



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

CREATE CHANGE

# Australasian Transformer Innovation Centre (TIC)



## How do we support a society that is more connected, healthy, and secure?

### How do we find solutions to the ever-changing issues facing contemporary society?

The University of Queensland's School of Electrical engineering and Computer Science tackles big-picture challenges. Spanning research, teaching and industry collaborations, our people are at the forefront of engineering, computer science, and information technology.

The School offers specialised courses and programs in Power Engineering both in Undergraduate and Postgraduate study levels including Higher Degrees in Research. The current research focus of the School's Power, Energy and Control Engineering discipline is in renewable energy integration to grid and condition monitoring of ageing electrical assets.

To find out more, visit:

<https://eecs.uq.edu.au/australasian-transformer-innovation-centre>

## AUSTRALIA'S LEADING TRANSFORMER INNOVATION CENTRE

### Welcome to the Australasian Transformer Innovation Centre (TIC)

Since its launch in 2017, the Centre has been offering innovative research projects and continuing professional development (CPD) courses that are purposely tailored for the industry's future needs. These courses are delivered by acclaimed transformer experts from industry and academia. The courses offered at TIC bring a total focus on best practice asset management and high performance. Member organisations will reap the benefits of this focus through reduced costs, increased asset performance, enhanced reliability, and asset management breakthroughs.

### Our mission

Our mission is to improve power and instrument transformers asset performance through innovative research and development, enhance skills development through education and training, and deliver industry driven projects through partnerships with industry.

TIC will help achieve this through the provision and distribution of research findings together with professional development courses.

The research and education opportunities that the Centre's industry-led approach create will enable its members to develop the knowledge and skills necessary to achieve their professional goals, improve the productivity of their organisations and provide thought leadership within their industry.

### Our vision

To be recognised as a global knowledge leader of substation plant and equipment through excellence in research, education and training, and collaboration between industry, researchers and educators.





## Professional development courses (CPD)

TIC offers basic transformer courses, including transformer theory, designs, and applications.

More advanced transformer courses include design, operation, maintenance, test, servicing, and life cycle management of:

- HV bushings
- Tap changers
- Mineral and Ester oils
- Transformer testing
- Solid insulation
- Dielectric design
- Condition monitoring

Courses are delivered by transformer experts from manufacturers, testing and service companies, utilities, and universities.

## Innovation program

TIC's programs have been designed to create innovations that meet the evolving needs of industry:

- Decreasing the risk of transformer failure during regular and contingency events
- Reducing maintenance costs and extending lifespan with improved condition monitoring
- Investigating improved operation, performance, and risks with mineral/ester oils
- Increasing transformer utilisation and operating transformers in a smarter and more effective way
- Investigating effects of renewable generation on transformer life and cyclic rating

## Leading experts

TIC is home to some of Australia's leading transformer researchers and lecturers including\*:

- Prof Tapan Saha
- Dr Chandima Ekanayake
- Dr Hui Ma
- Dr Shawn Nielsen

Alongside leading industry transformer practitioners:

- Daniel Warne
- Amra Alibegovic-Memisevic
- Gary Russel
- Mark Pritchard
- Christian Schmied
- Seamus Allan
- Lindsay McPherson
- Christoph Krause
- Deepak Maini
- Philippe Reboul

Plus, key engineers and scientists from several renowned utilities, manufacturers, testing and service companies.

*\* Our list of experts is non exhaustive.*



# Join today and put transformer innovation and performance at your fingertips!

Membership is ideal for:

- Generation, transmission, and distribution utility organisations
- Transformer and accessories manufacturers and service companies
- Renewable energy and consulting firms
- Industrial, mining and infrastructure companies

Gain a competitive advantage – benefits of a TIC membership!

- Access various innovative transformer research, solving tomorrow's challenges
- Empower your organisation's employees with the latest transformer know-how by learning from Australia's leading industry focussed experts
- Gain hands-on experience with condition monitoring, dynamic loading, and ester oil performance
- Reduce your organisation's operating costs and increase performance through expert asset management breakthroughs

## Get in touch

### **Prof Tapan Saha**

Director  
+61 422001378  
saha@eecs.uq.edu.au

### **Dr Shawn Nielsen**

Manager  
+61 402180858  
shawn.nielsen@uq.edu.au