

ELIZABETH H. SIMMONS
Executive Vice Chancellor, Academic Affairs
Distinguished Professor of Physics
University of California, San Diego

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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).

Previous Employment

Michigan State University
Associate Provost for Faculty and Academic Staff Development (2016-17).
Dean, Lyman Briggs College (2007-17). Director, Lyman Briggs School of Science (2003-07).
Acting Dean, College of Arts & Letters (2014-15)
University Distinguished Professor (2013-20).
Professor of Physics, Dept. of Physics and Astronomy, College of Natural Science (2003-13).

Boston University
Director, BU Learning Resource Network for Pre-College Outreach (2002-03).
Associate Chair for Undergraduate Studies, Department of Physics (2001-03).
Associate Professor of Physics (1998-2003).
Assistant Professor of Physics (1993-98).

Harvard University
Postdoctoral Fellow in Theoretical Particle Physics, Department of Physics (1990–93).

Sabbatical and Visiting Positions

American Council on Education Fellow, Office of the Provost, Yale University (2013-14).
Member, Institute for Advanced Study, Princeton, NJ (2009).
Visiting Scholar, Physics Department, Harvard University (2000-02).
Bunting Fellow, Radcliffe Institute for Advanced Study, Harvard University (2000-01).

Consultant on Building Diversity in STEM

American Physical Society (2014-2017).
Fermi National Accelerator Laboratory (2015).
US. Department of Energy (2014).
Jefferson National Laboratory (2013).

Public Writing

Columnist for *Inside Higher Ed*. Career Advice: Mend the Gap. (2011-2023).
Quora Top Writer 2017, 2018. <https://www.quora.com/profile/Elizabeth-H-Simmons>

Honorary Societies

Fellow, American Association for the Advancement of Science (elected 2011).
Phi Kappa Phi (elected 2011).
Fellow, American Physical Society (elected 2002).
Phi Beta Kappa (elected 1983).

Honors

Interviewee of the American Institute of Physics Oral History Project (2021).
Letter in Life Award, The Pingry School (2018).
Outstanding Supervisor Award, Michigan State University (2017).
Robert F. Banks Award for Institutional Leadership, Michigan State University (2013).
Women's Center of Greater Lansing Tribute to Women Award (2012).
American Physical Society CSWP Woman Physicist of the Month (February 2012).
Outstanding Referee, American Physical Society (awarded 2008).
Advanced Visiting Scholar, Tsinghua University, Beijing, China (2006-07).
ACE Michigan Distinguished Women in Higher Education Leadership Award (2005).
Committee on Institutional Cooperation Academic Leadership Program Fellow (2004-05).
Boston University Scholar/Teacher of the Year (2002).
NSF Professional Opportunities for Women in Research and Education Award (2000-02).
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 (1993-94).
Superconducting Supercollider Laboratory National Research Fellowship (1990-91).
Graduate School of Arts and Sciences Merit Fellow, Harvard University (1989-90).
Robbins Prize in Physics, Harvard University (1989).
National Science Foundation Graduate Fellow (1985-89).
AT&T Bell Labs Graduate Research Program for Women Grant (1985-90).
Winston Churchill Foundation Scholar, University of Cambridge (1985-86).
Radcliffe Presidential Commendation. For outstanding contributions to Radcliffe (1985).
Joseph L. Barrett Prize. For service 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 (1982-84).
Presidential Scholar (1981).
National Merit Scholar (1981).

ADMINISTRATION

UNIVERSITY OF CALIFORNIA, SAN DIEGO:

Executive Vice Chancellor, Academic Affairs (since 2017).

Reporting to the Chancellor, the Executive Vice Chancellor (EVC) serves as the chief academic officer of UC San Diego and is responsible for policies and decisions relating to all academic programs and curriculum, along with faculty appointments and performance. The EVC is the institution's second-ranking executive officer and acts on behalf of the Chancellor as necessary.

In consultation with the San Diego Division of the Academic Senate, the EVC leads academic planning and programming, the development and implementation of academic policy, and the academic personnel process. The EVC Office is responsible for General Campus academic units, on and off-campus instructional activities, and instructional support programs. The EVC and their team advance the goals of UC San Diego's strategic plan, which emphasizes a commitment to being an inclusive student-centered, research-focused, service-oriented public research university.

Academic Affairs is the largest vice chancellor portfolio at UC San Diego, encompassing eight discipline-based schools and eight undergraduate residential colleges; the divisions of Undergraduate Education, Graduate Education & Postdoctoral Affairs, and Extended Studies; and the University Library. It includes Enrollment Management, Institutional Research, Educational Innovation, Academic Personnel, Academic Resource Administration and other key academic support areas, as well as units under the purview of the Vice Chancellors for Student Affairs and Equity, Diversity & Inclusion. Academic Affairs oversees annual expenditures in excess of \$850M, manages 2.7M ASF of space and employs over 13,500 academic, staff and research employees. The Office of the EVC provides leadership and support to the units in Academic Affairs and is responsible for policy and procedure development, communication and implementation, resource administration, training and guidance, and professional development for administrators, faculty, and staff.

Selected Accomplishments as EVC

I aspire for UC San Diego to work collectively and coherently in becoming increasingly student-centered, research-focused, and service-oriented. I envision that we will make progress together by scaling up the size, connectivity, and impact of our research collaborations across all fields of inquiry; by being as proudly and visibly innovative in education as we have long been in scholarship; and by empowering every member of our Triton community to succeed – students from every degree program, academics of every appointment series, and staff in every profession. To bring this vision to life, I am framing the work of Academic Affairs around a structured collaborative strategy known as Collective Impact and leading an initiative I have named *Erasing Equity Gaps via Collective Impact*. The initiative is described at <https://collectiveimpact.ucsd.edu/index.html> and data on outcomes is at <https://evc.ucsd.edu/about/our-results.html>.

University

- Recruited over two dozen diverse senior leaders for our schools, colleges, and divisions. Started a Faculty Leadership Academy for aspiring leaders and Rising Stars coaching for in-service leaders.
- Created our COVID Rapid Intervention Framework and Educational Continuity Task Force; these let UC San Diego stay fully enrolled during the pandemic, with over 9000 students in residence.
- Achieved the maximum period (10 years) for reaffirmation of reaccreditation from WSCUC.

Students

- Led sustained growth in student enrollment, with an even steeper rise in diversity and improvements in graduation rates. UC San Diego attained AANAPISI and Emerging H.S.I. status.
- Coordinated campus-wide efforts to improve the student experience. UC survey data reveals strong growth in satisfaction with academic experience, sense of belonging, and campus climate.
- Reformed graduate support to include a 5-year doctoral admissions package, clarity in setting incoming cohort sizes, and more professional development opportunities.

Faculty

- Invested in steadily increasing the tenure-system faculty, targeting new lines towards units with the greatest potential for growing interdisciplinary research and teaching our larger, more diverse student body. Inclusive search strategies yielded growth among women and under-represented faculty that far outpaced the overall growth rate.
- Annually leading 650 academic personnel reviews for recruitment, promotion, retention, and advancement of faculty throughout UC San Diego, in consultation with the Senate. Revised policies and processes to make review more equitable across disciplines and demographic groups.
- Implemented tenure clock pauses, modified review and leave policies, offered junior faculty course relief, and took other measures to mitigate the pandemic's impact on faculty careers.

