

CURRICULUM VITAE OF ELIZABETH H. SIMMONS

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Positions Held

Dean, Lyman Briggs College, Michigan State University (since 2007)
Professor of Physics, Michigan State University (since 2003)
Director, Lyman Briggs School of Science, Michigan State University (2003–2007)

Associate Professor of Physics, Boston University (1998–2003).
Director, BU Learning Resource Network for Pre-College Outreach (2002–2003).
Associate Chair for Undergraduate Studies in Physics (2001–2003).
Visiting Scholar, Physics Department, Harvard University (2000–2002).
Assistant Professor of Physics, Boston University (1993–1998).
Postdoctoral Fellow, Harvard University (1990–1993).

Education

Ph.D., Physics (Particle Theory), Harvard University (1990).
Thesis: “Electroweak and Flavor Symmetry Breaking.”
Advisor: Prof. Howard Georgi.

A.M., Physics, Harvard University (1987).

M.Phil., Physics (Theory of Condensed Matter), University of Cambridge (1986).
Thesis: “Origins and Symmetry of Some Incommensurate Phases.”
Advisor: Prof. Volker Heine.

A.B., Physics, *magna cum laude*, Harvard University (1985).

Awards, Fellowships, and Honors

Sabbatical Member, Institute for Advanced Study, Princeton, NJ (2009).
Outstanding Referee, American Physical Society (awarded 2008)
U.S. Delegate to the 3rd International Conference on Women in Physics (2008)
Advanced Visiting Scholar, Tsinghua University, Beijing, China (2006–2007)
ACE Michigan Distinguished Women in Higher Education Leadership Award (2005)
CIC Academic Leadership Program Fellow (2004–05)
Fellow, American Physical Society (elected in 2002)
Boston University UMC Scholar/Teacher of the Year (2002)
NSF Professional Opportunities for Women in Research and Education
(POWRE) Award (2000–2002)
Bunting Fellow, Radcliffe Institute for Advanced Study, Harvard University (2000–2001).
JSPS Invitation Fellowship for Research in Japan (1996).
DOE Outstanding Junior Investigator Award (1995–1999).
NSF Faculty Early Career Development (CAREER) Award (1995–1998).

American Association of University Women American (Curie) Fellowship (1993-1994).
Superconducting Supercollider Laboratory National Research Fellowship (1990-1991).
Graduate School of Arts and Sciences Merit Fellow, Harvard University (1989-90).
Robbins Prize in Physics, Harvard University (1989).
National Science Foundation Graduate Fellow (1985-9).
AT&T Bell Labs Graduate Research Program for Women Grant (1985-90).

Winston Churchill Foundation Scholar, University of Cambridge (1985-6).
Radcliffe Presidential Commendation. For outstanding contributions to Radcliffe (1985).
Joseph L. Barrett Prize. For work as a peer counselor & tutor at Harvard University (1985).
Master's Award, Dudley House, Harvard University. For service as Co-op Co-president (1985).
Radcliffe Summer Science Grants, Harvard University (1982-4).
Phi Beta Kappa (elected 1983).
Presidential Scholar (1981).
National Merit Scholar (1981).

GRANTS

Major Physics Research Funding

Pending National Science Foundation Research Grant [11/1/09 - 10/31/14] \$1,000,000
QCD, Electroweak Symmetry Breaking and Physics Beyond the Standard Model
(as Co-PI with MSU Physics Professor R. Sekhar Chivukula)

Current: National Science Foundation Research Grant [11/15/04 - 10/31/09] \$720,000
Electroweak Symmetry Breaking Beyond the Standard Model
(as Co-PI with MSU Physics Professor R. Sekhar Chivukula)

Previous: Department of Energy Research Grant, Task E: *Theoretical Particle Physics*.
Simmons was one of 7 Boston University Co-PIs on this grant in the period 1995–2004.
Total funding from 2/1/95 through 1/31/04: \$6,030,000.

