

# SAVITRI V. IYER

## Curriculum Vitae, September 2023

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### Home contact information:

7 Coddington Grove  
Pittsford, NY 14534  
savitri.v.iyer@gmail.com  
Cell: (585) 330-8160

### Work contact information:

Department of Physics & Astronomy, ISC 228C  
SUNY Geneseo, Geneseo, NY 14454  
iyer@geneseo.edu  
Office: (585) 245-5540

### EDUCATION

#### **UNIVERSITY OF PITTSBURGH, Pittsburgh, PA**

Ph.D., Physics, 1993

Thesis: "Non-local Reformulation of General Relativity."

Specialization: General Relativity, Gravitational Lensing or Bending of Light near a Black Hole, Geometrical Methods, Theoretical Physics

#### **IOWA STATE UNIVERSITY, Ames, IA**

M.S., Physics, 1989

#### **INDIAN INSTITUTE OF TECHNOLOGY, Chennai, India**

M.Sc., Physics, 1986

#### **UNIVERSITY OF MADRAS, (MEENAKSHI COLLEGE FOR WOMEN), Chennai, India**

B.Sc. (3-yr), Physics, 1984

First Class, Student Council Vice President, 1983-1984, Class Representative, 1981-1984

### ACADEMIC EXPERIENCE

#### **STATE UNIVERSITY OF NEW YORK, Geneseo, NY**

Professor and Chair of Physics, 2023-present

Dr. Spencer J. Roemer Supported Professorship, 2022-2025

Professor of Physics, 2010-2023

Interim Chair of the Department of Mathematics, 2022-2023

Interim Chair of the Department of Art History, 2012-2015

Associate Professor of Physics, 2003-2010

Visiting Research Associate, Duke University, Durham, NC, Fall 2005 (sabbatical leave)

Assistant Professor of Physics, 1996-2003

Visiting Assistant Professor of Physics, Spring 1996

Visiting Assistant Professor of Physics, 1994-1995

Adjunct Lecturer Department of Physics and Astronomy, Fall 1993

#### **UNIVERSITY OF PITTSBURGH, Pittsburgh, PA**

Research Assistant to Dr. E. T. Newman, 1989-1993

Academic Advisor for Pitt undergraduate students, 1991-1993

Teaching Assistant, 1989-1991, Summer 1993

Department Teaching Award

#### **IOWA STATE UNIVERSITY, Ames, IA**

Research Assistant to Dr. James Vary, 1988-1989

Research Assistant to Dr. John Clem, 1987

Teaching Assistant, 1986-1989

#### **INDIAN INSTITUTE OF TECHNOLOGY, Chennai, India**

Research Assistant in the X-Ray Crystallography lab, Spring 1986

Merit Scholarship

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### **PROFESSIONAL EXPERIENCE**

#### **SUNY GENESEO, Geneseo, NY**

##### **Assistant Provost for Curriculum and Assessment, May 2016-Dec 2017**

The Assistant Provost (AP) for Curriculum and Assessment serves on the Provost's Leadership team, and oversees the Registrar's office. In addition to the College Registrar, who is a direct report, the Assistant Provost works closely with chairs/deans of all academic departments and directors of all other college units. Listed below are my responsibilities and selected accomplishments:

- **Curriculum:** responsible for assuring the quality and effectiveness of the academic programs offered by the college, responsible for enforcing college policies with respect to the design and implementation of all courses and degree programs, provide guidance to academic units in the revision of existing and the development of new programs, overseeing both internal review and approval by outside agencies, manages and assures the quality of academic programs through a regular and systematic process of program review, responsible for establishing transfer credit policies and course equivalencies and is responsible for negotiating articulation agreements with other institutions. Provided leadership and guidance for a number of policy changes during my first year as AP. Designed and successfully steered to final approval, a new academic policy requiring a minimum number of 300- and 400-level courses; over the next few years, we will see an overall strengthening of the Geneseo baccalaureate degree resulting from this new policy. Provided guidance to the change in the Humanities requirement. Assisted with the formation of the Curricular Design Working Group.
- **Assessment:** oversees assessment of the effectiveness of all academic programs, assuring that all programs are following best practices in outcome assessment and are assessed on a regular schedule, ensures that the college is compliant with state and federal regulations involving academic programming, chairs or is ex officio member of college committees in the domain of curriculum and assessment. Assisted with the Middle States (PRR) compliance report. Worked with departments to create curriculum maps for undergraduate degree programs. Created a new series of faculty presentations on assessment of academic programs for ASSESStivus.

