Anatoli Polkovnikov

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Employment:

02/01/2016 – current	Professor of Physics, Department of Physics, Boston University
09/01/11 – 01/31/2016	Associate Professor, Department of Physics, Boston University
09/01/05 – 08/31/11	Assistant Professor, Department of Physics, Boston University
07/01/03 – 08/31/05	Postdoctoral Fellow, Department of Physics, Harvard University (supervisors E. Demler, M. Lukin, D. Nelson)

Education:

1999-2003 **Yale University**
PhD in Theoretical Physics, Advisor: Subir Sachdev

1998-1999 **A.F. Ioffe Physico-Technical Institute**, St. Petersburg, Russia,
Post Graduate Student

1992-1998 **St. Petersburg State Technical University**
B.S. in Physic, M.S. in Physics (with honors)

Awards:
Boston University supervisor of the year runner up award (2016); Simons Fellowship in Theoretical Physics (2012-2013); Sloan Research Fellowship (2009-2013); US AFOSR Young Investigator Program Award (2006-2009); G. Soros Fellowship (1996, 1998)

Ten key publications

- L D'Alessio, Y. Kafri, A. Polkovnikov, M. RIgol, **From Quantum Chaos and Eigenstate Thermalization to Statistical Mechanics and Thermodynamics**, Adv. in Phys. 65, 239 (2016)
- M. Bukov, M. Heyl, D. A. Huse, A. Polkovnikov, **Heating and many-body resonances in a periodically driven two-band system**, Phys. Rev. B 93, 155132 (2016)
- L. D'Alessio, A. Polkovnikov, **Many-body energy localization transition in periodically driven systems**, Ann. of Phys. 333, 19 (2013).
- S. M. Davidson, D. Sels, V. Kasper, A. Polkovnikov, **Phase Space Approach to Dynamics of Interacting Fermions**, arXiv:1604.08664.

- M. Kolodrubetz, P. Mehta, A. Polkovnikov, **Geometry and non-adiabatic response in quantum and classical systems,** arXiv:1602.01062.
- A. Polkovnikov, **Universal adiabatic dynamics across a quantum critical point**, Phys. Rev. B 72, 161201(R) (2005).
- S. M. Davidson, A. Polkovnikov, **SU(3) semiclassical representation of quantum dynamics of interacting spins**, Phys. Rev. Lett. 114, 043603 (2015).
- A. Polkovnikov, **Phase space representation of quantum dynamics**, Annals of Phys. 325, 1790 (2010).
- A. Polkovnikov, K. Sengupta, A. Silva, M. Vengalattore, **Colloquium: Nonequilibrium dynamics of closed interacting quantum systems**, Rev. Mod. Phys. 83, 863 (2011).
- M. Heyl, A. Polkovnikov, S. Kehrein, **Dynamical Quantum Phase Transitions in the Transverse Field Ising Model**, Phys. Rev. Lett. 110, 135704 (2013).

Partial list of Recent Collaborators (past 48 months) excluding students, postdocs

R. Barnett (Imperial College), J. Dalibard (ENS), E. Dalla Torre (Bar Ilan), E. Demler (Harvard), V. Gritsev (Amsterdam), M. Heyl (Dresden), Y. Kafri (Technion), E. Katz (BU), S. Kehrein (Gottingen), K. Lehnert (JILA), F. Marquardt (Erlangen), J. Martinis (UCSB), L. Mathey (Hamburg), P. Mehta (BU), V. Oganesyan (CUNY), T. Oka (Dresden), D. Podolsky (Technion), M. Rigol (PennState), A. Sandvik (BU), L. Santos (Yeshiva), A. Silva (SISSA, ICTP), M. Ueda (Tokyo), M. Vengalattore (Cornell).

Graduate Students: L. D'Alessio (PhD 2013), C. De Grandi (PhD 2011), R. Hipolito (PhD 2011), T. Souza (PhD 2016), M. Bukov (current), S. Davidson (current).

Postdoctoral Fellows: D. Sels (2015 – 2017), M. Tomka (2014-2016), L. D'Alessio (2013-2015), M. Kolodrubetz (2012-2015), I. Danshita (2010-2011), R. Barankov (2007-2010).

Funding:

- "Microscopic approaches to non-equilibrium thermodynamics and information, joint with Marcos Rigol (PennState), Sponsor: ARO. Dates: 09/2014-08/2017: Amount: $457,218 (BU share 50%)
- "Non-equilibrium dynamics in closed interacting quantum systems". Sponsor: NSF (DMR), 09/2015 - 08/2018. Amount: $340,000. Level: PI.
- "Dynamics and thermodynamics of isolated cold atom systems". Sponsor: AFOSR. Dates 09/2016 - 08/2021. Amount $1,021,000. Level PI.