

Centre de recherches mathématiques  
Université de Montréal

École d'été «Mécanique statistique du non-équilibre»  
Du 1 au 29 juillet 2011

*Summer School on "Non-equilibrium Statistical Mechanics"*  
*July 1-29, 2011*

## **HORAIRE / PROGRAM**

**Conférences :** salle 6214 (Pavillon André-Aisenstadt)

**Pauses-café :** salon Maurice-L'Abbé (salle 6245, Pavillon André-Aisenstadt)

**Lectures:** Room 6214 (Pavillon André-Aisenstadt)

**Coffee Breaks:** Salon Maurice-L'Abbé (Room 6245, Pavillon André-Aisenstadt)

**Le mardi 5 juillet 2011 / *Tuesday, July 5, 2011***

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**14:30 - 15:15 Jakob Yngvason** (Universität Wien)

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / *Room* 6245)

**15:30 - 16:15 Jean-Marie Barbaroux** (Université du Sud Toulon-Var)  
*“Limiting absorption principle for a model of the weak interaction”*

**16:15 - 16:30** Pause-café / *Coffee break*  
(Salle / *Room* 6245)

**16:30 - 17:15 Annalisa Panati** (Université Toulon-Var)  
*“Aspects of a model of QFT on a static space time”*

**Le mercredi 6 juillet 2011 / Wednesday, July 6, 2011**

- 14:30 - 15:15 Valentin Zagrebnov** (Université de la Méditerranée/Aix-Marseille II)  
*“Lieb-Robinson bounds and existence of the thermodynamic limit for a class of irreversible quantum dynamics”*
- 15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)
- 15:30 - 16:15 Philip Grech** (ETH Zürich)  
*“Adiabatic theorems for open quantum systems”*
- 16:15 - 16:30** Pause-café / *Coffee break*  
(Salle / Room 6245)
- 16:30 - 17:15 Sven Bachmann** (UC Davis)  
*“Automorphic equivalence within gapped phases of quantum spin systems”*

## Le jeudi 7 juillet 2011 / *Thursday, July 7, 2011*

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**09:00 - 09:30** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:30 - 11:00** **Carlangelo Liverani** (Università di Roma “Tor Vergata”)  
*“Fourier law from a dynamical systems point of view - I”*

**11:00 - 11:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:30 - 12:30** **David P. Ruelle** (IHES)  
*“Linear response for smooth dynamical systems and applications to non-equilibrium statistical mechanics”*

## Le vendredi 8 juillet 2011 / *Friday, July 8, 2011*

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**09:00 - 09:30** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:30 - 11:00** **Carlangelo Liverani** (Università di Roma “Tor Vergata”)  
*“Fourier law from a dynamical systems point of view - II”*

**11:00 - 11:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:30 - 12:30** **Roberto Livi** (Università di Firenze)  
*“Negative temperature equilibrium states in discrete non-linear Schrodinger equation”*

## Le lundi 11 juillet 2011 / *Monday, July 11, 2011*

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - I”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - II”*

## Le mardi 12 juillet 2011 / *Tuesday, July 12, 2011*

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - III”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - IV”*

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **Stephan De Bièvre** (Univ. des Sciences et Technologies de Lille)  
*“Equilibration, generalized equipartition, and diffusion in dynamical Lorentz gases”*

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**15:30 - 16:15** **Yan Pautrat** (Université Paris-Sud / PUF Hanoï )  
*“Linear response and central limit theorem in non-equilibrium quantum statistical mechanics”*

**Le mercredi 13 juillet 2011 / Wednesday, July 13, 2011**

**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Jan Dereziński** (University of Warsaw)  
“*A mathematical introduction to quantum electrodynamics - V*”

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Jan Dereziński** (University of Warsaw)  
“*A mathematical introduction to quantum electrodynamics - VI*”

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **Sergei Kuksin** (École polytechnique)

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**15:30 - 16:15** **David Taj** (Université Toulon-Var)

**16:30** Réception / *Reception*  
(Salle / Room 6245)



## Le jeudi 14 juillet 2011 / *Thursday, July 14, 2011*

**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - VII”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - VIII”*

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **TBA**

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**15:30 - 16:15** **Matthias Westrich** (Aarhus Universitet)  
*“Characterisation of the quasi-stationary state of an impurity driven by monochromatic light”*

**Le vendredi 15 juillet 2011 / *Friday, July 15, 2011***

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / *Room* 6245)

**09:00 - 10:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - IX”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / *Room* 6245)

**11:00 - 12:30** **Jan Dereziński** (University of Warsaw)  
*“A mathematical introduction to quantum electrodynamics - X”*

## Le lundi 18 juillet 2011 / *Monday, July 18, 2011*

**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Elliott H. Lieb** (Princeton University)  
*“The polaron - I”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Ruedi Seiler** (Technische Universität Berlin)  
*“Typicality in classical and quantum information theory - I”*

