MONASH University

First Australian Workshop

proudly presents

From Materials to Devices

2D-Printed Devices International Workshop

18 - 19 September 2025

An online and in-person event from
Monash University Clayton Campus - Melbourne, Australia

Day 1 - Research talks from international experts	Hybrid
Day 2 - Expert-guided hands-on workshops	In-person

AM2D is supported under the Industrial Transformation Research Program of the Australian Research Council

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AM2D ARC RESEARCH HUB

2D ProtoPrint

“Leveraging 2DProtoPrint – Monash University’s materials and printing platform – we are delighted to present an inaugural event which will connect and build a community of Australian and international experts in 2D-printed devices from academia and industry.”

Professor Mainak Majumder
Director, AM2D I 2DProtoPrint

"The future of printed devices lies at the intersection of materials science, engineering, and manufacturing. Through 2DProtoPrint, we’re enabling that convergence – and this workshop opens the door for deeper collaboration across disciplines and sectors."

Dr Naimeh Naseritaheri
Senior Research Fellow, AM2D I 2DProtoPrint

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Welcome

The value chain for 2D-printable devices includes advanced materials, ink development, and high-speed printing. With rising demand for miniaturized sensors and energy storage, printing offers a cost-effective, scalable manufacturing approach.

This event brings together academic and industry leaders to present the latest trends and research in this area.

Your Hosts

Co-chair
Professor Mainak Majumder
Hub Director, AM2D | 2DProtoPrint
Monash Department of Mechanical and Aerospace Engineering

Co-chair
Dr Naimeh Naseritaheri
Senior Research Fellow, AM2D | 2DProtoPrint | Monash Department of Mechanical and Aerospace Engineering

AM2D ARC Research Hub
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Day 1 - Thursday 18 September 2025

Research talks from international experts - Hybrid

New Horizons - Level 4, 20 Research Way, Clayton Campus

09:00 - 09:45 **Registration**

09:45 - 10:00 **Opening by co-chairs Professor Majumder and Dr Naseritaheri**

10:00 - 10:30 (AEST)

Printed solar cells

Dr Mei Gao

Principal Research Scientist and Team Leader Printable Photovoltaics Team, CSIRO, Australia

10:30 - 11:00 (AEST)

Integrated sensor systems leveraging printed electronics, laser-induced graphene, and 3D-printed microfluids

Associate Professor Gerd Grau

Electrical Engineering, York University Canada

11:00 - 11:30 **MORNING TEA**

11:30 - 12:00 (AEST)

Development and application of industrial inkjet printing

Dr Sam Mallinson

Industrial Engineering Research Fellow, School of Mechanical and Manufacturing Engineering, University of New South Wales

12:00 - 12:30 (AEST)

Evolution of 2D oxide printing using liquid metals: from manual touch transfer to emerging liquid metal lithography

Dr Ali Zavabeti

Lecturer, Chemical & Environmental Engineering, RMIT University

Adjunct Senior Fellow,

The University of Melbourne

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12:30 - 13:30 **LUNCH and printer tours**

13:30 - 14:00 (AEST)

Enabling graphene applications boom with CVD and HPCap

Mr Jaret Lee

Co-founder / General manager planarTECH and Business Development Manager, AXT Pty Ltd Australia and USA

14:00 - 14:30 (AEST)

The Challenger 650
A modular high-precision platform for printed electronics

Mr Michael Schläfli

CEO
nsm Norbert Schläfli AG
Switzerland

14:30 - 15:00 (AEST)

Thin, flexible and printable supercapacitors and batteries (FlexPower)

Dr Ali Shaygan Nia

Group Leader, Chair of Molecular Functional Materials at Technische Universität Dresden, Germany

15:00 - 15:15 **AFTERNOON TEA**

15:15 - 15:45 (AEST)

Printing the future: high-resolution gravure techniques and novel MXene inks for next-generation electronics

Dr Jakob Heier

Group leader, Swiss Federal Laboratories for Materials Science and Technology (Empa), Switzerland

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New Horizons - Level 4, 20 Research Way, Clayton Campus

15:45 - 16:15 (AEST) **From materials to manufacturing: printing devices at scale**

Professor Davide Deganello
Director of the Welsh Centre for Printing and Coating (WCPC), Mechanical Engineering, Swansea University, United Kingdom

16:15 **DAY 1 CONCLUDES**

Day 2 - Friday 19 September 2025

Expert-guided hands-on workshops - In-person

New Horizons - G29 & G30, 20 Research Way, Clayton Campus

In Monash University's state-of-the art facilities we present a series of in-person demonstrations of printable device fabrication:

- Multi-module micro-pattern printing using the Advanced Functional NSM printer
- Gravure printing of membranes with an overview of ink formulation
- Binder-free graphene-based ink preparation
- Screen printing of chipless RFID tags, showcasing device functionality

09:45 - 10:00	**Registration**
10:00 - 10:30	**Context-setting presentation**
10:30 - 12:00	**Workshop rotations 1**
12:00 - 12:45	**LUNCH and NETWORKING**
12:45 - 14:15	**Workshop rotations 2**
14:15 - 14:30	**AFTERNOON TEA - EVENT CONCLUDES**

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Thank you

Thanks for joining us for the first Australian 2-D printed devices workshop. Whether from industry or academia, we trust you found the event to be informative, full of interest and practical value.

Special Thanks

Sincere thanks to all 2D-printed devices experts from around the world for their enthusiasm and their time to contribute to this event.

Thanks to the AM2D team who have worked over many months to plan and deliver our event:

- Dr Phillip Sheath
- Dr Declan McNamara
- Dr Sally El Meragawi
- Kien (Kelvin) Nguyen
- Vu Hoang
- Jo Malley
- Francis Prashanth Peter
- Muhammed Afnas Vilayatteri
- Olalekan Solomon Oluwole
- Shadhon Chandra Mohonta
- Devarani Theenathayalan
- Chamalki Liyanage

Keep in Touch!

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