Education

- Launched the Educational Innovation office and expanded the Teaching + Learning Commons. The software tools and support programs they have created are enabling students from under-resourced school districts to succeed on campus, closing equity gaps in gateway courses, and helping us refocus reviews of academic programs on assessment, learning outcomes and equity.
- Enlarged our set of residential colleges from six to eight, so every undergraduate in our larger cohort can still belong to a more intimate community with targeted advising and support services, along with a general education program tailored to the college's interdisciplinary theme.
- Evolved extension into a well-networked Division of Extended Studies that leads inclusive programs for industry and non-traditional learners, partners with academic units to create new degrees and certificate programs and plays a key role in campus strategic initiatives, like Collective Impact.

Scholarship

- Started the Haliclioglu Data Science Institute which is now joining the San Diego Supercomputer Center as the core of a new interdisciplinary School of Computing, Information, and Data Sciences
- Established matching program for qualifying external grant proposals.
- Invested in lab renovations, new building construction, and clearer space allocation processes to provide the physical environment our cutting-edge research program requires.
- In collaboration with the Senate, ensured that novel and diverse forms of scholarship, innovation, and creative activities receive equitable treatment in academic review.

Accountability

- Opened a Campus Privacy Office to provide widely-accessible trainings and consultations that support intellectual freedom, autonomy, integrity, transparency, and individual choice.
- Created a policy of conducting Institutional Reference Checks for all potential hires with tenure.
- Established a policy barring academics from conducting intimate relationships with undergraduates.
- Strengthened due process by standardizing and publicizing faculty discipline protocols and obtaining input from faculty peers and cognizant administrators before discipline is imposed.

External Engagement

- Playing an active role in cultivation, stewardship, and proposals to donors and foundations.
- Overseeing the university-run public charter school for first-generation, low-income students.
- Leading a campus Art Strategy initiative: Created infrastructure to help UC San Diego become a notable destination for arts and culture, including an Art Strategy Advisory Group, a campus arts website and calendar, and a Programming Collaboratory uniting our campus curators.

Other University of California Leadership Roles

UC Senate/Administration Working Group on the Future of Graduate Education (2023 - present).

UC Academic Planning Council Workgroup on Faculty Mission Priorities and Balance Post-Pandemic. (2022 - present).

UC Research Data Backup Steering Committee (2022-present).

UC EVCs Academic Labor Advisory Committee (2021-present).

UC Provost Search Advisory Committee (2021-22).

UCLA EVC/Provost Search Advisory Committee (2021-22).

UC IT Assessment Steering Committee (2021-22).

Convenor, UC Council of Executive Vice Chancellors (2020-22).

UC Executive Budget Committee (2017-2021).

MICHIGAN STATE UNIVERSITY

Associate Provost for Faculty and Academic Staff Development (2016-17).

Created and led the Academic Advancement Network (AAN), to support individuals in building productive careers and promote an inclusive, proactive culture of professional development throughout campus. The AAN worked with all MSU academics as they joined the university, established professional trajectories, and advanced through review and promotion. Its efforts were grounded in research and privilege innovation as a way to promote growth and development.

AAN addressed both the common issues all academics encounter and the specialized issues arising for particular disciplines, appointment types, or demographic cohorts. It was organized around four nodes spanning topics crucial in the careers of faculty and academic staff: Teaching & Learning, Research & Scholarship, Leadership, and Career Paths. The network ran programs that are best handled centrally, promoted resources offered by other internal or external organizations, and partnered with campus units to launch new ventures. Diversity Consultants strengthened AAN's focus on inclusion, diversity, access, and engagement, which permeated the network's activities.

Reporting to the MSU Provost, the Associate Provost's primary responsibilities included:

- Designing the structure, philosophy, and operations of the new Academic Advancement Network, building on the foundations from its predecessor, the Office for Faculty & Organizational Development.
 - Recruiting and supervising a team of four Assistant Provosts, all of whom are full professors.
- Recruiting and coordinating the Diversity Consultants. Managing five staff direct reports.
- Leading strategic planning and resource acquisition, allocation, and tracking for a \$900k budget.
 - Sustaining signature programs, conducting needs assessments, and designing new online resources and event series aligned with the Network's mission, vision, and values.
 - Meeting with the leadership teams of all major academic units, interdisciplinary centers, and governance bodies to identify stakeholders' needs and initiate active collaborations.

Dean, Lyman Briggs College (2007-17).

MSU's Lyman Briggs College (LBC) is a 4-year degree-granting residential undergraduate college devoted to studying the natural sciences in their historical, philosophical, literary and social context. Most tenure-system LBC faculty member have a 75% appointment and tenure home in LBC; to facilitate scholarship, each has a 25% joint appointment in the corresponding disciplinary department of another MSU college. Half the faculty are in STEM fields and half are in the history, philosophy, and sociology of science. In 2017, student enrollment was 2000, and the college had 60 faculty and staff, over 100 student employees, and a \$4.5M operating budget.

Reporting to the Provost and sitting on the MSU Council of Deans, the Lyman Briggs Dean serves as Chief Academic, Financial, and Advancement Officer of the College. Responsibilities included:

- Led financial and personnel planning, and resource acquisition, allocation, and tracking.
- Supervised 12 direct reports including three associate deans, four directors, and the staff in charge of IT, Finance, HR, and Development.
- Responsible for faculty hiring, retention, professional and leadership development, annual evaluations and reappointment/tenure/promotion reviews for faculty in the sciences, mathematics, and the history, philosophy, and sociology of science.
- Facilitated academic governance within the College and participation in University governance.
- Oversaw the development and assessment of courses, curricula, and teaching facilities, including biology, chemistry, and physics laboratories and active-learning spaces.
- Promoted the development of a strong college research portfolio, including special focal areas.
- Planned College-wide space utilization, acquisition, and renovations.
- Led development, communications, and alumni relations including articulation of the College's mission, vision, values, and goals to internal and external audiences. Raised \$4M for laboratory renovations and another \$4.2M for making high-impact active and experiential learning accessible to students from backgrounds traditionally underrepresented in STEM.
- Established collaborations with 22 other academic units (spanning the humanities, social sciences, natural sciences, and professional schools) on faculty hiring and joint appointments, curriculum, governance, grant proposals, and scholarship.

Director, Lyman Briggs School (2003-07). Reported to the Dean, College of Natural Science. Served as Academic, Financial, and Operations Officer for the School, advising the Dean on all fiscal, curricular, and personnel matters for the School. Duties were similar to those articulated above,

Accomplishments as Leader of Lyman Briggs

Significant Cross-Campus Collaborations

- With the College of Engineering, created a summer bridge program for freshmen with low math placement scores, feeding into academic-year cohort programs that boost degree attainment.
- Created MSU STEM Education Alliance with Colleges of Engineering, Natural Science, and Agriculture and Natural Resources and several campus research institutes. The Alliance won an AAU STEM Initiative grant in 2013, secured grants from the Howard Hughes Medical Institute and the Herbert & Grace Dow Foundation in 2014 and led campus-wide gateway course reforms.
- Sponsored the new LBC-led campus research initiative Science & Society @ State (S3). This faculty collaboration generator and seed fund program, centered in Lyman Briggs and including a dozen MSU colleges, promotes interdisciplinary scholarship and grant writing in the history,

philosophy and sociology of science, STEM education research, and related fields.