Additional Physics Research Funding

Radcliffe Institute for Advance Study Exploratory Seminar Grant \$30,000 (2007)
Higgsless Models of Dynamical Symmetry Breaking.
MSU China Development Grant (2006; co-PI with Prof. R.S. Chivukula) \$5,000
AAAS Women's International Scientific Collaboration Travel Grant (2002). \$2,600
NSF Professional Opportunities for Women in Research and Education
(POWRE) Award (2000-2002). \$75,000
Radcliffe Institute for Advanced Study, Harvard University (2000-2001).
Bunting Fellowship, \$42,000. Research Partnership Grant, \$1,400
JSPS Invitation Fellowship for Research in Japan (1996). \$9,000
DOE Outstanding Junior Investigator Award (1995-1999). \$120,000
NSF Faculty Early Career Development (CAREER) Award (1995–8). \$75,000
AAUW American (Curie) Fellowship (1993-1994). \$20,000
SSC National Research Fellowship (1990-1991). \$40,000

Educational Research Funding

Current: National Science Foundation CCLI Grant [6/1/2007 - 5/31/2010] \$149,904
BRAID: Bridging the Disciplines with Authentic Inquiry and Discourse
(as Co-PI with LBC Professors Ryan Sweeder (PI) and Douglas Luckie (co-PI))

Funding for Women-in-Science and Outreach Activities

NSF Funding (\$40,000) awarded for the Workshop on Education and Outreach
at the Aspen Center for Physics, Aspen, CO. (2004)

Corporate Funding for Pathways Program at BU. [1995-2003] \$97,700.
Donors include DISTRIGAS of MA (Cabot Corp.), Ellis L. Phillips Foundation,
EMC Corporation, GenRad Inc., Genzyme Corporation, Teradyne Inc.
Hewlett-Packard Corp./Medical Products Group, Phillips Medical Systems
Total funding 1995 - 2002 : \$86,220
Funding for Pathways 2002 : \$11,500 .

NSF Funding for ATLAS Educational Outreach at BU. \$8,750 (1997). \$6,750 (1998).
Subcontract “The Quantum World of Particle Physics” (1997) \$8,750.
Subcontract “Exploring Particle Physics” (1998) \$6,750.

Workshop Grants on Behalf of the Aspen Center for Physics (As Corporate Secretary)

New Physics at the Electroweak Scale and New Signals at Hadron Colliders [2007] \$5,000 DOE
Neutrinos in Physics and Astrophysics [2007] \$5,000 DOE
Cosmological Probes of Baryons and Dark Matter [2006] \$8,000 NASA, \$5,000 DOE
Particle Physics at the Verge of Discovery [2006] \$5,000 DOE
Spatial Effects in Signal Transduction [2006] \$5,000 NSF
Planetary Formation and Detection [2005] \$8,000 NASA, \$3,000 DOE
The Highest Energy Physics [2005] \$7,000 DOE

PROFESSIONAL ACTIVITIES

Major Responsibilities

American Physical Society: Member (since 1987); Nominating Committee, Division of Particles & Fields (2008); DPF Executive Committee (2002 - 2004); DPF Subcommittee on Educational Outreach (Member, 2002-2007; Chair 2002-2004); J.J. Sakurai Prize Committee: (Vice-Chair, 2001; Chair, 2002)

Aspen Center for Physics: General Member (since 1994), Trustee (2000 - 2006), Corporate Secretary (2004-2007); Asst. Corporate Secretary (2001-2003; 2007-2009) Asst. Scientific Secretary (2008-09); Scientific Secretary (2009-10), Committee for Participant Diversity (Member since 1996; Chair, 1996-2005).

Summer Science Program, Inc.: Board of Trustees (since 2006; Chair since 2008). Executive Committee (since 2007). This non-profit organization runs summer enrichment programs for scientifically-talented high-school students.

American Association for the Advancement of Science: Member (since 2007); Nominations Committee, Section B (2009).

University Research Program Panel (2006-2007)

This sub-panel of the DOE/NSF High-Energy Physics Advisory Panel is charged with evaluating university research grants program and recommending improvements.

Advisory Board, NSF Directorate of Mathematical and Physical Sciences (2004-2007)

The MPSAC advises the MPS Director about priorities for the national program in mathematics, chemistry, physics, and astronomy.

SLAC Experimental Program Advisory Committee (2003-2006)

The EPAC advises the Director of the Stanford Linear Accelerator Center on the selection of facilities and experiments for this national high-energy physics laboratory.