**12:30 - 15:00** Pause-déjeuner / *Lunch break*

**15:00 - 15:45** **Yosi Avron** (Technion)  
*“Geometry of transport of dephasing quantum systems”*

**15:45 - 16:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**16:00 - 16:45** **Lawrence E. Thomas** (University of Virginia)  
*“Stochastic wave equation model for heat-flow in non-equilibrium statistical mechanics”*

**17:00** Réception / *Reception*  
(Parrainée par / *Sponsored by “Journal of Mathematical Physics”*)  
(Salle / Room 6245)

**Le mardi 19 juillet 2011 / *Tuesday, July 19, 2011***

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / *Room* 6245)

**09:00 - 10:30** **Elliott H. Lieb** (Princeton University)  
*“The polaron - II”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / *Room* 6245)

**11:00 - 12:30** **Ruedi Seiler** (Technische Universität Berlin)  
*“Typicality in classical and quantum information theory - II”*

## Le mercredi 20 juillet 2011 / *Wednesday, July 20, 2011*

**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Bernard Derrida** (École Normale Supérieure)  
*“Density and current fluctuations in non-equilibrium diffusive systems - I”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Gian Michele Graf** (ETH Zürich)  
*“Adiabatic evolution and dephasing - I”*

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **François Germinet** (Université de Cergy-Pontoise, Saint-Martin)  
*“On recent results about Anderson localization”*

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**15:30 - 16:15** **Fumio Hiai** (Tohoku University)  
*“Free energy density in one-dimensional spin chains”*

## Le jeudi 21 juillet 2011 / *Thursday, July 21, 2011*

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Bernard Derrida** (École Normale Supérieure)  
*“Density and current fluctuations in non-equilibrium diffusive systems - II”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Gian Michele Graf** (ETH Zürich)  
*“Adiabatic evolution and dephasing - II”*

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **Armen Shirikyan** (Université de Cergy-Pontoise, Saint-Martin)  
*“Stochastic systems in statistical mechanics and randomly forced PDE’s”*

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**15:30 - 16:15** **Yoshiko Ogata** (The University of Tokyo)

**Le vendredi 22 juillet 2011 / *Friday, July 22, 2011***

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Israel Klich** (University of Virginia)  
*“Entanglement in many body systems - I”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Roberto Livi** (Università di Firenze)  
*“Heat transport in low dimensional systems - I”*

**Le lundi 25 juillet 2011 / Monday, July 25, 2011**

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Israel Klich** (University of Virginia)  
*“Entanglement in many body systems - II”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Roberto Livi** (Università di Firenze)  
*“Heat transport in low dimensional systems - II”*



## Le mardi 26 juillet 2011 / *Tuesday, July 26, 2011*

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Jacob Schach Møller** (Aarhus University)  
*“Pauli-Fierz systems at zero and positive temperature - I”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Claude-Alain Pillet** (Université du Sud Toulon-Var)  
*“Open systems - I”*

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **Bruno Nachtergaele** (UC Davis)  
*“Ground state phases of quantum spin systems”*

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**Le mercredi 27 juillet 2011 / Wednesday, July 27, 2011**

**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Jacob Schach Møller** (Aarhus University)  
*“Pauli-Fierz systems at zero and positive temperature - II”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Claude-Alain Pillet** (Université du Sud Toulon-Var)  
*“Open systems - II”*

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **TBA**

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**15:30 - 16:15** **Wojciech De Roeck** (Universität Heidelberg)

**16:15 - 16:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**16:30 - 17:15** **Martin Fraas** (Technion)  
*“On adiabatic response theory in Markovian open systems”*

## Le jeudi 28 juillet 2011 / *Thursday, July 28, 2011*

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Laurent Bruneau** (Université de Cergy-Pontoise)  
**Alain Joye** (Université de Grenoble I)  
*“Repeated interaction quantum systems - I”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Robert Seiringer** (McGill University)  
*“Cold quantum gases and Bose-Einstein condensation - I”*

**12:30 - 14:30** Pause-déjeuner / *Lunch break*

**14:30 - 15:15** **Horia Cornean** (Aalborg University)  
*“Non-equilibrium steady-states for interacting open systems: exact results”*

**15:15 - 15:30** Pause-café / *Coffee break*  
(Salle / Room 6245)

**15:30 - 16:15** **Marco Merkli** (Memorial University of Newfoundland)  
*“Quantum scattering measurements”*

## Le vendredi 29 juillet 2011 / *Friday, July 29, 2011*

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**08:30 - 09:00** Café croissants / *Coffee & Croissants*  
(Salle / Room 6245)

**09:00 - 10:30** **Laurent Bruneau** (Université de Cergy-Pontoise)  
**Alain Joye** (Université de Grenoble I)  
*“Repeated interaction quantum systems - II”*

**10:30 - 11:00** Pause-café / *Coffee break*  
(Salle / Room 6245)

**11:00 - 12:30** **Robert Seiringer** (McGill University)  
*“Cold quantum gases and Bose-Einstein condensation - II”*