- Co-sponsored a new Graduate Fellows Program on Scholarship of Undergraduate Teaching and Learning together with the Graduate School. A diverse cohort of graduate students gain experience conducting mentored research on undergraduate teaching and learning; familiarity with contemporary instruction and assessment techniques; and academic career guidance.

Creation of an Inclusive College Environment

- Helped faculty establish, assess, and refine an array of programs and practices supporting persistence and graduation by students from groups traditionally under-represented in STEM fields. Secured long-term university funding once the programs' effectiveness was established.
- Improved transparency and inclusion by revising faculty recruitment, mentoring, retention, professional development, and evaluation processes. Broadened governance participation and formed a new college Standing Committee on Inclusion. The diversity of the faculty and academic staff increased markedly and the University now cites Lyman Briggs's processes as exemplars.
- The Provost awarded the College new recurring funds in recognition of these achievements and the College won an MSU Excellence in Diversity Award in 2012.

Transition of Lyman Briggs to College Status (2005-2007)

- Proposed the restoration of College status, obtaining input and widespread support from faculty, staff, students, and alumni. Obtained approval from Academic Governance and the Board of Trustees.
 - Secured resources needed for full College operations, including positions in development, student recruiting, career services, communications and information technology. Established the priorities and expectations for the new positions and hired the staff.
 - Supervised teams revising academic affairs, student affairs, personnel, and financial operations.
 - Led the efforts to define the College's mission and values and infuse them into College processes.
 - Created College procedures for reappointment, promotion, and tenure reviews, with faculty input.
 - Doubled faculty grant proposals and tripled grant funding since College status was restored.
- Funded research spans all faculty disciplines, including the scholarship of teaching and learning.
- Established funding and award mechanisms for undergraduate research experiences, including stipends, supplies, and conference travel support. Likewise, established support for faculty scholarship including money for pilot studies and professional travel.

25% Expansion of Lyman Briggs Enrollment (2004-2007)

- Created a multi-year plan for expanding the freshman cohort to 625 students and the total enrollment to 1800+ students, with widespread support from the faculty staff, students, and alumni.
- Secured the needed faculty and staff lines, operating funds, space, and renovation funds.
- Spearheaded a \$6M renovation of the teaching laboratories, high-tech classrooms, tutoring centers, and offices. Engaged faculty and staff in the planning process. Established continuing partnerships with Physical Plant, Residential and Hospitality Services, and MSU Development.
- Hired a diverse cohort of two dozen new faculty, spanning all College disciplines and with joint appointments in a dozen disciplinary departments across the University.
- Increased curricular emphasis on cross-disciplinary teaching, inquiry-based learning and study-abroad. Expanded the History, Philosophy, and Sociology of Science (HPS) disciplinary group, thereby improving coverage of major themes in scholarship and teaching. Recruited STEM faculty to join the HPS faculty in leading senior capstone seminars bridging the STEM and HPS curricula. Encouraged cross-disciplinary team teaching and scholarly assessment of its effectiveness.

Acting Dean, College of Arts & Letters (2014-15).

Served as Acting Dean (the college's Chief Financial, Academic, and Advancement Officer) during a transitional year while an external search for a new Dean was being undertaken. Held this position concurrently with my ongoing role as Dean of Lyman Briggs College.

The College of Arts & Letters included 8 departments and 12 academic, centers, with 52 graduate and undergraduate majors and programs and a \$40M general funds budget. College employees included 185 tenure-system faculty, 190 other faculty and academic staff, and 60 administrative and support staff. The college had 2000 primary undergraduate majors and a similar number undertaking secondary majors or minors. The graduate programs enrolled 160 fully-funded Ph.D. and MFA candidates. The College contained the 1st Year Writing Program and the general education program "Integrative Studies in Arts and Humanities" taken by all MSU undergraduates, and also stewarded the campus Writing Center.

Highlights of the year included

- Established a College Inclusive Practices Committee through academic governance processes.
- Secured \$3.5M in donor funding for two endowed chairs.
- Recruited an external department chair and several academic leaders from within MSU.
- Supervised 30 direct reports including twenty chairs and directors, six assistant and associate deans, and four administrative staff.
- Oversaw more than twenty reappointment, promotion, and tenure cases.
- Negotiated the move of the Performing Arts Teaching Laboratory to a new purpose-built facility.
- Revised graduate funding to provide stability, incentivize best practices, and improve time to degree.

Other Leadership Roles

Chair, MSU Public Art on Campus Committee (since 2016).

MSU IT Executive Steering Committee (since 2014) and MSU IT Governance Committee (since 2017).

MSU Shared Service Delivery Pilot Steering Committee (2015-16).

MSU's campus representative to the AAU Undergraduate STEM Education Initiative (2012).

Faculty Advisory Board, MSU NSF-ADVANCE program (2008-14); Board Convenor (2011-13).

MSU Academic Human Resources Advisory Committee (2008-13).

MSU Ad Hoc Committee on Work-Life Balance (2007-10).

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

MSU grant proposal writing group: NSF Research in Disability Education (2008-10).

MSU grant proposal writing group: NSF ADVANCE (2006-08).

Chair, College of Law Dean's Search and Rating Committee (2015-16).

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

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

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

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

Oversight Committee, "STEPPS" Specialization in Science, Technology, the Environment, and Public Policy (2003-07).

Steering Committee, Residential Semester at Kellogg Biological Station (2004-09).

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

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

BOSTON UNIVERSITY

Major Roles and Responsibilities

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

Each year, assembled a team of over 100 volunteers and corporate funding of over \$10,000 to support a two-day workshop that brought 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 (2001-03).

Recruited additional departments to participate in the interdisciplinary physics major track.

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 (LERNET) for Pre-College Outreach (2002-03).

Planned, fundraised for, and implemented outreach programs for high- and middle-school students and teachers. Encouraged additional faculty to become involved. Initiated

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 (2001-02).

Reviewed 19 files and made recommendations to the Dean.

Member, College of Arts & Sciences Sexual Harassment Committee (1994-2003).

Reviewed cases and made recommendations to the Dean.

Other Leadership Roles

Chair, Physics Recruiting & Outreach Committee (1997-99).

Physics Colloquium Committee (1995-98).

Physics Faculty Merit Review Committee (1998-99).

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

Physics Undergraduate Curriculum and Advising Committee (1993 - 2003).

CAS Faculty Advisor, Dean Ralph W. Taylor Academic Advising Center (2002-03).

CAS LERNET Advisory Board (1998 - 2002).

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

University Pre-Medical Advisory Board (1996 - 2003).

University Search Committee for Dean of College of Engineering (1998-99).

University Undergraduate Research Opportunities Advisory Board (1997-2000).

GRANTS

Major Physics Research Funding

National Science Foundation Research Grant. 8/15/22 - 7/31/25. \$510,000.

Physics Beyond the Standard Model,

R.S. Chivukula (PI) and E.H. Simmons (co-PI).

National Science Foundation Research Grant. 9/1/19 - 8/31/22. \$510,000.

