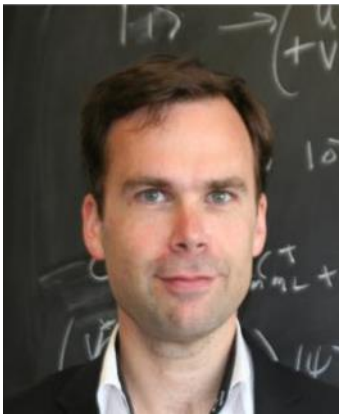
PRINCETON UNIVERSITY

# Council for International Teaching and Research

GLOBAL SCHOLARS



## 2013-14 Princeton Global Scholar
## Nicolas Regnault

In the highly specialized field of condensed matter physics, a few extraordinary scholars are recognized around the world for their innovative research on the properties and behavior of matter. One of them is Nicholas Regnault, a dynamic young professor whose original work has made him a leading authority on numerical simulations of fractional quantum Hall systems.

Regnault is a researcher at the Centre National de la Recherche Scientifique (CNRS) and a scholar at the École Normale Supérieure (ENS) in Paris. He teaches graduate and undergraduate courses in quantum field theory, mesoscopic physics, stochastic processes, and mechanics and propagation phenomena. His research focuses on the interplay between the emergence of collective phenomena from simple interacting objects and the exotic properties of quantum mechanics — work that could in time lead to a breakthrough in the realization of a quantum computer. He is a prolific and highly regarded contributor to such scientific journals as Physical Review Letters and Physical Review B.

As a Princeton Global Scholar, Regnault is back on familiar ground: in 2009 and 2010 he lectured at Princeton in the Summer School for Condensed Matter Physics and co-advised students interested in high-end numerical physics, and in 2013 he spent a sabbatical semester on campus collaborating on research projects with Princeton faculty.

Regnault teaches Princeton students the intricacies of many-body quantum physics, advises postdoctoral researchers, and continues to expand the scope of his collaborations with faculty research groups in the departments of physics and electrical engineering. He is also creating exciting opportunities for scholarly exchange between Princeton and ENS — the alma mater of all 12 of France's Nobel laureates and one of the most prestigious academic institutions in Europe. He previously organized a number of month-long research visits at ENS for Princeton faculty, and is now developing an educational program for students to learn physics-related analytical skills at Princeton and then hone their numerical skills at ENS.

Regnault's appointment, made possible by a generous gift from C.H. Tung, is a major achievement for Princeton. The University's faculty includes pioneers in the discovery and study of the fractional quantum Hall effect, and Regnault's expertise in numerical topological phases will significantly advance their work and spark new directions for investigation. The ties Regnault is forging between the University and ENS will allow Princeton scholars to study, conduct research, and teach abroad, and bring some of Europe's most promising scientists to Princeton.