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## Scientia PhD Scholarship in Process Control @UNSW Sydney 2020

A Scientia PhD scholarship in the area of Process Systems Engineering/Process Control at School of Chemical Engineering, the University of New South Wales is available:

**Project title:** System behaviour based process control using big process operating data

**Supervisory team:**

**Professor Jie Bao** ([j.bao@unsw.edu.au](mailto:j.bao@unsw.edu.au)), School of Chemical Engineering, UNSW Engineering  
Professor Wei Wang, School of Computer Science and Engineering, UNSW Engineering  
A/Prof. Yansong Shen, School of Chemical Engineering, UNSW Engineering

**Project summary:**

With implementation of digital control systems, a very large amount of process operation data is being collected in the process industry. This project will develop a novel data-centric control approach that utilizes the big process data to improve the cost-effectiveness of process operations, by integrating control theory with machine learning techniques (e.g. random forests). A knowledge base of process system behaviours is extracted from the big process data and used for online data-driven control based on system behavioural theory. This approach will be implemented to a number of industrial processes.

**Ideal Candidate:**

This is a multidisciplinary project. The ideal candidate should have the background of chemical engineering, electrical engineering or computer science and research experience in at least one of the following areas: process control, control theory and machine learning.

**Benefits of the Scholarship:**

- **Work on high quality research projects** with the best supervisory teams in world class environments
- **41K Australian dollars per year stipend (tax free)** for four years
- **Tuition fees covered** for the full 4 year period
- **Coaching and mentoring** will form a critical part of your highly personalised leadership development plan
- **Up to 10K Australian dollars each year** to build your career and support your international research collaborations

The PhD program starts Term 1 2020 (February 2020), Term 2 (June 2020) or Term 3 (September 2020). Applicants from Chemical Engineering, Electrical Engineering and Computer Science with expertise in control theory and applications are welcome.

If you are interested, please submit an expression of interest to Prof. Jie Bao via the following website by 12 July 2019:

<https://www.scientia.unsw.edu.au/scientia-phd-scholarships/system-behaviour-based-process-control-using-big-process-operating-data>

More information regarding the *UNSW Scientia PhD Scholarship Scheme* can be found at:

<https://www.scientia.unsw.edu.au/scientia-phd-scholarships>

More information regarding the **Process Control Research Group** at UNSW can be found at:

[www.processcontrol.unsw.edu.au](http://www.processcontrol.unsw.edu.au)