#### **SUNY GENESEO, Geneseo, NY**

##### **Dean of Curriculum and Academic Services, August 2012-May 2016**

##### **Interim Dean of the College, May 2011-August 2012**

The Dean of the College, renamed later as Dean of Curriculum and Academic Services, provides leadership in all matters pertaining to academics. The College Registrar, the Associate Dean for Academic Advisement, the Assistant Dean of Disability Services, and other supporting staff members in the Dean's Office report directly to the Dean. Listed below are my responsibilities followed by selected accomplishments:

- **Curriculum:** Oversight of new and revised academic programs, general education, program registration, SUNY approval, curriculum initiatives, alignment of curriculum across courses and programs with college mission. Provided key leadership for the Undergraduate and Graduate Curriculum Committees. Worked with many departments on substantive curricular changes. Provided guidance for the English department to transition to a new curriculum based on 4-credit courses. Served as an integral part of

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the General Education Committee on our charge to reimagine and redesign the Geneseo general education curriculum.

- **Program Review:** Supervision of 5-year reviews of all academic programs, leadership for the department and external reviewers with clear guidelines and standards for assessing academic programs. Set up feedback mechanism for departments and the Provost office to follow up on suggested improvements to programs.
- **Academic Policies:** Design and revision of college wide academic policies. Streamlined the Academic Standards policy that used to be complicated and confusing to students and faculty advisors; the high level of clarity and clear expectations for students has helped them with achieving their academic goals.
- **Academic Advisement:** Key resource for all matters pertaining to advisement. Opened and improved communications lines between faculty advisors, students, my office. Established a process for important information to be disseminated through email and social media. Set up timely communication channels with students via email and through Twitter.
- **Transfer Articulation:** Coordination with the Registrar's office and oversight of articulation of transfer courses and credits. Made a number of improvements for implementation of the SUNY Seamless Transfer initiative. Added key academic components to the process that has yielded a smoother transition for new students.
- **Graduation Requirements:** Responsible for approval of academic waivers and oversight of the graduation audit process. Led the installation and launch of Degree Works for students and faculty advisors with hands-on involvement in all programmatic details. Presented training sessions to all faculty members in each of the academic departments.
- **Graduate Studies:** As Director of Graduate Studies, worked with the Deans of the School of Education and the School of Business to establish new and to revise existing graduate programs.
- **Summer sessions:** Hiring of faculty instructors for summer sessions, oversight of summer registration. Established budget management process to obtain, for the first time, detailed analysis of revenues and expenditures for summer sessions. This has been critical to the budget planning and reallocation process during difficult financial times.
- **Scheduling:** Supervision of block course scheduling and registration. Designed a new pattern for course registration and saved seats to help students enroll in courses in a timely manner for degree completion. Created a forever academic calendar for the campus that is now followed by many of the offices to set up important dates.
- **Administrative processes and procedures:** Worked with IT department to convert many processes that were paper-based into electronic format that has resulted in efficiencies for faculty and students.
- **Budget:** Supervision of the budget of all divisions under the Office of the Dean. Designed many internal controls for management of office budget and accounts.

**SUNY GENESEO, Geneseo, NY**  
**Rotating Associate Dean of the College, August 2009-May 2011**

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The Rotating Associate Dean position was designed to give faculty some experience in administration, and was made available to faculty on a two-year rotation.

During my second year as Associate Dean, many more responsibilities were added to my position because of circumstances in the office.

