



**30 MARCH - 2 APRIL**  
**NATIONAL WINE CENTRE**  
**ADELAIDE AUSTRALIA**



**2026**  
**30TH ANNUAL**  
**CONFERENCE**

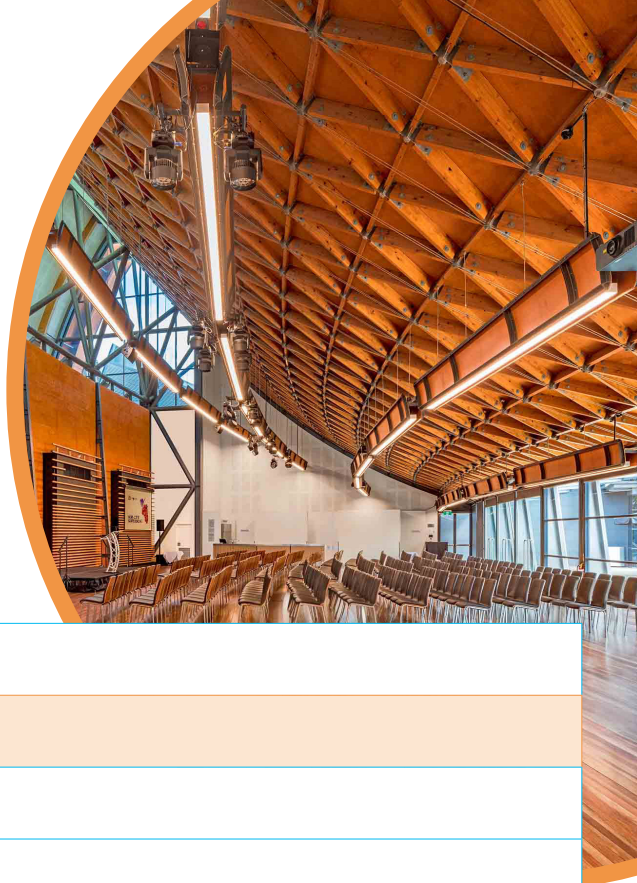
**AUSTRALASIAN**  
**SOCIETY FOR**  
**BIOMATERIALS**  
**AND TISSUE**  
**ENGINEERING**

**PROGRAM**

# WELCOME TO THE 2026 30TH ANNUAL CONFERENCE

## NATIONAL WINE CENTRE ADELAIDE

### DAY ONE - MONDAY 30<sup>TH</sup> MARCH



8.30	Registration Opens
9.30 - 10.00	Arrival Tea and Coffee
10.00 - 10.30	Conference welcome - Hickinbotham Room
10.30 - 12.00	ECR Workshop
12.00 - 12.30	Rapid Fire
12.30 - 1.30	Lunch
1.30 - 5.00	<b>HANS GRIESSER SYMPOSIUM</b>
	<b>Session 1 - Mentorship</b>
1.30 - 2.00	Hans Griesser's Career Overview Bryan Coad, Peter Kingshott, Helmut Thissen, Sally MacArthur
2.00 - 2.30	Hans Griesser Plenary Talk Hans Griesser
2.30 - 3.15	Mentorship Legacy: Career Pathways Panel Discussion Chair: Bryan Coad
3.15 - 3.45	Afternoon Tea
	<b>Session 2 - Industry Impact, Translation and Legacy</b>
3.45 - 4.00	Special Messages
4.00 - 4.15	Industry Impact and Translation Career Overview Mark Willcox
4.15 - 4.45	Stories from Industry Impact, Translation and Legacy: Panel Discussion Chair: Mark Willcox
4.45 - 5.00	Panel discussion
5.00 - 7.00	Welcome reception and poster viewing - National Wine Centre Terrace & Hickinbotham Hall
7.00 - 10.30	ECR networking night