Physics Beyond the Standard Model,

R.S. Chivukula (co-PI) and E.H. Simmons (co-PI).

National Science Foundation Research Grant. 5/1/15 - 8/31/19. \$510,000.

Electroweak Symmetry Breaking and Physics Beyond the Standard Model,

R.S. Chivukula (co-PI) and E.H. Simmons (co-PI).

National Science Foundation Research Grant. 5/15/10 - 4/30/15. \$1,000,000.

QCD, Electroweak Symmetry Breaking and Physics Beyond the Standard Model,

R.S. Chivukula (co-PI) and E.H. Simmons (co-PI).

National Science Foundation Research Grant. 11/15/04 - 10/31/10. \$720,000.

Electroweak Symmetry Breaking Beyond the Standard Model.

R.S. Chivukula (co-PI) and E.H. Simmons (co-PI).

Department of Energy Research Grant, Task E: *Theoretical Particle Physics*. \$6,030,000.

Simmons was one of 7 Boston University Co-PIs on this grant from 2/1/95 -1/31/04.

Additional Physics Research Funding

Radcliffe Institute for Advance Study Exploratory Seminar Grant. (2007). \$30,000.

MSU China Development Grant (2006). \$5,000.

R.S. Chivukula (co-PI) and E.H. Simmons (co-PI).

AAAS Women's International Scientific Collaboration Travel Grant. (2002). \$2,600.

NSF POWRE Award. (2000-02). \$75,000.

Radcliffe Institute for Advanced Study, Harvard University. (2000-01).

Bunting Fellowship, \$42,000.

Research Partnership Grant, \$1,400.

JSPS Invitation Fellowship for Research in Japan. (1996). \$9,000.

DOE Outstanding Junior Investigator Award. (1995-99). \$120,000.

NSF Faculty Early Career Development (CAREER) Award. (1995-8). \$75,000.

AAUW American (Curie) Fellowship. (1993-94). \$20,000.

SSC National Research Fellowship. (1990-91). \$40,000.

Educational Research Funding

National Science Foundation Research Grant. 1/1/2019 - 12/31/2021. \$350,000.

Institutional Transformation: Empowering Faculty to Cultivate a Culture of Ethics in Engineering.

M.W. Kalichman, PI; A.P. Pisano (co-PI), E.H. Simmons (co-PI).

Herbert H. and Grace C. Dow Foundation Award. 10/30/2014 – 10/31/2017. \$5,000,000.

R.S. Chivukula (co-PI), K. Renn (co-PI), E.H. Simmons (co-PI) and M. Urban-Lurain (co-PI)

Funding included \$2,500,000 to establish an endowment for student support.

National Science Foundation CCLI -Type 2 Grant. 6/1/2010 - 5/31/2013. \$250,000.

BRAID: Bringing Relationships Alive through Interdisciplinary Discourse.

R. Sweeder (PI), Richard Bellon (co-PI), D. Luckie (co-PI), and E.H. Simmons (co-PI)

National Science Foundation CCLI Grant. 6/1/2007 - 5/31/2010. \$149,904.

BRAID: Bridging the Disciplines with Authentic Inquiry and Discourse.

R. Sweeder (PI), D. Luckie (co-PI), and E.H. Simmons (co-PI)

Funding for Women-in-Science and Outreach Activities

NGO funding for the Career Development Workshop for Women in Physics

at the International Centre for Theoretical Physics (ICTP), Trieste, Italy.

2021 ICTP Implementation Grant \$20,000.

2019 ICTP Implementation Grant \$25,000.

2017 ICTP Implementation Grant \$25,000.

2015 ICTP Implementation Grant \$25,000.

2013 ICTP Implementation Grant \$25,000.

2013 US Liaisons to the International Union of Pure and Applied Physics. \$10,000.

NSF Workshop Funding for the 2004 Workshop on Education and Outreach

at the Aspen Center for Physics, Aspen, CO. \$40,000.

Corporate Funding for Pathways Program at Boston University. (1995-2003). \$97,700.

Donors included 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.

NSF Funding for ATLAS Educational Outreach at Boston University.

Subcontract: *The Quantum World of Particle Physics.* (1997). \$8,750.

Subcontract: *Exploring Particle Physics.* (1998). \$6,750.

Workshop Grants Obtained as Corporate Secretary of the Aspen Center for Physics

New Physics at the Electroweak Scale and New Signals at Hadron Colliders. (2007). \$5,000 from DOE.

Neutrinos in Physics and Astrophysics. (2007). \$5,000 from DOE.

Cosmological Probes of Baryons and Dark Matter. (2006). \$8,000 from NASA. \$5,000 from DOE.

Particle Physics at the Verge of Discovery. (2006). \$5,000 from DOE.

Spatial Effects in Signal Transduction. (2006). \$5,000 from NSF.

Planetary Formation and Detection. (2005). \$8,000 from NASA. \$3,000 from DOE.

The Highest Energy Physics. (2005). \$7,000 from DOE.

TEACHING

Research Students

Michigan State University doctoral theses supervised: Dennis Foren (Ph.D. 2020), Pawin Ittasamai (Ph.D. 2014), Arsham Farzinnia (Ph.D. 2012), Baradhvaj Coeleppa (Ph.D. 2009), Stefano DiChiara (Ph.D. 2009).

Boston University doctoral theses supervised: Kevin Lynch (Ph.D. 2002), Marko Popovic (Ph.D. 2001), Yumian Su (Ph.D. 1997).

Committee member, Western Michigan University: Ramon Steven Barthelemy (Ph.D. 2014).

Visiting doctoral students supervised (staying up to one year):

Tomohiro Abe, Masafumi Kurachi, and Shinya Matsuzaki (Nagoya University, Japan), Jing Ren (Tsinghua University, China)

Michigan State University master's theses supervised: Michael Flossdorf (M.S. 2007), Felix Braam (M.S. 2007), Alex Blum (M.S. 2005).

Michigan State University Honors College Professorial Assistants: Anthony Incorvati (2015-16), Kathryn Jarvis (2012-13), Drew Murray (2011-13), Alex Goodin (2010-11), Jamie Overbeek (2008-09), Tyler Augst (2007-08), Edita Klymte (2006-07), Garrett Warnell (2005-06), Erin Nolan (2003-04).

Boston University Undergraduate research students: Mark Stelzner (2003), Vagish Hemmige (B.A. 2002), Jerome Jenquin (B.A. 1997), Gautam Rupak (B.A. 1995).

Courses at University of California San Diego

PHYS 87: First-Year Seminar in Physics: Anti-Racism in Physics and Astronomy (Spring 2022).

Lead instructor: A. Burgasser. Co-instructors: R.S. Chivukula and E.H. Simmons.

PHYS 192: Senior Seminar in Physics: Anti-Racism in Physics and Astronomy (Spring 2021).

Lead instructor: A. Burgasser. Co-instructors: R.S. Chivukula and E.H. Simmons.

Course at Michigan State University

PHY 415/810: Methods of Theoretical Physics. (Fall semesters 2014-2015).

LB/PHY 415: Methods of Theoretical Physics. (Spring semesters 2005-2014).