Particle Physics Project Prioritization Panel (2003-2005)

This sub-panel of the DOE/NSF High-Energy Physics Advisory Panel evaluates the merits of \sim \$50M to \$600M experimental particle physics projects and recommends their priority standing in the national high-energy physics program.

Conference Organization

Organizer, Panel Session on Educational Outreach in the Classroom

Fermilab Users' Executive Committee Outreach Workshop, Fermilab, Batavia, IL, 5 June 2007.

Co-organizer, Parallel Session on Education and Outreach.

Joint Meeting of the American and Japan Physical Societies, Honolulu, Hawaii 30 October 2006.

Co-organizer, Workshop on Education and Outreach.

Aspen Center for Physics, Aspen, Colorado, 28 June – 11 July 2004.

Co-organizer, Thinkshops on Top Quark Physics at Tevatron Run II.

Fermilab, Batavia, IL, 16 – 18 October 1998 and 10 – 12 November 2000.

Co-organizer, Physics Workshops at the Aspen Center for Physics

Theoretical and Experimental Issues in Electroweak Dynamics. 13 July – 9 August 1998.

The Flavor and Gauge Hierarchy Problems, 24 June – 21 July 1996.

International Advisory Committee, Topical Conference Series on Hadron Collider Physics

International Advisory Committee, Aspen Winter 2003 Conference on Particle Physics

Program Committee, Annual Meeting, APS Division of Particles & Fields, 4-8 April, 2003.

Other Activities

University of Chicago Review Committee for High-Energy Physics at Argonne National Lab 2004.

NSF panelist and reviewer for grants in the Particle Theory, Outreach and ADVANCE programs.

Grant reviewer for the Chilean Research Council (FONDECYT), the Commonwealth

of Virginia, the DOE and NSF programs in high-energy physics, and Research Corporation.

Manuscript referee for Computer Physics Communications, European Physical Journal,

Journal of High-Energy Physics, Journal of Physics G, Modern Physics Letters A,

Nuclear Physics B, Physical Review D, Physical Review Letters, and Physics Letters B.

Member, American Association of Physics Teachers (since 1996).

Member, ATLAS Collaboration (since 1994).

ATLAS is a major detector being built for the Large Hadron Collider at CERN.

TEACHING

Research Students

Current MSU doctoral students: Arsham Farzinnia.

MSU Doctoral theses supervised: Baradhvaj Coeleppa (Ph.D. 2009), Stefano DiChiara (Ph.D. 2009).

BU Doctoral theses supervised: Yumian Su (Ph.D. 1997), Marko Popovic (Ph.D. 2001),
Kevin Lynch (Ph.D. 2002).

MSU Master's theses supervised: Alex Blum (M.S. 2005), Felix Braam (M.S. 2007),
Michael Flossdorf (M.S. 2007).

BU Undergraduate research students: Gautam Rupak (B.A. 1995),

Jerome Jenquin (B.A. 1997), Vagish Hemmige (B.A. 2002), Mark Stelzner (2003).

MSU Honors College Professorial Assistants: Erin Nolan (2003-04), Garrett Warnell (2005-06),
Edita Klymte (2006-07), Tyler Augst (2007-08), Jamie Overbeek (2008-09).

Courses at Michigan State University

LBS/PHY 415: Methods of Theoretical Physics (Spring 2005, 2006, 2007, 2008 2009)

Mathematical methods and applications to physical sciences for sophomores and juniors majoring
in physics, astrophysics, or other physical sciences. Team-taught with Prof. R.S. Chivukula.

Teaching Innovations at Michigan State University

LBS/PHY 415: Methods of Theoretical Physics

Introduced this course at MSU as a new offering that meets part of the math requirement for
physics and astrophysics majors. Designed it to incorporate active and cooperative learning
techniques such as weekly team-based homework workshops, small-group work on applications
of lecture material, and analysis of demonstrations. Pedagogical techniques are updated annually
based on material from the MSU Spring Institute on Teaching and Learning and the Lilly
Seminars. Since 2007, students have presented posters on extensions and applications of course
material at the LBC Research Symposium; poster preparation involves peer critique sessions
and assessment via the LBC Communications Rubric. Since 2008, specific objectives
(reading, concepts, skills) have been provided in advance for each course meeting.