# DAY TWO - TUESDAY 31<sup>ST</sup> MARCH

8.30 - 9.00	<b>Registration</b>		
9.00 - 10.00	<b>PLENARY SESSION 1 -</b> Light-powered control of materials and biological processes in biofabrication <b>Riccardo Levato</b>		
	<b>HICKINBOTHAM</b>	<b>VINES</b>	<b>GALLERY</b>
	<b>Organ on chip/In vitro models</b>	<b>Nanotherapeutics &amp; Biointerfaces</b>	<b>Implants &amp; Biofabrication</b>
10.00 - 10.15	<b>Keynote Presentation</b> Human Organs-on-chips for Modeling Joint Degeneration and Regeneration <b>Zhong Alan Li</b>	<b>Keynote Presentation</b> Dealing with the negatives: A facile system for covalent immobilisation of negatively charged biomolecules on cell culture surfaces <b>Stuart Fraser</b>	Myoglobin-Enhanced Hydrogels Enable Homogeneous Chondrogenesis and Cartilage Matrix Formation <b>Serena Duchi</b>
10.15 - 10.30			Bone tumour treatment with customised 3D-printed bioresorbable implants <b>Sugandha Bhatia</b>
10.30 - 10.45	A Bone-on-a-Chip to Recapitulate the Osteoid Mechanical Microenvironment and Osteoporosis Using a Hydrogel with Tandem Dynamic Crosslinking <b>BoguangYang</b>	Adhesive silk patch to deliver stem cell-derived nanovesicles for cardiac repair <b>Auriane Drack</b>	Unravelling Oxidative Damage in High-Resolution Digital-Light Processing 3D-Bioprinted Constructs <b>Yi Liwei</b>
10.45 - 11.15	<b>Morning Tea</b>		
11.15 - 11.30	Spatially organised, bioprinted 3D multicellular tumour microenvironment platforms for high-content live imaging and drug screening <b>Nathalie Bock</b>	Topographical variations influence mesenchymal stem cell-derived extracellular vesicles and paracrine factors for chondrocyte chondrogenesis <b>Christopher Chong</b>	4D Bioprinting of Stem Cell-laden Dynamic Hydrogels for Bone Regeneration <b>Shangsi Chen</b>
11.30 - 11.45	Spatial Control of Fibroblast-to-Myofibroblast Transition in Young's Modulus Patterned GelMA hydrogels for Cardiac Disease Models <b>Harrison Porritt</b>	Synthetic Poly(Vinyl Alcohol) Hydrogels Coated with Peptides Conjugated Plasma-Polymerized Nanoparticles as Microcarriers for Scalable Stem Cell Expansion <b>Renjian Tan</b>	Advancing Hydrogel DLP Printing Through Tuneable PVA-MA Formulations and a Modular Assembly Strategy for Large-Scale, Heterogeneous Architectures <b>Negar Mohammad Rizi</b>
11.45 - 12.00	Developing a controlled release hydrogel platform to deliver extracellular vesicles for cartilage regeneration and integration within a 3D spheroid fusion model <b>Poppy Buissink</b>	Novel Coated Contact Lenses as Therapeutic Scaffolds for Stem Cell Culture and Transplantation <b>Paul Pasic</b>	Melt Electrowriting High Resolution Poly(ethylene-co-vinyl acetate) Scaffolds for Soft Tissue Engineering <b>Finn Snow</b>
12.00 - 12.15	Decoding cell-implant interactions across diverse geometries and porosities using spatial transcriptomics <b>Nona Farbehi</b>	Modifying Tissue Engineering Scaffolds with Plasma Polymerised Allylamine to Develop Implants for Pelvic Reconstruction <b>Karyn Jarvis</b>	Biofabrication of Hierarchical Medium-Sized Branched Blood Vessels Utilising Negative Embodied Sacrificial Template 3D (NEST3D) and Human Induced Pluripotent Stem Cells <b>Kate Firipis</b>
12.15 - 12.30	Engineering temporally-dynamic silk stiffening hydrogels into models for cardiac aging and disease progression <b>Habib Joukhdar</b>	Polycrystalline-diamond Coating on 3D-printed titanium and its influence on soft tissue healing in dental implants <b>Daniel DeMaria</b>	Development and characterisation of a 3D bioprinted hGF and THP-1 macrophage co-culture model to investigate LPS-induced inflammatory response <b>Saraswat Basu</b>

## DAY TWO - TUESDAY 31<sup>ST</sup> MARCH

	HICKINBOTHAM	VINES	GALLERY
	Organ on chip/In vitro models	Nanotherapeutics & Biointerfaces	Implants & Biofabrication
12.30 - 12.45	Biocompatible Conductive Hydrogel Patches for Cardiomyocyte Tissue Engineering Zilin Ye	Nitric oxide-generating poly(allylamine hydrochloride) coating on biomedical titanium implant Siti Nur Asyura Adzlan	Design of Biomimetic, Multilayered Silk Fibroin Biomaterials for Aortic Valve Repair Zac Och
12.45 - 1.45	AGM over lunch		
2.00 - 6.00	Adelaide Hills Excursion		