- Academic advisement and college curriculum, advising students on academic matters. Met with students on a regular basis to provide guidance and advise. Designed a GPA calculator and an 8-semester planner as tools for advisement meetings. Biweekly meetings with students on special probationary status to help get them back on track with their degree goals.
- Provide information and guidance to faculty advisors. Coming from the faculty ranks, and having served as Summer Orientation liaison for the physics department, I was able to quickly fit in this role and even make important improvements in the communication between departments and the Dean's Office.
- Work with academic advisement at new-student Orientation.
- Serve as liaison to College and Senate committees. Took over and transformed the curriculum revision process and cleared backlog of proposals.
- Maintain the databases for the College Bulletin and Master Schedule. Designed and redesigned existing web pages and other forms and databases to make day-to-day office procedures more efficient.

### **UNIVERSITY OF PITTSBURGH, Pittsburgh, PA** **Academic Advisor, CAS Advising Center, 1991-1993**

The Advising Center at the College of Arts and Sciences at Pitt provides assistantships for graduate students to serve as academic advisors for undergraduate majors. Selection is through a highly competitive process based on the student's broad knowledge of academic programs and strong communication skills.

- Served as academic advisor for 135 undergraduate students each year in the College of Arts and Sciences Advising Center. Advised mostly students with an interest in STEM areas.
- Provided guidance with course selection and scheduling, departmental and programmatic requirements, self-designed majors, and career preparation.

### **AWARDS AND FELLOWSHIPS**

**"DR. SPENCER J. ROEMER SUPPORTED PROFESSORSHIP"**  
SUNY Geneseo, NY, 2022-2025.

**"MID-CAREER SUMMER RESEARCH FELLOWSHIP"**  
SUNY Geneseo, NY, Summer 2006.

**"PRESIDENTIAL AWARD FOR EXCELLENCE IN ACADEMIC ADVISING"**  
SUNY Geneseo, NY, Fall 2005.

**"PRESIDENTIAL SUMMER RESEARCH FELLOWSHIP"**  
SUNY Geneseo, NY, Summer 1997.

**"EXCELLENCE IN TEACHING AWARD"**  
University of Pittsburgh, Pittsburgh, PA, April 1990.  
Citation: "... has served with distinction as a recitation instructor in introductory physics courses. Her students have commented repeatedly on her ability to make physics both

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clear and interesting. Her outstanding performance in carrying out her teaching duties will serve as a model for future Teaching Assistance in the Department of Physics and Astronomy.”

### TEACHING

#### **COURSES TAUGHT AT SUNY GENESEO:**

ASTR 100: Introductory Astronomy: Fall 1996-1999.  
ASTR 101: Introductory Astronomy Lab: Fall 1996 and 1999.  
PHYS 113: General Physics I: Fall 1994 (lab), Fall 2002, 2003, 2018-2022.  
PHYS 116: Physics I Lab: Spring 2020.  
PHYS 120: Freshman Physics Experience: Fall 1997, 1998, 2002, 2003 and 2008.  
PHYS 124: Analytical Physics I Lab: Fall 1993-1994, 1996-2004, 2006-2008.  
PHYS 125: Analytical Physics II: Spring 1996-1999, 2003-2009.  
PHYS 126: Analytical Physics II Lab: Spring 2000, 2003, 2005-2009, 2019, 2021.  
PHYS 224: Analytical Physics IV: Spring 2000, 2005, 2019-2023.  
PHYS 226: Optics and Modern Physics Lab: 1995, 1998-2000, 2003-2004, 2018-2021.  
PHYS 311: Classical Mechanics: Fall 1994.  
PHYS 335: Electricity and Magnetism I: Fall 1993, 2002-2004, 2006, 2018, 2020-2022.  
PHYS 336: Electricity and Magnetism II: Spring 1995-99, 2006 and 2008.  
PHYS 344: Statistical Thermodynamics: Fall 1996-1999, 2006-2008, Spring 2019-2023.  
PHYS 352: Quantum Mechanics: Fall 2000 and 2004.  
PHYS 353: Quantum Mechanics II: Spring 2007 and 2009.  
PHYS 388: Exp: Gravity: Introduction to General Relativity: Spring 2006.  
PHYS 387: Gravity: Introduction to General Relativity: Spring 2021.  
PHYS 394: Independent Research: Fall 2000.  
HONR 302: Roots of 20th Century Science: Spring 1997 and 2004.  
HONR 393: Honors Research: Fall 1997 and Spring 1998.  
INTD 388: Exp: Math, Physics and Consciousness: Spring 1996.

