

POST-DOCTORAL RESEARCH FELLOW IN PROCESS CONTROL

Faculty of Engineering
School of Chemical Engineering
The University of New South Wales (UNSW), Sydney



- One of Australia's leading research & teaching universities
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At UNSW, we pride ourselves on being a workplace where the best people come to do their best work. UNSW Engineering is recruiting outstanding and inspirational individuals to join our world-leading group of researchers and teachers to build on our success and take the Faculty into the world's top 20 engineering faculties.

As Australia's leading engineering faculty, we create bold new solutions to globally relevant challenges to improve lives. We combine the world's best facilities and innovative research with an exciting and connected education experience to open doors for our graduates.

The School of Chemical Engineering

The School of Chemical Engineering has been delivering excellent teaching and research for over sixty-five years. The research clusters in the school broadly span the areas of Energy, Food and Health, Environmental Technology, Macromolecular and Interfacial Engineering, Product/ Process Design and Process Systems Engineering. It offers degrees in Food Science and Technology, Chemical Engineering and Industrial Chemistry. The school is ranked in the top 33 (QS World Ranking) in Chemical Engineering. For further information about the School, please visit <http://www.engineering.unsw.edu.au/chemical-engineering/>

About the role

- **AUD 92K - 98K** plus 9.5% Superannuation and annual leave loading
- 1 year fixed term with possibility of extension for a further 12 months
- Full-time

The School is recruiting a Postdoctoral Research Fellow to carry out scientific research on "A Distributed Optimization-based Approach to Flexible Plantwide Control" supported by the Australian Research Council. The Postdoctoral Fellow is expected to undertake developments on: (1) a framework for Distributed Economic Model Predictive Control (DEMPC) based on dissipativity and contraction theories and/or (2) dissipativity based plantwide fault detection and diagnosis and distributed fault-tolerant control. The Postdoctoral Fellow will also co-supervise postgraduate and honours thesis students within the Process Control Group in the School of Chemical Engineering who work on this project. The successful applicant will be supervised by and working with Professor Jie Bao and collaborating with Professor Jinfeng Liu from University of Alberta and Professor Ian Manchester from University of Sydney.

About the successful applicant

To be successful in this role you will:

- **Essential criteria:** hold a PhD in Engineering or Mathematics; have good knowledge of, and research experience with process control and modern control theories including nonlinear control and/or fault detection and diagnosis; strong mathematical skills; ability to work independently; excellent communication skills; a solid track record of research publications.

- **Desirable criteria:** Good knowledge of and research experience with: (1) contraction control theory; (2) dissipativity control theory; (3) distributed control and large systems theory; (4); model predictive control.

Appointments will be offered on the basis of a fixed employment contract upon satisfactory performance. The successful candidate will be required to undergo a pre-employment Academic Qualification check prior to appointment.

Applicants should systematically address the selection criteria listed within the position description in your application. Please apply online - applications will not be accepted if sent directly to the contact listed.

Please apply online at: <https://applicant.cghrm.unsw.edu.au> (Search for Position 61667)

Contact:

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Applications close: 25 April 2018

Find out more about working at UNSW [at https://www.engineering.unsw.edu.au/](https://www.engineering.unsw.edu.au/)

UNSW is an equal opportunity employer committed to diversity