This is a draft program only and is subject to change

	Sunday 4 August 2019			
9:00am	**Registration Opens** Room Three Sixty, Y Block, QUT Gardens Point Campus			
10:30am - 10:45am	**Welcome** Dietmar W Hutmacher, Molly Stevens, Amos Matsiko, Katharine Barnes & Christine Horejs *Queeensland University of Technology, Imperial College London, Nature Protocols, Nature Materials, and Nature Reviews Materials*			
10:45am - 11:45am	**An Editor's perspective to publishing in Nature journals** Katharine Barnes, Amos Matsiko & Christine Horejs			
11:45am - 12:45pm	**Perspectives on the field** Dietmar W Hutmacher, & Molly Stevens			
12:45pm - 1:45pm	**Lunch**			
1:45pm - 3:15pm	**Session 1: Bioinspiration for tissue engineering and regenerative medicine I** Chair: Dietmar W Hutmacher & Christine Horejs			
1:45pm - 2:30pm	**Skin repair regeneration and integration – the role of bio mimetics?** Fiona Wood, University of Western Australia, Australia			
2:30pm - 2:45pm	**Bioinspired hydrogels to deconstruct morphogenetic processes** Kristopher Kilian, University of New South Wales, Australia			
2:45pm - 3:00pm	**Biomimetic vascular silk materials in regenerative medicine** Jelena Rnjak-Kovacina, University of New South Wales, Australia			
3:00pm - 3:15pm	**Development of a robotic 3D bioprinting system for printing of tissues and organs** Charlotte A. Hauser, King Abdullah University of Science & Technology, Saudi Arabia			
3:15pm - 3:45pm	**Afternoon Tea**			
3:45pm - 5:45pm	**Session 2: Bioinspiration for tissue engineering and regenerative medicine II** *Chairs: Dietmar W Hutmacher & Katharine Barnes*			
3:45pm - 4:30pm	**Organs-on-a-plate and injectable tissues** Milica Radisic, University of Toronto, Canada			
4:30pm - 5:15pm	**Advancing the applications of human pluripotent stem cell-derived kidney organoids.** Melissa Little, Murdoch Children's Research Institute, Australia			
5:15pm - 5:30pm	**A bioengineered prostate microenvironment reduces prostate cancer metastasis to tissue-engineered human bone** Jacqui McGovern, Queensland University of Technology, Australia			
5:30pm - 5:45pm	**Engineering the "bio" in biomimetic bioinks for 3D Bioprinting and Bioassembly** Tim Woodfield, University of Otago, New Zealand			
5:45pm - 6:00pm	**Early development of biomimetics to control of crown-of-thorns starfish outbreaks on the Great Barrier Reef** Bernard Degnan, University of Queensland, Australia			
6:00pm	**End of Day One**			
6:00pm - 8:00pm	**Welcome Reception & Interactive Poster Presentations** The Cube, P Block, QUT Gardens Point Campus			
6:00pm - 6:30pm	**ZONE 1:** **Self-organising biomaterials**	**Zone 2:** **Bioinspiration for tissue engineering and regenerative medicine**	**Zone 3:** **Building biomimetics into biomaterial synthesis and design**	**Zone 4:** **Nanomedicine and drug delivery using biomimetic approaches**
	Self-nanoassembled nanobiosensor arrays for diagnostic applications Reza Behi, University of Sydney, Australia	**In vitro and in vivo assessment of strontium-substituted bioactive glass and polycaprolactone composite scaffolds produced via melt-electrowriting** Jiongyu Ren, Queensland University of Technology, Australia	**Biopolymer substrates for freeze-drying of human red blood cells** Francisca Diana Alves De Sousa, Monash University, Australia	**Efficient drug delivery for pancreatic cancer treatment utilizing supramolecular reversible pegylated bromelain** Taishi Higashi, Kumamoto University, Japan
	Bio-inspired silica-polymer hybrid: a novel platform to achieve general or specific bacterial detection Mingyue Cui, Nanyang Technological University, Singapore	**Tissue engineering of an orthotopic humanised bone-organ as a platform for preclinical multiple myeloma research** Alvaro Sanchez, Queensland University of Technology, Australia	**Robust super-hydrophobic coatings: countering the rise of the superbug** Deepu Ashok, Australian National University, Australia	**Development of artificial garlic cell aimed for superficial applications** Ondrej Kaspar, UCT Prague, Czech Republic
