



# Nonlinear Wave Equations & General Relativity Workshop L4, Mathematical Institute, Andrew Wiles Building

## Monday 13 January 2014

- 9.00am – 9.05am Introduction by Gui-Qiang Chen
- 9.05am – 9.55am Sergiu Klainerman  
tba  
*Tea/ Coffee*
- 10.20am – 11.20am Jeremie Szeftel (Short Course 1)
- 11.20am – 12.20pm Gustav Holzegel/ Willie Wong (Short Course 2)
- 12.20pm – 12.45pm Shi-wu Yang  
Nonlinear wave equations with multiple speeds  
*Lunch*
- 2.00pm – 3.00pm Jeremie Szeftel (Short Course 1)
- 3.00pm – 4.00pm Gustav Holzegel/ Willie Wong (Short Course 2)  
*Tea/ Coffee*
- 4.30pm – 5.20pm Pin Yu  
Shock formation for 3-dimensional wave equations
- 5.20pm – 6.10pm Jonathan Luk  
Null singularities in general relativity
- 6.10pm – 6.35pm Volker Schlue  
Unique continuation from infinity for linear waves
- Short Course 1** The resolution of the bounded L2 curvature conjecture in General Relativity
- Short Course 2** Blow-up of nonlinear wave equations with small initial data – a geometric perspective on shock formation



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|-----------------------|--|
| 9.00am - 9.50am       | Lars Andersson<br>Dynamics of self-gravitating bodies  |
| 9.50am - 10.50am      | Jeremie Szeftel (Short Course 1)<br><i>Tea/ Coffee</i>   |
| 11.10am - 12.10pm     | Jeremie Szeftel (Short Course 1)   |
| 12.10pm - 12.35pm     | Jin-hua Wang<br>A Large Data Regime for non-linear Wave Equations<br><i>Lunch</i>                        |
| 2.00pm - 2.50pm       | Jacques Smulevici<br>Future Dynamics of T2 symmetric polarized spacetimes                                |
| 2.50pm - 3.50pm       | Gustav Holzegel/ Willie Wong (Short Course 2)<br><i>Tea/ Coffee</i>                                      |
| 4.10pm - 5.10pm       | Gustav Holzegel/ Willie Wong (Short Course 2)  |
| 5.10pm - 6.00pm       | Stefanos Aretakis<br>Conservation laws for the wave equation on null hypersurfaces and applications      |
| 6.00pm - 6.50pm       | Pieter Blue<br>Decay for the Maxwell field outside a slowly rotating Kerr black hole                     |
| <b>Short Course 1</b> | The resolution of the bounded L2 curvature conjecture in General Relativity                              |
| <b>Short Course 2</b> | Blow-up of nonlinear wave equations with small initial data - a geometric perspective on shock formation |