

# Fellow Profile



## Professor Iouri Belski Royal Melbourne Institute of Technology

Iouri is a Professor of Engineering Problem Solving with the School of Engineering. He is a recipient of numerous awards including the Australian Award for Teaching Excellence. He is a Principal Fellow of HEA, Senior Member of IEEE and a TRIZ Master

**Fellowship title:** Educating the Edisons of the 21st Century: embedding Tools of the Theory of Inventive Problem Solving (TRIZ) into the engineering curriculum

**Year completed:** 2018

**Expertise key words:** Engineering creativity and problem solving, transformation from novices to experts, novel methods and technologies of education

**What did you achieve?:** This Fellowship engaged Australian engineering academics including Deans and Deputy Deans as well as officers from Engineers Australia in discussions on changes to engineering curricula that are required for enhancement of graduates' creativity skills.

The Fellowship has also integrated existing educational resources that have been developed by leading world academics who have introduced the Theory of Inventive Problem Solving (TRIZ) at their universities. Sets of educational materials on TRIZ heuristics for self-learning have been developed (that contain introductory videos, Solution Templates (PDF and web-based) and Cheat Sheets) as well as Power Point slides for the teachers to introduce these heuristics in class. These materials can be downloaded from the Fellowship Repository (<https://edisons21.com>) that also offers research papers and case studies on TRIZ applications in academia and industry.

Although the Fellowship Repository currently contains educational materials for seven TRIZ heuristics, it is anticipated that by the end of 2019 it will offer materials for five more heuristics.

National and international presentations engaged over 400 engineering academics and over 6,000 engineering students. Hundreds of students studied TRIZ heuristics and applied these heuristics in their university projects.

The Fellowship Convention that was conducted during the AAEE 2017 conference (Sydney, December 2017) and attracted over 100 academics. It occupied four conference sessions that included 17 research presentations by academics and practitioners from nine countries as well as presentations by the student winners of the Edisons21.com Creativity Challenge.

Three case studies on successful embedding of TRIZ heuristics into discipline courses have been conducted. The outcomes of these studies have been published. More studies are planned to be conducted in 2019–20.

**What does the sector need now?:** Engineering Deans, academics and Engineers Australia need to revisit engineering curricula and to devote more attention to development of creativity skills over the four years of engineering degree.