Mathematical methods and applications to physical sciences for undergraduates (415) majoring in physics, astrophysics, or other physical sciences and for entering doctoral students (810) in physics or engineering (810). Team-taught with Prof. R.S. Chivukula.

We employed active and cooperative learning techniques such as weekly team-based homework workshops, group work on applications of lecture material, and analysis of demonstrations. The pedagogy was updated annually based on insights from professional development seminars. From 2007 students created posters on scientific applications of mathematics; this involved peer critique and assessment via a rubric. As of 2008, written objectives for each class session were provided in advance. Course resources moved online in 2009. In 2011, concept mapping and assigned longitudinal teams were introduced. During 2012, we added in-class exercises emphasizing initial approach to a problem.

In 2014, we adapted the course to serve graduate students as well, by adding online videos reviewing introductory or advanced material, as well as case studies for graduate and honors students.

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 and 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. Colleagues in the BU Physics department followed suit and began to introduce active and cooperative teaching methods.

PY482: Undergraduate Seminar in Particle Physics.

At the request of the undergraduates, initiated this seminar on current research in particle physics. Each week, faculty discussed their work on theoretical or experimental topics. The condensed matter faculty later began offering a similar course.

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. (1983-89).

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 labs 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.

PROFESSIONAL ACTIVITIES

Major Service to Government Agencies and Universities

International Advisor to the University Council, United Arab Emirates University (since 2021).

Review and/or Search Committees for the National Research Council of Canada, the WASC Senior College and University Commission, University Research Associates, and the University of California (2021-2022).

Member, Board of Trustees of the Fleet Science Center, San Diego (since 2020).

External Advisory Board, NSF Physics Frontiers Center. (2011-16).

Kavli Institute for Cosmological Physics, University of Chicago, Chicago, IL.

International Advisory Committee, Center for High Energy Physics. (2008-16).

Tsinghua University, Beijing, China.

Advisory Board, NSF Directorate of Mathematical and Physical Sciences (2004-07).

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

University Research Program Panel (2006-07).

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

Particle Physics Project Prioritization Panel (2003-05).

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.

SLAC Experimental Program Advisory Committee (2003-06).

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.

Major Service to Professional Organizations

American Physical Society: Member (since 1987) and Fellow (since 2002); APS Task Force on Review of APS Committees (2023-24); APS Nominations Committee (2023-25); Division Councilor, Division of Particles and Fields [DPF] (2018-21); Founding Committee Chair (2016-19) and initial Past Chair (2019-20) of the APS Forum on Diversity & Inclusion (2016-17). *Ad hoc* Committee on LGBT Climate Issues (2014-16); DPF Nominating Committee (2008); DPF Executive Committee (2002-04); DPF Subcommittee on Educational Outreach (Member, 2002-07; Chair 2002-04); J.J. Sakurai Prize Committee: (Vice-Chair, 2001; Chair, 2002)

Aspen Center for Physics: Honorary General Member (since 2019). General Member (1994-2019):

Trustee (2000-06, 2013-17), Corporate Secretary (2004-07); Asst. Corp. Secretary (2001-03; 2007-09), Asst. Scientific Secretary (2008-09); Scientific Secretary (2009-10), Committee for Participant Diversity (Member 1996-2008; Chair, 1996-2005); Nominations and Presidential Search Committees (2012-13).

American Association for the Advancement of Science: Member (since 2007) and Fellow (since 2011); Nominations Committee, Section B (2009-11).

Association of American Colleges & Universities: Member, Board of Directors (2014-18).

Summer Science Program, Inc.: Board of Trustees (Member 2006-13; Chair 2008-11 and 2012-13).

Executive Committee (since 2007). Senior Vice-President (2011-12). This non-profit organization runs summer enrichment programs in astrophysics for scientifically-talented high-school students.

Conference Organization – Physics

International Advisory Committee, KMI Workshop, Nagoya University, Japan. 2-7 December 2012.

Co-Organizer, Rencontres de Blois: Particle Physics and Cosmology, Chateau de Blois, France.

24th Rencontres: Particle Physics and Cosmology, 27 May - 1 June 2012

23rd Rencontres: Particle Physics and Cosmology, 29 May - 3 June 2011.

22nd Rencontres: First Results from the LHC, 15 - 20 July 2010.

Organizer, Radcliffe Institute for Advance Study Exploratory Seminar.

Higgsless Models of Dynamical Symmetry Breaking. 31 July - 4 August 2007.

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.

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

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

New Data from the Energy Frontier, 12 - 18 February 2011.

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.

Conference Organization – Education & Faculty Development

Co-Organizer and Presenter, Career Development Workshops for Women in Physics,

International Center for Theoretical Physics, Trieste, Italy.

Fifth workshop: 16-19 November 2021.

Fourth workshop: 14-18 October 2019.

Third workshop: 9-13 October 2017.

Second workshop: 10-16 October 2015.

First workshop: 16-19 September 2013.

Co-Organizer, Workshops on Faculty Leadership and Academic Life.

Academic Finance for Faculty Leaders, Michigan State University, 8 November 2012.

Transitioning from Faculty to Administrative Roles, Michigan State University, 29 March 2012.

Co-organizer and Moderator, Panel Sessions on Faculty Mentoring.

Evaluation of Mentoring Programs, Michigan State University, 17 April 2012.

Mentoring for Faculty Leaders, Michigan State University, 10 November 2011.

MSU Spring Institute on Teaching and Learning, 20 May 2010.

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

Other Activities

US Department of Energy Review Panel, Graduate Fellowship Program. (2010).

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 National Research Council of Canada, the Commonwealth of Virginia, the US Department of Energy and US National Science Foundation programs in high-energy physics, and Research Corporation.
Manuscript referee for Computer Physics Communications, European Physical Journal C, Europhysics Letters, 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, Sigma Xi. (Since 2007).

WORK ON GENDER & SCIENCE AND EDUCATIONAL OUTREACH

Gender & Science

Chair, Founding Committee of the APS Forum on Diversity & Inclusion. (2016-2019).

The formation of an APS Forum on Diversity and Inclusion was recommended in the report on the LGBT Climate in Physics. This committee was charged with drafting bylaws, gathering signatures of prospective members, and making the case to the APS governing council.

Member, American Physical Society *ad hoc* Committee on LGBT Issues (2014-16).

This committee was charged with researching the status of LGBT physicists in the US and recommending how the APS can become more inclusive. The final report is available at <http://www.aps.org/programs/lgbt/> .

Member, Organizing Board, *lgbt+ physicists*. (2012-2018).

This grass-roots organization promotes awareness and inclusion through a web presence (<http://lgbtphysicists.org>), surveys, talks, a Best Practices Guide for department chairs, and an Out List that LGBT+ physicists or allies can join.

Co-Organizer, Bi-annual ICTP Workshops on Career Development for Women in Physics (since 2013).

U.S. Delegate to the International Conference on Women in Physics. (2008, 2011).

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 and 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. (2005-13).

Presenter at educational outreach programs including Visiting International Professionals

Program at MSU (2006, 2007, 2008, 2009, 2010); BBQ For Kids at the Aspen Center for Physics (2005, 2008, 2015); Grandparents University at MSU (2007, 2008, 2010); Physics and Astronomy REU Program (2009, 2010, 2011). ICWIP Outreach event in South Africa (2011). MSU Frontiers in the Physical Sciences for high-school teachers (2011). MSU GCAL workshops for Korean

High-School Students (spring and fall 2011). Girls to Women workshop for Lansing-area female students (2012).