	Brain extracellular-matrix mimicking hydrogels for long-term support of primary neurons Adam Martin, Macquarie University, Australia	**3D-printed microporous multifuctional scaffolds for tissue engineering applications** Tara Shabab, Queensland University of Technology, Australia	**Nanocellulose hydrogel for organoids culture** Rodrigo Curvello, Monash University, Australia	**The application of venom-activated biomimetic hydrogel to control bleeding** Amanda Kijas, University of Queensland, Australia
	Complex coacervation of gelatin methacryloyl and alginate facilitates toughness and ductility of bioactive double-network hydrogels for functional cartilage tissue engineering Christoph Meinert, Queensland University of Technology, Australia	**The impact of 3D bioprinting on in vitro cemenogenic differentiation of periodontal ligament cells** Nimal Thattaruparambil Raveendran, University of Queensland, Australia	**The processing of hydroxyapatite from naturally occurring chloroapatite for orthopedic applications in the field of biomaterial engineering** Rajitha Gunaratne, University of Sri Jayewardenepura, Sri Lanka	**Prostate cancer cells preferentially metastatsize to a humanized tissue-engineered bone construct in NSG mice but are not susceptible to the human-specific antibody denosumab** Marietta Landgraf, Queensland University of Technology, Australia
	Biomimetic Rec1-resilin based hybrid materials for biomedical applications Rajkamal Balu, RMIT University, Australia	**Two-photon polymerization of photo-click recombinant collagen-based hydrogels for tissue engineering applications** Liesbeth Tytgat, Vrije Universiteit, Belgium	**OCT-based 3D patient-specific coronary reconstruction and FSI simulation based on ansys workbench** Jiaqiu Wang, Queensland University of Technology, Australia	**Tuning morphology of zinc oxide particles with polymers: formation mechanisms and enzyme-mimicking activities** Tao Yang, University of New South Wales, Australia

	ZONE 1: Bioinspiration for tissue engineering and regenerative medicine	Zone 2: Bioinspiration for tissue engineering and regenerative medicine	Zone 3: Building biomimetics into biomaterial synthesis and design	Zone 4: Nanomedicine and drug delivery using biomimetic approaches
6:30pm - 7:00pm	**Fabrication of dual micro-nano dental implants towards tailored bioactivity** Karan Gulati, University of Queensland, Australia	**Soft Network Composites: from nature to advanced soft engineering materials** Onur Bas, Queensland University of Technology, Australia	**Insect-wing mimetic bactericidal nanomaterials for healthcare applications** Jafar Hasan, Queensland University of Technology, Australia	**A novel transdermal delivery method for nano and macro molecules via temporal pressure technology inspired by traditional Chinese Medicine's Tui Na** Daniel Lio, Nanyang Technological University, Singapore
	Engineering of long-term culturable ex vivo vascularized tissues using biologically derived matrices Michael Hu, University of California San Diego, United States of America	**Cancer cell osteomimicry revealed using bioengineering and patient-derived xenografts** Nathalie Bock, Queensland University of Technology, Australia	**Beyond RGD; nanoclusters of syndecan- and integrin-binding ligands synergistically enhance cell/material interactions** Daniel Heath, University of Melbourne, Australia	**Microfluidic approach for nanoparticle synthesis and site-specific targeting** Viola Tokarova, UCT Prague, Czech Republic
	A bioengineered microenvironment model of prostate cancer to study cancer angiogenesis Anna Jaeschke, Queensland University of Technology, Australia	**Three dimensional in vitro models for studying tumour angiogenesis** Laura Bray, Queensland University of Technology, Australia	**Towards synthetic life: establishing a minimal segrosome for the rational design of biomimetic systems** Daniel Hürtgen, Max Planck Institute for Terrestrial Microbiology & LOEWE Center for Synthetic Microbiology, Germany	**Controlled local drug delivery of an anticancer drug and an antibiotic using a biomimetic hydrogel** Margaux Vigata, Queensland University of Technology, Australia
