**Geoff Prince***

## MathsFest 2016 — a major initiative by AustMS and AMSI

AMSI and AustMS have teamed up to create a significant three-week event around the 2016 AustMS meeting in Canberra. The aim is to boost our international presence, bringing many more of our overseas colleagues here for new and existing collaborations. We hope this will become an annual event in the global maths calendar.

The idea is simple: put one full-blown, well-funded workshop ($> 50$ attendees) on either side of the AustMS meeting and connected to it through overlapping plenaries and themes. Then advertise this MathsFest internationally as a three-week event in Canberra. We believe that the long lead time, 10 months, and the new December date for the annual meeting will bring strong overseas interest. Both AustMS and AMSI agree that the annual meeting is a high-quality conference that deserves greater exposure

We are pleased to announce the two workshops, selected by the AMSI Scientific Advisory Committee, and we thank the organisers for their hard work and commitment. The workshops are:

### MathsFest Workshop 1

**Title:** *Advances in Ergodic Theory, Hyperbolic Dynamics, and Statistical Laws*

**Dates:** 28 November to 2 December 2016

**Organisers:** Gary Froyland (UNSW), Cecilia González Tokman (UQ), Georg Gottwald (USydney), Andy Hammerlindl (Monash), Matthew Nicol (Houston), Luchezar Stoyanov (UWA)

**Abstract:** During the last 50 years, statistical properties of dynamical systems have been extensively studied. The resulting advances in statistical mechanics and thermodynamics, ergodic theory and probability theory, have had profound effects on mathematics, physics, engineering and biology.

The workshop will bring together experts in probabilistic and deterministic dynamics, as well as in applications, to allow transfer and exploitation of these

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advances and to set the research agenda for the coming years. The timeliness of this workshop, and the exciting progress that is taking place in the field of Dynamical Systems, are evident from the fact that three out the four most recent Fields Medallists work in this area or closely connected areas (Professors Avila, Hairer, and Mirzakhani).

**Some confirmed speakers:** Kavita Ramanan (Brown), Beniamin Goldys (Sydney), Andrew Hassell (ANU), Mark Pollicott (Warwick), Jana Rodriquez Hertz (IMERL), Andrew Stuart (Warwick), Amie Wilkinson (Chicago).

## MathsFest Workshop 2

**Title:** *Nonlinear and Geometric Partial Differential Equations*

**Dates:** 9–13 December 2016

**Organisers:** Ben Andrews (ANU), Xu-Jia Wang (ANU), Julie Clutterbuck (Monash), Huy The Nguyen (UQ), Valentina Wheeler (Wollongong)

**Abstract**: In recent years there have been dramatic advances in the areas of geometric analysis and partial differential equations. Particularly notable have been the resolution of several important conjectures in geometric analysis including the Willmore conjecture (resolved by Andre Neves and Fernando Coda-Marques) and the Lawson conjecture (solved by Simon Brendle), and great advances in the understanding of optimal transport and related partial differential equations, exemplified by the award of the Fields medal to Cedric Villani. The mathematics underlying these areas impacts on many other related areas, including for example the design of reflectors, general relativity and the mathematics of black holes and space-time singularities, fundamental questions in economics, and the mathematics of interfaces ranging from the theory of soap films to the shapes of worn stones.

This workshop gathers Australian and international researchers in the areas of geometric analysis and geometric and nonlinear partial differential equations, ranging from geometric variational problems such as minimal surfaces, harmonic maps and the theory of optimal mass transport, to geometric flows such as mean curvature flow and Ricci flow, and aspects of geometric PDE including eigenvalue problems and isoperimetric inequalities.

**Some confirmed speakers:** Bing-Long Chen (Sun-Yat Sen University), Jaigyoung Choe (KIAS), Alessio Figalli (ETH), Aiyana Fraser (UBC), Nicola Fusco (Naples), Gerhard Huisken (Tübingen/Oberwolfach), Fernando Coda Marques (Princeton), Andre Neves (Imperial College London), Duong Phong (Columbia), Yoshihiro Tonegawa (Tokyo Tech), Mu-Tao Wang (Columbia), Guofang Wei (UCSB)

Full workshop details at http://amsi.org.au.

In addition to these workshops MathsFest 2016 will be host to the final of a new national grass roots 3-minute thesis competition and the launch of the National Research Centre. Put it in your calendars now!

I completed a BSc (Hons) and secondary Dip Ed at Monash University in the 1970s and moved to La Trobe where I undertook a PhD in 1981 in geometric mechanics and Lie groups. I did a postdoc at the Institute for Advanced Study in Dublin.

I've taught at RMIT, UNE and La Trobe University, where I was Head of Department a couple of times in the last decade. I worked at AMSI from 2004 through to 2006 in part as executive director to Garth Gaudry and I oversaw the introduction of the AMSI/ICE-EM Access Grid Room project. I became AMSI director in September 2009.

My research interests lie mainly in differential equations and differential geometry and I work with friends in Europe: Mike Crampin, Willy Sarlet, Olga Krupkova and Demeter Krupka.

My partner is a mathematician and we have two children with a refreshing lack of interest in mathematics. On the margins I brew beer and ride a bike.

I'm a proud Fellow of the Society and am currently a Council member and a steering committee member.