



Research Fellow (Computational Design)

Department/Unit	Caulfield School of Information Technology
Faculty/Division	Faculty of Information Technology
Classification	Level A
Employment type	0.8 FTE, 3.5 year fixed term
Work location	Caulfield campus
Date document created or updated	May 2018

Organisational Context

Monash is full of thinkers and doers who are looking for their next challenge. So if you've forged a rewarding career so far, this role provides the perfect platform to join us. You'll have access to quality research facilities, infrastructure and teaching spaces to do exciting work, along with opportunities to collaborate internationally. You'll be part of a university that's made up of inspirational, challenging thinkers and doers – and continue doing work that makes a lasting impact. Discover more at www.monash.edu.

The Faculty of Information Technology is represented on two campuses in Australia – Caulfield and Clayton – and in Kuala Lumpur and Johannesburg. It undertakes teaching and research across a broad range of information technology disciplines.

The Caulfield campus delivers the Faculty's core teaching and research programs. The School has some 50 academic and research staff and some 800 enrolled equivalent full-time students in undergraduate, postgraduate and research degrees.

For further information, please visit our website at www.infotech.monash.edu.au/.

SensiLab is a dynamic, interdisciplinary research space established to address the contemporary research challenges of the Internet age. Based in the Faculty of Information Technology and situated within the University's creative art, design and architecture precinct, the lab collaborates with researchers across the university and builds productive partnerships with leading industry, academic and cultural institutions. The lab's aim is to bring design, creativity and serious play to the applications of new technologies. Combining emerging and state-of-the-art technologies with initiatives such as fablabs, maker spaces and design studios SensiLab imagines and builds future technologies and seeks to inspire the next generation of interdisciplinary researchers. You can find out more about the lab on our website: sensilab.monash.edu.

Position Purpose

The successful applicant for this position will contribute to research as part of an Australian Research Council funded Future Fellowship in "Generative Materialism". Using innovative techniques that combine generative design systems, advanced digital fabrication and the creative needs of modern design, this project seeks to boost human creativity by intelligently connecting the digital and physical processes of generative systems. The project aims to develop advanced creative methods and systems for the next generation of digital design and fabrication technologies applied to applications in art, design and architecture.

The research will be undertaken within SensiLab.

Reporting Line: The position reports to Professor Jon McCormack

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budget Responsibilities: Not applicable

Key Responsibilities

Specific duties required of a Level A research-only academic may include:

1. Working under supervision, assist researchers in the development new methods and physical tools for computational design
2. The conduct of research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research
3. Co-supervision of graduate research students in areas appropriate to the staff member's expertise
4. Involvement in professional activities including – subject to availability of funds – attendance at conferences and seminars in fields related to those of the research project
5. Limited administrative functions primarily connected with the area of research of the academic
6. Occasional contributions to teaching in relation to her/his research project(s)
7. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures
8. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees
9. Advice within the field of the staff member's research to postgraduate students

Key Selection Criteria

Education/Qualifications

1. The appointee will have:
 - A doctoral qualification and/or recognised significant experience in the relevant discipline areaIn determining experience relative to qualifications, regard shall be had to teaching experience, experience in research, experience outside tertiary education, creative achievement, professional contributions and/or contributions to technical achievement. In addition, a position at this level will normally require a record of demonstrable scholarly and professional achievement in the relevant discipline area.

Knowledge and Skills

2. A publication record in high-quality journals or equivalent demonstrating a research contribution to the discipline
3. A professionally recognised creative practice in art, design or architecture informed by research
4. Development experience with computational design software in a research or production context
5. Software development experience in a major programming language (C++, Java, Python, etc.)
6. Experience with advanced digital fabrication technologies and concepts, including: industrial robotics and 3D printing systems; '4D printing', self-assembling systems & programmable matter; embedded intelligence; digital-biological hybrid fabrication
7. High level of interpersonal skills and a proven ability to establish good working relationships with colleagues, students and members of community and professional bodies
8. The ability to work as part of a research team in an interdisciplinary research environment
9. An understanding of aesthetic, creative and cultural issues involved in applying technology to creative practices
10. A demonstrated capacity to work in a collegiate manner with other staff in the workplace

Other Job-Related Information

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time

- There may be peak periods of work during which taking of leave may be restricted

Legal Compliance

Ensure you are aware of and adhere to legislation and university policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.