I received an immersive experience in a world leading lab. I was able to conduct various 3D printing activities and access technology not available anywhere else, including a high throughput melt electrowriting (MEW) printer which I was trained to use and highly beneficial to my research work. I was also trained in forms of microscopy that were new to me and had hands-on experience with engineering and programming tasks.

Training and experience on:

- Novel FDM-MEW printers, including world-first high throughput MEW printer
- - Keyence digital microscope with variable angle stand useful for imaging 3D objects, particularly high-resolution MEW scaffolds

Contributions:

- Second authorship on a MEW paper (led by the host-lab) concerning novel, converted FDM to MEW printers with a rotating mandrel, heated bed and improved hothead for printing high-temperature polymers. Very significant in expanding available MEW materials (2023)

- Received contributions and feedback on a gcode tool as part of my PhD work for automated generation of MEW-compatible gcode, resulting in a first-authorship paper (2023)

The opportunity for me to travel and work at the University of Oregon was invaluable. I was able to meet some truly inspirational people and contribute to cutting-edge biofabrication research.

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Stephanie Doyle, Royal Melbourne Institute of Technology visiting Rizzoli Institute of Orthopaedics, Bologna

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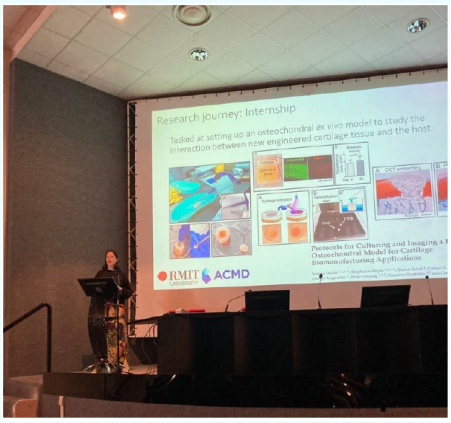
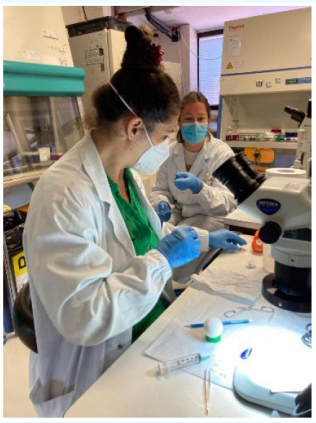




ASBTE membership and website

ASBTE on Twitter

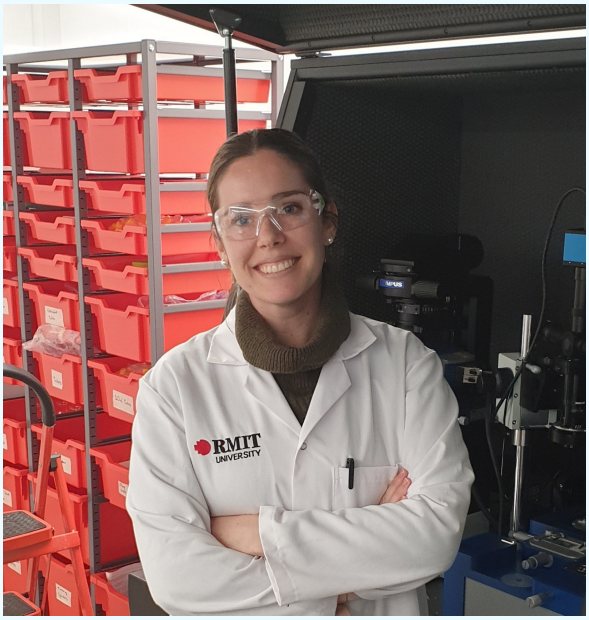
The ASBTE handle @ASBTE1provides the latest news and discussions for society members. If you are on Twitter, use @ASBTE1 to publicise your publications, awards, and grant successes that you want to share with the society members. Please follow us on Twitter: https://twitter.com/ASBTE1

ASBTE on LinkedIn

The ASBTE group on LinkedIn provides the latest news and discussions for society members. If you are a LinkedIn member, search for "ASBTE - The Australasian Society for Biomaterials and Tissue Engineering" in groups and request to join the group. Or type in the following web address: www.linkedin.com/groups?home=&gid=6512061

Meet the ASBTE member

Amy Gelmi, RMIT



1. What is your area of research?
My core research interest is understanding how biomaterials interface with stem cells, and how we can harness cellular response for targeted tissue engineering. For example, electrical signals delivered via conductive biomaterials can trigger specific differentiation outcomes, but how a stem cell transduces that physical signal into a biological one is not well understood. If we can determine how the cells are sensing their environment and dynamic signals, we can better design biomaterials and/or bioreactors for a range of tissue engineering applications.