### RESEARCH PROJECTS

The Role of the gyromagnetic ratio in general relativity.  
Bending Angle near a Kerr Black Hole in the Strong Deflection Limit.  
Magnification and Image Positions for the Schwarzschild Case.  
Bending Angle near a Schwarzschild Black Hole in the Strong Field Limit.  
Geometric analysis of caustic singularities and asymptotics in curved spacetime setting.  
Gravitational Lensing near Spinning Black Holes.  
Two-dimensional hydrodynamics and Random Matrix Theory.  
Null Surface Formulation of General Relativity.  
Evolution of Caustics and Singularities in the Collapse of Ellipsoidal Wavefronts.

### GRANTS

NASA New York Space Grant titled, “Geneseo Physics Space Grant Research Experience (GPSGRE) grants of \$10,000 each year, matched by the Sponsored Research Office, to support student research, 2020-2024.  
NASA New York Space Grant, 2017-2018.  
Youngs and Linfoot Real Estate Faculty Incentive Award, 2008.  
Mid-Career Fellowship, Summer 2006.  
Geneseo Faculty Travel Grant, March 2006, July 2006.  
Dr. Nuala McGann Drescher Diversity Leave Program, 2001-2002.  
Presidential Summer Fellowship, Summer 1997.  
Collaborator on NSF Math grant titled “Geometric Analysis, Wave Optics and Geometric Gravity Models,” 2007-2010.

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### STUDENT RESEARCH

#### **DIRECTED STUDY AND UNDERGRADUATE RESEARCH:**

- Summer 2022 Bryan Best and Dylan Christopherson, supported by NASA NY State Space Grant Consortium.
- Summer 2021 Robert Sinesi, supported by NASA NY State Space Grant Consortium.
- Summer 2020 Caroline Axelsen and Robert Sinesi, supported by NASA NY State Space Grant Consortium.
- Spring 2019 Malcolm Colson: Black Hole Light Deflection (contd.)
- Spring 2019 Alex Belchou: Geometrical Methods and General Relativity.
- Summer 2018 Malcolm Colson: Understanding General Relativity: Bending of Light Near a Black Hole (supported by the McNair Scholarship program).
- Fall 2018 Malcolm Colson, Peter Kaulfuss, Bradley McClung: Black Hole Light Deflection.
- Fall 2012 Claudia Buss: Bending of Light Near Black Hole II.
- Summer 2012 Claudia Buss: Bending of Light Near Black Hole I.
- Summer 2009 Eddie Hansen: Bending of Light near Kerr Black Holes (supported by the Dr. Jerry D. Reber Student/Faculty Research Fund.
- Spring 2008 Aric Hackebill: Thermodynamics and Black Holes.
- Spring 2007 Garrett Jones, Donovan Schickley: Vortex Dynamics in 2D.
- Spring 2004 Alex Waldauer: The Eikonal Equation.
- Fall 2003 Alex Waldauer: Gravitational Lensing (contd.).
- Spring 2003 Dan Riley and Chris Peters: Vortex Dynamics (contd.).  
Alex Waldauer: Gravitational Lensing.
- Fall 2002 Dan Riley and Chris Peters: Vortex Dynamics.
- Fall 1998 Neil Di Spigna: Evolution of Wavefronts in the Spacetime Manifold.  
Tom Wakeman: Symmetry and Conservation Laws.
- Spring 1998 Greg Benson: General Relativity and the GPS (Honors research).  
Richard Schugart: Knot Theory and Physics.
- Fall 1997 Greg Benson: Computational Special Relativity (Honors research).  
Richard Schugart: Introduction to Quantization of Gravity.
- Spring 1997 Joshua Klyber: Numerical General Relativity.
- Fall 1996 Emmanuel Ambrose: Math Techniques in Science and Engineering.  
Joshua Klyber: Introduction to the Theories of Relativity.
- Spring 1995 James Giumarra: Introduction to Tensors.
- Fall 1994 Robert Fuentes: Introduction to General Relativity.

