



PROCESS ENGINEER

DEPARTMENT/UNIT	Melbourne Centre for Nanofabrication
FACULTY/DIVISION	Provost and Senior Vice-President
CLASSIFICATION	HEW Level 7
WORK LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

Monash is a university of transformation, progress and optimism. Our people are our most valued asset, with our academics among the best in the world and our professional staff revolutionising the way we operate as an organisation. For more information about our University and our exciting future, please visit www.monash.edu.

The **Provost and Senior Vice-President** is the Chief Academic Officer of the University and is responsible for: setting the University's academic strategy and priorities with a view to improving the education and research performance of the University; oversight of faculties, academic related portfolios and university-wide centres and institutes; oversight of academic staffing including recruitment, development, reward and recognition, policies and procedures; strategic leadership for the delivery of academic programs; identifying and cultivating interdisciplinary areas of excellence and collaboration.

Monash also has a number of research centres and institutes of relevance to nanotechnology, that aim to build communities of researchers engaging in the highest quality research. By fostering cross-departmental and cross-faculty collaboration, the centres and institutes will help build the necessary "critical mass" to have national and international impact in areas like materials characterisation, nanotechnology, sustainability and regenerative medicine. Established under the Australian Government's National Collaborative Research Infrastructure Strategy (NCRIS), the Australian National Fabrication Facility (ANFF) provides researchers and industry with access to state-of-the-art fabrication capabilities through a network of 8 nodes spanning more than 20 institutions throughout Australia. ANFF's Victorian node (ANFF-VIC), and national headquarters, is a joint-venture partnership of six universities and CSIRO, located in the heart of the South-East Melbourne Innovation Precinct. The ANFF-VIC node is comprised of a central facility, the Melbourne Centre for Nanofabrication (MCN), as well as several satellite capabilities housed within nearby partner institutions.

The **Melbourne Centre for Nanofabrication (MCN)** is a purpose-built facility designed to fill the gap in Australia for open-access, multi-scale fabrication infrastructure. Serving as the centrepiece of the Victorian node of the Australian National Fabrication Facility (ANFF), the MCN houses a broad spectrum of fabrication environments, tools, materials and professional expertise suited for fabrication and characterisation of complex micro and nano devices

POSITION PURPOSE

The Process Engineer supports the Senior Process Engineer-Team Lead in the management and operation of a range of clean room (and ancillary laboratory) instruments and processes. The Process Engineer is responsible for integrating highly technical laboratory skills with the ability to monitor, support, adapt and implement operational practices that underpin the quality and design of outputs for MCN clientele and stakeholders.

The Process Engineer provides support to strategic MCN projects, as needed, through scientific design and the recommendation and implementation of best practice laboratory initiatives. In addition, the Process Engineer ensures that competency standards are maintained both within specialist teams and amongst the client population.

Reporting Line: The position reports to the Senior Process Engineer-Team Lead under broad direction

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budget Responsibilities: Not applicable

KEY RESPONSIBILITIES

1. Plan, implement and coordinate a professional, timely and high-quality fabrication service to the research community working on sensors, medical devices, energy systems, and other complex (hybrid) devices and systems including collaborating on interdisciplinary projects, providing project design advice to or conducting R&D projects on behalf of internal or external MCN clients in relation to specific and/or broad-based nanofabrication processes and procedures across biological/cleanroom platforms
2. Develop and implement a teaching and training program to support novice and advanced instrument users and researchers wishing to understand the state of the art in this technology
3. Serve as a point-of-contact for potential and new MCN users and assist them in developing and identifying their specific nanofabrication research needs
4. Maintain up-to-date knowledge of new and innovative methods of conducting experiments pertaining to the field of expertise, and where appropriate, implement these initiatives
5. Assist in the development of and implementation of marketing materials that demonstrate capabilities to potential users, the general public, government and non-government agencies and the general media
6. Provide consultancy advice and solutions to complex situations including consultation with senior managers, academics and professional staff and providing data for inclusion within research or project-specific reports
7. Develop and implement laboratory workflows, procedures, technologies and practices for assigned instrumentation and associated working environments that ensure operational compliance with all regulatory bodies
8. Build and sustain effective working relationships with a network of colleagues, clients and stakeholders to facilitate cooperation and deliver services aligned with client needs

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - a degree in Physics, Materials Science or Engineering with extensive relevant experience, or
 - an equivalent combination of relevant experience and/or education/training

Knowledge and Skills

2. Demonstrated, applied experience and expertise in nanofabrication, micro/nano characterisation and associated processes along with proven experience working in a cleanroom environment and understanding of cleanroom processes, equipment and procedures
3. Excellent planning, organisational and project management skills, including the ability to set priorities, manage time and plan work to meet deadlines
4. Excellent project coordination skills with the ability to support projects through to completion in accordance with agreed standards, timeframes, and budgets
5. Demonstrated ability to work autonomously and within a productive team environment where the safety of other professionals and users is paramount
6. Well-developed written communication skills including the ability to prepare detailed reports and non-routine correspondence, material and/or other documents to communicate ideas or concepts related to issues that are often highly complex or controversial
7. Proven ability to develop and maintain professional relationships with users from a wide range of backgrounds including industry clients
8. Demonstrated expertise and practical skills in various microlithography and nano patterning techniques (optical lithography, electron beam lithography, nanoimprint lithography, hot embossing)
9. Demonstrated expertise in and practical skills in plasma processing (thin-film deposition / reactive ion etching - RIE)
10. Demonstrated knowledge of quality management and improvement systems such as LEAN operating principles or ISO9001

OTHER JOB RELATED INFORMATION

- Travel to MCN participant locations will be required
- There may be a requirement to work additional hours, including out-of-hours work from time to time
- National and international travel for training and/or attendance at conferences and seminars may also be required from time-to-time

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.