## DAY THREE - WEDNESDAY 1<sup>ST</sup> APRIL

8.00 - 9.00	Registration		
9.00 - 10.00	PLENARY SESSION 2 - Sonomechanobiology: A New Field of High Frequency Cell Mechanostimulation Leslie Yeo		
10.00 - 10.30	Morning Tea		
	HICKINBOTHAM	VINES	GALLERY
	Cancer & immunomodulation	Hydrogels	Stem cells & cell-matrix interactions
10.30 - 10.45	Keynote Presentation Engineering brain microphysiological systems to control inter-organoid communication and neurodegenerative pathology Ann Na Cho	Keynote Presentation Functional Granular Hydrogels for Promoting Osteoporotic Tendon-To-Bone Healing Haiyan Li	Engineering material-mediated bioelectric cues for stem cell response Amy Gelmi
10.45 - 11.00			Poking Pluripotency: Nanoinjection into hiPSCs Jann Harberts
11.00 - 11.15	Physiologically Relevant Synthetic Scaffolds Enhance Activation and Expansion of T Lymphocytes for Effective Cancer Immunotherapy Neil Cameron	Spatiotemporal Modulation of Cell and Tissue Responses via Tuneable Microgel Degradation and Hydrogel Stiffness Khánh Vinh Đoàn	Electrical field stimulation to enhance proliferation and reduce senescence in mesenchymal stem/stromal cells Veronica Perera
11.15 - 11.30	The Interplay of Nanoscale Ligand Spacing and Stiffness in Breast Cancer Cell-Matrix Mechanosignaling Raageshwari Arulselvam	Polycaprolactone-reinforced hydrogel cartilage implant for enhanced mechanical support during early repair Carmine Onofrillo	Plasma-Functionalized Surfaces Direct the Chondrogenic Differentiation of Mesenchymal Stem Cells for Cartilage Regeneration Manh Tuong Nguyen
11.30 - 11.45	Nanocarriers for pancreatic ductal adenocarcinoma diagnosis and treatment Melissa Stanfield	Designing Hydrogels with Delayed Swelling Kinetics for Controlled Tissue Expansion Anne Rose Baby	Charge-Modulated Peptide-Polysaccharide Hydrogels Supporting Stem Cells and EV-Driven Tissue Regeneration Riddhesh Doshi
11.45 - 12.00	A tuneable decellularised extracellular matrix hydrogel to study colorectal cancer mechanobiology Brendan Hung	Achieving stretchability and mechanochemistry in bioinspired hydrogels: A narrow path to success Jamie Kruzic	Proteomic Insights into Adipose-Derived Stem Cells Potency: Towards Optimized Hydrogel-Based Cartilage Implants Dariana Chesnokova

# DAY THREE - WEDNESDAY 1<sup>ST</sup> APRIL

	HICKINBOTHAM	VINES	GALLERY
	Cancer & immunomodulation	Hydrogels	Stem cells & cell-matrix interactions
12.00 - 12.15	Immuno-Biomaterials for Potent Cancer Immunotherapy: Reawakening Innate and Adaptive Immunity within the Tumour Microenvironment <b>Thanh Loc Nguyen</b>	Fabrication of patterned microwell arrays using DLP photopolymerization <b>Calum McFetridge</b>	Atomic Force Microscopy For Quantifiable Biomechanics <b>Chayla Reeves</b>
12.15 - 1.15	Lunch		
1.15 - 2.45	ASBTE Awards Session		
1.15 - 1.45	ASBTE AWARDS SESSION Developing new regenerative therapies for bone and joint diseases 2025 MCR Awardee keynote: <b>Jiao Jiao Li</b> 2026 ECR Award nominees:		
1.45 - 2.00	Development of a photodegradable bioink to improve the physiological relevance of organoid tissue models <b>Max Yavitt</b>		
2.00 - 2.15	A Rat Arteriovenous Shunt Model Enables Sensitive Assessment of Biomaterial-Induced Thrombosis <b>Amy Jiang</b>		
2.15 - 2.30	Therapeutic cells derived extracellular vesicle mimetics for recovery following postpartum vaginal trauma in a childbirth-simulated rat model <b>Kallyanashis Paul</b>		
2.30 - 2.45	Bismuth ions-induced redox stress in a bioceramic ionic microenvironment disrupts bacterial regulatory circuits and promotes BMP-2/Runx2-mediated bone formation <b>Ngoc Huu Nguyen</b>		
2.45 - 3.15	Afternoon Tea		
3.15 - 4.00	PLENARY SESSION 3 Biomaterials, 3D Co-Cultures and Medical Devices <b>Sarah Cartmell (Recording)</b>		
	HICKINBOTHAM	VINES	GALLERY
	Vascular engineering	Additive manufacturing	Musculoskeletal engineering
4.00 - 4.15	Keynote Presentation Mechanical Forces as Upstream Drivers of Immune Dysfunction in Cardiovascular Disease <b>Sara Baratchi</b>	Keynote Presentation Engineering Regeneration: Translating 3D Biofabrication from Tissues to Therapeutic Devices <b>Jaydee Cabral</b>	Anti-Fibrotic and High-Adhesion Biointerface Engineered for Robotic Application in Bone Defects <b>Kiho Cho</b>
4.15 - 4.30			Bioengineered Surgical Membrane with Integrated Nanoencapsulation for Periodontal/bone Tissue Regeneration <b>Ghsaq Alhamdani</b>