#### **UNDERGRADUATE ORAL AND POSTER PRESENTATIONS:**

- "Deflection of Light in the Equatorial Plane of the Kerr Black Hole: From the Last Photon Orbit to Infinity," Robert Sinesi, APS April Meeting, New York, April 9, 2022.
- "Understanding General Relativity: The Bending of Light Near a Black Hole," Malcolm Colson, 2018.
- "Bending of Light due to Black Holes," by Eddie Hansen, 2010.
- "Thermodynamics and Black Holes," by Aric Hackebill, 2008.
- "Vortex Dynamics in Two-Dimensions," by Garrett Jones and Donovan Schickley, 2007.
- "The Eikonal Equation in Flat Space," by Alex Waldauer, 2004.
- "Gravitational Lensing and Light Cones," by Alex Waldauer, 2003.
- "Vortex Dynamics in Two-Dimensional Inviscid Flow," by Chris Peters, Dan Riley, 2003.
- "Evolution of Wavefronts in Spacetime Manifolds," by Neil DiSpigna, 1997.
- "Knot Theory and its Application to General Relativity," by Rich Schugart, 1997.



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### PUBLICATIONS

- S. V. Iyer**, and R. C. Sinesi\*, "Deflection of Light in the Equatorial Plane of the Kerr Black Hole: From the Last Photon Orbit to Infinity," under preparation.
- A. B. Congdon, **S. V. Iyer**, C. R. Keeton, "Asymmetric Light Bending in the Equatorial Kerr Metric," (<https://arxiv.org/abs/2207.08987>) (2022).
- S. V. Iyer**, "Frame-dragging Induced Asymmetry in the Bending of Light Near a Kerr Black Hole," (<https://arxiv.org/abs/1808.06630>) (2018).
- S. V. Iyer** and E. C. Hansen\*, "Strong and Weak Deflection of Light in the Equatorial Plane of a Kerr Black Hole," (arXiv:0908.0085v1 [gr-qc])(2009).
- S. V. Iyer** and E. C. Hansen\*, "Light's Bending Angle in the Equatorial Plane of a Kerr Black Hole," Phys. Rev. D **80**, 124023, (arXiv:0907.5352v1 [gr-qc])(2009).
- S. V. Iyer** and A. O. Petters, "Light's Bending Angle due to Black Holes: From the Photon Sphere to Infinity," General Relativity and Gravitation, **39**, 1563-1582, (gr-qc/0611086)(2007).
- K. A. Fletcher, **S. V. Iyer**, and K. F. Kinsey, "Some Pivotal Thoughts on the Current Balance," The Physics Teacher, **41**, 280-284, (2003).
- S. V. Iyer** and S. G. Rajeev, "A Model of Two-dimensional Turbulence Using Random Matrix Theory," Modern Physics Letters A, **17**, 1539-1550, (arXiv:physics/0206083) (2002).
- S. V. Iyer**, E. T. Newman, and C. N. Kozameh, "The Vacuum Einstein Equations via Holonomy around Closed Loops on Characteristic Surfaces," Journal of Geometry and Physics, **19**, 151-172, (gr-qc/9502020)(1996).
- E. T. Newman, C. N. Kozameh, and **S. V. Iyer**, "Einstein Equations via Null Surfaces," Acta Physica Polonica A, **85**, 647-654 (1994).
- C. N. Kozameh, E. T. Newman, and **S. V. Iyer**, "Non-local Equations for General Relativity," Journal of Geometry and Physics, **8**, 195-209 (1992).