Courses at Boston University

CC105: Core Physical Science (Fall 2002)

Physics, astronomy and earth science for freshman not planning to major in science.

PY211: General Physics I (Fall 1997, Fall 1998, Fall 1999, Summer 2002)

Introductory calculus-based mechanics and thermodynamics for scientists and engineers.

PY212: General Physics II (Spring 1995, Spring 1996, Spring 1997)

Introductory calculus-based electromagnetism and optics for scientists and engineers.

PY403: Methods of Theoretical Physics (Spring 2003)

Mathematical methods class for sophomore physics majors.

PY408: Intermediate Mechanics (Spring 1999, Spring 2000)

Newtonian and Lagrangian mechanics for junior physics majors.

PY482: Undergraduate Seminar in Particle Physics. (Spring 2002, Spring 2003).

PY491: Undergraduate Reading Course in Particle Physics. (Fall 1993, Spring 1996).

PY531: Classical Mechanics (Fall 1993, Fall 1994, Fall 1995, Fall 1996)

Graduate core course in Lagrangian and Hamiltonian Dynamics.

PY895/896: Graduate Seminar on Theoretical Particle Physics. (Fall & Spring 1994-1998).

Teaching Innovations at Boston University

Interactive Introductory Physics Lectures.

After attending the NSF- and AAPT-sponsored New Physics Faculty Workshop in 1996, incorporated Eric Mazur's Peer Instruction and Richard Berg's Predictive Demonstration techniques into introductory physics lectures. Numerous colleagues in the BU Physics department followed suit and began to introduce other innovative lecture techniques.

PY482: Undergraduate Seminar in Particle Physics

At the request of the undergraduates, initiated this spring seminar on current research in particle physics. Each week, faculty discuss their work on theoretical or experimental topics. The condensed matter faculty have begun offering a similar course in the fall semester.

PY895/896: Graduate Seminar on Theoretical Particle Physics

Created this practicum-based course on making effective research presentations for the doctoral students in particle theory, to prepare them for defending a thesis and presenting a job seminar. Offered a condensed version to undergraduates writing senior theses.

Experience as a Graduate and Undergraduate Teaching Assistant

Teaching Fellow: Science A-17 "The Astronomical Perspective" (1988).

Lab Instructor: Physics 12b "Introductory Electromagnetism" (1987).

Lab Instructor: Physics 1b "Principles of Physics" (1984)

Tutor: Bureau of Study Counsel, Harvard University (1983-9).

Tutored undergraduates in science and math; helped foreign graduate students with writing skills.

Teaching Assistant: Summer Science Program, Ojai CA (1984, 1985)

Ran the asteroid observing program including telescope, darkroom and computer, for this enrichment program for high-school juniors. Tutored in calculus, celestial mechanics and astronomy. Gave guest lectures on linear algebra and geometrical optics. Head T.A. in 1985.

ADMINISTRATION

Major responsibilities at Michigan State University

Dean, Lyman Briggs College (since 2007)

Coordinated the transition to college status. Completed the 25% expansion of LBC. Forged strong collaborations with MSU colleges including College of Natural Science, James Madison College, Honors College, and Residential College in Arts and Humanities.

Member of MSU Dean's Council and Representative to MSU Academic Council (since 2007).

Director, Lyman Briggs School of Science (2003-2007)

Organized a 25% expansion of LBS including hiring additional faculty; recruiting a larger, more diverse, and better-prepared freshmen cohort; and supervising a \$6M renovation of all teaching laboratories while adding significant office and classroom space. Spearheaded proposal to restore Lyman Briggs to college status.

Chair, College of Natural Science Dean's Search and Rating Committee (2006-07)

Other roles at Michigan State University

Faculty Advisory Board, MSU ADVANCE program implementation team (since 2008).

Tenure and Promotion Committee, National Superconducting Cyclotron Laboratory (2008).

MSU Academic Human Resources Advisory Committee (since 2008).

MSU Ad Hoc Committee on Work-Life Balance (since 2008).

Diversity Committee, National Superconducting Cyclotron Laboratory (since 2006).

Steering Committee, Residential Semester at Kellogg Biological Station (since 2004).

Oversight Committee, "STEPPS" Specialization in Science, Technology, the Environment, and Public Policy (since 2003).

