

# Mathematics and Science: In Honour of Sir John Ball

Andrew Wiles Building, Oxford

Thursday 17 May 2018

9.45am	Foyer	Registration
9.55am	L2	Opening Remarks
10.00am – 10.50am		<b>Tadeusz Iwaniec (Syracuse University)</b> Monotone Sobolev Mappings and the Principle of Non-Interpenetration of Matter <i>Chair: Gui-Qiang Chen</i>
11.00am – 11.50am		<b>Pierre-Louis Lions (College of France)</b> On Mean Field Games <i>Chair: Gui-Qiang Chen</i>
12.00pm		Lunch
2.30pm – 3.20pm		<b>Laure Saint-Raymond (ENS de Lyon)</b> Internal Waves in a Domain with Topography <i>Chair: John Toland</i>
3.30pm		Refreshments
3.50pm – 4.40pm		<b>Martin Grötschel (Berlin-Brandenburg Academy of Sciences and Humanities)</b> John: The International Science Representative <i>Chair: John Toland</i>
5.00pm	L1	<b>MI Public Lecture</b> <b>Sir Michael Atiyah (Edinburgh University)</b> Numbers are Serious but they are also Fun <i>Chair Alain Goriely</i>
6.45pm		Drinks Reception – Queen's College

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Friday 18 May 2018

9.00am – 9.50am	L2	<b>Vladimir Sverak (University of Minnesota)</b> Some Computations for PDEs of Fluid Mechanics and their Models <i>Chair: Jan Kristensen</i>
10.00am – 10.50am		<b>Andrea Braides (University of Rome Tor Vergata)</b> Variational Flows in Heterogeneous Media <i>Chair: Jan Kristensen</i>
11.00am		Refreshments
11.30am – 12.20pm		<b>Maria J Esteban (CNRS &amp; University Paris-Dauphine)</b> Functional Inequalities, Flows and Symmetry <i>Chair: Fanghua Lin</i>
12.30pm – 1.20pm		<b>Peter Sarnak (Princeton University)</b> The topologies of the zero sets of random monochromatic waves and of random real algebraic hyper-surfaces <i>Chair: Fanghua Lin</i>
1.30pm		Lunch
2.50pm – 3.40pm		<b>Constantine M Dafermos (Brown University)</b> Hyperbolic Balance Laws with Relaxation <i>Chair: Robin Knops</i>
3.50pm		Conference Photo
4.00pm – 4.50pm	L1	<b>MI Colloquium</b> <b>Shigefumi Mori (Kyoto University)</b> On the Birational Classification of Algebraic Varieties <i>Chair: Minhyong Kim</i>
7.30pm		Conference Banquet – Balliol College

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Saturday 19 May 2018

9.00am – 9.50am	<b>David Kinderlehrer (Carnegie Mellon University)</b> Towards a Gradient Flow for Microstructure <i>Chair: Konstantinos Koumatos</i>
10.00am – 10.50am	<b>Barbara Niethammer (University of Bonn)</b> Self-Similarity in Smoluchowski's Coagulation Equation <i>Chair: Konstantinos Koumatos</i>
11.00am	Refreshments
11.30am – 12.20pm	<b>Arghir Zarnescu (Basque Centre for Applied Mathematics and "Simion Stoilow" Institute)</b> Various Incarnations of Half-Integer Planar Point Defects and their Qualitative Study: an Overview <i>Chair: Epifanio G Virga</i>
12.30pm – 1.20pm	<b>Duvan Henao Manrique (Pontifica Universidad Catolica de Chile )</b> Existence of Equilibria for 3D NeoHookean Materials <i>Chair: Epifanio G Virga</i>
1.30pm	Lunch
2.30pm – 3.20pm	<b>Tomonari Inamura (Tokyo Institute of Technology)</b> Microscopy Study on Interface and Dynamics of Microstructure in Shape Memory Alloy <i>Chair Richard D James</i>
3.30pm – 4.20pm	<b>ARMA Distinguished Lecture</b> <b>Fanghua Lin (Courant Institute, NYU)</b> Liquid Crystal Droplets and Sharp Interface Limits <i>Chair Richard D James</i>
4.30pm	<b>Concluding Remarks</b>