





AIP Physics in Industry Day 2023






The Future of Semiconductors



Event website <https://www.aip.org.au/PID2023>

Time	Session	Details
8:30-9:00	Registration	Arrival, registration, refreshments
9:02	Welcome – Dr Scott Martin Welcome – Dr Nadia Court	Advertised start.
9:30	Keynote Address	Dr David Skellern AO Q&A
10:30-11:00	Morning tea/coffee	Sign up for lunch time tours
11:00	Innovative Applications of Semiconductors Chaired by Dr Scott Martin	Short talks presented by: <ol style="list-style-type: none"> 1. Prof. Kourosh Kalantar Zadeh -USYD 2. Dr Angus North - Memjet 3. A/Prof. Tara Hamilton - CUVOS 4. A/Prof. Arne Laucht - Diraq 5. Geoff Neilson – Electrogenics Labs Q&A Panel
12:30	Lunch	The lunch break will provide time for attendees to participate in one of a range of Lindfield site facility tours
14:00	Future Directions and Opportunities Chaired by Dr Nadia Court	Short talks presented by: <ol style="list-style-type: none"> 1. Dr John Morrison - ANFF 2. Dr Julie Karel ARC - CoE FLEET 3. Stef Winwood - Bluglass 4. Dr Pasquale Aliberti – Morse Micro 5. Ben Kitcher - AMRF Q&A (all speakers return to stage)
15:30	Conclude & afternoon tea	Rounding off the event with a nice cup of tea and, perchance, a biscuit or piece of cake – yum!

Presenter Information	
 <p>Dr Nadia Court Director S3B</p>	<p>Dr Nadia Court is the inaugural Director of the Semiconductor Sector Service Bureau (S3B). Until recently, Nadia was the Technical Director of the Research and Prototype Foundry, the University of Sydney's micro- and nano-fabrication facility and the Sydney Hub of the NSW Node of the Australian National Fabrication Facility (ANFF). Nadia has worked in various roles with ANFF since 2012, both at UNSW and the University of Sydney. Prior to this Nadia spent several years working in the UK on printed electronics and optical communication technologies for the defence industry.</p>
 <p>Dr David Skellern AO Board Chair S3B</p>	<p>Dr David Skellern is one of Australia's most successful technology entrepreneurs and a globally recognized researcher and research manager. David worked in radioastronomy for 10 years and taught electronics at Sydney and Macquarie Universities for 16 years before coming to prominence in the IT industry through Radiata, which he co-founded in 1997. Built on joint research conducted by Macquarie University and the CSIRO, the company demonstrated the world's first chip-set implementation of the IEEE 802.11a High-Speed WLAN standard. In 2001 Radiata was acquired by Cisco Systems Inc., where David was Director of Technology for the Wireless Networking Business Unit until 2004. Dr Skellern joined the Board of National ICT Australia in 2003 and became its Chief Executive Officer in 2005. Dr Skellern was appointed to the Order of Australia in 2010. He is currently the Chair of the RoZetta Institute Board.</p>
 <p>Prof. Kourosch Kalantar-Zadeh Head of School of Chemical and Biomolecular Engineering - USYD</p>	<p>Kourosch Kalantar-Zadeh is a Professor and Head of School of Chemical and Biomolecular Engineering at the University of Sydney. He is also one of the Australian Research Council Laureate Fellows of 2018. Professor Kalantar-Zadeh was a professor of Chemical Engineering at UNSW, and prior to that a Professor of Electronic Engineering at RMIT, Australia. Professor Kalantar-Zadeh is involved in research in the fields of analytical chemistry, materials sciences, gastroenterology, electronics and sensors, and has co-authored of >500 highly cited scientific papers. He is a member of the editorial boards of journals including ACS Applied Nano Materials (associate editor), ACS Sensors, Advanced Materials Technologies, Nanoscale, Applied Surface Science and ACS Nano. Professor Kalantar-Zadeh is best known for his works on ingestible sensors, liquid metals and two-dimensional semiconductors. He led his group to the invention of an ingestible chemical sensor: human gas sensing capsule, one of the breakthroughs in the field of medical devices. Professor Kalantar-Zadeh has received several international awards for his scientific contributions including the 2017 IEEE Sensor Council Achievement, 2018 American Chemical Society Advances in Measurement Science Lectureship awards and 2020 Robert Boyle Prize of Royal Society of Chemistry.</p>
 <p>Dr Angus North</p>	<p>Angus North is the technical lead for the design, fabrication and characterization of Memjet's thermal inkjet chips and co-inventor on 77 Memjet patents. The qualifying skills for this role came from a PhD in Semiconductor Physics in Cambridge, where Angus fabricated and tested novel quantum well semiconductor lasers and resonant tunnelling devices.</p>