# DAY THREE - WEDNESDAY 1<sup>ST</sup> APRIL

	HICKINBOTHAM	VINES	GALLERY
	<b>Vascular engineering</b>	<b>Additive manufacturing</b>	<b>Musculoskeletal engineering</b>
4.30 - 4.45	Investigation of venous microstructure to inform design of a biomimetic venous valve prosthesis <b>Ria Shah</b>	Improved Printability of a Composite Titanium-Diamond Material for Additively Manufactured Scaffolds <b>Joshua Zarins</b>	Four-dimensional modelling of osteosarcoma <b>William Humble</b>
4.45 - 5.00	A Novel Fabrication Strategy to Recapitulate Vessel Wall Architecture <b>George McColgan</b>	Immersion precipitation 4D printing as a versatile technology for fabrication of hierarchical micro/macro porous shape memory polymers for biomedical applications <b>Shadab Bagheri Khoulenjani</b>	3D Bioengineered models of primary osteosarcoma in stiffness tuneable bone biomimetic hydrogels reveals phenotypic diversity and inform drug discovery <b>Sugandha Bhatia</b>
5.00 - 5.15	Investigating the Application of a Novel Biodegradable Blood Vessel Graft to Regenerate Damaged Arteries <b>Wade Bocking</b>	Melt electrowriting with printing path correction: improving fidelity and enabling faster prints <b>Christopher Lamb</b>	Engineering innervated skeletal muscle tissue models with improved maturity using hierarchical micro-nano substrates <b>Shirin Nour</b>
5.15 - 5.30	Understanding the Biocompatibility of Zn-Li-Cu Alloys in Vascular Applications: Host Tissue Responses and Cellular Dynamics <b>Samuel Hansen</b>	Design and Evaluation of Slow and Autonomous Shape Shifting Polymer Network Biomaterials <b>Kailas Mahipal M</b>	Mechanically tunable and 3D bioprintable Alginate/GelMA hydrogels for skeletal muscle tissue engineering <b>Kapil Patel</b>
7.00 - 10.30	Dinner @ Adelaide Oval		