### CONFERENCES AND WORKSHOPS

- APS April Meeting, New York, April 9-12, 2022.
- APS April Meeting, Denver, April 13-16, 2019.
- Panelist for SUNY Council on Assessment (SCoA), Univ. of Buffalo, October 10, 2017.
- Assessment Network of New York 5<sup>th</sup> Annual Conference titled, "Recipes for Sustainable Assessment," Culinary Inst. of America, Hyde Park, NY, April 5-7, 2017.
- AAC&U Annual Meeting, San Francisco, January 25-27, 2017.
- Middle States Annual Conference, Philadelphia, December 7-9, 2016.
- SUNY Deans Meeting, SUNY Oneonta, April 4-5, 2016.
- CCAS 50<sup>th</sup> Annual Meeting, Washington D.C., November 4-7, 2015.
- TeachNY Advisory Council, 2014-15.
- SUNY Deans Meeting, March 16-17, 2015.
- HERS Bryn Mawr Summer Institute, June 2-13, 2014.
- SUNY Deans Meeting, SUNY Purchase, April 23-24, 2014.
- SUNY Summer Leadership Workshop, August 4-9, 2013.
- AAC&U Summer Institute on "Integrative Learning and the Department," Portland State University, Portland, OR, July 10-14, 2013.
- SUNY Deans Meeting, SUNY Geneseo, June 22-23, 2012.
- AAC&U Annual Meeting titled, "Shared Futures Difficult Choices," Washington D.C., January 25-28, 2012.
- AAC&U Summer Institute on "General Education and Assessment," San Jose, State University, San Jose, CA, June 4-8, 2011.
- SUNY Deans Meeting, SUNY Oswego, May 26-27, 2011.

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- CUR National Conference, Weber State University, June 19-22, 2010.
- American Physical Society March Meeting, Univ. of Pittsburgh, March 16-20, 2009.
- 12th Eastern Gravity Meeting, Center for Computational Relativity and Gravitation at RIT, June 15-16, 2009.
- APS NY state section symposium titled, "Harnessing Photons: from Energy to Entanglement," at University of Rochester, April 17-18, 2009.
- Selected to attend the "Professional Skills Development," workshop organized by the Council for the Status of Women in Physics at the APS March Meeting. Also chaired the ACIPA event at this meeting, Pittsburgh, March 15-16, 2009.
- APS NY state section symposium titled, "A Century of Light and Materials," at Corning Inc. NY. Took 12 students to the conference. November 14-15, 2008.
- First Anacapa Society meeting, Amherst College, Amherst, MA, January 5-6, 2008.
- Co-organizer and presenter at the "Geometric and Stochastic Lensing Workshop: Applications to Black Holes and Dark Matter," Petters Research Institute, Dangriga, Belize, January 5-12, 2007.
- "Teaching General Relativity to Undergraduates," AAPT Topical Conference, Syracuse, NY, July 20-21, 2006.
- One-week workshop titled, "Gravitational Lensing in the Kerr Spacetime Geometry," American Institute of Mathematics, Palo Alto, CA, July 11-15, 2005. Official scribe for the workshop.
- Workshop on Deliberative Dialog organized by National Issues Forum, Washington D.C., July 2004.
- Conference titled, "Peter Gabriel Bergmann Memorial Symposium," Department of Physics, Syracuse University, October 11-12, 2003.
- "Gravitation: A Decennial Perspective," Center for Gravitational Physics and Geometry, Pennsylvania State University, June 8-12, 2003.
- New York State Symposium of the American Physical Society at SUNY Geneseo, NY, titled "Physics of Everyday Phenomena," Local organizer, April 4-5, 2003.
- New York State Symposium of the American Physical Society in Oneonta, NY, "Energy and Environment." Took 2 Geneseo Physics majors. April 12-13, 2002.
- "Theoretical High Energy Physics," Fall 2001 Conference, SUNY Institute of Technology, Utica, NY, October 12, 2001.
- New York State Symposium of the American Physical Society in Buffalo, NY, titled "Cosmology, Strings and Particle Physics." Took 8 Geneseo Physics majors to the conference. October 20-21, 2000.
- Third Eastern Gravity Meeting, at Cornell University, Ithaca, NY, March 26-27, 1999.
- 77th Topical Symposium of the New York State Section of the American Physical Society in Saratoga Springs, NY, titled "A Century of Modern Physics." Took 8 Geneseo Physics majors. October 17-18, 1997.
- International Congress of Mathematical Physics in Brisbane, Australia. Funded by NSF Travel Grant July 13-19, 1997.
- "Inside Windows," seminar organized by Mastering Computers, Rochester Convention Center (registration funded by the Geneseo Dept. of Physics). December 17, 1996.

