

# Renee H. Fatemi

---

## Contact Information

University of Kentucky  
177 Chem.-Phys. Building  
Lexington, KY 40506-0055  
859.257.2664  
*renee.fatemi@uky.edu*

## Education

- Ph.D., Nuclear Physics, 2002; University of Virginia, Charlottesville, VA
- B.S., High Distinction, Physics, 1995; University of Virginia, Charlottesville, VA

## Academic Positions

- Associate Professor, University of Kentucky, 2013-present
- Assistant Professor, University of Kentucky, 2007-2013.
- Senior Postdoctoral Research Associate, Massachusetts Institute of Technology, 2005-2007.
- Postdoctoral Research Associate, Indiana University Cyclotron Facility, 2002 - 2005.
- Research Assistant, University of Virginia, 1997 - 2001.
- Teaching Assistant, University of Virginia, 1995 - 1997.
- Research Assistant, University of Virginia, Summer 1994 & 1995.

## Professional Activities

- Reviewer for Department of Energy Early Career Research Program (2012)
- Research Proposal, Post-doctoral Fellowship Proposal and MRI Proposal referee for National Science Foundation (2009 - 2012)
- Served on NSF Nuclear Science Review Panel for proposal awards (2011).
- Chair for “Single Spin Asymmetries and Structure of the Nucleon” Session at the 2010 Division of Nuclear Physics Conference
- Brookhaven National Lab Users Executive Committee Member (2007-2009)
- Organizer for RHIC-AGS Spin Workshop (2008)
- Poster Session Judge at Organizer for RHIC-AGS Spin Workshop (2008)
- Author on STAR Spin Task Force Document

## Awarded Research Grants and Fellowships

- **National Science Foundation** *Fundamental Studies of the Nucleon Spin in QCD*. Award #0855498, Award Period: 9/1/2009 - 8/31/2012, Award Amount: **\$479,875**, Award P.I.: **Renee Fatemi**.
- **National Science Foundation** *Fundamental Studies of the Proton Spin in QCD*. Award #1205991, Award Period: 5/11/2012 - 4/30/2015, Award Amount: **\$480,000**, Award P.I.: **Renee Fatemi**.

## Experimental Affiliations and Contributions

- STAR Collaboration, *Relativistic Heavy Ion Collider, Brookhaven National Laboratory, 2002-present*

- Member of STAR Spin Physics Working Group (2002-present).
- Contributed to the installation, calibration and operation of the STAR ENDCAP Calorimeter (2002-2005).
- STAR Jet Analysis Group founding member (July 2003) and leader (2004-2005, 2007-2009).
- Participated in the 2003-2004 Inclusive Jet  $A_{LL}$  and cross-section analysis. Primary contributions include the development and analysis of Monte Carlo + detector simulation and trigger reconstruction code required for systematic studies in  $A_{LL}$  and corrections for the cross-section result.
- Participated in the 2005 Inclusive Jet  $A_{LL}$  analysis. Contributions include the extraction of asymmetries, determination of trigger bias, hadronization and underlying event systematics, simulation analysis, and paper writing.
- Participated in the 2006 Inclusive Jet  $A_{LL}$  analysis. Primary contribution is the estimation of the hadronization and underlying event systematic and paper writing.
- Assisted MIT graduate students in analysis toward a 2005 Inclusive Jet cross-section and  $A_{LL}$  result.
- Supervised UKY analysis of 2006 transverse spin data for Collins Asymmetry in Jets (2008-present).
- Supervised UKY analysis of the Underlying Event in 2006 data (2008-present).
- Supervised UKY analysis of Dijet cross-section in proton collisions at  $\sqrt{s}=500$  GeV (2010-present).
- Supervised UKY analysis of Dijet double spin asymmetry in  $\vec{p}\vec{p}$  collisions at  $\sqrt{s}=200$  GeV (2010-present).
- STAR Embedding Coordinator (July 2009-2011)
- STAR Run Shift Coordinator (2010-present).
- STAR Spin Physics Working Group Co-Convener (2011-present).
- Member of eSTAR and Upgrades Task Force (2011-present).
- Contributed to software development and commissioning tasks for the STAR Forward Gem Tracker (2011-present).
- BLAST Collaboration, *Bates*, 2005-present
  - Assisted in the analysis of Deuteron Electrodisintegration with a Polarized Electron Beam and Internal Polarized Target.
- CLAS Collaboration, *Hall B, Thomas Jefferson National Accelerator Facility, 1998-2001*
  - Participated in the development, testing and operation of the first solid state polarized proton and deuteron target in CLAS.
  - Member of the EG1 experimental analysis group. Primary contribution was the extraction of the proton structure function  $g_1^P(x, Q^2)$  from the polarized proton data.
  - Structure of the Nucleon Working Group Member
- E93026 Collaboration, *Hall C, Thomas Jefferson National Accelerator Facility, 1998*
  - Installation and operation of solid state polarized proton and deuteron target for initial run.
- E155 Collaboration, *End Station A, Stanford Linear Accelerator Center, 1995-1998*
  - Involved with the development and operation of solid state polarized proton and deuteron target. Assisted with  ${}^6\text{LiD}$  polarization tests, subsequently used as a deuteron target in E155 and E155x runs.