Principal Scientist - Memjet	
 <p>A/Prof. Tara Hamilton Chief Scientist - CUVOS S3 Board Member</p>	<p>Tara Hamilton is an experienced Engineer and researcher with demonstrated success and leadership in research and development particularly in the defence, medical, and technology sectors. Tara is the Chief Scientist at Cuvos, an Australian owned and operated company specialising in sensor technologies.</p> <p>Tara is an Adjunct Associate Professor at the University of Technology Sydney and has held academic positions at the University of Queensland, University of New South Wales, Western Sydney University, and Macquarie University. Tara has also worked extensively within industry having held full-time positions at Cochlear Ltd. and G2 Microsystems. Tara is the author of over 120 research papers and 3 international patents.</p>
 <p>A/Prof Arne Laucht Head of Quantum Measurement - Diraq</p>	<p>Arne Laucht is a Scientia Associate Professor for Quantum Engineering at the University of New South Wales Sydney and the Head of Quantum Measurement at Diraq. He has been developing techniques for qubit measurement and control for more than 10 years. Arne is author on over 90 research papers.</p>
 <p>Geoff Neilson CEO Electrognics Labs</p>	<p>Geoff is an experienced leader with 30 years experience across multiple business functions including strategy, sourcing, risk management, engineering, project management and research.</p> <p>His executive experience includes several senior Vice President roles at ResMed (12 years), across Research and Medical Affairs, Product Development, Commercial and GTM roles and Global Supplier and Supply Chain Alliance. He was also MD at Milvella Ltd, an Ophthalmic Device company based in Sydney and Minneapolis who designed and commercialised ophthalmic instruments.</p> <p>He has a B.Sc. (Hons. 1st Class) Electrical & Electronic Engineering and is a Graduate of the AICD.</p>
 <p>Dr John Morrison Director ANFF-C</p>	<p>John has an extensive history supporting inventors and commercialising technologies through a career that has involved a variety of roles within Listed companies, MedTech start-ups, and Director positions focused on research translation at The Swinburne University of Technology and Monash University as well as within his own consultancy firm, Morrison Consulting. John leads the Network's commercial platform, ANFF-C.</p>
 <p>Dr Julie Karel Chief Investigator ARC CoE FLEET -</p>	<p>Dr Julie Karel earned her Bachelor of Science in Materials Science and Engineering from the University of Wisconsin-Madison (Madison, Wisconsin, USA) in 2005. She worked as a Materials Engineer for Intel Corporation for two years before continuing her studies. Julie holds a Master of Science (2010) and a PhD (2012), both in Materials Science and Engineering from the University of California-Berkeley (Berkeley, California, USA). She carried out her postdoctoral work at the Max Planck Institute for Chemical Physics of Solids (Dresden, Germany) from 2012-2016. Julie is currently a Senior Lecturer in the Department of Materials Science and Engineering at Monash University.</p>



Stefanie Winwood
Head of Corporate and
Investor Relations, BluGlass
Limited

Stef Winwood is a senior investor relations and corporate strategy executive with over 15 years' experience in the deep-tech and semiconductor industries. Having held senior roles in Fortune 500 companies to technology start-ups, Stef has helped build and scale tech brands and businesses from ideation through to IPO and scale-up. She is a passionate advocate for Australia's nascent semiconductor industry and the role of compound semiconductors in sovereign manufacturing, digitalisation, electrification, and decarbonisation.

Developing leading-edge semiconductor manufacturing technology and devices for more than a decade, BluGlass Limited (ASX:BLG) is a global provider to the photonics industry, delivering cutting-edge gallium nitride (GaN) laser technology to the industrial, defence, quantum, and scientific markets.



Dr. Pasquale Aliberti
Chief of Staff - Morse Micro

Dr. Pasquale Aliberti is currently Chief of Staff at Morse Micro working across a number of areas, including Semiconductor Operations.

Pasquale has a background in Microelectronics, material science, renewable energy and IP law.



Ben Kitcher
Executive Director Research
and Technology - AMRF

Ben is a mechanical engineer and has specialised in advanced manufacturing for aerospace.

He has developed manufacturing solutions for global aerospace companies and their supply chains and has built and sustained innovation groups which have grown the University of Sheffield Advanced Manufacturing & Research Centre (AMRC).

Working on the development of technical strategy and partnering with local, national and international organisations, Ben has coordinated numerous support programs, developed a skilled workforce, and high value manufacturing processes for implementation of new factories in the Sheffield Advanced Manufacturing Park.

Most recently, he developed the AMRC's electrification capability, building teams and capabilities in battery and motor manufacturing.



Dr Scott Martin
CSIRO Group Leader –
Electromagnetic Systems
and Devices

Scott is the leader for CSIRO's Electromagnetic Systems and Devices Group encompassing optical systems, superconducting devices, graphene, and instrument development. The group has a strong track record of deploying S&T innovations into aerospace, space, mining, astronomy, health, telecoms, defence and manufacturing.

Long term association with the AIP:

- Honorary treasurer
- NSW Branch Chair (2014-2015 & 2019-2021)
- Convenor of the AIP Physics in Industry Day since 2007