NSF RDE Grant Proposal Writing Group, MSU (2008-10).

ADVANCE Grant Proposal Writing Group, MSU (2006-08).

MSU Ad Hoc Committee on Flexibility in the Tenure Process (2006-07).

Women's Advisory Committee to the Dean, College of Natural Science (2005-07).

Advisory Committee, World View Lecture Series at Wharton Center (2005-07).

Medical Scholars Program Advisory Committee, MSU College of Human Medicine (2003-05).

Major responsibilities at Boston University

Founder and Scientific Organizer, Pathways Program (1994–2003).

Each year, assemble a team of over 100 volunteers and corporate funding of over \$10,000 to support a two-day workshop that brings 400 high-school girls from 40 local schools to Boston University to learn about opportunities in science, math, and engineering.

URL: www.bu.edu/lernet/pathways

Associate Chair for Undergraduate Studies in Physics (2001–2003)

Recruit additional departments to participate in our interdisciplinary physics major track. Serve as initial advisor for prospective students, new majors and transfer students; primary advisor for physics minors; secondary advisor for Astronomy & Physics and Philosophy & Physics majors. Ex officio member of departmental Honors and Teaching Assignment Committees.

Director, BU Learning Resource Network for Pre-College Outreach (2002–2003)

Plan, implement, and raise funds for outreach programs for high- and middle-school students and teachers. Encourage additional faculty to become involved. Initiate coordination of outreach efforts among the Colleges of Allied Health Sciences, Arts & Sciences, Education, Engineering, and Medicine. URL: www.bu.edu/lernet

Member, College of Arts & Sciences Committee on Appointments, Promotion, and Tenure (2001-2002).
Reviewed 19 files and made recommendations to the Dean.

Member, College of Arts & Sciences Sexual Harassment Committee (1994-2003)
Reviewed 3 cases and made recommendations to the Dean.

Other roles at Boston University

Chair, Physics Recruiting & Outreach Committee (1997-1999)

Physics Colloquium Committee (1995-1998).

Physics Faculty Merit Review Committee (1998-1999).

Physics Faculty Search Committees in Particle Theory, Particle Experiment, and
Condensed-Matter Experiment. (1996-2000).

Physics Undergraduate Curriculum and Advising Committee (1993 - 2003)

CAS Faculty Advisor, Dean Ralph W. Taylor Academic Advising Center (2002-2003)

CAS LERNet Advisory Board (1998 - 2003)

CAS Women's Studies Advisory Board (1995-2000)

University Pre-Medical Advisory Board (1996 - 2003)

University Search Committee for Dean of College of Engineering (1998-1999)

University Undergraduate Research Opportunities Advisory Board (1997-2000)

WOMEN IN SCIENCE AND EDUCATIONAL OUTREACH ACTIVITIES

Women in Science

Hands-on presenter, Spartan Science Day at Lyman Briggs (2006, 2007, 2008, 2009).

Hands-on presenter, MI Girls Math/Science Conference (2004, 2006, 2007, 2008, 2009) .

Founder and Scientific Organizer, Pathways Program (1994–2003) [www.bu.edu/lernet/pathways].

Pathways encouraged high-school girls to pursue studies and careers in STEM fields.

An annual two-day workshop brought 400 students and teachers from 40 local schools to BU for an intensive program of mentoring groups, tabletop experiments, lab tours, career tables, and lectures. Over 100 women scientists and engineers from academe and industry volunteered as presenters and mentors.

Co-organizer, Focal Week on Women in Physics, Aspen Center for Physics, 4 – 10 July 1994.

Due to reforms suggested by the Focal Week, women's participation in the scientific programs and governance of the ACP has more than doubled.

Mentor, Radcliffe College Alumnae Mentoring and Externship Programs (1995–2003).

Panelist, Women's Leadership Conference, Institute of Politics, Harvard University (1998, 1999).

Scholarship Judge, Women's Initiative for Technology Leadership, Boston (2000).

Panelist, FIRST Women in Science & Technology Forum, University of New Hampshire (2001).

Coordinator, "Women in Mathematical and Physical Sciences",

an organization for Harvard graduate students, research staff, and faculty (1987-89).

