Mathematical Research Institute MATRIX

David Wood*

The Mathematical Research Institute MATRIX is a joint partnership between Monash University and The University of Melbourne, with the ARC Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS) as an associate member. It hosts residential research programs in the mathematical sciences at its campus in Creswick, Victoria.

Upcoming MATRIX Research Programs

MATRIX is looking forward to a busy and exciting summer, with two major research programs coming up, one in topology and mathematical physics, and the other in number theory. Both research programs contain embedded AMSI/AustMS sponsored conferences.

- 28 November to 23 December 2016: *Interactions between topological recursion, modularity, quantum invariants and low-dimensional topology*
  Organisers: Motohico Mulase (University of California, Davis), Craig Hodgson (The University of Melbourne), Paul Norbury (The University of Melbourne), Norman Do (Monash University), Neil Hoffman (Oklahoma State University).
- 8–28 January 2017: *Hypergeometric motives and Calabi-Yau differential equations*
  Organisers: Ling Long (Louisiana State University), Masha Vlasenko (Institute of Mathematics of the Polish Academy of Sciences), Wadim Zudilin (University of Newcastle).

MATRIX Outreach

MATRIX is hosting the residential outreach event

- 23–27 November 2016: *Doing maths like a research mathematician*

for secondary school teachers as part of a larger outreach program sponsored by ACEMS. The aim of this event is to provide school teachers with the skills to run *Doing maths like a research mathematician*[1] events in the future.

These series of ACEMS sponsored workshops provide one important aspect of learning mathematics to secondary school students and teachers — namely, experiencing the immense satisfaction that comes from creating an idea and developing

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[1]http://acems.org.au/maths-like-a-mathematician-school-workshops/

it to a point where you know it is either always right, sometimes right or never right!

Applications to MATRIX

Throughout the year, MATRIX accepts expressions of interest (EoI) to organise a MATRIX program. An EoI may be up to one page in length and should indicate key research areas, possible participants and potential external funding sources, and may be emailed directly to MATRIX at any time. If accepted, MATRIX will invite a more developed formal program proposal. Guidelines for a program proposal submission are available on our website. Deadlines are in April and October each year.

MATRIX Minors

MATRIX Minor programs are self-funded visits to MATRIX to make use of the available office space and facilities at Creswick outside program times, for example to work intensively in a small group. Such visits are subject to the approval of MATRIX but can be arranged by sending an email request which briefly outlines the proposed research and timings.

Comments, suggestions and requests concerning MATRIX activities are always welcome. Please send these, as appropriate, to the Director, Jan de Gier (jdg@matrix-inst.org.au), Deputy Director, David Wood (davidw@matrix-inst.org.au) or the Chair of the Advisory Board, Tony Guttmann (guttmann@unimelb.edu.au).

David's research interests lie in discrete mathematics and theoretical computer science, especially structural graph theory, extremal graph theory, graph colouring, and combinatorial geometry. David holds an ARC Future Fellowship, is an Editor-in-Chief of The Electronic Journal of Combinatorics, is former President of the Combinatorial Mathematics Society of Australasia (CMSA), and is Deputy Director of MATRIX. He has worked at Monash University since 2012.