

# International Conference on Nonlinear Partial Differential Equations

University of New England  
21–25 November 2016

Yihong Du\*

## Organizing Committee

Dr Florica Cirstea (USyd)	A/Prof Daniel Daners (USyd, Co-Chair)
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Prof. Aron Murphy (UNE)	A/Prof Shusen Yan (UNE)
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Website: <http://sydney.edu.au/science/math/s/u/PDESeminar/nlpde2016/>

## Description

Taking advantage of Prof. Norm Dancer's 70th birthday, this conference brought together leading international researchers on nonlinear partial differential equations, as well as Australian researchers, in particular junior researchers, to report and discuss recent developments, exchange ideas and foster/strengthen collaborations. The conference focused on new developments in several themes of nonlinear partial differential equations and their applications, especially those to which Prof. Dancer has made significant contributions. They include nonlinear elliptic and parabolic equations, the calculus of variations, and applications in physics, biology and geometry.

## Report

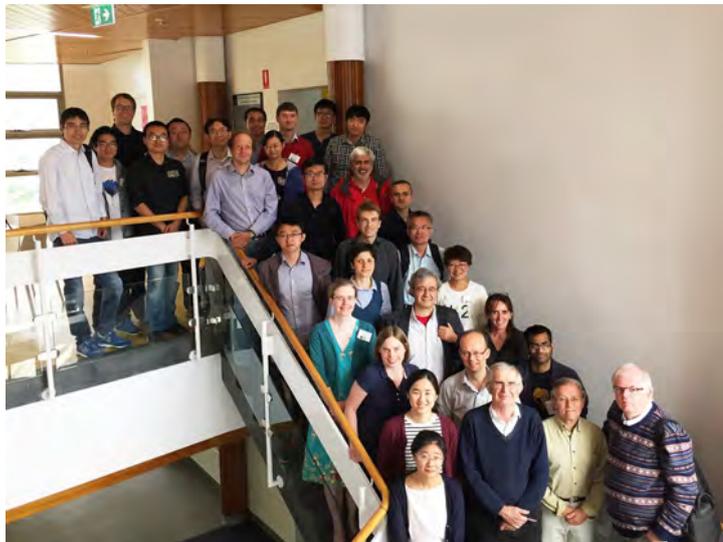
The conference attracted many international leaders on nonlinear PDEs from around the world to attend and present talks, including Prof. Neil Trudinger (ANU), Prof. Xujia Wang (ANU), Prof. F. Hamel (France), Prof. A. Pistoia (Italy), Prof. C. Gui (USA), Prof. M. Chipot (Switzerland). Several overseas participants stayed for longer than the conference to collaborate with their Australian colleagues, and gave talks in Sydney.

The conference included many earlier career researchers, either as speakers or just as participants. The atmosphere during the conference was stimulating yet relaxed, providing an excellent chance for young researchers to discuss research with leading figures in their field.

The talks provided a nice overview of the current research status of several important topics in nonlinear PDEs. Prof. Neil Trudinger gave an account on how the old Yamabe problem evolves to some of the current questions in optical transport problems.

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\*Email: [ydu@turing.une.edu.au](mailto:ydu@turing.une.edu.au)



Prof. Guo's talk on weighted elliptic equations has led to collaboration with Australian colleagues to some unsolved problems in fourth order elliptic PDEs.

Prof. Gui continued his collaboration with Australian colleagues on travelling wave solutions with curved fronts.

Prof. Hamel started collaboration with his Australian colleagues on some open problems regarding spreading speed in heterogeneous media.

### **Program Outreach**

A women's luncheon was organized during the conference, with two highly inspiring speeches given by two female scientists (Prof. A. Duncan (VC of UNE) and Prof. A. Pistoia of Univ of Rome). The luncheon was attended by the conference participants as well as local academics.

### **Event Program**

A brief overview of the format of the event.

Thirty conference talks of 40 minutes each, starting from 9 am, finishing at 5:30 pm each day during Monday to Friday, except Wednesday and Friday afternoons.

A conference excursion was run on Wednesday afternoon starting with an educational visit to the UNE Smart Farm, where the conference attendees were given a brief introduction on how modern technology is being or soon will be used in farms.

The conference formally ended on Friday before lunch, while a number of participants continued with informal discussions on Friday afternoon.