

MCN/ANFF-VIC

# NEW CAPABILITIES WORKSHOP



23–24 July 2024

New Horizons Bldg - Monash University  
Seminar room 407/408  
20 Research Way, Clayton VIC 3168



ANFF  
VICTORIA



# MCN/ANFF-VIC NEW CAPABILITIES WORKSHOP PROGRAM

| Time | Presentation | Presenter | Category |
|------|--------------|-----------|----------|
|------|--------------|-----------|----------|

## DAY 1 – TUESDAY, 23 JULY 2024

### SESSION 1 (9:30–10:45)

|             |  |                    |                     |
|-------------|--|--------------------|---------------------|
| 09:30–09:45 | Welcome, acknowledgement & housekeeping  | Prof Nico Voelcker |                     |
| 09:45–10:15 | Materials Discovery Platform Glovebox  | Prof Udo Bach      | Materials Discovery |
| 10:15–10:35 | Flexus thin-film stress-measurement system, Ex-pertech wet/dry oxidation furnace, general purpose furnace, Keithley 4200A parameter analyser | Dr Abu Sadek       | Thin Films          |
| 10:35–10:45 | Oxford PECVD & Quorum critical point dryer (CPD)   | Dr Siqi Deng       | Thin Films          |

### MORNING TEA (10:45–11:15)

### SESSION 2 (11:15–12:45)

|             |   |  |                         |
|-------------|---|--|-------------------------|
| 11:15–11:45 | ULVAC ei-5 dual-source & Angstrom e-beam evaporators                                      | Dr Yang Lim                              | Thin Films              |
| 11:45–12:15 | AJA combinatorial sputtering system with e-beam evaporation, in situ ellipsometry & RHEED | Dr Ash Dyer<br>Mr Juan Benitez Rodriguez | Thin Films              |
| 12:15–12:45 | Oxford deep reactive ion etcher (DRIE), ULVAC & SAMCO reactive ion etchers (RIEs)         | Mr Dan Smith<br>Dr Ricky Tjeung          | Patterning (Litho/Etch) |

### LUNCH (1:00–2:00)

### SESSION 3 (2:00–4:00)

|           |   |                       |                         |
|-----------|---|-----------------------|-------------------------|
| 2:00–2:30 | X-ray nanolithography facility: towards the ultimate resolution           | Dr Grant Van Riessen  | Patterning (Litho/Etch) |
| 2:30–2:50 | NanoScribe Photonic Professional GT2                                      | Mr Daniel Day         | Patterning (Litho/Etch) |
| 2:50–3:20 | Heidelberg MLA150 direct-write lithography system with robotic autoloader | Dr Yang Lim           | Patterning (Litho/Etch) |
| 3:20–3:40 | Eulitha PhableR Talbot lithography system                                 | Dr Hazem Abdelmaksoud | Patterning (Litho/Etch) |
| 3:40–4:00 | Heidelberg NanoFrazor Explore with direct laser sublimation (DLS) upgrade | Dr Andrea Vischioni   | Patterning (Litho/Etch) |

### REFRESHMENTS AND NETWORKING (4:00–5:00)



| Time | Presentation | Presenter | Category |
|------|--------------|-----------|----------|
|------|--------------|-----------|----------|

## DAY 2 – WEDNESDAY, 24 JULY 2024

### SESSION 4 (9:30–10:45)

|             |  |                          |                  |
|-------------|--|--------------------------|------------------|
| 9:30–10:00  | 3DMICROMAC femtosecond laser system & DISCO DAD3350 dicing saw           | Dr Vahid Adineh          | Packaging        |
| 10:00–10:15 | F&S Bondtec Series 58 ball/wedge wire bonder                             | Dr Ash Dyer              | Packaging        |
| 10:15–10:25 | Polytec laser Doppler vibrometer (LDV) upgrades                          | Dr Ash Dyer              | Characterisation |
| 10:25–10:45 | ThermoFisher Apreo FEG-SEM & upgraded EM sample-preparation capabilities | Dr Tatiana Pinedo Rivera | Characterisation |

### MORNING TEA (10:45–11:00)

### SESSION 5 (11:00–12:30)

|             |   |                          |                  |
|-------------|---|--------------------------|------------------|
| 11:00–11:20 | Bruker timsTOF fleX MALDI-2   | Dr Hazem Abdelmaksoud    | Characterisation |
| 11:20–11:40 | Witec Confocal Raman Microscope   | Mr Ken van't Schip       | Characterisation |
| 11:40–12:00 | Bruker Dimension Icon AFM electrical-measurement capabilities: PF-TUNA, PFM & SCM | Dr Hemayet Uddin         | Characterisation |
| 12:00–12:10 | Bruker Dektak stylus profilometer   | Dr Tatiana Pinedo Rivera | Characterisation |
| 12:10–12:30 | Neaspec neaSNOM and nano-FTIR   | Mr Daniel Day            | Characterisation |

### LUNCH (12:30–1:30)

### SESSION 6 (1:30–3:30)

|           |  |                     |                          |
|-----------|--|---------------------|--------------------------|
| 1:30–1:50 | Microgravity reactors & Femtika laser nanofactory  | Dr Karyn Jarvis     | ANFF-VIC Hub – Swinburne |
| 1:50–2:10 | Ceradrop electronics 3D printer & the Micro Nano Research Facility (MNRF)                                | Dr Huajun Shen      | ANFF-VIC Hub – RMIT      |
| 2:10–2:30 | He-Ion microscopy & the Materials Characterisation and Fabrication Platform (MCFP)                       | Dr Elena Taran      | ANFF-VIC Hub – UniMel    |
| 2:30–2:50 | ToF-SIMS & upgraded sample preparation facilities at the Centre for Materials and Surface Science (CMSS) | Mr See Yoong Wong   | ANFF-VIC Hub – La Trobe  |
| 2:50–3:10 | Novel fibre & yarn-spinning capabilities at the Institute for Frontier Materials (IFM)                   | Dr Faruque Abdullah | ANFF-VIC Hub – Deakin    |
| 3:10–3:30 | Micro-CT 3D X-ray system, parylene coater and aerosol spray-coater                                       | Dr Sherry Mayo      | ANFF-VIC Hub – CSIRO     |

### CLOSING REMARKS (3:30–3:40)

|           |                              |  |  |
|-----------|------------------------------|--|--|
| 4:00–5:00 | MCN tours (sign-up required) |  |  |
|-----------|------------------------------|--|--|