### PRESENTATIONS

- "From Theory to Experiment and Back," Summer Research Colloquium, June 24, 2021.
- "Don't Drink and Derive\*: Einstein Equations in GR," March 28, 2019.
- "Action in Physics: The Role of Variational Principle," Summer Research Colloquium, July 31, 2018.
- "Action in Physics: Math in Action," Master Teachers Program Talk, June 27, 2018.



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*"The Standard Model,"* Summer Research Colloquium, May 2018.  
*"General Relativity and Bending of Light,"* Physics Dept. Colloquium, February 8, 2018.  
*"The Jazz of Physics: The Secret Link Between Music and the Structure of the Universe,"* Book Review presentation, September 28, 2016.  
*"Bending of Light Near a Black Hole,"* Astronomy Club, SUNY Geneseo, March 28, 2016.  
*"Space, Time, and Spacetime,"* Math Day at Corning Community College, October 7, 2010.  
*"Bending of Light Near a Black Hole,"* Mathematical Physics Seminar at the University of Rochester, November 19, 2009.  
*"Space, Time, and Spacetime,"* Math Day at Corning Community College, October 8, 2009.  
*"Space, Time, and Spacetime,"* Math Day at Corning Community College, October 9, 2008.  
*"Bending of Light Near a Black Hole in the Strong Deflection Limit,"* Astronomy and Astrophysics colloquium, RIT/University of Rochester, March 17, 2008.  
*"Space, Time, and Spacetime,"* Math Day at Corning Community College, Oct. 11, 2007.  
*"Spacetime is Warped! What's New?"* Eileen Collins Observatory at Corning Community College, co-sponsored by the Elmira-Corning Astronomical Society, June 1, 2007.  
*"Strong Deflection Bending of Light in Schwarzschild Geometry,"* Geometric and Stochastic Lensing Workshop: Applications to Black Holes and Dark Matter, Petters Research Institute, Dangriga, Belize, January 5-12, 2007.  
*"Space, Time and Spacetime,"* Math Day at Corning Community College, Oct. 12, 2006.  
*"General Relativity at SUNY Geneseo,"* Teaching General Relativity to Undergraduates AAPT Topical Conference, Syracuse, NY, July 20-21, 2006.  
*"Bending of Light Near a Black Hole,"* Colloquium talk at the Department of Physics at SUNY Brockport, March 23, 2006.  
*"Space, Time, and Spacetime,"* Math Day at Corning Community College, October 6, 2005.  
*"Space, Time, and Spacetime,"* Math Day at Corning Community College, October 7, 2004.  
*"Geometry and Physics,"* Physics Dept colloquium at SUNY Geneseo, November 7, 2002.  
*"Light Cones and General Relativity,"* Department of Physics, University of Maine, Orono, October 10, 1997.  
*"Knots,"* Physics Department colloquium at SUNY Geneseo, September 25, 1997.  
*"The Role of the Light Cone in Relativity,"* Physics Dept colloquium at SUNY Geneseo, March 20, 1997.  
*"Spin and the Riemann Sphere,"* Physics Department colloquium at SUNY Geneseo, March 14, 1996.  
*"A Reality Check on Quantum Mechanics,"* Physics Department colloquium at SUNY Geneseo, November 2, 1995.  
*"Geometry and Special Relativity,"* Physics Department colloquium at SUNY Geneseo, April 13, 1995.  
*"Holonomy and the Einstein Equations,"* Ph.D. thesis defense at University of Pittsburgh, Pittsburgh, PA, September 30, 1993.  
*"Moving Away from Flatness,"* Physics Department colloquium at SUNY Geneseo, September 17, 1993.  
*"A Non-local Reformulation of the Einstein Equations,"* thesis topic presentation, University of Pittsburgh, Pittsburgh, PA, 1991.  
*"Neutral Resonances around 1.8 MeV in Bhabha Scattering,"* M.S. dissertation at Iowa State University, Ames, IA, August 1989.