	Concept of an automated biomanufacturing and high-content analysis platform for hydrogel-embedded 3D tumour models Melanie Kahl, Queensland University of Technology, Australia	**Tissue engineered replacement for corneal endothelial donor tissue** Karl David Brown, Centre for Eye Research Australia, Australia	**The construction of custom-shaped nanometer-scale by scaffolded DNA origami object with multiple AIPs molecules and its interaction with the Agrc protein receptors** Heba Khateb, Aarhus University, Denmark	**Targeted camptothecin-loaded nanoparticles for breast cancer therapy in a bioengineered mouse model** Marietta Landgraf, Queensland University of Technology, Australia
	Development of in situ 3D bio-printer for wound healing Wan Doo Kim, Korea Institute of Machinery and Materials, South Korea	**Novel 3D in vitro models for translational breast cancer research** Maria Koch, Queensland University of Technology, Australia	**Self-assembling block copolymer for signalling molecules delivery by collagen layer degradation** Isabela Monteiro, University of Auckland, New Zealand	**Biomimetic engineering of soft and hard nanomaterials for drug delivery** Chun-Xia (Rosie) Zhao, University of Queensland, Australia
7:00pm - 7:15pm	**Conference Welcome** Dietmar W. Hutmacher, Queensland University of Technology			
	ZONE 1: Structure and function in adaptive biomimetics	Zone 2: Bioinspiration for tissue engineering and regenerative medicine	Zone 3: Building biomimetics into biomaterial synthesis and design / Biophysics in biomimetics	Zone 4: Nanomedicine and drug delivery using biomimetic approaches
7:15pm - 7:45pm	**Resilin-mimetic protein polymers: multi-responsiveness in intrinsic disorder** Naba Dutta, RMIT University, Australia	**Bio-inspired design of hybrid metamaterials for tissue-engineered composites with high elongation and toughness** Mina Mohseni, Queensland University of Technology, Australia	**Understanding the biophysical properties of gelatin-derived biopolymer systems using molecular dynamics simulations** Nicolas Tardiota, Queensland University of Technology, Australia	**Osmosis-powered hydrogel microneedles for extracting microliters of skin interstitial fluid within minutes** Mengjia Zheng, Nanyang Technological University, Singapore
	Leveraging automation and high-throughput approaches to manufacture and screen biomimetic extracellular matrices for 3D cell culture and tissue engineering applications Sebastian Eggert, Queensland University of Technology, Australia	**Biomimetics multiscale porous scaffolds for bone tissue regeneration** Hoang Phuc Dang, Queensland University of Technology, Australia	**The role of fibronectin nanopattern in limiting staphylococcus aureus adhesion to biomaterial surfaces** Heba Khateb, Aarhus University, Denmark	**Transdermal drug delivery with nucleic acid-based nanoparticles** Chengjie Xu, Nanyang Technological University, Singapore
	Bactericidal effect on the nanostructural surface: mimicking the cicada wing Takeshi Ito, Kansai University, Japan	**Reinforcement scaffolds of biofabricated articular human cartilage** Stephanie Doyle, RMIT University, Australia	**Design principles for transition metal oxides-based peroxidase mimics** Hui Wei, Nanjing University, China	**Photosensitizing protein nanocages for photodynamic therapy** Dennis Diaz Rincon, Macquarie University, Australia
	Polypeptide-affined tough hydrogels with tunable physicomechanical properties similar to soft tissues Farshad Oveissi, University of Sydney, Australia	**In vivo modelling of a fibrotic component of tissue reaction to implantation of biomaterials** Alexey Fayzullin, Sechenov University, Russia	**Bioinspired peptide nanowires** Armin Solemanifar, University of Queensland, Australia	**A self-adhesive microneedle for controlled drug loading and release** Wan Ting Sharon Chew, Nanyang Technological University, Singapore
