

SR2008 Program

17 Aug. Sun 18.00 Welcome cocktail

18 Aug. Mon Morning session:

9.00-9.30 *Session opening*

9.30-10.25 Adi R. Bulsara - *Stochastic Resonance in 'Single' Neurons and Coupled Nonlinear Systems...The Early Years: The Good, the Bad, and the Simply Stupid*

10.25-10.45 *Coffe break*

10.45-11.10 Luis Aimola - *The Sahel drought as a stochastic resonance phenomenon*

11.10-11.35 Peter D. Ditlevsen - *Non-trivial SR response to orbital forcing in ice age cycles*

11.35-12.00 Holger Braun - *Ghost stochastic resonance in glacial climate?*

12.00-12.25 Eyal Buks - *Signal amplification using stochastic resonance: from nanomechanical beams to superconducting striplines*

Afternoon session / Excursion

14.30-15.05 Horacio Wio – *Interplay between chaos and external noise in an extended system: a new mechanism for an intrinsic stochastic resonant phenomenon*

15.05-15.40 Peter Talkner - *Stochastic resonance and point processes*

15.40-16.15 Manuel Morillo - *The role of fluctuations in the global response of coupled noisy bistable units driven by weak time-periodic forces.*

16.15-16.40 *Coffe break*

16.40-17.05 Massimo Giudici - *experimental evidence of Stochastic and Coherence Resonance in an excitable optical system*

17.05-17.30 Alessandro Fiasconaro - *Stochastic Resonance in Piecewise linear asymmetric potential and comparison with Resonant Activation*

17.30-18.00 Jesus Casado Pasqual - *Stochastic resonance with weak monochromatic driving: Gains above unity induced by high-frequency signals.*

19 Aug. Tue Morning session:

9.00-9.15 *Session opening* Fabio Marchesoni

9.15-9.50 Jose Miguel Rubi - *Entropic Stochastic Resonance*

9.50-10.25 Jürgen Kurths - *Coherence Resonance and Noise-Induced Synchronization in Complex Systems*

10.25-10.45 *Coffe break*

10.45-11.10 David Rousseau - *Overview of useful-noise effects in static nonlinear systems*

11.10-11.35 Paolo Paradisi - *Stochastic resonance and response to perturbations in intermittent systems*

11.35-12.00 Els Heinsalu - *Dynamics of dimers in a periodic potential under the action of an alternating field.*

12.00-12.25 Nigel G. Stocks - *Stochastic resonance in an asymmetric bistable systems*

Afternoon session / Excursion

- 14.30-15.05 Peter V. E. McClintock - *Noise-induced changes of effective parameters of averaged motion as the mechanism of stochastic resonance*
- 15.05-15.40 Zhonghuai Hou - *Internal Noise Coherent Resonance in Mesoscopic Chemical Oscillation Systems*
- 15.40-16.15 Susana Huelga - *Stochastic Resonance effects in composite systems*
- 16.15-16.30 *Coffe break*
- 16.30-17.05 Igor Goychuk - *Quantum stochastic resonance and synchronization*
- 17.05-17.40 Andrzej Krawiecki - *Structural stochastic multiresonance in the Ising model on scale-free networks*
- 17.40-18.05 Raul Toral - *Diversity-induced resonance*
- 18.05-18.30 Alexander A. Dubkov - *New possible approaches to investigate the nonlinear regime of stochastic resonance*

18.30–22.30 Poster session

20 Aug. Wed Morning session:

- 9.00-9.15 *Session opening* Peter Jung
- 9.15-9.50 Dante Chialvo - *Ghosts, phantoms, and illusions: the eminent nonlinear members of the stochastic resonance family.*
- 9.50-10.25 Yoshiharu Yamamoto - *Stochastic resonance in neural systems revisited: roles of neural plasticity*
- 10.25-10.45 *Coffe break*
- 10.45-11.10 Hans Albert Braun - *Stochastic resonance, coherence resonance and stochastic encoding: physiological and pathophysiological implications of different noise phenomena*
- 11.10-11.35 Maria Teresa Giraudo - *Phantom stochastic resonance*
- 11.35-12.00 Christian T. Haas - *Potentials of Stochastic Resonance (SR) in neurorehabilitation: Results from studies in Parkinson's disease and spinal cord injury*
- 12.00-12.25 Eduardo Lugo - *The fulcrum principle: a general dynamics for Crossmodal stochastic and Deterministic resonance in humans*

Afternoon session / Excursion

- 14.30-15.05 Bernardo Spagnolo - *Noise Effects in Biological Systems*
- 15.05-15.30 Nandakumaran Ambika - *Stochastic resonance in discrete systems with bichromatic signal*
- 15.30-15.55 Andrew John Smart -
- 15.55-16.20 Gouhei Tanaka - *Effects of noise on a hybrid systems model of intermittent hormonal therapy for prostate cancer*
- 16.20-16.40 *Coffe break*
- 16.40-17.05 Lawrence M. Ward - *Stochastic-resonance-mediated neural synchronization in the brain*
- 17.05-17.30 Yong-Gang Leng - *The methodology of signal recovery via bistable stochastic*

resonance
17.30-18.00 Mark Damian McDonnell - *Noise enhanced signal compression and communication: New perspectives on suprathreshold stochastic resonance*

19.00 **Cocktail at the Medieval Garden**
Photographic and scientific exhibition opening

21 Aug. Thu Morning session:

9.00-9.15 *Session opening* Luca Gammaitoni

9.15-9.50 Riccardo Meucci - *Noise effects in homoclinic chaos and polarization bistability*

9.50-10.25 William Ditto - *Logical Stochastic Resonance*

10.25-10.45 *Coffe break*

10.45-11.10 Sandro Perrone - *Maximum in the signal-to-noise ratio in an oscillating potential: an experimental study*

11.10-11.35 Giovanni Volpe - *Stochastic Resonance vs. Stochastic resonant damping: Theory and experiment*

11.35-12.00 Ping Zhu - *Stochastic resonance of stationary properties in a saturation laser model with cross-correlation between quantum noise terms.*

Afternoon session / Excursion

14.30-15.05 Lukas Worschech - *Stochastic Resonance in noise activated nonlinear magnetic field nanosensor*

15.05-15.30 Diego Guerra - *Stochastic resonance by colored 1/f noise in nanomechanical resonators*

15.30-15.55 Carlo Lucheroni - *Resonating models for the electric power market*

15.55-16.20 *Coffe break*

16.20-16.45 Steeve Zozor - *Past and recent trends on stochastic resonance and detection*

16.45-17.10 Akito Igarashi - *Stochastic-resonance-based signal detection with the use of coupled nonlinear dynamical systems*

17.10-17.35 Alessandro Spata - *Stochastic Resonance in the Knopoff Model*

17.35-18.00 Roberto Pedro J. Perazzo - *A SR Information Transmission line*

19.30 **Gala dinner with “ballet” at the Santa Giuliana Monastery**

Invited Talks 30 + 5 min

Selected Talks 20 + 5 min

Poster dimensions: base: max 0.7 m, height: max 1 m.