### SERVICE

#### **PROFESSIONAL SERVICE TO THE DISCIPLINE:**

Served as NSF Mathematical Physics Review Panelist, February 28-29, 2008.

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Co-organizer of the Einstein Week Centennial Celebration of Relativity Theory at Duke University, Durham, NC, September 5-10, 2005.

Local Organizer (with the physics club office bearers) of the World Year of Physics 2005 event titled, "Einstein Symposium at Geneseo," March 31, 2005.

Local Organizer of the APS New York State Section Symposium, titled "Physics of Everyday Phenomena," SUNY Geneseo, Geneseo, NY, April 4-5, 2003.

Treasurer, American Chapter of the Indian Physics Association, 2002-2009.

### **DEPARTMENTAL SERVICE:**

Department Executive Committee, 2004-2006, 2018-2022.

Faculty Search Committee, Chair 1997-98, member 1996-97, 2018-19, Chair 2004-2005.

Instructional Support Specialist Search Committee, 2022.

Physics Club Advisor, Fall 1997, Fall 2000 and Fall 2005.

Webmaster for the Physics Department Web Page Fall 2000-Spring 2009.

Colloquium Speakers Coordinator, Spring 1995, 1999, Fall 2002, Spring 2004, 2006, 2008, 2020, 2023.

Department Review Committee, 2008.

Department Awards, Spring 2003-2005.

PC Lab Maintenance and Software Coordinator, Fall 1996-Fall 2000.

Library Representative, Fall 1996-Fall 2000, 2008.

Department Representative to the CIT Technical Support Professional (TSP) meetings.

### **COLLEGE SERVICE:**

Interim Chair of the Department of Mathematics, 2022-2023.

Committee on Professional Leave Review, 2020-2022.

Co-chair of the General Education Committee, 2012-2014.

Teacher Education Coordination Council, 2015-2017.

Internal Control Committee, 2012-2017.

Task Force on Curriculum Review, 2007.

Presidential Student Scholars Committee, 2006.

College Research Council 2003-05 and 2008.

Search Committees for Associate Dean 2004, and for Grants Writer 2005.

External member on the Geological Sciences Search Committee, 2003-04 and 2006-07.

Deliberative Dialogue facilitator, 2004-05.

International Student Orientation, 2004.

Freshman Orientation, Summer 1999-2002 and 2004-2005.

College Senate Secretary, 2004-2005.

Faculty Advisor to USCA 1998-2000 and Shakti 2000-2004.

Delivered the Freshman Orientation Faculty Address, Summer 2002.

Ad Hoc Committee on Sabbatical Leave, Fall 2000.

Senator at Large, Six Years and Under, Undergraduate Policy Committee, 1998-2000.

College Senator, Faculty Affairs Committee member, 1997-1998.

Chemical Management Team, Fall 1997-1999.

Student Health Advisory Committee, 1997-1999.

Student Computer Access Program (SCAP) department representative, 1996-97.

### **SERVICE RELATED TO PROFESSION:**

External Program Reviewer for Department of Physics and Astronomy, SUNY New Paltz,

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Site Visit on April 29, 2022.

External Program Reviewer for Department of Physics and Astronomy, SUNY Plattsburgh, Virtual Visit on May 13, 2021.

External Program Reviewer for Department of Physics and Astronomy, SUNY Oswego, Site Visit, March 27-28, 2017.

*"Space, Time, and Spacetime,"* presentation to 500 local high school students that were bussed to Math Day at Corning Community College, October 11, 2007, October 12, 2006, October 6, 2005, October 7, 2004.

Science Olympiad Coach, 2007, 2008, 2012, and 2013.

Take Our Daughters to Work Day Program titled, *"All That's Physics? No Way!"* April 22, 1999.

BOCES course titled "What is Theoretical Physics?" February 13, 20, and 27, 1997.

### OTHER

**CITIZENSHIP: U.S.**