Member, Association for Women in Science (since 1992).

Member, American Association of University Women (since 1993).

Educational Outreach

Advisory Board, the QuarkNet national outreach program in high-energy physics. (2005-present).

Presenter at educational outreach programs including Visiting International Professionals

Program at MSU (2006, 2007, 2008, 2009); BBQ For Kids at the Aspen Center for Physics (2005, 2008); Grandparents University at MSU (2007, 2008).

Organizing Committee Member and Presenter, Einstein Day at MSU, 10 March 2005.

This event for the World Year of Physics brought 180 high-school students and teachers to MSU's Department of Physics and Astronomy for tours, talks, and demonstrations.

Co-organizer, Workshop on Education and Outreach.

Aspen Center for Physics, Aspen, Colorado, 28 June – 11 July 2004.

Physicists and educators met to exchange ideas and form collaborations. Outcomes are described in my talks at the APS Division of Particles and Fields 2004 Meeting and the September 2004 High-Energy Physics Advisory Panel Meeting, and in my 2005 invited article in *Physics Today*.

Chair, Snowmass 2001 Education & Outreach Committee.

Organized a 3-week program of public outreach in Snowmass, CO in connection with the Summer Study on the Future of Particle Physics, June 30 - July 21, 2001.

The program of science camps for children, public lectures, star-gazing sessions, panel discussions, on-line exhibits, and a two-day interactive science fair on the pedestrian mall of Snowmass Village was run by a team of 100 volunteers and attended by over 1500 people.

Co-organizer, Saturday Science Lab on Particle Physics (1998-2003).

With 5 faculty colleagues, developed and presented a half-day particle physics program for 30-40 high-school students once each semester.

ATLAS Team Leader, Quantum World Day (1997)

Organized a group of BU scientists to develop an interactive web site and hands-on experiments about particle physics for the Quantum World Day event at Boston University.

RECENT INVITED PRESENTATIONS

Physics Department Colloquia

- ‘Why Is This Quark Different From All Other Quarks?’
 - University of North Carolina at Wilmington, 28 March 2003.
 - Michigan State University, East Lansing, MI, April 2003.
 - Williams College, Williamstown, MA, 16 May 2003.
 - Lawrence University, Appleton, WI, 6 April 2004.
 - Florida State University, Tallahassee, FL, 31 March 2005.
- ‘Electroweak Symmetry Breaking without a Higgs Boson’
 - Tsinghua University, Beijing, China, 14 December 2006.
 - Weihai Forum on the Frontiers of High-energy Physics, Weihai, China, 9 July 2008.
 - Department of Physics, University of South Florida, 3 April 2009.
- ‘Theoretical Particle Physics: Electroweak Symmetry Breaking’
 - 1st Global COE Winter School, Aqua Villa, Ise-Shime, Japan, 19 February 2009.
- ‘Women in Physics: Prospects for the 21st Century’
 - University of Pennsylvania, Philadelphia, PA, 2 February 2000.
 - Johns Hopkins University, Baltimore, MD, 19 October 2000.
- ‘High-energy EPO: Lessons from the Outreach Program at Snowmass 2001’
 - Lawrence Berkeley Laboratory, University of California, 11 September 2001.
- ‘Educational Outreach in Physics,’
 - Northwestern University, Evanston, IL, 13 May 2005.
 - Michigan State University, East Lansing, IL, 29 September 2005.
 - Fermi National Accelerator Laboratory, Batavia, IL, 22 March 2006.
 - Indiana University, Bloomington, IN, 20 September 2006.
 - Western Michigan University, Kalamazoo, MI, 15 October 2007.
 - Brown University, Providence, RI, 22 October 2007.
 - University of Illinois, Champaign, IL, 8 November 2007.

