



Spring College on the Physics of Complex Systems

Organizer(s): A. Gambassi, M. Marsili, S. Franz, A. Pelizzola. ICTP Local Organizer: M. Marsili
Trieste - Italy, 26 May 2014 - 20 June 2014

Programme

Monday, 26 May 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

- 08:30 - 09:45** (Room: Adriatico Guest House - Giambiagi Lecture Hall Area (Lower Level 1))
--- Registration ---
All Participants and Lecturers are kindly requested to complete online registration formalities at the Adriatico Guest House. Extra shuttle services will be running to take those who need to go to the Operations Office up to the E. Fermi Building.
- 10:30 - 11:00** **Professor F. Quevedo / Director, ICTP**
Introduction and welcome
- 11:00 - 13:00** **Andrea Gambassi / SISSA**
Stochastic processes and applications 1
- 13:00 - 14:30** --- Lunch Break ---
- 14:30 - 16:30** **Martin Weigt / Université Pierre et Marie Curie, Paris**
Elements of statistical biological physics 1

Tuesday, 27 May 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

- 11:15 - 13:15** **Andrea Gambassi / SISSA**
Stochastic processes and applications 2
- 14:30 - 16:30** **Martin Weigt / Université Pierre e Marie Curie, Paris**
Elements of statistical biological physics 2

19:00 - 20:30 (Room: Adriatico Guest House (Terrace))
--- Welcome get-together drink ---
All Participants are warmly invited to this informal get-together to be held on the terrace of the Adriatico Guest House (weather permitting)

Wednesday, 28 May 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Andrea Gambassi / SISSA**
Stochastic processes and applications 3

11:00 - 13:00 **Martin Weigt / Université Pierre et Marie Curie, Paris**
Elements of statistical biological physics 3

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 **Marco Di Stefano and Sandro Bottaro / SISSA**
Seminar 1 "Multiscale modeling of biomolecules: from small RNAs to chromosomes"

Thursday, 29 May 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Martin Weigt / Université Pierre et Marie Curie, Paris**
Elements of statistical biological physics 4

11:00 - 13:00 **Andrea Gambassi / SISSA**
Stochastic processes and applications 4

Friday, 30 May 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Andrea Gambassi / SISSA**
Stochastic processes and applications 5

11:00 - 13:00 **Martin Weigt / Université Pierre et Marie Curie, Paris**
Elements of statistical biological physics 5

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 **Andrea Gambassi / SISSA**
Stochastic processes and applications 6

Monday, 2 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Andrea Gambassi / SISSA**
Stochastic processes and applications 7

11:00 - 13:00 **Leticia Cugliandolo / Université Paris VI**
Advanced methods in non-equilibrium statistical mechanics 1

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 **Marco Cosentino Lagomarsino / *Université Pierre et Marie Curie, Paris***
Elements of statistical biological physics 6

Tuesday, 3 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 2

11:00 - 13:00 **Marco Cosentino Lagomarsino / *Université Pierre et Marie Curie, Paris***
Elements of statistical biological physics 7

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 **Marco Cosentino Lagomarsino / *Université Pierre et Marie Curie, Paris***
Elements of statistical biological physics 8

Wednesday, 4 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Andrea Gambassi / *SISSA***
Stochastic processes and applications 8

11:00 - 13:00 **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 3

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 **Marco Cosentino Lagomarsino / *Université Pierre et Marie Curie, Paris***
Elements of statistical biological physics 9

Thursday, 5 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 4

11:00 - 13:00 **Andrea Gambassi / *SISSA***
Stochastic processes and applications 9

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 **Elements of statistical biological physics - EXAM**

Friday, 6 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Stochastic processes and applications - EXAM**

11:00 - 13:00 **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 5

Monday, 9 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

- 09:00 - 11:00** **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 6
- 11:00 - 13:00** **Sara A. Solla / *Northwestern University, USA***
Theoretical neuroscience 1
- 13:00 - 14:30** --- Lunch Break ---
- 14:30 - 15:30** **Federico Stella / *SISSA***
Seminar 2 - "How Euclidean is your brain? Neural mechanisms for representing geometry of space."

Tuesday, 10 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

- 09:00 - 11:00** **Sara A. Solla / *Northwestern University, USA***
Theoretical neuroscience 2
- 11:00 - 13:00** **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 7
- 13:00 - 14:30** --- Lunch ---
- 14:30 - 17:30** **Trip to SISSA**
A bus will take Participants to SISSA. Arrangements to be announced.

Wednesday, 11 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

- 09:00 - 11:00** **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 8
- 11:00 - 13:00** **Sara A. Solla / *Northwestern University, USA***
Theoretical neuroscience 3
- 13:00 - 14:30** --- Lunch Break ---
- 14:30 - 15:30** **Pietro Smacchia / *SISSA***
Seminar 3 - "Statistics of observables and dynamical phase transitions in many-body quantum systems out of equilibrium"

Thursday, 12 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

- 09:00 - 11:00** **Sara A. Solla / *Northwestern University, USA***
Theoretical neuroscience 4
- 11:00 - 13:00** **Leticia Cugliandolo / *Université Paris VI***
Advanced methods in non-equilibrium statistical mechanics 9

Friday, 13 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Advanced methods in non-equilibrium statistical mechanics - EXAM**

11:00 - 13:00 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 1

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 2

Monday, 16 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 3

11:00 - 13:00 **Sara A. Solla** / *Northwestern University, USA*
Theoretical neuroscience 5

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 4

Tuesday, 17 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Sara A. Solla** / *Northwestern University, USA*
Theoretical neuroscience 6

11:00 - 13:00 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 5

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 **Sara A. Solla** / *Northwestern University, USA*
Theoretical neuroscience 7

Wednesday, 18 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 6

11:00 - 13:00 **Sara A. Solla** / *Northwestern University, USA*
Theoretical neuroscience 8

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 7

Thursday, 19 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **Sara A. Solla** / *Northwestern University, USA*
Theoretical neuroscience 9

11:00 - 13:00 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 8

13:00 - 14:30 --- Lunch Break ---

14:30 - 16:30 (Room: Adriatico Guest House Informatics Lab.)
Stefano Allesina / *University of Chicago, USA*
A practical guide to scientific computing 9

Friday, 20 June 2014 (Room:Adriatico Guest House Giambiagi Lecture Hall)

09:00 - 11:00 **A practical guide to scientific computing - EXAM**

11:00 - 13:00 **Theoretical neuroscience - EXAM**