	Bioinspired antibacterial surfaces for sustainable drug-free applications Ondrej Kaspar, UCT Prague, Czech Republic	**Biomimicry in cell culture of tissue scaffolds for large bone defects** David Forrestal, Queensland University of Technology, Australia	**Biomimetic photonics for in situ cell monitoring** Yi Pei, University of New South Wales, Australia	**Organ-specific tissue engineering constructs as pre-clinical alternative models of normal and diseased tissues for experimental biomedicine** Anna Guller, University of New South Wales, Australia
8:00pm	**End of Welcome Reception**			

	Monday 5 August 2019			
7:30am	**Registration Opens** Room Three Sixty, Y Block, QUT Gardens Point Campus			
8:30am - 10:00am	**Session 2: Structure and function in adaptive biomimetics and tissue engineering I** Chairs: Molly Stevens & Christine Horejs			
8:30am - 9:15am	**Biomimetic Materials Controlling Cellular Activity** Alan Rowan, University of Queensland, Australia			
9:15am - 9:30am	**Engineering freestanding hierarchical vascular structures using ice templates** Richard Wang, University of Sydney, Australia			
9:30am - 9:45am	**Eyelid tarsus tissue mechanics as a guide to tissue engineering scaffold design** Andrea O'Connor, University of Melbourne, Australia			
9:45am - 10:00am	**Oxygen tolerant polymerisations for the design of biomaterials** Robert Chapman, University of New South Wales, Australia			
10:00am - 10:30am	**Morning Tea**			
10:30am - 12:30pm	**Session 3: Structure and function in adaptive biomimetics and tissue engineering II** Chairs: Molly Stevens & Christine Horejs			
10:30am - 11:15am	**Supramolecular Materials from Metal-Phenolic Networks** Frank Caruso, University of Melbourne, Australia			
11:15am - 11:30am	**Biomimetic tough hydrogel for biomedical applications** Namita Roy Choudhury, RMIT University, Australia			
11:30am - 11:45am	**Enzyme mimic containing artificial organelles to counteract oxidative stress** Edit Brodszkij, Aarhus University, Denmark			
11:45am - 12:00pm	**Polysaccharides and proteins as versatile biopolymers for active nanomaterials** Peter Wich, University of New South Wales, Australia			
12:00pm - 12:15pm	**Body-in-a-Cube: A Human Body Mimic With Physiologic Amounts of Blood Surrogate** Mandy Esch, National Institute of Standards and Technology, United States of America			
12:15pm - 12:30pm	**Molecular hydrogels to support human embryonic stem cell grafts** Davis Nisbet, Australian National University, Australia			
12:30pm - 1:30pm	**Lunch**			
1:30pm - 4:00pm	**Session 4: Self-organising biomaterials** Chair: Dietmar W Hutmacher & Amos Matsiko			
1:30pm - 2:15pm	**Encoding "Living" Bioactivity in Biomaterials** Samuel Stupp, Northwestern University, United States of America			
2:15pm - 3:00pm	**Biomimicry in Blood-Contacting Medical Devices** Anna Waterhouse, University of Sydney, Australia			
3:00pm - 3:15pm	**Time-resolved observations of liquid-liquid phase separation at the nanoscale using in situ liquid transmission electron microscopy** Hortense Le Ferrand, Nanyang Technological University, Singapore			
3:15pm - 3:30pm	**Fabrication of bacteria-propelled microparticles (bacteriabots) and their use in biomedical applications such as drug delivery** Oliver Schauer, Max Planck Institute For Terrestrial Microbiology & Loewe Research Center For Synthetic Microbiology, Germany			
3:30pm - 3:45pm	**Shape-controlled synthesis and enzyme-mimicking activities of zinc oxide** Rona Chandrawati, University of New South Wales, Australia			
3:45pm - 4:00pm	**Polymer-guided biomineralization methods to mimic the native bone 3D microenvironment on the nanoscale - engineering cell-laden, vascularized and innervated bone-like tissue constructs in-vitro** Luiz Bertassoni, Oregon Health & Science University, United States of America			
4:15pm - 4:45pm	**Afternoon Tea & Poster Session** The Cube, P Block, QUT Gardens Point Campus			
4:15pm - 4:45pm	**ZONE 1: Bioinspiration for artificial organs and medical devices**	**Zone 2: Bioinspiration for tissue engineering and regenerative medicine**	**Zone 3: Miscellaneous**	**Zone 4: Miscellaneous**
