

NUCLEI and MESOSCOPIC PHYSICS - V
NMP17
East Lansing, Michigan, March 6-10, 2017
PROGRAM

The fifth meeting of this series is generously supported by the Facility for Rare Isotope Beams, Department of Physics and Astronomy and Institute for Mathematical and Theoretical Physics (Michigan State University), National Science Foundation (USA), and the EPL (former Europhysics Letters) journal of European Physical Society.

Monday, March 6

8:30. Registration

9:00. *Opening*

9:10. Thomas GLASMACHER (FRIB/NSCL), *Welcome*

9:25. Phil DUXBURY (MSU, Department of Physics and Astronomy), *Welcome*

9:40. Alexandra GADE (MSU), *Rare isotopes: Probing many-body physics and the origin of the elements*

10:20. Coffee break

10:50. Christoph BRUDER (University of Basel), *Quantum synchronization*

11:30. Vadim OGANESYAN (CUNY), *Anomalous transport in perturbed Heisenberg chains*

12:10. Hosted lunch, Dining hall

2:00. James SAULS (Northwestern University), *Electron bubbles and Weyl fermions in chiral superfluid $^3\text{He-A}$*

2:40. Kimitoshi KONO (RIKEN, Japan), *Slip transport of the Wigner solid on liquid He surface*

3:20. Coffee break

3:50. Vadim SMELYANSKIY (Google), *Scaling analysis and instantons for quantum spin tunneling and Quantum Monte Carlo simulations*

4:30. Mike GUIDRY (University of Tennessee), *Emergence and universality in diverse physical systems*

5:10. Peter D. KEEFE (University of Detroit Mercy), *Considerations on Bardeen hysteresis: Violation or vindication of the Second Law?*

5:50. Welcome reception -*Light refreshments, NSCL Atrium*

Tuesday, March 7

8:30. Registration

9:00. George F. BERTSCH (University of Washington), *Importance of exit channel fluctuations in reaction branching ratios*

9:40. V.K.B. KOTA (Physical Research Laboratory, Ahmedabad), *Random matrix theory for transition strengths in finite quantum many-particle systems: Applications and open questions*

10:10. Coffee break

10:40. Hans WEIDENMÜLLER (Heidelberg University), *Limitations of the Porter-Thomas distribution*

11:20. Mihai HOROI (Central Michigan University), *Constant temperature description of the nuclear level densities*

12:00. Hosted lunch, Atrium

1:00. Thomas GUHR (University Duisburg-Essen), *Chaotic scattering: New exact results and comparison to experiments*

1:40. Pavel STRANSKY (Charles University, Prague), *Excited-state quantum phase transitions: Classification and thermal properties*

2:20. Sofia KARAMPAGIA (MSU), *Nuclear shell model and phase transitions*

3:00. Coffee break

3:30. Norman BIRGE (MSU), *Development of cryogenic memory for superconducting computers*

4:10. Joachim ANKERHOLD (Ulm University), *Josephson photonics: New sources for non-classical photon radiation*

4:50. Doron COHEN (Ben Gurion University), *Chaos, metastability and ergodicity in Bose-Hubbard superfluid circuits*

5:30. Alex KAMENEV (University of Minnesota), *Sachdev-Ye-Kitaev model as a Liouville quantum mechanics*

Wednesday, March 8

8:30. Registration

9:00. Leonid P. PRYADKO (University of California, Riverside), *Quantum LDPC codes, spin models, and random matrices*

9:40. Jacobus VERBAARSCHOT (Stony Brook University), *Nuclear spectra, chaos and the SYK model*

10:10. Coffee break

10:40. Chavdar STOYANOV (Institute for Nuclear Research and Nuclear Energy, Sofia), *Low-energy nuclear spectroscopy in a microscopic multiphonon approach*

11:20. Caroline ROBIN (Western Michigan University), *Relativistic approach to atomic nuclei including quasiparticle-vibration coupling*

12:00. Hosted lunch, Dining hall

2:00. Mark RUDNER (Niels Bohr Institute) *Universal quasi-steady states in periodically driven many-body systems*

2:40. FRIB tour and refreshments

4:10. **NSCL seminar:** Michael THOENNESSEN (MSU), *The discovery of isotopes Project*

5:10. **Discussion:** *Mesoscopic aspects of nuclear physics*

Thursday, March 9

8:30. Registration

9:00. Raymond F. BISHOP (University of Manchester), *Magnetic order and its loss on frustrated honeycomb monolayers and bilayers: An illustrative use of the coupled cluster method*

9:40. Maxim MOSTOVOY (University of Groningen), *Multiferroic skyrmions*

10:10. Coffee break

10:40. Lorenza VIOLA (Dartmouth College), *Characterization and design of topological boundary modes via generalized Bloch's theorem*

11:20. Mark DYKMAN (MSU), *Floquet dynamics and time-translation symmetry breaking in nonlinear oscillators*

12:00. Hosted lunch, Atrium

1:20. Lea SANTOS (Yeshiva University), *Power law decays and thermalization in isolated many-body quantum systems*

2:00. Manan VYAS (UNAM, Mexico), *Spin dynamics of interacting many-particle quantum systems*

2:40. Declan MULHALL (Scranton University), *Randomly interacting bosons on two spin levels*

3:20. Coffee break

3:50. Alexander VOLYA (Florida State University), *Quest for superradiance in atomic nuclei*

4:30. Michael KLOC (Charles University, Prague), *Monodromy and entanglement in Dicke superradiance models*

5:10. Amin TAYEBI (MSU), *Non-Hermitian plasmonic nanoantennas*

6:30. Conference Dinner, Kellogg Center, Red Cedar AB room

Friday, March 10

9:00. Felix IZRAILEV (BUAP, Mexico, and MSU), *The temperature of a single chaotic eigenstate*

9:40. Naftali AUERBACH (University of Tel Aviv, and MSU), *The curious case of Tantalum 180*

10:10. **Coffee break**

10:40. Jeff SCHENKER (MSU), *Dissipative transport in the localized regime*

11:20. Vaclav SPICKA (Institute of Physics, Prague), *Non-equilibrium dynamics of molecular bridge model: Limits to simplified description by generalized master equations*

12:00. **Hosted lunch**, Dining hall

2:00. Fausto BORGONOVI (University of Brescia), *Cooperative shielding in many-body spin systems with long-range interaction*

2:40. Lev KAPLAN (Tulane University), *Transport efficiency in open quantum systems with static and dynamic disorder*

3:20. M. Hossein MAHZOON (MSU), *Correlations in non-equilibrium Green's function method*

4:00. **Coffee break**

4:30. **General discussion and conclusion**