2. What technological skills do you have?
My PhD is in chemistry, specifically electroactive materials chemistry, and I specialized in using atomic force microscopy to investigate changes in these materials with electrical stimulation. During my postdocs, I picked up training in stem cell biology and tissue engineering, and now my research is highly cross-disciplinary. We use advanced bio AFM to probe living cells, we design electroactive materials for stem cell stimulation, and create custom devices to deliver stimulation in a variety of experimental designs and set-ups. If anyone has ever heard me talk, AFM is my favourite technique to use, and a powerful tool for probing biological systems. Recent advances make it far more versatile than simple topography; we can measure biomechanical changes, specific biochemical binding, and even perform single cell biopsies!

3. What career advice would you give your younger self?
Seek out a mentor at all stages of your career- it can be so beneficial to have the outside advice from someone to help support your career. When you're in the thick of your PhD or figuring out where you want to take your career, it can be hard to see the forest for the trees. Having a trusted mentor to help you step back and really think about your choices can be invaluable. Also, why didn't you learn how to do some simple coding younger Amy?! That could have helped us out now, instead of trying to squeeze in more skill training now.

ASBTE membership and website

www.asbte.org

You can now sign up for **1, 2, or 3 year ASBTE Standard Membership** at https://www.asbte.org/shop

Any member wishing to supply news items, links, PhD scholarships, job listings, or other relevant information to the ***website*** should contact Jess Frith, jessica.frith@monash.edu

Getting to know other Biomaterials Societies

DEUTSCHE GESELLSCHAFT FÜR BIOMATERIALIEN

The ASBTE is partnered with 10 other biomaterials societies around the world. In this feature, we profile the biggest national biomaterials society in Europe, the German Society for Biomaterials (DGBM).
The next annual DGBM conference will take place in September 2023 in Jena, Germany.

1. When and where was your society founded and by whom?
The German Society for Biomaterials (DGBM) was founded in 1993. Before the European Society for Biomaterials (ESB) tried to avoid the formation of national biomaterials societies in Europe but with the political changes in Eastern Europe in these years it became obvious that it would be difficult to properly organise and represent the whole scientific community in the field of biomaterials research with one scientific society only. Driving force behind the foundation of the DGBM was Professor Ulrich Gross, a pathologist from the University Hospital of FU Berlin, who also became the first president of our society. Also the first DGBM conference was held in Berlin.

2. Can you please tell us a brief history and notable achievements of your society and members?
From the very beginning DGBM is consisting of scientists from different disciplines, including materials scientists and engineers, clinicians, biologists, bioprocess engineers and experts in other fields. The society wants to stimulate discussions between those who develop and characterise novel biomaterials – and those who use them in the clinics. Therefore we try to always have representatives of both groups in the Board of the DGBM.
Already one year before the foundation of the society, Professor Gross has organised and hosted the 4th World Biomaterials Congress in Berlin which was, however, still a quite small event at this time.
Astonishingly, it was again a pathologist, Professor James Kirkpatrick (University Hospital Mainz) who became one of the most influential German biomaterials researchers for at least two decades. He was president of the German and the European Societies for Biomaterials and a truly international scientist with strong links both to Asia and the Americas. Other DGBM members played and play a strong role in the Board of the ESB.

3. How often do you meet for scientific meetings?
DGBM is holding annual meetings since its foundation, mostly in autumn or early winter. The conferences are not organised by the society, but by the respective conference chair(s) who are changing every year. While for many years German was the main language used at the annual meetings since around 10 years the conferences are held in English.
When the ESB annual conference takes place in Germany like in 2019 when it was organised in Dresden, commonly no separate DGBM meeting is organised but it becomes integrated in the bigger ESB event.
At the DGBM conferences we like to invite other Biomaterials Societies to organise guest sessions. Such sessions were organised for example in the past by the Korean and the Polish Society for Biomaterials.

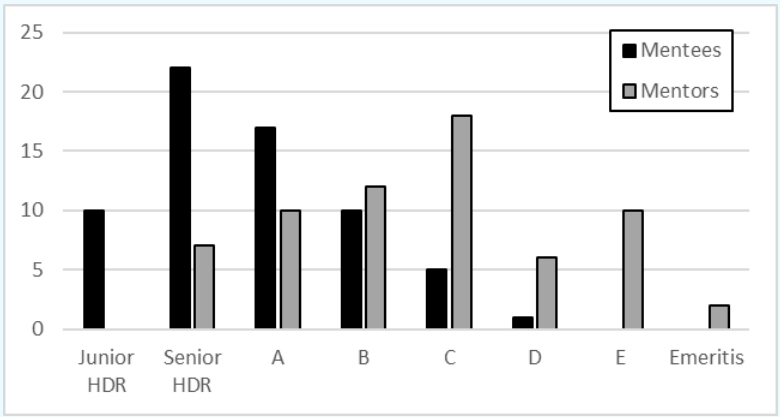
4. How many current members do you have?
Currently, DGBM has 280 active members. One can become individual or lab member. Lab membership means that one PI plus up to five of their lab members become members which reduces the fee per person.