	Validation of a microfluidic human microvasculature model for radiobiological studies Zhaobin Guo, University of South Australia, Australia	**Comparing histomorphometric image analysis systems using a critical-sized bone defect image data set** Flavia Medeiros Savi, Queensland University of Technology, Australia	**Engineering and Testing Novel Fibrinogen Paper Diagnostics for Blood Analysis** Marek Bialkower, Biopria, Australia	**Learning from mesocarp of Brazil Nut (Bertholletia Excelsa): microstructure and mechanical behavior in c-ring tests** Marilia Sonego, Universidade Federal De São Carlos, Brazil
	Novel breast implants with customized biomechanical and architectural features for large-volume regeneration Mina Mohseni, Queensland University of Technology, Australia	**Design and development of data-driven in-process control for melt electrowriting** Pawel Mieszczanek, Queensland University of Technology, Australia	**Gyroid structures for the additive manufacture of radiotherapy phantoms** Rance Tino, RMIT University, Australia	**The future of biomimetics based on insects - medical, military and commercial applications** Gregory Watson, University of The Sunshine Coast, Australia
	Advanced manufacturing for burn injury treatment: an evaluation of methods and materials Sean Powell, Queensland University of Technology, Australia	**Control of osteocytes behaviour by designing the extracellular matrix** Jung Un (Ally) Choi, University of Queensland, Australia	**The rapid biomineralisation of additively biomanufactured increases physical properties and in vitro osteogenicity** Maria Natividad Gomez Cerezo, University of Queensland, Australia	**Computational modelling of strut defects in slm manufactured lattice structures** Bill Lozanovski, RMIT University, Australia
	Biomimetic cell culture system for early cancer diagnosis Sharda Yadav, Griffith University, Australia	**Templated 3D microwells for mimetic tumour modeling using 3D printing techniques** Thomas Molley, University of New South Wales, Australia	**Free-Standing 3D Micro-Fiber Scaffolds Through Melt-Electrowriting On Sacrificial Collectors** Cathal O'Connell, BioFab3D, St Vincent's Hospital Melbourne, Australia	**Ph/enzyme responsive hsa fusion protein drug delivery system for targeted tumor therapy** Juan Zhou, Jiangnan University, China
	Development of software for the quantitative analysis of cellular interactions within a 3d microarchitecture using ordered melt electrospun scaffolds Matthew Lanaro, Queensland University of Technology, Australia	**Effect of gelatin source and photoinitiator type on chondrocyte redifferentiation in gelatin methacryloyl-based tissue-engineered cartilage constructs** Stephen Pahoff, Queensland University of Technology, Australia	**Liquid tornado: spontaneous droplets gyrating after impacting on heterogeneous surfaces** Huizeng Li, Chinese Academy of Sciences, China	
4:45pm	**End of Day Two**			

	Tuesday 6 August 2019

7:00am	**Registration Opens** Room Three Sixty, Y Block, QUT Gardens Point Campus
8:00am - 9:30am	**Session 6: Building biomimetics into biomaterial synthesis and design** Chair: Molly Stevens & Christine Horejs
8:00am - 8:45am	**Protein Engineering of Multi-functional Biomaterials for Regenerative Medicine** Sarah Heilshorn, Stanford University, United States of America
8:45am - 9:00am	**Biomimetic approaches to changing sensory behaviour in sharks** Shaun Collin, La Trobe University, Australia
9:00am - 9:15am	**Polymer Electronic Materials for Biomedical Applications** Jadranka Travas-Sejdic, University of Auckland, New Zealand
9:15am - 9:30am	**Combat marine biofouling with biomimetic surface morphologies** Haimin Yao, The Hong Kong Polytechnic University, Hong Kong
9:30am - 10:00am	**Session 7: Rapid Fire Presentations I** Chair:Amos Matsiko & Katharine Barnes
	Novel breast implants with customized biomechanical and architectural features for large-volume regeneration Mina Mohseni, Queensland University of Technology, Australia
	In vivo modelling of a fibrotic component of tissue reaction to implantation of biomaterials Alexey Fayzullin, Sechenov University, Russia
	Nanocellulose hydrogel for organoids culture Rodrigo Curvello, Monash University, Australia
	Tissue engineered replacement for corneal endothelial donor tissue Karl David Brown, Centre for Eye Research Australia, Australia