## Teaching Experience

- Physics 556 Particle Physics, *University of Kentucky, Spring 2012*
- Physics 555 Nuclear Physics, *University of Kentucky, Spring 2011*
- Physics 232 General Physics: Electricity and Magnetism, *University of Kentucky, Fall 2008-2012*
- Physics 228 Optics, Relativity and Thermal Physics, *University of Kentucky, Spring 2008 - 2010*
- Elementary Lab II, *University of Virginia, Spring 1997*

- Basic Physics Laboratory I and II, *University of Virginia, Fall 1995-1996, Spring 1996*

## Advisory Experience

- Postdoctoral Associates
  - Robert Fersch, August 2008 - June 2012,  
*currently Assistant Professor at Christopher Newport University*
- Graduate Students
  - Suvarna Ramachandran, June 2012 - present.
  - Kevin Adkins, January 2012 - present.
  - Filmon Misgina, Summer 2011.
  - Grant Webb, January 2008 - present.
- Undergraduate Students
  - Joe Osborn, Summer 2012-present.
  - Nathan Rice, Summer 2011.
  - Timothy Sweda, Summer 2009-Spring 2010.
  - Wayne Witzke, Summer 2009-present.
  - Nayeem Moulana, Fall 2008.

## Honors and Awards

- University of Virginia Graduate School of Arts and Sciences Dissertation Year Fellowship, 2000-2001.
- Southeastern University Research Association Fellowship award for graduate studies performed at the Thomas Jefferson National Accelerator Facility, 1997-1999.
- University of Virginia Teaching Center Outstanding Physics Graduate TA Award, 1997.
- University of Virginia Physics Department Outstanding TA Award, 1996 & 1997.

## Presentations (<sup>†</sup>*invited talk*)

- Conference Presentations
  - <sup>†</sup> APS Division of Nuclear Physics Workshop: New Results in Spin Physics from Polarized proton beams at RHIC, October 2012, “New Results from PHENIX and STAR”
  - <sup>†</sup> AGS/RHIC Brookhaven National Lab Users Meeting, June 2012, “Report on pp collision in Run 12 from STAR”
  - <sup>†</sup> Jefferson Lab Users Meeting, June 2012, “New Results on Proton Spin from RHIC.”
  - 19th Particles and Nuclei International Conference, July 2011, “Constraining Quark Transversity through Collins Asymmetry Measurements at STAR.”
  - <sup>†</sup>American Physical Society, June 2009, “Recent Spin Results from RHIC.”
  - <sup>†</sup>1st Joint Workshop on Energy Scaling in Hadron Collisions, April 2009, “RHIC’s view of Hadron Collisions.”
  - International Nuclear Physics Conference, June 2007, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
  - XV International Workshop on Deep-Inelastic Scattering and Related Subjects, April 2007, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
  - 5th International Workshop on Chiral Dynamics, Theory and Experiment, September 2006, “Electron Scattering from a Polarized Deuterium Target at BLAST.”
  - XL1st Rencontres De Moriond, QCD and High Energy Hadronic Interactions, March 2006, “Using Jet Asymmetries to Access  $\Delta G$  at STAR.”
  - Workshop on Parton Orbital Angular Momentum, February 2006, “Using Di-jets to Measure the Gluon Sivers Function at STAR.”
  - Particles and Nuclei International Conference, October 2005, “Detector Designs for e-RHIC.”

