# Oscillatory Integrals and Dispersive Equations

## Monday March 19, 2001

8:30 *Chairperson: Christoph Thiele*

8:30–9:00 *Registration*

9:00–9:10 **Eitan Tadmor** (UCLA / University of Maryland)
*Introduction*

9:10–10:00 **Terence Tao** (UCLA)
*Recent Developments on the Kakeya and Restriction Problems*

10:00–11:00 **Michael Christ** (University of California at Berkeley)
*One Dimensional Schrödinger Operators with Slowly Decaying Potentials*

11:00–11:30 *Break*

11:30–12:30 **Sergiu Klainerman** (Princeton University)
*Geometric and Fourier Analysis Methods in Nonlinear Wave Equations*

12:30–2:00 *Lunch (on your own)*

2:00 *Chairperson: Terry Tao*

2:00–3:00 **Barry Simon** (California Institute of Technology)
*Stability of Spectral Types under Short Range Perturbations*

3:00–4:00 **Duong Phong** (Columbia University)
*Symplectic Forms in the Theory of Solitons*

4:00–4:30 *Break*

4:30–5:30 *Dinner (Hosted by IPAM)*

## Tuesday March 20, 2001

9:00 *Chairperson: Christoph Thiele*

9:00–10:00 **Terence Tao** (UCLA)
*Recent Developments on the Kakeya and Restriction Problems*

10:00–11:00 **Michael Christ** (University of California at Berkeley)
*One Dimensional Schrödinger Operators with Slowly Decaying Potentials*

11:00–11:30 *Break*

*(Tuesday schedule continued on next page)*

*(Tuesday schedule continued from previous page)*

11:30–12:30 **Sergiu Klainerman** (Princeton University)
*Geometric and Fourier Analysis Methods in Nonlinear Wave Equations*

12:30–2:00 *Lunch (on your own)*

2:00 *Chairperson: Terry Tao*

2:00–3:00 **Hart Smith** (University of Washington)
*Global Existence for Quasilinear Wave Equations Outside of Star-Shaped Domains*

3:00–4:00 **Frank Merle** (U. de Cergy and I.U.F.)
*On Existence and Description of Blow-Up for Critical KdV Equations*

4:00–4:30 *Break*

4:30–5:30 **Andreas Seeger** (University of Wisconsin)
*Mean Square Discrepancy Bounds for the Number of Lattice Points in Large Convex Sets*

## Wednesday March 21, 2001

9:00 *Chairperson: John Garnett*

9:00–10:00 **Nets Katz** (Washington University)
*New estimates for Kakeya maximal operators*

10:00–11:00 **Michael Christ** (University of California at Berkeley)
*One Dimensional Schrödinger Operators with Slowly Decaying Potentials*

11:00–11:30 *Break*

11:30–12:30 **Sergiu Klainerman** (Princeton University)
*Geometric and Fourier Analysis Methods in Nonlinear Wave Equations*

12:30–2:00 *Lunch (on your own)*

2:00 *Chairperson: John Garnett*

2:00–3:00 **Tim Gowers** (Cambridge University)
*An Analytic Approach to Szeméredi's theorem*

3:00–3:15 *Break*

3:15–7:00 *Trip to Santa Monica Promenade*

## Thursday March 22, 2001

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| 9:00 | *Chairperson: Terry Tao* |
| 9:00–10:00 | **Kenji Nakanishi** (Kobe University)<br>*Approximation of Nonlinear Klein-Grodon Equation via Coupled Nonlinear Schrödinger Equations* |
| 10:00–11:00 | **Konstantin Oskolkov** (University of South Carolina)<br>*Oscillatory Hilbert Transforms with Polynomials Phase and Their Applications to Schrödinger Type Equations* |
| 11:00–11:30 | *Break* |
| 11:30–12:30 | **Wilhelm Schlag** (Princeton University)<br>*On Quasi-Periodic Schrödinger Equations on the Two-Dimensional Lattice* |
| 12:30–2:00 | *Lunch (Hosted by IPAM)* |
| 2:00 | *Chairperson: Mark Keel* |
| 2:00–3:00 | **Jean-Yves Chemin** (University of Paris 6)<br>*Bilinear estimates and Cubic quasilinear wave equation* |
| 3:00–4:00 | **Tony Carbery** (University of Edinburgh)<br>*Around the Triple Norm Problem* |
| 4:00–4:30 | *Break* |
| 4:30–5:30 | **Chris Sogge** (Johns Hopkins University)<br>*Riemannian Manifolds with Maximal Eigenfunction Growth* |

## Friday March 23, 2001

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| 9:00 | *Chairperson: Mark Keel* |
| 9:00–10:00 | **Jim Colliander** (University of California)<br>*Almost Conservation Laws and Global Well-Posedness for KdV* |
| 10:00–11:00 | **Carlos Kenig** (University of Chicago)<br>*Boundary Value Problems for the Generalized KdV Equations* |
| 11:00–11:30 | *Break* |
| 11:30–12:30 | **Daniel Tataru** (Northwestern University)<br>*The Nonlinear Wave Equation* |
| 12:30–2:00 | *Lunch (on your own)* |