

CURRICULUM VITAE

Julia Thom-Levy, Assistant Professor of Physics

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Born: June 11th, 1972 in Bonn, Germany

Present Position:

Assistant Professor of Physics at Cornell University, USA
2005- present

March 2009-September 2009:
Lehrstuhlvertretung fuer Prof.Dr.Achim Stahl,
Physikalisches Institut 3b,
RWTH Aachen
Tel: 0241 8027302

Education:

- Diplom, University of Hamburg, Germany, 1997
- Ph.D. in Physics, University of Hamburg, Germany, 2001,
Advisers: Prof. Rolf Heuer, DESY and Prof. John Jaros, SLAC
Thesis: "Time dependent Bs Oscillations using a Dipole Tag at SLD"

Research Experience:

- Diplom Student on the HERA-B experiment, 1996-1997
- Research Assistant, Stanford Linear Accelerator Center, 1997-2001, Collaborator on the SLD Experiment at the Stanford Linear Accelerator Center
- Research Associate, Fermi National Accelerator Laboratory, 2002-2005, Collaborator on the CDF Run II experiment at the Fermi National Accelerator Laboratory since 2002
- Collaborator on the CMS experiment since 2006

Research Projects:

CMS experiment:

- R&D for pixel vertex detectors for S-LHC
- CMS SUSY group (electrons + jets + MET and jets +MET+ btags)
- CMS Top group (electrons + jets + btags)
- Pixel Vertex Detector calibration software

CDF experiment:

Data Analysis:

- Top cross section measurement
- WW cross section measurement
- Limit on $B_s \rightarrow \mu^+ \mu^-$ branching ratio
- Search for New Physics in like-sign dileptons

Leadership:

- Leader of the Silicon DAQ Group
- Co-convener of the Top Dilepton Group

Detector and Service Work:

- Upgrades of existing Silicon Detector electronics
- Measurement of the high- p_t tracking efficiency

SLD experiment:

Data Analysis:

- Limit on B_s mixing
- Development of novel flavor tagging technique and improved tracking

Detector and Service Work:

- MC simulation of B_s decays

HERA-B experiment:

Detector and Service Work:

- Built Magnetic Field Measurement Machine and obtained precise magnetic field map of the HERA-B magnet.
- Projections for B_s mixing reach
- HERA-B detector simulation

Teaching Experience:

Teaching at Cornell University since January 2006

Courses:

- Physics 4444 Introduction to Particle Physics, lectured Spring 2010 and Spring 2011
- Physics 1112 Mechanics: Calculus-based Introductory Course for Undergraduate Students, lectured Spring 2007 and Spring 2009.
- Faculty Staff for P1112 Fall 2007, Fall 2008 (administration, recitation section, Lab)
- Independent Research Course 490 (Independent research with Undergraduate students)
- Lectures for “Advanced Topics in High-Energy Particle Physics” (Course P7661)
- Mentor for Research Experience for Undergraduates Program at Cornell
- Mentor for Cornell Presidential Research Scholar Program

- Graduate students working with me currently: Jennifer Vaughan, Yao Weng, Walter Hopkins, Gala Kaufman
- Undergraduates working with me currently: Scott Joshnson, Steve Demjanenko, Hongwan Liu, Bryan Scherrer, Sarah Bennedsen. Formerly: Sueyeon Chung, Nicholas Stone, Nicole Larsen, Mickey McDonald, Manan Suri
- Postdoctoral Associates working with me: Dr. Joshua Thompson, Dr. Lukas Winstroen. Formerly: Freya Blekman (now faculty at University of Brussels)

Awards or honors:

- NSF CAREER grant for Silicon Pixel Detector R&D for S-LHC, 2007- 2012
- DOE/NSF Grant for Pixel Detector Development for the ILC
- USCMS Fellowship for Teacher Development
- Grant from German National Scholarship Foundation for graduate studies, 1993-97
- Grant from the German National Scholarship Foundation, for research at SLAC, June 93

Invited lectures and talks

- Lecture at the 2010 Stanford Linear Accelerator Center “*Recent Results from CMS*”
- Plenary Talk “*Top Physics at the Tevatron*”, Physics at the LHC Conference in Hamburg, Germany 2010
- Talk at Argonne National Lab SOI workshop 2010: “*Sensor R&D at Cornell*”
- Invited Lecture, “*Highlights from the Tevatron*” at the RWTH Aachen, Germany (annual University HEP Lecture) , 2007
- Plenary Talk: *Top Physics at CDF*, “Les Rencontres de Physique de la Vallee d'Aoste”, Italy, February 2004
- Plenary Talk: *The CDF II Silicon Detector*, IEEE Instrumentation and Measurement Technology Conference, Lago di Como, Italy, May 2004
- *Rare Charm and B decays at CDF*, International Europhysics Conference, Aachen, Germany, July 2003

- *B_s mixing at SLD* International Europhysics Conference on High Energy Physics, Budapest, Hungary, July 2001.
- Plenary Talk: *B_s mixing at SLD*, presented at the Beauty 1999 conference, Bled, Slovenia, June 1999

Selected Seminars and Colloquia

- Seminars "*Model Discrimination with the CMS Detector: A Case Study*", 2009, at University of Bonn and RWTH Aachen.
- "*Physics with high- p_t Dileptons at CDF*", Experimental High Energy Physics Seminar, Princeton University, 2005
- "*A Search for New Physics at the Tevatron*", Physics Colloquium, University of Washington, 2005
- "*A Search for New Physics at the Tevatron*", Physics Colloquium, Cornell University, 2005
- "*Physics with high- p_t Dileptons at CDF*" Experimental High Energy Physics Seminars at Rutgers University, Johns Hopkins University, University of Minnesota, University of Wisconsin, Cornell University, 2005
- "*The Search for $B_s \rightarrow \mu\mu$ at the CDF Experiment*", Chicago Flavor Seminar at Fermilab, November 2002
- "*B_s Mixing at SLD*", Experimental High Energy Physics Seminar, University of Cincinnati, February 2002
- "*B_s Mixing using a dipole tag at SLD*" OPAL/Tesla Group Seminar, Universität Hamburg/DESY, March 2001
- "*B_s Mixing Projections at HERA-B*", Experimental High Energy Physics Seminar at SLAC, 1997

Schools and Workshops:

- XXVI SLAC Summer Institute on Particle Physics. Gravity. From the Hubble Length to the Planck Length, August 1998
- XXVII SLAC Summer School on CP Violation In and Beyond the Standard Model, August 1999

- XXVIII SLAC Summer Institute on Particle Physics Neutrinos from the Sky, August 2000
- SLAC Summer Institute on Exploring Electroweak Symmetry Breaking, August 2001.
- Chicago Linear Collider Workshop, University of Chicago, January 2002
- CMS Tracking Workshop, Fermilab, August 2004
- TEV4LHC Workshop, Fermilab, September 2004
- Super-LHC Workshop, Perugia, Italy, 2006
- Tracking Upgrades for S-LHC Workshop, CERN, 2007

Outreach Work

- Fermilab Saturday Morning Physics program for High School Students, 2002-2005
- Tour guide and lectures on Introduction to HEP to the public at SLAC , 1998-2002
- Lecturer for the Center for Nanoscales Institute for Physics Teachers, Summer 2006, Lecturer for the ECLOUD conference Teacher workshop, 2010
- PI for NSF funded program to address science education for girls in high-need rural areas of upstate NY (part of 5 year NSF CAREER grant)
- Co-PI for USCMS Fellowship program to improve science comprehension at the middle school level