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 January 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.

MEDIA

Higher Education

Commentary: 'For the U.S. to continue to be a science leader, we'll need a new collaborative vision.'

The San Diego Union-Tribune, 18 February 2022.

Letter: 'Proposition 209 failed our state's students.'

The San Diego Union-Tribune, 20 June 2020.

Careers, Gender and Science

Presentation at press conference on 'Women in Physics: Increasing Interest, Expansion and Equality,' held at the American Physical Society April Meeting, 17 April 2016.

Quoted in the article "Jeff Lab Female Physicists try to plug the 'leaky pipeline' of women in physics," published on *dailypress.com*, 8 May 2015.

Featured on AAAS Member Spotlight (membercentral.aaas.org), 24 July 2014.

Featured in the exhibit *STEMinists: Michigan Women in STEM*

at the Michigan Women's Historical Center and Hall of Fame, Lansing, MI, March 2013 - February 2014.

Interviewed about the *STEMinists* exhibit

on *Current State*, WKAR, East Lansing, MI, 12 March 2013,

by the *Detroit Free Press*, Detroit, MI, 10 March 2013.

Featured in the article "Love in the Lab," published in Science Careers, *Science*, 8 February 2013.

Particle Physics

Interviewed about the 2012 discovery of the Higgs Boson at CERN

on *Current State*, WKAR, East Lansing, MI, 18 March 2013,

on *Aspen Radio Physics*, 13 December 2012,

by the *Aspen Sojourner* on 10 July 2012,

by Aspen's *Grassroots TV* on 6 July 2012,

by *Science News* on 4 July 2012,

by *Aspen Public Radio* on 4 July 2012.

My 2012 public dialog about the Higgs Boson discovery was covered

by the *Aspen Daily News* on 8 July 2012.

Interviewed about my 2008 Aspen, CO public lecture on the LHC

by *Grassroots TV* on 8 August 2008;

the lecture was filmed and streamed by *Grassroots TV* on 13 August 2008.

Interviewed about my 2008 Aspen, CO children's science outreach event

by Michael Conniff on Con Games, *KNFO Radio* on 6 August 2008;

the event was filmed and streamed by *Grassroots TV* on 6 August 2008.

My 22 June 2005 children's outreach event on particle physics in Aspen, CO was filmed

by *Grassroots TV* and rebroadcast throughout that summer.

My 4 February 2004 public lecture about particle physics was broadcast

by *Grassroots TV*.

Interviewed about the discovery of the top quark

by Barry Nolan on *Comcast's Nite Beat* 27 May 2003.

INVITED PRESENTATIONS

(since 2003)

Physics Department Colloquia

‘Gender Equity, Power Structures, and Implicit Bias in STEM.’

Physics & Astronomy Department, UCLA, Los Angeles, CA, 9 January 2020.

Mathematics Department, UC San Diego, La Jolla, CA, 5 December 2019.

Physics Department, University of Arizona, Tucson, AZ, 18 October 2019.

Physics Department, UC San Diego, La Jolla, CA, 17 October 2019.

Argonne National Laboratory, Argonne, IL, 24 May 2019.

Physics Department, University of Chicago, Chicago, IL, 23 May 2019.

Fermi National Accelerator Laboratory, Batavia, IL, 28 March 2019.

‘Promoting Gender Equity in STEM: Theory and Applications.’

Physics Department, University of Michigan, Ann Arbor, MI, 10 January 2018.

Physics Department, Brown University, Providence, RI, 13 November 2017.

‘Moving Toward Gender Equity in STEM.’

Department of Physics, University of Notre Dame, South Bend, IN, 16 March 2016.

‘Electroweak Symmetry Breaking Meets the LHC.’

Department of Physics, Westminster College, New Wilmington, PA, 11 April 2013.

‘Electroweak Symmetry Breaking without a Higgs Boson... Meets the LHC.’

Department of Physics, University of Arizona, Tucson, AZ, 20 April 2012.

Department of Physics, Wayne State University, Detroit, MI, 10 November 2011.

‘Electroweak Symmetry Breaking without a Higgs Boson.’

Department of Physics, University of Cincinnati, Cincinnati, OH, 22 April 2010.

Physics Department, Brookhaven National Laboratory, Upton, NY, 20 April 2010.

Department of Physics, University of Kentucky, Lexington, KY, 4 September 2009.

Department of Physics, University of South Florida, Tampa, FL, 3 April 2009.

Weihai Forum on the Frontiers of High-energy Physics, Weihai, China, 9 July 2008.

Tsinghua University, Beijing, China, 14 December 2006.

‘Women in Physics in the United States: Numbers, Causes, and Solutions.’

Marquette University, Milwaukee, WI, 6 September 2012.

Jefferson National Laboratory, Newport News, VA, 5 April 2012.

Nagoya University, Nagoya, Japan, 7 December 2009.

‘Theoretical Particle Physics: Electroweak Symmetry Breaking.’

1st Global COE Winter School, Aqua Villa, Ise-Shime, Japan, 19 February 2009.

‘Educational Outreach in Physics.’

University of Illinois, Champaign, IL, 8 November 2007.

Brown University, Providence, RI, 22 October 2007.

Western Michigan University, Kalamazoo, MI, 15 October 2007.

Indiana University, Bloomington, IN, 20 September 2006.

Fermi National Accelerator Laboratory, Batavia, IL, 22 March 2006.

Michigan State University, East Lansing, MI, 29 September 2005.

Northwestern University, Evanston, IL, 13 May 2005.

‘Why Is This Quark Different From All Other Quarks?’

Florida State University, Tallahassee, FL, 31 March 2005.

Lawrence University, Appleton, WI, 6 April 2004.

Williams College, Williamstown, MA, 16 May 2003.
Michigan State University, East Lansing, MI, April 2003.
University of North Carolina at Wilmington, 28 March 2003.

