



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

School of Mathematical and Physical Sciences

School Research Strengths

The School of Mathematical and Physical Sciences is led by the radio astronomer Professor James Jackson. In addition to engaging in a number of key Priority Research Centres (PRCs), the School offers internationally recognised expertise in the areas of analysis, number theory, optimisation, surface physics, space physics and statistics. The School's mathematics discipline has a current QS World University Ranking in the Top 250, while statistics and condensed matter physics are ranked well above world standards in the Excellence in Research for Australia (ERA) assessment.

The PRC for Computer Assisted Research Mathematics and its Applications (CARMA) is directed by Professor George Willis, and explores the development of techniques and tools for computer-

assisted mathematics and data-mining including mathematical visualisation.

Professor Paul Dastoor is a Principal Researcher within the PRC for Organic Electronics, which focuses on the scientific challenges in the development of organic photovoltaics for the next generation of environmentally friendly energy sources, photonics and biosensors.

The Centre for Optimal Planning and Operations (C-OPT) aims to collaboratively develop innovative, customised solutions through applying quantitative methods that help businesses streamline their processes and enhance their decision making, to reduce costs, increase productivity, and positively impact their triple bottom line. Professor John O'Connor is currently Acting Director of the Centre.

**TOP
250**

universities in the world¹

14

UON disciplines are ranked in top 200 in the world²



Good Universities Guide³

**TOP
8**

in Australia for research 'well above world standard'⁴

**OVER
90%**

of our research is 'at' or 'above world standard'⁴

**TOP
10**

in Australia for research income⁵

Profile of Professors



Professor James Jackson **Astronomy**

h-index: 42
citations: 6159

Star formation, galactic structure, and the interstellar medium in both the Milky Way and other galaxies using radio, submm, mm, and infrared astronomy are the key research areas for prominent astronomer Professor James Jackson.



Professor Paul Dastoor **Physics**

h-index: 27
citations: 162

Designing revolutionary innovations such as solar paint and needle-free glucose tests has put Professor Paul Dastoor at the forefront of the emerging field of organic electronics. His advances are set to improve the environment and lives of communities around the world.



Professor George Willis **Mathematics**

h-index: 19
citations: 1255

A fellow of the Australian Academy of Science, Professor George Willis' research focuses on the interaction between algebra and topology. The new algebraic methods for understanding the symmetry of infinite networks that he has created are stimulating rapid advances.



Professor Eric Beh **Statistics**

h-index: 14
citations: 706

Data analysis is a key component to all areas of research and Professor Eric Beh's research into the analysis of categorical data has seen him become one of the world's leaders in this field. His focus has been on the visualisation of categorical data but other key areas of research include developments for the modelling ordered categories and the analysis of aggregated data.

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Graduate
Research supporting HDR candidates -
the next generation of researchers.

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