

## Christopher A. Aubin

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### Personal Information

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Birthdate: 16 April, 1977  
Citizenship: United States of America

### Education

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Ph.D. in Physics, Washington University (2004); Advisors: Michael Ogilvie and Claude Bernard  
M.A. in Physics, Washington University (2001)  
B.S. in Physics, University of Dallas (1999), cum laude

### Awards and Honors

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Franklin B. Shull Prize for Teaching Excellence, Washington University, 2000  
Sigma Pi Sigma, University of Dallas, 1999  
Monostori Scholar for Excellence in Physics, University of Dallas, 1999

### Professional Activities

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Lattice 2008 Local Organizing Committee  
Columbia University Theory Seminar Organizer, 2006-2007  
Graduate Student Recruitment Committee, 2001-2004  
Faculty Search Committee, 2001-2002  
Member, American Physical Society  
Member, American Association of Physics Teachers  
Referee, Physical Review D and Physical Review Letters

**Work Experience** 

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Post-doctoral Research Associate, College of William & Mary (2007-present)

Post-doctoral Research Scientist, Columbia University (2004-2007)

**Teaching Experience** 

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Guest Lecturer, Seoul National University

- Five-part lecture series on Staggered Chiral Perturbation Theory (Nov, 2008).
- Five-part lecture series on Partially Quenched Chiral Perturbation Theory (Oct, 2009).

Instructor, College of William & Mary (2007-2008, Fall 2008):

- Graduate Nuclear & Particle Physics (3 semesters)

Lecturer, Columbia University (Spring, 2007):

- Special Topics Course in Particle Physics for Undergraduates

Teaching Assistant, Columbia University (2006):

- Thermal Physics & Statistical Mechanics

Independent Study Lecturer, Columbia University (2005):

- Introduction to Quantum Field Theory

Teaching Assistant, Washington University (1999-2001, 2003):

- Electronics Laboratory
- Optics Laboratory
- Advanced Physical Measurements Laboratory
- Quantum Field Theory

Teaching Assistant, University of Dallas, (1996-1999)

- Basic Ideas of Physics
- General Physics I & II
- Electricity & Magnetism

**Students Supervised** 

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Graduate Students:

Shu Li (primary advisor: Norman Christ)

Meifeng Lin (primary advisor: Robert Mawhinney)

Undergraduate Students:

Eve LoCastro

**Select Conferences, Schools, and Workshops** 

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The XXVII International Symposium on Lattice Field Theory, Beijing, China; July 2009.

ECT\* Workshop on Bound States and Resonances in Effective Field Theories, Trento, Italy; October, 2008.

The XXVI International Symposium on Lattice Field Theory, Williamsburg, VA, USA; July 2008. Contributed talk on “Finite Volume Study of the Delta Magnetic Moments Using Dynamical Clover Fermions.”

The XXV International Symposium on Lattice Field Theory, Regensburg, Germany; July 2007. Contributed talk on “Taste violations in the scalar correlator in mixed action simulations.”

Domain-Wall Fermions at Ten Years, Brookhaven, Upton, NY, March 2007.

Lattice QCD, Chiral Perturbation Theory and Hadron Phenomenology, Trento, Italy, October 2006.

The XXIV International Symposium on Lattice Field Theory, Tucson, AZ; July 2006. Contributed talk on “Kaon Mixing with Mixed Action Chiral Perturbation Theory.”

Exploration of Hadron Structure and Spectroscopy using Lattice QCD, Seattle, WA; May, 2006. Contributed talk on “Muon  $g-2$ : Reclaiming the theoretical calculation of the leading QCD contribution.”

International Workshop on  $e^+e^-$  Collisions from Phi to Psi, Budker Institute of Nuclear Physics, Novosibirsk, Russia; February 2006.

3rd International Lattice Field Theory Network Workshop, “Future Opportunities: Ab Initio Calculations at the Physical Quark Masses,” Jefferson Lab, Newport News, VA; October 2005.

The XXIII International Symposium on Lattice Field Theory, Trinity College, Dublin; July 2005. Contributed talk on “Lowest Order Hadronic Contribution to the Muon  $g-2$  Using Staggered Chiral Perturbation Theory.”

Effective Field Theory, QCD, and Heavy Hadrons, Seattle, WA; April, 2005.

Lattice QCD simulations via International Research Network, Izu, Japan; September 2004. Contributed talk on “Staggered Chiral Perturbation Theory with Heavy-Light Mesons.”

The XXII International Symposium on Lattice Field Theory, Fermilab; June 2004. Contributed talk on “Staggered Chiral Perturbation Theory with Heavy-Light Mesons.”

SciDAC Workshop on Improved Actions and Improved Algorithms, Boulder, CO; October 2003.