Particle Physics – Research Seminars

- ‘Scattering Amplitudes and Sum Rules for Massive Spin-2 States.’
Physics & Astronomy Dept., UCLA, Los Angeles, CA, 8 January 2020.
Physics Dept., University of Arizona, Tucson, AZ, 18 October 2019.
- ‘Simplified Limits on Resonances at the LHC.’
Physics Department, University of Michigan, Ann Arbor, MI, 10 January 2018.
DPF 2017, Fermi National Accelerator Lab, Batavia, IL, 2 August 2017.
PHENO Symposium 2017, University of Pittsburgh, Pittsburgh, PA, 8 May 2017.
New Physics Interpretations Workshop, Argonne National Lab, Argonne, IL, 7 April 2017.
- ‘Diphoton Resonance as Evidence for an Extended Color Sector.’
PHENO 2016, Pittsburgh, PA, 9 May 2016.
- ‘Identifying Dijet Resonances at the LHC.’
University of Notre Dame, South Bend, IN, 15 March 2016.
TOTW Seminar, Fermi National Accelerator Laboratory, Batavia, IL, 27 May 2015.
- ‘Identifying Colorons at the LHC.’
University of Chicago, Chicago, IL, 15 November 2013.
Yale University, New Haven, CT, 26 September 2013.
- ‘Strong Top Quark Dynamics in the LHC Era.’
Jefferson National Laboratory, Newport News, VA, 4 April 2012.
- ‘Dynamical Symmetry Breaking in the LHC Era.’
Kobayashi-Maskawa Institute, Nagoya University, Nagoya, Japan, 31 October 2011.
- ‘LHC Phenomenology of The Top Triangle Moose.’
Fermi National Accelerator Laboratory, 11 August, 2011.
- ‘Axiguons vs. Asymmetry.’
Poster presentation at 4th IUPAP Int’l. Conf. on Women in Physics,
Stellenbosch, South Africa, 8 April 2011.
University of Michigan, Ann Arbor, MI, 19 November 2010.
- ‘Deconstructed Higgsless Models at the LHC.’
22nd Rencontres de Blois, Blois, France, July 2010.
- ‘The Top Triangle Moose: Combining Higgsless and Topcolor Mechanisms for Mass Generation.,’
Boston University, Boston, MA, 22 February 2010.
- ‘Hypercharge-Universal Topcolor’
Fermi National Accelerator Laboratory, 11 March 2009.’
- ‘Higgsless Models of Electroweak Symmetry Breaking in the LHC Era.’
Particles and Nuclei in Collision 2008, Eilat, Israel, 11 November 2008.
- ‘Phenomenology of the Three-Site Higgsless Model.’
Poster Presentation at the 3rd IUPAP International Conference on Women in Physics,
Seoul, Korea, 9 October 2008.
PHENO Workshop 2008, University of Wisconsin, Madison, WI, 28 April 2008.
Kavli Institute for Theoretical Physics, Santa Barbara, CA, 11 March 2008.
University of Illinois, Champaign, IL, 8 November 2007.

‘A Three-Site Higgsless Model.’

PHENO Workshop 2007, University of Wisconsin, Madison, WI, 7 May 2007

Institute of Theoretical Physics / Chinese Academy of Sciences, Beijing, China, 13 December 2006.

University of Wisconsin, Madison, WI, 10 November 2006.

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

‘The Meaning of “Higgs”: $\tau\tau$ and $\gamma\gamma$ at Hadron Colliders.’

Fermi National Accelerator Laboratory, 23 March 2006.

Higgsless Models: Lessons from Deconstruction.’

Tohoku University, Sendai, Japan, 16 December 2005.

‘The Structure of Precision Electroweak Corrections in Extended Gauge Models.’

University of Michigan, Ann Arbor, MI, 29 March 2004.

Argonne National Laboratory, Argonne, IL, 8 March 2004.

University of Maryland, College Park, MD, November 2003.

‘Particle Physics Project Prioritization Panel: Deliberations and Conclusions.’

University of Michigan, Ann Arbor, MI, 29 March 2004.

Michigan State University, October 2003.

‘Flavor, Composite Higgs, and Theory Space.’

Ohio State University, Columbus, OH, October 2003.

Massachusetts Institute of Technology, 19 May, 2003.

Particle Physics – Conference Presentations

‘Top Partners via Chromomagnetic Coupling at LHC.’

Workshop on Prospecting for New Physics through Flavor, Dark Matter, and Machine Learning,
Aspen Center for Physics, Aspen, CO, 31 March 2023.

‘Scattering Amplitudes and Sum Rules for Massive Spin-2 States.’

PACIFIC 2018, Gump Station, Moorea, 4 September 2018.

‘Identifying New States at the LHC.’

PASCOS 2018, Case Western Reserve University, Cleveland, OH, 6 June 2018

‘Simplified Limits on Resonances at the LHC.’

International Workshop on BSM Physics, TD Lee Institute, Jiao-Tong University,
Shanghai, China, 2 July 2018

DPF 2017, Fermi National Accelerator Laboratory, Batavia, IL, 2 August 2017

PHENO Symposium 2017, University of Pittsburgh, Pittsburgh, PA, 8 May 2017

New Physics Interpretations Workshop, Argonne National Laboratory, Argonne, IL, 7 April 2017

‘Model-Independent Simplified Limits on Resonances at the LHC.’

XIIth Quark Confinement and the Hadron Spectrum, Thessaloniki, Greece, 1 September 2016.

‘Diphoton Resonance as Evidence for an Extended Color Sector.’

PHENO Symposium 2016, University of Pittsburgh, Pittsburgh, PA, 9 May 2016.

‘Separating Dijet Resonances using the Coloron Discriminant Variable at LHC.’

PHENO Symposium 2015, University of Pittsburgh, Pittsburgh, PA, 4 May 2015.

SCGT 2015, Nagoya University, Nagoya, Japan, 6 March 2015.

‘A Flavorful Coloron Model.’

Workshop: Towards the Construction of the Fundamental Theory of Flavour, Technical University
of Munich Institute for Advanced Study, Munich, Germany, 10 December, 2013.

‘Identifying Colorons at the LHC.’

- SCGT14Mini, Nagoya University, Nagoya, Japan. 5 March 2014.
- LHC: The First Part of the Journey, Kavli Institute for Theoretical Physics,
Santa Barbara, CA, 10 July 2013.
- ‘Coloron Models and LHC Phenomenology.’
KMI-GCOE Workshop on Strong Coupling Gauge Theories in the LHC Perspective (SCGT12),
Nagoya University, Nagoya, Japan, 5 December 2012.
- ‘Coloron Models and LHC Phenomenology [and also the Conference Summary Talk].’
Conference on LHC Physics, Tsinghua University, Beijing, China, 14 November 2012.
- ‘Topcolor: An Update.’
Origin of Mass 2012, Nordita, Stockholm, Sweden. 6 June 2012.
- ‘Strong Dynamics in Electroweak Physics.’
PHENO Symposium 2012, University of Pittsburgh, Pittsburgh, PA, 7 May 2012.
- ‘Strong Top Dynamics in Light of LHC Data.’
Strong Coupling Gauge Theories (SCGT12Mini), Nagoya University, Nagoya, Japan,
18 March 2012.
- ‘Topcolor in the LHC Era.’
Kobayashi-Maskawa Institute Inauguration Conference (KMIIN), ‘Quest for the Origin
of Particles and the Universe,’ Nagoya University, Nagoya, Japan, 26 November 2011.
- ‘Recognizing Higgsless Physics at the LHC.’
Particle Physics Workshop, University of Wisconsin, Madison, WI, 8 May 2011.
- ‘Higgsless Model Phenomenology at LHC: New Fermions Decaying to W or Z .’
Topical Program on LHC Physics: W , Z , and Beyond, National Center for Theoretical Sciences
National Tsing Hua University, Hsinchu, Taiwan, 26 October 2010.
- ‘The Top Triangle Moose: Combining Higgsless and Topcolor Mechanisms for Mass Generation.’
2009 International Workshop on Strong Coupling Gauge Theory,
Nagoya University, Nagoya, Japan, 9 December 2009.
- ‘Higgsless Electroweak Symmetry Breaking.’
DEWSB Workshop, University of Southern Denmark, Odense, Denmark, 13 September 2008.
- ‘Electroweak Symmetry Breaking and the Top Quark Mass: Hypercharge-Universal Topcolor.’
Kavli Institute for Theoretical Physics China, Beijing, China, 2 July 2008.
- ‘Phenomenology of a Three Site Higgsless Model.’
Workshop on Collider Physics, Argonne National Laboratory, Argonne, IL, 9 May 2006.
- ‘Two Sketches: Higgsless and Z' Models.’
Workshop on Monte Carlo for Physics Beyond the Standard Model (MC4BSM),
Fermilab, Batavia, IL, 21 March 2006.
- ‘Higgsless Models: Lessons from Deconstruction.’
Workshop on Flavor Physics Beyond the Standard Model, Ochanomizu University,
Tokyo, Japan, 13 December 2005.
Xth Mexican Physical Society Workshop on Particles and Fields, Morelia,
Michoacan, Mexico, 10 November 2005.
KAIST/KIAS Advanced Workshop on Particle Physics, Seoul, Korea, 12 October 2005.
- ‘Dynamical Electroweak Symmetry Breaking Theory and Models.’
KEK Theory Meeting on Particle Physics Phenomenology,
KEK National Laboratory, Tsukuba, Japan, 4 March 2005.

