University at Buffalo *The State University of New York*

Nonlinearity and Randomness in Complex Systems

Department of Mathematics, March 31 – April 2, 2006

Program

Friday

8:30-8:50am	*Registration and refreshments*
	Morning session (Chair: Bruce Pitman)
8:50–9:00am	Samuel Schack: Opening remarks
9:00–9:30am	Dmitry Pelinovsky: *Nonlinearity management in the time-periodic NLS systems*
9:30–10:00am	Brian Spencer: *Shape transitions in quantum dots*
10:00–10:30am	Dionisios Margetis: *Nonlinear dynamics of crystal surfaces: from discrete schemes to continuum laws*
10:30–11:00am	*Coffee break*
11:00–12:00noon	*Plenary lecture* (Chair: William Kath)
	Christopher Jones: *Assimilating trajectory data into ocean models*
12:00–2:00pm	*Lunch break*
2:00–3:30pm	*Afternoon session* (Chair: Curtis Menyuk)
2:00–2:30pm	Colin McKinstrie: *Phase jitter in optical communication systems*
2:30–3:00pm	John Zweck: *Optimization of polarization-mode dispersion compensators in optical fiber communications*
3:00–3:30pm	Bruce Pitman: *Computing waves in the face of uncertainty*
3:30–4:00pm	*Coffee break*
4:00–5:00pm	*Plenary lecture* (Chair: Gino Biondini)
	Mark Ablowitz: *Solitary waves from nonlinear optics to fluid dynamics*

Saturday

8:30–10:30am	*Morning session* (Chair: Christopher Jones)
8:30–9:00am	Tobias Schäfer: *Stabilization of ultra-short pulses in cubic nonlinear media*
9:00–9:30am	William Kath: *Importance sampling for soliton-based lightwave systems*
9:30–10:00am	Elaine Spiller: *Phase noise and rare events in dispersion-managed nonlinear lightwave systems*
10:00–10:30am	Walter Craig: *Growth in oscillations in Bose-Einstein condensates*
10:30–11:00am	*Coffee break*
11:00–12:00noon	*Plenary lecture* (Chair: Brian Hassard)
	Radford Neal: *Estimation of failure probabilities using linked importance sampling*
12:00–2:00pm	*Lunch break*
2:00–3:30pm	*Afternoon session* (Chair: Walter Craig)
2:00–2:30pm	Richard Moore: *Pulse interactions in self-heated parametric gain devices*
2:30–3:00pm	Sarbarish Chakravarty: *Line-soliton solutions of the Kadomtsev-Petviashvili II equation*
3:00–3:30pm	Gregor Kovacic: *Dynamics of polarized light in resonant optical media*
3:30–4:00pm	*Coffee break*
4:00–5:00pm	*Plenary lecture* (Chair: Mikhail Khenner)
	Steve Cundiff: *Pulse dynamics in mode-locked lasers*

Sunday

8:30–10:30am	*Morning session* (Chair: Mark Ablowitz)
8:30–9:00am	Peter Miller: *New results on the semiclassical limit for the focusing nonlinear Schrödinger equation*
9:00–9:30am	Curtis Menyuk: *Comparison of importance sampling and multi-canonical Monte Carlo methods in calculating the performance of optical fiber communication systems*
9:30–10:00am	Vassilios Kovanis: *Domesticating semiconductor laser instabilities*
10:00–10:30am	Mikhail Khenner: *Faceting of a crystal surface by surface diffusion: control by deposition and externally imposed spatio-temporal oscillations of surface temperature*
10:30–11:00am	*Coffee break*
11:00–12:00noon	*Plenary lecture* (Chair: Brian Spencer)
	René-Jean Essiambre: *Transmission challenges of future optical communication systems*

All talks will be held in Room 250 of the Mathematics Building
The registration desk will be located in Room 244 (main office) of the Mathematics Building
All coffee breaks will be hosted in Room 240 (commons room) of the Mathematics Building