113th Statistical Mechanics Conference
Rutgers University, Busch Campus, Hill Center, Room 114
Sunday, May 10, 2015 - Tuesday, May 12, 2015

Honorees
Edouard Brezin     Gianni Jona-Lasinio     Giorgio Parisi

Sunday 5/10/15
Registration and Breakfast 8:00 - 9:00
9:00 - 9:25  Natan Andrei  Quench dynamics of quantum integrable models in 1-d
9:25 - 9:50  Werner Krauth  Two-dimensional melting transitions: New algorithms, new insights
9:50 - 10:15  Federico Ricci-Tersenghi  Diluted one-dimensional spin glasses with long-range interactions undergo a phase transition in presence of an external magnetic field
10:15 - 10:40  Enzo Marinari  Spontaneous energy-barrier formation in an entropy-driven glassy dynamics
Coffee Break 10:40 - 11:10
11:10 - 11:35  Dmitry Panchenko  Chaos in temperature in generic 2p-spin models
11:35 - 12:00  Francesco Zamponi  Progresses on the mean field theory of glasses
12:00 - 12:25  Fabio Martinelli  The influence of dimension on the relaxation process of East-like models: rigorous results
Lunch 12:25 - 1:50
1:50 - 2:15  Sidney Redner  Statistics of Basketball Scoring and Lead Changes
2:15 - 2:40  Kenneth Golden  Statistical physics of sea ice and climate
2:40 - 3:05  Salvatore Torquato  Ensemble Theory for Stealthy Hyperuniform Disordered Ground States
3:05 - 3:30  Charles Radin  Phase transitions in large networks
Coffee Break 3:30 - 4:00
4:00 - 4:25  Curt Callan  The statistics and dynamics of diversity in the adaptive immune system: of mice and men, T-cells and B-cells.
4:25 - 4:50  Arup Chakraborty  How to hit HIV where it hurts: Statistical physics to the rescue
4:50 - 5:15  Eduardo Sontag  Scale-invariance (fold-change detection) as a transient dynamical phenotype in cell signaling
5:15 - 5:40  Irene Giardina  Collective change of state and transport of information in biological groups
5:40 - 6:05  Stan Leibler  TBA
Cocktail, concert, Banquet 6:10
### Monday 5/11/15

Registration and Breakfast 7:30 - 8:15  
8:15 - 9:30  Short Talks: Session A  
Coffee Break 9:30 - 10:00  
10:00 - 10:25  Jean Zinn-Justin  Renormalization Group Approach to Matrix Models  
10:25 - 10:50  Jesper Jacobsen  Logarithmic correlations in percolation and other geometrical critical phenomena  
10:50 - 11:15  Shinobu Hikami  Gaussian random matrix theory with an external source  
11:15 - 11:40  Gianni Jona-Lasinio  Some highlights in non-equilibrium theory over the last two decades  
11:40 - 12:05  Giorgio Parisi  Fat diagrams: a topological expansion for lattice models  
12:05 - 12:30  Alexander Greer  Human Rights and responsibility of scientists  
Lunch 12:30 - 1:50  
1:50 - 2:15  Claudio Landim  Zero-temperature limit of the Kawasaki dynamics for the Ising lattice gas in a large two-dimensional torus  
2:15 - 2:40  Shin-ichi Sasa  A fresh look at hydrodynamics  
2:40 - 3:05  Abhishek Dhar  Understanding anomalous transport in one-dimensional systems through fluctuating hydrodynamics.  
3:05 - 3:30  Pablo Hurtado  Breakdown of universality in one-dimensional anomalous heat conduction  
Coffee Break 3:30 - 4:00  
4:00 - 4:25  Edriss Titi  An Algorithm for Advancing Slow Features in Fast-Slow Systems without Scale Separation - A Young Measure Approach  
4:25 - 4:50  Cristina Toninelli  Dynamical phase transitions for kinetically constrained particle systems  
4:50 - 5:15  Pierluigi Contucci  Mean-field Monomer-Dimer models: toward the understanding of their quenched measure  
5:15 - 5:40  Mehran Kardar  Pressure from non-equilibrium fluctuations  
5:40 - 6:00  Laudatio for Gianni Jona-Lasinio: Fabio Martinelli and Claudio Ladim  
6:00 - 6:20  Laudatio for Edouard Brezin: Jean Zinn-Justin  
6:20 - 6:40  Laudatio for Giorgio Parisi: Enzo Marinari  
6:45  Cocktails and Dinner  

### Tuesday 5/12/15

Registration and Breakfast 7:30 - 8:00  
8:00 - 9:30  Short Talks: Session B
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>10:00 - 10:25</td>
<td>David Nelson</td>
<td>Theory of free-standing graphene ribbons</td>
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<td>10:25 - 10:50</td>
<td>Luca Peliti</td>
<td>Thermodynamics of accuracy</td>
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<td>10:50 - 11:15</td>
<td>Michael Schick</td>
<td>Phase separation, modulated phases, and microemulsions: a unified picture of rafts in biological membranes</td>
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<td>11:15 - 11:40</td>
<td>Eric Vanden-Eijnden</td>
<td>Large Deviations for Fast-Slow Systems</td>
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<td>11:40 - 12:05</td>
<td>Stefano Ruffo</td>
<td>Kuramoto model of synchronization: equilibrium and nonequilibrium aspects</td>
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<td>12:05 - 12:30</td>
<td>Hal Tasaki</td>
<td>Typicality and thermalization in isolated macroscopic quantum systems</td>
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<td>Lunch 12:30 - 1:35</td>
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<td>1:35 - 2:00</td>
<td>Tomohiro Sasamoto</td>
<td>A determinantal structure for finite temperature directed polymers</td>
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<td>2:00 - 2:25</td>
<td>Ivan Corwin</td>
<td>Stochastic quantum integrable systems</td>
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<td>2:25 - 2:50</td>
<td>Alberto De Sole</td>
<td>Minimizing the cost of a thermodynamic transformation</td>
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<td>2:50 - 3:15</td>
<td>Aernout van Enter</td>
<td>Sharper thresholds for two-dimensional anisotropic bootstrap percolation</td>
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<td>3:15 - 3:40</td>
<td>Hugo Duminil-Copin</td>
<td>The self-avoiding walk on the hexagonal lattice: from combinatorics to Conformal Field Theory</td>
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