	Cancer cell osteomimicry revealed using bioengineering and patient-derived xenografts Nathalie Bock, Queensland University of Technology, Australia
	Engineering of long-term culturable ex vivo vascularized tissues using biologically derived matrices Michael Hu, University of California San Diego, United States of America
	Biomimetic photonics for in situ cell monitoring Yi Pei, University of New South Wales, Australia
	Insect-wing mimetic bactericidal nanomaterials for healthcare applications Jafar Hasan, Queensland University of Technology, Australia
10:00am - 10:30am	**Morning Tea**
10:30am - 12:00pm	**Session 8: Biophysics in Biomimetics** Chair: Dietmar W Hutmacher & Amos Matsiko
10:30am - 11:15am	**PRESENTATION TITLE COMING SOON** Chris Chen, Boston University, United States of America
11:15am - 11:30am	**Fungal growth in confining geometries follows optimal paths computed by intracellular algorithmsan** Dan Nicolau, McGill University, Canada
11:30am - 11:45am	**Probing intracellular trafficking of nanomedicines and nanosensors by super-resolution and quantitative microscopy** Francesca Cavalieri, University of Melbourne, Australia
11:45am - 12:00pm	**Biomimetic curvature supports in vitro podocyte differentiation** Anastasia Korolj, University of Toronto, Canada
12:00pm - 1:00pm	**Lunch**
1:00pm - 2:00pm	**Session 9: Rapid Fire Presentations II** Chair: Christine Horejs & Katharine Barnes
	Two-photon polymerization of photo-click recombinant collagen-based hydrogels for tissue engineering applications Liesbeth Tytgat, Vrije Universiteit, Belgium
	Design principles for transition metal oxides-based peroxidase mimics Hui Wei, Nanjing University, China
	Beyond RGD; nanoclusters of syndecan- and integrin-binding ligands synergistically enhance cell/material interactions Daniel Heath, University of Melbourne, Australia
	The role of fibronectin nanopattern in limiting staphylococcus aureus adhesion to biomaterial surfaces Heba Khateb, Aarhus University, Denmark
	Towards synthetic life: establishing a minimal segrosome for the rational design of biomimetic systems Daniel Hürtgen, Max Planck Institute for Terrestrial Microbiology & LOEWE Center for Synthetic Microbiology, Germany
	Self-assembling block copolymer for signalling molecules delivery by collagen layer degradation Isabela Monteiro, University of Auckland, New Zealand
	Photosensitizing protein nanocages for photodynamic therapy Dennis Diaz Rincon, Macquarie University, Australia
	Efficient drug delivery for pancreatic cancer treatment utilizing supramolecular reversible pegylated bromelain Taishi Higashi, Kumamoto University, Japan
	Osmosis-powered hydrogel microneedles for extracting microliters of skin interstitial fluid within minutes Mengjia Zheng, Nanyang Technological University, Singapore
	Brain extracellular-matrix mimicking hydrogels for long-term support of primary neurons Adam Martin, Macquarie University, Australia
	Learning from mesocarp of brazil nut (bertholletia excelsa): microstructure and mechanical behavior in c-ring tests Marilia Sonego, Universidade Federal De São Carlos, Brazil
	Resilin-mimetic protein polymers: multi-responsiveness in intrinsic disorder Naba Dutta, RMIT University, Australia
	Bio-inspired silica-polymer hybrid: a novel platform to achieve general or specific bacterial detection Mingyue Cui, Nanyang Technological University, Singapore
2:00pm - 4:45pm	**Session 10: Bioinspiration for tissue engineering and regenerative medicine III** Chair: Molly Stevens & Katharine Barnes
2:00pm - 2:45pm	**PRESENTATION TITLE COMING SOON** Peter Fratzl, Max-Planck-Institut fur Kolloid-und Grenzflachenforschung, Germany
2:45pm - 3:30pm	**PRESENTATION TITLE COMING SOON** Thomas Clemens, Johns Hopkins Medicine, United States of America
3:30pm - 4:30pm	**Round Table session with invited speakers II** Chair: Molly Stevens & Dietmar W. Hutmacher
4:30pm - 4:45pm	**Conference Close** Dietmar W Hutmacher, Molly Stevens, Amos Matsiko, Katharine Barnes & Christine Horejs Queeensland University of Technology, Imperial College London, Nature Protocols, Nature Materials, and Nature Reviews Materials
4:45pm	**End of Day Three**