INSTITUTE FOR
CONDENSED MATTER THEORY
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Gordon and Betty Moore Postdoctoral Scholar Positions at ICMT

We proudly announce a new **Gordon and Betty Moore Foundation Postdoctoral Scholar** position in Quantum Materials at the **Institute for Condensed Matter Theory** of the University of Illinois at Urbana-Champaign. We invite applications for this position. The postdoctoral scholar positions are part of the Moore Foundation initiative on *Emergent Phenomena of Quantum Systems*. Successful applicants will be independent researchers appointed as Research Associates at the postdoctoral level, starting on *August 15, 2018*, with appointments of up to two years with a possible extension to a third. Strong, creative individuals are encouraged to apply for these positions. Postdoctoral Moore Scholars will have a wide latitude in their choice of research activities, and will be encouraged to be broadly engaged with research in quantum materials activities at Illinois.

The Department of Physics of the University of Illinois at Urbana-Champaign is one of the preeminent Physics Departments in the world. For the past twenty years we have been ranked among the top ten Physics departments in the US and we are ranked number one in Condensed Matter Physics, according to US News and World Reports. Condensed Matter Physics, both in experiment and theory, has a long tradition of excellence at Illinois, going back to the 1950s with the work of John Bardeen, Leon Cooper, and J. Robert Schrieffer who developed the first microscopic theory of superconductivity in 1957. Since that time we have had on our faculty some of the leading condensed matter theorists in the US and worldwide. The Institute was established in 2007 with a seed grant from the University of Illinois.

ICMT faculty members work on very broad areas of research in Condensed Matter Physics. Quantum Materials is one of our main strengths and we are working in several key areas including Topological Insulators and Superconductors, Quantum Hall fluids, High Temperature Superconductors, Ultra-Cold Gases, Simulations of Quantum Fluids and Quantum Materials (Quantum Monte Carlo, Tensor Networks and DMRG), Non-Equilibrium Physics, Quantum Entanglement in Condensed Matter, Quantum Criticality, and applications of the AdS/CFT correspondence to Condensed Matter. Current ICMT faculty working in this area include Eduardo Fradkin (current ICMT Director), Anthony J. Leggett (ICMT Chief Scientist and 2003 Nobel Prize winner), Gordon Baym, Barry Bradlyn, David Ceperley, Bryan Clark, Karin Dahmen, Tom Faulkner, Matthew Gilbert, Nigel Goldenfeld, Taylor L. Hughes, Robert G. Leigh, Philip Phillips, Michael Stone, and Smitha Vishveshwara. We also have a strong interaction with the top-ranked Experimental Condensed Matter Physics group of the Department of Physics and of the Materials Research Laboratory of the University of Illinois.

Applications for postdoctoral positions should be made electronically via the ICMT wesite, http://icmt.illinois.edu/Opps-postdocs.asp. Inquiries regarding scientific and/or programmatic issues may be addressed to Prof. Eduardo Fradkin (efradkin@illinois.edu). For full consideration the deadline for applications and all materials is **November 5**. Later applications will be considered only as long as the opening exists.

About the Gordon and Betty Moore Foundation

The Gordon and Betty Moore Foundation believes in bold ideas that create enduring impact in the areas of science, environmental conservation and patient care. Intel co-founder Gordon and his wife Betty established the foundation to create positive change around the world and at home in the San Francisco Bay Area. Science looks for opportunities to transform—or even create—entire fields by investing in early-stage research, emerging fields and top research scientists. Our environmental conservation efforts promote sustainability, protect critical ecological systems and align conservation needs with human development. Patient care focuses on eliminating preventable harms and unnecessary health care costs through meaningful engagement of patients and their families in a redesigned, supportive health care system. Visit us at Moore.org or follow @MooreScientific.

How does this funding relate to the Moore Foundation's Science Program and its EPiQS Initiative?

In the field of condensed matter physics, quantum materials present largely uncharted ground for study and immense opportunity for discovery. The Moore Foundation's new Emergent Phenomena in Quantum Systems (EPiQS) initiative is focusing $90 million over a five-year period to explore the exotic and unexpected properties of these quantum materials, paving the way to potentially world-changing technological applications (http://www.moore.org/programs/science/emergent-phenomena-in-quantum-systems).

A major objective of EPiQS is to provide funding that enables a community of top experimentalists and theorists to maximize their potential to explore, discover and understand emergent behavior of complex quantum matter. EPiQS support for theoretical research in quantum materials focuses on postdoctoral and visiting scholars at several leading institutions in the field. By establishing Moore Postdoctoral and Visiting Scholars programs, we hope to:

- *maximize scientific productivity and enrich the overall intellectual environment at these institutions, and*
- *enable some of the top young talent in theory to acquire a breadth of expertise through flexible postdoctoral appointments in which they can pursue their interests and work with multiple faculty members.*

We will provide about $8 million over five years through these six awards. These grants include support for Moore Postdoctoral Theory Scholars, for appointments of up to three years. We anticipate that ~25 postdoctoral scholars will be trained as a result.

The University of Illinois is an equal opportunity/affirmative action employer and welcomes applications from minority and women candidates.

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