



Faculty Directory

The College

AS News

Simon Catterall

Professor of
Physics



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Physics Department
309 Physics Building
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[Curriculum Vitae](#)

[Personal Web Page](#)

Research Interests

- Theoretical and computational studies of quantum field theory, quantum gravity and string theory.
- Lattice gauge theory for physics beyond the Standard Model.

- Lattice supersymmetry and applications to gauge-gravity duality.
- Lattice studies of dynamical electroweak symmetry breaking.
- Application of supercomputer simulation to particle physics.

Education

- 1989 D. Phil. in Theoretical Physics
Oxford University, England
- 1985 B.A. in Physics (1st class
honours)
Oxford University, England

Selected Publications

Perturbative renormalization of lattice N=4 super Yang Mills theory, S. Catterall, E. Dzienkowski, J. Giedt, A. Joseph, R. Wells, JHEP 1104:074 2011.

Exact lattice supersymmetry S. Catterall, D. B. Kaplan and M. Unsal, Physics Reports 484:71 2009.

Phase diagram of SU(2) with 2 flavors of dynamical adjoint quarks, S. Catterall, J Giedt, F. Sannino, J. Schneible, JHEP 0811:009 2008.

Black hole thermodynamics from simulations of lattice Yang-Mills theory, S. Catterall and T. Wiseman, Phys. Rev. D78: 041502, 2008 5. Minimal walking on the lattice, S. Catterall and F. Sannino, Phys.Rev. D76:034504 2007.

Faculty

**Full Time Faculty, By
Department**

**Instructors, By
Department**

**Humanities Faculty
Fellows**

Physics

**Syracuse University
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**Arts and Sciences
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Research Spotlight



**Video of a recent
invited lecture at the
Center for Particle
Physics
Phenomenology at
the University of
Southern Denmark**

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