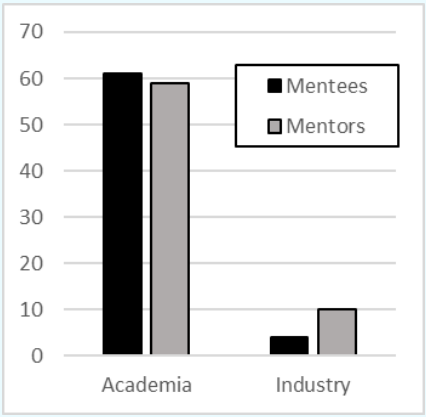
5. Please highlight a few active members (recent award winners at different career stages)
DGBM is only giving own awards for young researchers, mostly for the best Diploma or Master thesis and the best PhD thesis in the field of biomaterials research of the respective year. However, many DGBM members have been awarded by the ESB and up to now six of our members were selected as Fellows Biomaterials Science and Engineering (FBSE) by the International Union of Societies for Biomaterials Science and Engineering (IUS-BSE).

Professor Michael Gelinsky, FBSE
President of the German Society for Biomaterials
Dresden University of Technology (TU Dresden)

ASBTE mentoring 3.0 (launched Apr 2023)

ASBTE Mentorship Initiative has attracted 96 total participants and 65 mentee-mentor pairings across two separate 6-month recruitments (October 2022 to April 2023, April 2023 to October 2023), and we are about to launch into our second initiative during the ASBTE 2023 Conference. This is testament to our supportive and interactive ASBTE community as we had senior PhDs mentoring junior PhDs, Lecturers mentoring Postdoctoral Fellows, Professors mentoring Senior Lecturers, and Industry Partners mentoring Academic Researchers. Statistics are listed below, be aware that many mentees simultaneously acted as mentors.





Mark Allenby

Biomaterials Bites

We have started a new initiative to showcase the fantastic people that make up our society:

Biomaterial Bites is a series of 5-minute videos that you can watch to find out more – perfect to watch on your coffee break. We would love to highlight the diversity of our members, at all career stages, locations and research interests so if you would like to participate, please contact Jessica.frith@monash.edu

Previous interviews can be found on the ASBTE website: https://www.asbte.org/biomaterial-bites or our youtube channel:

#1 Bryan Coad, youtube.com/watch?v=QcsFareWUtU&t=10s&ab

#2 Penny Martens, youtube.com/watch?v=SQZ_8EEC3iM&ab

#3 Khoon Lim, youtube.com/watch?v=AB1HcE3lF9M

#4 Ashley Murphy, youtube.com/watch?v=SO5f4OCO1As&t=3s&ab

#5 Gretel Major, youtube.com/watch?v=bwwkhcLyPaY&ab

#6 Kelly Tsang, youtube.com/watch?v=ZpladXfjnk0&t=11s&ab_channel=ASBTE

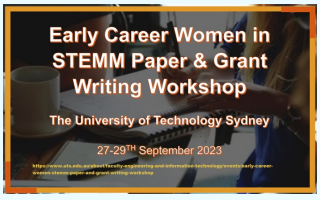
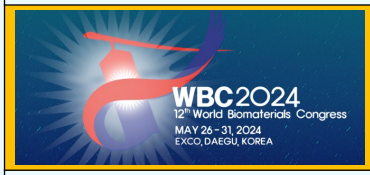
#7 Elena de Juan Pardo https://youtu.be/dihiMEXMPY0

#8 Amy Gelmi https://youtu.be/YLZqFc0ZXs8

#9 Andrea O'Connor https://www.youtube.com/watch?v=mXeffe2HjMU&ab_channel=ASBTE

Jess Frith

Upcoming conferences

Conference	Dates	Location	Link
	4-8 Sep 2023	Davos, Switzerland	https://esb2023.org/
	14-16 Sep 2023	Jena, Germany	https://dgbm-kongress.de/
	17-20 Sep 2023	Saskatoon, Canada	https://biofabrication2023.org/
	26-29 Sep 2023	Singapore	https://www.mbi.nus.edu.sg/events/mbiconf2023/
	27-29 Sep 2023	UTS, Sydney, Australia	https://www.uts.edu.au/about/faculty-engineering-and-information-technology/events/early-career-women-stemm-paper-and-grant-writing-workshop
	2-6 Oct 2023	Adelaide, Australia	https://apmbc2023.com/
	16-19 Oct 2023	Hong Kong, China	https://ap2023.termis.org/
	20-22 Nov 2023	Melbourne, Australia	https://www.2023mechanobiologymeeting.com/
	26-31 May 2024	Daegu, Korea	http://wbc2024.com/ Abstract due on 30 Sep 2023
	25-28 Jun 2024	Seattle, USA	https://termis.org/World-Congresses

ASBTE NEWS is a biannual newsletter that covers news from The Australasian Society for Biomaterials & Tissue Engineering. If you have a news item that you wish to be included please contact the editor Yu Suk Choi (yusuk.choi@uwa.edu.au) or Executive Officer Veronica Glattauer (veronica.glattauer@csiro.au).

2023 Jun issue edited by Yu Suk Choi