Particle Physics – Plenary Conference Talks

- ‘Electroweak Symmetry Breaking Beyond the Standard Model’ (set of 2 lectures)
 - Particle Physics Summer School, Prerow, Germany, September 2002.
- ‘The Top Quark: Experimental Roots and Branches of Theory’
 - 14th Topical Conference on Hadron Collider Physics, University of Karlsruhe, Karlsruhe, Germany, 3 October 2002.
- ‘Precision Constraints on Theory Space’
 - 2002 International Workshop on Strong Coupling Gauge Theory and Effective Field Theory, University of Nagoya, Nagoya, Japan, 13 December 2002.
- Two lectures on Dynamical Electroweak Symmetry Breaking at the Theoretical Advanced Study Institute in Particle Physics, University of Colorado, Boulder, CO, June 2004.
- ‘Dynamical Electroweak Symmetry Breaking Models’
 - Plenary Lecture at the KEK Theory Meeting on Particle Physics Phenomenology,

- KEK National Laboratory, Tsukuba, Japan, 4 March 2005.
- ‘Higgsless Models: Lessons from Deconstruction’
 KAIST/KIAS Advanced Workshop on Particle Physics, Seoul, Korea, 12 October 2005.
 Xth Mexican Physical Society Workshop on Particles and Fields, Morelia,
 Michoacan, Mexico, 10 November 2005.
 Workshop on Flavor Physics Beyond the Standard Model, Ochanomizu University,
 Tokyo, Japan, 13 December 2005.
- ‘Two Sketches: Higgsless and Z' Models’
 Workshop on Monte Carlo for Physics Beyond the Standard Model (MC4BSM),
 Fermilab, Batavia, IL, 21 March 2006.
- ‘Phenomenology of a Three Site Higgsless Model’
 Workshop on Collider Physics, Argonne National Laboratory, Argonne, IL, 9 May 2006.
- ‘Electroweak Symmetry Breaking and Flavor Physics’ (set of 3 lectures)
 International Summer Symposium on Frontiers in Particle Physics: Beyond the Standard Model,
 Tsinghua University, Beijing, China, 7-11 August, 2006.
- ‘Electroweak Symmetry Breaking and the Top Quark Mass: Hypercharge-Universal Topcolor,’
 Kavli Institute for Theoretical Physics China, Beijing, China, 2 July 2008.
- ‘Higgsless Electroweak Symmetry Breaking’
 DEWSB Workshop, University of Southern Denmark, Odense, Denmark, 13 September 2008.
 1st Global COE Winter School, Aqua Villa, Ise-Shime, Japan, 20 February 2009.

Particle Physics – Research Seminars

- ‘Flavor, Composite Higgs, and Theory Space.’
 Massachusetts Institute of Technology, 19 May, 2003.
 Ohio State University, Columbus, OH, October 2003.
- ‘The Structure of Precision Electroweak Corrections in Extended Gauge Models.’
 University of Maryland, College Park, MD, November 2003.
 Argonne National Laboratory, Argonne, IL, 8 March 2004.
 University of Michigan, Ann Arbor, MI, 29 March 2004.
- ‘Particle Physics Project Prioritization Panel.’
 Michigan State University, October 2003.
 University of Michigan, Ann Arbor, MI, 29 March 2004.
- Higgsless Models: Lessons from Deconstruction’
 Tohoku University, Sendai, Japan, 16 December 2005.
- ‘The Meaning of “Higgs”’: $\tau\tau$ and $\gamma\gamma$ at Hadron Colliders.
 Fermi National Accelerator Laboratory, 23 March 2006.
- ‘A Three-Site Higgsless Model,’
 Joint Meeting of Pacific Region Particle Physics Communities, Honolulu, HI, 30 October 2006.
 University of Wisconsin, Madison, WI, 10 November 2006.
 Institute of Theoretical Physics / Chinese Academy of Sciences, Beijing, China, 13 December 2006.
 PHENO Workshop 2007, University of Wisconsin, Madison, WI, 7 May 2007
- ‘Phenomenology of the Three-Site Higgsless Model,’
 University of Illinois, Champaign, IL, 8 November 2007.
 Kavli Institute for Theoretical Physics, Santa Barbara, CA, 11 March 2008.
 PHENO Workshop 2008, University of Wisconsin, Madison, WI, 28 April 2008.

Poster Presentation at the 3rd IUPAP International Conference on Women in Physics,
Seoul, Korea, 9 October 2008.

‘Higgsless Models of Electroweak Symmetry Breaking in the LHC Era’

Particles and Nuclei in Collision 2008, Eilat, Israel, 11 November 2008.

‘Hypercharge-Universal Topcolor’

Fermi National Accelerator Laboratory, 11 March 2009.