# DAY FOUR - THURSDAY 2<sup>ND</sup> APRIL

9.00 - 10.00	<b>PLENARY SESSION 4</b> Transforming Medical Devices Through Biomaterial Innovation <b>Fariba Deghani</b>		
10.00 - 10.30	Morning Tea		
	<b>HICKINBOTHAM</b>	<b>VINES</b>	<b>GALLERY</b>
10.30 - 10.45	<b>Keynote Presentation</b> Nanomaterials & Drug delivery <b>Krasimir Vasilev</b>	<b>Keynote Presentation</b> Novel nanotechnology for the detection of cancer-derived extracellular vesicles <b>Yuling Wang</b>	Bench-to-bedside Tissue-Mimetic Bio-Blocks® Enhance MSC Extracellular Vesicle Potency and Drive Early Layer-Specific Wound Activation in a Stratified Porcine Model <b>A.J Mellott</b>
10.45 - 11.00			Restore Hearing with Silk: Novel surgical packing material for ENT applications <b>Pramod Dorishetty</b>
11.00 - 11.15	Modified Proteins and Enzymes as Biocatalytic Nanomaterials <b>Peter Wich</b>	Porous Microneedle Arrays for Electrochemical Biosensing in Interstitial Fluid <b>Nicolas Voelcker</b>	Plasma-activated water supports wound healing in a pig model of infected wounds <b>Angela Boahen</b>
11.15 - 11.30	Engineering Protein-Peptide Condensate Nanogels for Targeted Therapy <b>Anton Maraldo</b>	Detecting the development of extracellular-matrix: sterile and label-free temporal tracking via ultrasound <b>Dulani Sooriyaaratchi</b>	Computational Modelling as a Tool for Lifetime Management of Aortic Stenosis <b>Georgia Khinsoe</b>
11.30 - 11.45	Chiral poly(2,4-dialkyl-2-oxazoline) cryogel scaffolds for tissue engineering and drug delivery <b>Kelly Mint</b>	Fluorescent Antibiotic Conjugates for Rapid Dual-Color Fluorescent Imaging of Gram-positive and Gram-negative Bacteria in Complex Matrices <b>Tan Phuoc Ton</b>	Enabling the Translation of Biomedical Devices and Therapeutics <b>Veronica Glattauer</b>
11.45 - 12.00	Two-photon polymerisation of PEG scaffolds with subcellular resolution, tuneable mechanical properties and customisable peptide motifs <b>Itai Shaul</b>	Design of Soft Biointerfaces for Dual Optical and Electrical Neural Cell Stimulation <b>Adriana Nascimento</b>	Biological Human Fascia Lata Grafts as a Durable Alternative to Synthetic Mesh in Female Pelvic Reconstructive Surgery <b>Shayanti Mukherjee</b>
12.00 - 12.15	A bioinspired dual-crosslinked microneedle patch with multiscale architecture for enhanced wound microenvironment therapy and drug delivery <b>Manish Kumar Tripathi</b>	Biodegradable Silk-based Microfibers for Biomedical Applications <b>Haleema Ijaz</b>	First-in-human trial of plasma activated water wound rinse for diabetes-related foot ulcers <b>Adrian Abdo</b>
12.15 - 1.15	Lunch		
	<b>Wound healing &amp; Antimicrobial materials</b>	<b>Neural engineering</b>	<b>Mechanobiology</b>
1.15 - 1.30	Fabrication of Multilayered Therapeutic Wound Dressing with Integrated Electrostimulatory Strategies for Managing Chronic Wound <b>Shadi Houshyar</b>	Early Neural Differentiation of Adult Mesenchymal Stem Cells Achieved Through Induction with Retinoic Acid <b>Katherine Hennessy</b>	Correlative Spatial Mechanomics: Interrogating Matrix Stiffness in Ovarian Ageing Dysfunction <b>Huan Ting Ong</b>
1.30 - 1.45	Temporally Controlled Secretome Delivery from Photo-Curable Pluronic Hydrogels for Wound Healing Applications <b>Md Shariful Islam</b>	Multifunctional Nerve Guidance Conduits for Peripheral Nerve Regeneration <b>Jeremy Oon</b>	Thickness-Dependent Dehydration Behaviour of Soft Contact Lenses for Optical Coherence Elastography Applications <b>Nicola Westerman</b>

# DAY FOUR - THURSDAY 2<sup>ND</sup> APRIL

	Wound healing & Antimicrobial materials	Neural engineering	Mechanobiology
1.45 - 2.00	Degradable PLGA coatings loaded with organometallic complexes for preventing implant-associated infections <b>Deshani Gamage</b>	Brain-adhesive hydrogel for on-demand epilepsy treatment <b>Nafiseh Olov</b>	The influence of purification on sodium alginate characterisation, printability, and cell-material interactions <b>Matthew Mail</b>
2.00 - 2.15	Electrostatic charge at the biomaterial-pathogen interface influences antibiotic efficacy <b>Andrew Hayles</b>	Enhancing Nerve Repair Using Platelet-Rich Plasma: A Biomaterials-Based Approach <b>Shadi Houshyar</b>	Osteogenic Differentiation of Mesenchymal Stem Cells Induced by Geometric Mechanotransductive 3D-Printed Poly-(L)-Lactic Acid Matrices <b>Harrison Ryan</b>
2.15 - 2.30	Generation of Antimicrobial Wrinkled Polycaprolactone Surfaces Combining Thin Films and Plasma Polymerization <b>Zeynep Kocer</b>	Heparan sulfate proteoglycans and neural fate <b>Larisa Haupt</b>	
2.30 - 2.45	Dissolvable Antibacterial Microneedle Targeting Wound Pathogens and Biofilms <b>Hanif Haidari</b>		
2.45 - 3.15	<b>Break</b>		
3.15 - 3.45	Awards and Close		