Fourth International Workshop on Chiral Dynamics: Theory and Experiment, Bonn, Germany; September 2003.

International Conference on Color Confinement and Hadrons in Quantum Chromodynamics, RIKEN, Japan; July 2003. Contributed poster on “Lattice Gauge Fixing and the Violation of Spectral Positivity.”

The XXI International Symposium on Lattice Field Theory, Tsukuba, Japan; July 2003. Contributed talk on “Staggered Chiral Perturbation Theory.”

Theoretical Advanced Study Institute in Elementary Particle Physics, Boulder, CO; June 2002

Lattice QCD and Hadron Phenomenology, Seattle, WA; November 2001.

### Select Invited Talks

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November 5, 2009, “Chiral extrapolation of lattice data,” Workshop on hadronic excitations on the lattice, TRIUMF, Vancouver, BC.

July 25, 2009, Invited Plenary talk on “Lattice studies of hadrons with heavy flavors” at the XXVII International Symposium on Lattice Field Theory, Beijing, China.

April 17, 2009, “Magnetic Moment of the Delta and Omega baryons on the lattice,” Nuclear Physics & RIKEN Theory Seminar, Brookhaven, Upton, NY

February 10, 2009, “The Smallest Magnets on the Largest Computers: Particle Magnetic Moments from Numerical Simulations,” Physics and Astronomy Seminar, Bucknell University.

October 1, 2008, “Delta Magnetic Moments Using a Background Field Method on the Lattice,” Workshop on Bound States and Resonances in Effective Field Theories, Trento, Italy.

- May 29, 2008, “Lattice calculations of the  $\Delta$  Electromagnetic Moments Using a Background Field,” Arbeitsgruppenseminar Theoretische Kernphysik, Johannes Gutenberg Universität, Institute für Kernphysik, Mainz, Germany.
- February 21, 2008, “Kaon Mixing & New Physics with Lattice QCD,” Physics Colloquium, Illinois Institute of Technology, Chicago, IL.
- February 7, 2008, “ $B_K$  & the  $\Delta$  using Chiral Perturbation Theory and the Lattice,” Theory Seminar, Jefferson Lab, Newport News, VA.
- February 8, 2008, “Searching for New Physics using ‘Old Physics’ [with Lattice QCD],” Physics Colloquium, College of William & Mary.
- May 3, 2007, “Using a Mixed Action to Calculate  $B_K$  on the Lattice,” Theory Seminar, College of William & Mary, Williamsburg, VA.
- February 8, 2007, “How the Origin of Life Can Come From a Computer,” Physics Colloquium, Berea College, Berea, KY.
- October 2, 2006, “Applications of Staggered Chiral Perturbation Theory,” Workshop on Lattice QCD, Chiral Perturbation Theory and Hadron Phenomenology, Trento, Italy.
- June 15, 2006, “Muon  $g-2$ : Reclaiming the theoretical calculation of the leading QCD contribution,” Fermilab Theory Seminar, Batavia, IL.
- May 3, 2006, “Muon  $g-2$ : Reclaiming the theoretical calculation of the leading QCD contribution,” Brookhaven Theory Seminar, Upton, NY.
- March 1, 2006, “Hadronic contributions to the muon  $g-2$  from the lattice,” International Workshop on  $e^+e^-$  Collisions from Phi to Psi, Budker Institute of Nuclear Physics, Novosibirsk, Russia.
- October 19, 2005, “Current Physics Results from Staggered Chiral Perturbation Theory,” Theory Seminar, Cornell University, Ithaca, NY.
- October 4, 2005, “Muon  $g-2$  using Staggered Chiral Perturbation Theory,” 3rd International Lattice Field Theory Network Workshop, Jefferson Lab.
- April 26, 2005, “Heavy-Light Decay Constants and Form Factors in Staggered Chiral Perturbation Theory,” Effective Field Theory, QCD, and Heavy Hadrons, Seattle, WA.
- February 13, 2004, “Taste Symmetry Breaking in Pion Properties,” Theory Seminar, Columbia University, New York, NY.
- February 11, 2004, “Taste Symmetry Breaking in Pion Properties,” Nuclear/Particle Theory Seminar, Duke University, Durham, NC.

January 15, 2004, “Using Staggered Chiral Perturbation Theory for Pion and Kaon Properties,” Nuclear and Particle Theory Seminar, TRIUMF, Vancouver, B.C., Canada.

October 3, 2004, “Incorporating Staggered Fermions in Chiral Perturbation Theory,” SciDAC Workshop on Improved Actions and Improved Algorithms, University of Colorado, Boulder, CO.

September 9, 2004, “Pion and Kaon Properties in Staggered Chiral Perturbation Theory,” Fourth International Workshop on Chiral Dynamics: Theory and Experiment, Bonn, Germany.

## References

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