Particle Physics – Public Lectures

‘Fundamental Particles, Fundamental Questions.’

Michigan State University, East Lansing, MI, January 2003.

Aspen Center for Physics Winter Lecture Series, 4 February 2004.

Lawrence University, Appleton, WI, 5 April 2004.

‘Sub-atomic Mystery Particles.’

Aspen Center for Physics, Physics BBQ Series, 20 July 2005.

‘Tritium, Chocolate, and Ping-Pong Balls.’

Aspen Center for Physics, Physics BBQ Series, 6 August 2008.

‘What’s coming at the Large Hadron Collider?’

Talk and panel discussion, Paepcke Auditorium, Aspen, Colorado, 13 August 2008.

Particle Physics – Talks for Students

‘Fundamental Particles, Fundamental Questions.’

Visiting International Professional Program, Michigan State University, East Lansing, MI.

Summers of: 2006, 2007, 23 July 2008, 2009.

The Summer Science Program, New Mexico Tech, Socorro, NM 19 June 2008.

Society of Physics Students, Michigan State University, 23 March 2009.

MSU REU program, Michigan State University, 4 June 2009.

‘Atoms and Nuclei.’

Visiting International Professional Program, Michigan State University, East Lansing, MI.

Summers of: 22 July 2008, 2009.

Science and Society

‘How Do We Know?’

Phi Beta Kappa Oration, Michigan State University Induction Ceremony, 13 April 2008.

Lyman Briggs College Commencement Gathering, Michigan State University, 6 December 2008.

‘The Two Cultures... and Angels & Demons,’

Conference on C.P. Snow and the Two Cultures, Michigan State University, 28 May 2009.

Women in Science

Keynote Address “Myths About Women and Science”, given at

Expanding Your Horizons in Science and Mathematics: A Conference for Young Women,
Fresno City College, Fresno, CA, Feb. 20, 1991.

“Women Scientists in the United States: Status and Prospects,”

Kyoto Association of Women Researchers, Kyoto, Japan, 19 November 1996.

‘Really?... You Don’t Look Like a Physicist! : Tales From the Leaky Pipeline.’

Lyman Briggs School, Michigan State University, East Lansing, MI, September 2003.

‘Pathways into Science for High-School Girls.’

March Meeting of the American Physical Society, Montreal, CA, 24 March 2004.

‘Women in Higher Education Leadership: Lessons Learned.’

Panel Presentation at the American Council on Education’s Annual Michigan Leadership Conference, East Lansing, MI, 12 June 2007.

‘Women in Physics in the United States.’

Poster Presentation at the 3rd IUPAP International Conference on Women in Physics, Seoul, Korea, 8 October 2008.

‘Gender and Science.’

Classroom Panel Presentation, Lyman Briggs College, Michigan State University, 16 April 2009.

Educational Outreach

‘Educational Outreach at Snowmass 2001’

DOE/NSF High-Energy Physics Advisory Panel, Snowmass, CO, 13 July 2001.

‘The World of Subatomic Particles: HEP High-School Outreach.’

Meeting of the APS Division of Particles & Fields, Philadelphia, PA, 5 April 2003.

‘Education and Outreach: Results of Aspen Education & Public Outreach Workshop’

Presentation to the High-Energy Physics Advisory Panel, Washington D.C., 24 September 2004.

‘Popularizing Particle Physics,’

Plenary invited lecture at the 2004 Meeting of the American Physical Society’s Division of Particles and Fields, Riverside, CA, August 2004.

‘Student-Led Outreach: Spartan Science Day,’

Joint Meeting of Pacific Region Particle Physics Communities, Honolulu, HI, 30 October 2006.

Fermilab Users Executive Committee Outreach Workshop, Batavia, IL, 5 June 2007.

3rd IUPAP International Conference on Women in Physics, Seoul, Korea, 8 October 2008.

Faculty Development

‘Progressing Toward Tenure’

April Meeting of the American Physical Society, Albuquerque, NM, 20 April 2002.

‘Faculty Mentoring in Lyman Briggs.’ [Panel presentation]

MULTI Workshop, Michigan State University, East Lansing, MI, 22 November 2005.

LEAD Workshop, Michigan State University, East Lansing, MI, 21 May 2009.

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