

# 2009 Fourth Trilateral Meeting on Analysis and Applications “Australia-Italy-Taiwan”

Date: December 7- 11, 2009

Venue: Institute of Mathematics, Academia Sinica

## December 7 (Monday)

08:30~09:30 Registration

**Chairman:** *Prof. Tai-Ping Liu*

Prof. Nicola Fusco (University of Napoli)

09:30~10:20 *Equilibrium configurations of epitaxially strained elastic films: regularity and qualitative properties*

10:20~10:40 Tea Break

Prof. Susanna Terracini (Università di Milano Bicocca)

10:40~11:30 *Uniform Holder bounds and regularity properties of the limiting profile for highly competing nonlinear systems of Schroedinger equations*

11:30~11:50 Tea Break

Prof. Chao-Nien Chen (National Changhua University of Education)

11:50~12:40 *On the standing waves of FitzHugh-Nagumo type equations*

12:40~14:30 Lunch

**Chairman:** *Prof. Kuo-Chang Chen*

Prof. Phillip Broadbridge (La Trobe University)

14:30~15:20 *Series Solutions of Nonlinear Boundary Value Problems by Separation of Variables for 2nd Order and 4th Order Diffusion Equations*

15:20~15:40 Tea Break

Prof. Piero Marcati (University of L' Aquila )

15:40~16:30 *Analysis of quantum fluids*

16:30~16:50 Tea Break

Prof. Chiun-Chuan Chen (National Taiwan University)

16:50~17:40 *Lower bound on the blow-up rate of the axisymmetric Navier-Stokes equations*

18:00~ Reception

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## December 8 (Tuesday)

**Chairman:** *Prof. Yihong Du*

09:30~10:20 Prof. Stefano Bianchini (SISSA-ISAS)  
*On the extremality, uniqueness and optimality of transference plans*

10:20~10:40 Tea Break

10:40~11:30 Prof. Markus Hegland (Australian National University)  
*Approximating the Solution of the Chemical Master Equation*

11:30~11:50 Tea Break

11:50~12:40 Prof. Lung-Chi Chen (Fu Jen Catholic University)  
*Critical behavior and limit theorems for long-range oriented percolation*

12:40~14:30 Lunch

**Chairman:** *Prof. Stefano Bianchini*

14:30~15:20 Prof. Minchun Hong (University of Queensland)  
*Global existence of solutions of the simplified Ericksen-Leslie system in dimension two*

15:20~15:40 Tea Break

15:40~16:30 Prof. Shih-Hsien Yu (National University of Singapore)  
*Pointwise time-asymptotic stability of a Boltzmann shock profile*

16:30~16:50 Tea Break

16:50~17:40 Prof. Tai-Ping Liu (Academia Sinica)  
*Singularities for Dissipative Systems*

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## December 9 (Wednesday)

**Chairman:** *Prof. Piero Marcati*

Prof. Kuo-Chang Chen (National Tsing Hua University)

09:30~10:20 *On action-minimizing properties of some retrograde and prograde orbits of the three-body problem*

10:20~10:40 Tea Break

Prof. Timothy Marchant (University of Wollongong)

10:40~11:30 *Semi-analytical results for optical solitary waves in nematic liquid crystals*

11:30~14:30 Lunch

14:30~17:40 Informal Discussion

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## December 10 (Thursday)

**Chairman:** *Prof. Nalini Joshi*

09:30~10:20 Prof. Giuseppe Buttazo (Universita di Pisa)  
*Optimal Dirichlet regions for some elliptic problems*

10:20~10:40 Tea Break

10:40~11:30 Prof. Ching-Hsiao Cheng (National Central University)  
*On the motion of vortex sheets with surface tension and the zero density limit in one phase*

11:30~11:50 Tea Break

11:50~12:40 Prof. Adam Sikora (Macquarie University)  
*Harmonic analysis on asymptotically conic manifolds: Bochner-Riesz summability and restriction theorems*

12:40~14:30 Lunch

**Chairman:** *Prof. Fon-Che Liu*

14:30~15:20 Prof. Peter Greiner (Academia Sinica)  
*Heat Kernels on Complex spheres*

15:20~15:40 Tea Break

15:40~16:30 Prof. Andrea Malchiodi (SISSA)  
*Minimal surfaces in the Heisenberg group*

16:30~16:50 Tea Break

16:50~17:40 Prof. Luigi Ambrosio (Scuola Normale Superiore de Pisa)  
*Flows in the space of probability measures and convergence of Wigner transforms*

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## December 11 (Friday)

**Chairman:** *Prof. Chiun-Chuan Chen*

09:30~10:20 Prof. Nalini Joshi (University of Sydney)  
*Hunting Non-linear Mathematical Butterflies*

10:20~10:40 Tea Break

10:40~11:30 Prof. Vittorio Coti Zelati (University of Napoli)  
*Stationary solutions for pseudo-relativistic Schrödinger equation*

11:30~11:50 Tea Break

11:50~12:40 Prof. Kin-Ming Hui (Academia Sinica)  
*Existence and dynamic properties of a parabolic nonlocal MEMS equation*

12:40~14:30 Lunch

**Chairman:** *Prof. Nicola Fusco*

14:30~15:20 Prof. Shusen Yan (University of New England)  
*Bubbling solutions for relativistic Abelian Chern-Simons model on a Torus*

15:20~15:40 Tea Break

15:40~16:30 Prof. Jenn-Nan Wang (National Taiwan University)  
*Quantitative uniqueness and inverse problems*

16:30~16:50 Tea Break

16:50~17:40 Prof. Yihong Du (University of New England)  
*Spreading speed revisited-a free boundary model*