- APS/DNP Annual Conference, October 2004, “Jet Trigger Studies for the STAR Detector at RHIC.”
  - DIS 2004 Conference, Strebse Pleso, Slovakia, April 2004, “Constraining the Sivers Functions using Transverse Spin Asymmetries at STAR.”
  - SPIN 2000 Conference, Osaka, Japan, October 2000, “Extraction of  $g_1^p(x, Q^2)$  in the Resonance Region using the First Polarized Target Data from CLAS.”
  - APS/DNP Annual Meeting, Williamsburg, VA, October 2000, “Extraction of  $g_1^p(x, Q^2)$  in the Resonance Region.”
  - APS Centennial Meeting, Atlanta, GA, March 1999, “First Measurements Using a Polarized Target in CLAS.”
- o Colloquium Presentations
    - University of Connecticut, November 2012, “Deconstructing the Partonic Origins of the Proton Spin”
    - Texas A&M University, April 2012, “Deconstructing the Partonic Origins of the Proton Spin”
    - University of Tennessee, April 2012, “Deconstructing the Partonic Origins of the Proton Spin”
    - Old Dominion University, January 2012, “Deconstructing the Partonic Origins of the Proton Spin”
    - University of Illinois at Chicago Department Colloquium, November 2010, “Deconstructing the Partonic Origins of the Proton Spin”
    - Union College, January 2007, “Extracting the Gluon Piece of the Spin Puzzle: New Results from STAR”
    - James Madison University, February 2007, “Extracting the Gluon Piece of the Spin Puzzle: New Results from STAR”
    - University of Kentucky, February 2007, “Extracting the Gluon Piece of the Spin Puzzle: New Results from STAR”
    - Hampton University, December 2006, “Extracting the Gluon Piece of the Spin Puzzle: New Restuls from STAR”
  - o Nuclear and Particle Physics Presentations
    - University of Maryland Nuclear Seminar, April 2010, “Extracting the Gluon Piece of the Spin Puzzle: Inclusive Jet and Pion Results from STAR.”
    - University of Virginia Nuclear Seminar, February 2009, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
    - Morehead State University Seminar, February 2009, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
    - Ohio University Nuclear Seminar, November 2008, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
    - Western Kentucky University Seminar, September 2008, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
    - Brookhaven National Lab Nuclear Seminar, November 2007, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
    - Wayne State University Nuclear Seminar, November 2007, “Extracting the Gluon Piece of the Spin Puzzle: New Inclusive Jet Results from STAR.”
    - Nuclear Seminar, Thomas Jefferson Accelerator Facility, December 2006, “Extracting the Gluon Piece of the Spin Puzzle: New Restuls from STAR.”
    - Nuclear Physics Seminar, Lawrence Berkeley National Laboratory, December 2004, “Spin Physics at STAR.”
    - High Energy Physics Seminar, California Institute of Technology, November 2004, “Spin Physics at STAR.”

- Nuclear Physics Seminar, California Institute of Technology, October 2001, "Extraction of  $g_1^p(x, Q^2)$  in the Resonance Region."
- Nuclear Physics Seminar, Stony Brook University, May 2001, "Extraction of  $g_1^p(x, Q^2)$  in the Resonance Region."
- Nuclear Physics Seminar, Indiana University Cyclotron Facility, April 2001, "Extraction of  $g_1^p(x, Q^2)$  in the Resonance Region."