Particle Physics – Lectures at Graduate Summer Schools

‘Top Quark and Electroweak Phenomenology.’

Two lectures. Theoretical Advanced Study Institute in Particle Physics,
University of Colorado, Boulder, CO, 19 & 20 June 2013.

‘Higgsless and Technicolored Strong Dynamics.’

Two lectures at the Pan-American Advanced Studies Institute: Exploring the Terascale
and Beyond. University of Buenos Aires, Buenos Aires, Argentina, 8-9 March 2012.

‘Higgsless Electroweak Symmetry Breaking at the LHC.’

Tsinghua University Summer School, Beijing, China, 20 August 2010.

‘Dynamical Electroweak Symmetry Breaking and the Top Quark.’

Tsinghua University Summer School, Beijing, China, 18 August 2010.

‘Higgsless Electroweak Symmetry Breaking.’

1st Global COE Winter School, Aqua Villa, Ise-Shime, Japan, 20 February 2009.

‘Electroweak Symmetry Breaking and Flavor Physics.’

Three lectures. International Summer Symposium on Frontiers in Particle Physics:
Beyond the Standard Model. Tsinghua University, Beijing, China, 7-11 August, 2006.

‘Dynamical Electroweak Symmetry Breaking Theory and Models.’

Two lectures. Theoretical Advanced Study Institute in Particle Physics,
University of Colorado, Boulder, CO, June 2004.

Particle Physics – Public Presentations

‘Time Travel in the Quantum Realm.’

ComiCon (panel presentation), San. Diego, 20 July 2019.

‘Discovering New Forces at Particle Colliders.’

LBC Women in Science, Michigan State University, East Lansing, MI, 3 February 2015.

‘News Flash: CERN Reports on the Higgs Boson.’

University of Colorado, Boulder, CO, 20 June 2013.

Woods Lecture, Westminster College, New Wilmington, PA, 11 April 2013.

Public Presentation to the Michigan State University Board of Trustees,
East Lansing, MI, 26 October 2012.

Public Dialog, Aspen Center for Physics, Aspen, CO, 6 July 2012.

‘Fundamental Particles, Fundamental Questions.’

Global Center for Advanced Learning (addressing students from Korea)

Michigan State University, 11 February 2011 and 15 November 2011.

Frontiers in Physical Science program for High-school Science Teachers,
Michigan State University, 12 November 2011.

MSU REU program, Michigan State University, 13 June 2011, 30 July 2010, and 4 June 2009.

Introductory Physics (LB272), Michigan State University,
22 April 2011 and 16 April 2010.

Visiting International Professional Program, Michigan State University.

Summers of: 2010, 2009, 2008, 2007, and 2006.

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

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

‘Light and Atoms.’

Physics Day, Renish High School, Stellenbosch, South Africa, 9 April 2011.

‘Physics in Winterson’s *Gut Symmetries*’ [Classroom discussion].

Topics in the History of Science (LB330), Michigan State University, 30 March 2011.

‘Electroweak Symmetry Breaking Without a Higgs Boson.’

Visiting International Professional Program, Michigan State University. 29 July 2010.

‘Quantum Concepts.’ [Classroom discussion].

Topics in the History of Science (LB330), Michigan State University, 16 April 2010.

‘Atoms and Nuclei.’

Visiting International Professional Program, Michigan State University. 2008 and 2009.

‘Physics at the Energy Frontier: The Quest to Uncover the Origin of Mass.’

After Hours Talk Series, Institute for Advance Study, Princeton, NJ, 19 October 2009.

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

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

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

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

‘Sub-atomic Mystery Particles.’

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

‘Fundamental Particles, Fundamental Questions.’

Lawrence University, Appleton, WI, 5 April 2004.

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

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

Gender, STEM, and Leadership – Academic Presentations

‘Gender and Power Structures in Academe.’

nEXO Collaboration Meeting, UC San Diego, La Jolla, CA, 8 December 2022.

Career Development Workshop for Women in Physics, ITCP, Trieste, Italy, October 2021.

Seminar Course on DEI in Physics, U. Maryland, College Park, MD, 20 September 2021.

Career Development Workshop for Women in Physics, ITCP, Trieste, Italy, 28 October 2019.

‘Diversity and Inclusion in Physics.’

Plenary talk, Lattice 2018, Michigan State University, 24 July 2018.

Plenary talk, DPF 2017, Fermi National Accelerator Laboratory, 2 August 2017.

‘Promoting Gender Equity in STEM: Theory and Applications.’

Career Development Workshop for Women Physicists, ICTP, Trieste, Italy, 10 October 2017.

Society for Women in Physics and Astronomy, Michigan State University, 11 November 2016.

Colloquium, Center for Gender in Global Context, Michigan State University, 16 September 2016.

American Physical Society April Meeting, Salt Lake City, UT, 17 April 2016.

‘Sexual and Gender Diversity Issues in Physics C-LGBT Ad Hoc Committee Report.’ [panel presentation]

American Physical Society April Meeting, Salt Lake City, UT, 16 April 2016.

‘Moving toward Gender Equity in the STEM Workforce.’

American Physical Society April Meeting, Salt Lake City, UT, 17 April 2016.

ICTP Workshop on Career Development for Women Physicists, Trieste, Italy, 10 October 2015.

Fermi National Accelerator Laboratory, Batavia, IL, 26 May, 2015.

US Department of Energy Diversity and Inclusion Network, Washington, DC, 30 September 2014.

Jefferson National Laboratory, Newport News, VA, 22 March 2013.

‘Toward Gender Equity in Physics.’

Keynote, CSWP Networking Luncheon, APS April Meeting, Denver, CO, 14 April 2013.

- ‘Women in Physics in the United States: An Update.’ [Poster presentation].
4th IUPAP International Conference on Women in Physics, Stellenbosch, South Africa, 7 April 2011.
- ‘Perspective of a Woman Leader in Science.’ [Panel presentation].
Celebrating Women as Community Leaders, Niagara Foundation, Lansing, MI, 17 March 2011.
- ‘Gender and Science.’ [Classroom panel presentations at Michigan State University, East Lansing, MI].
‘Leaky Pipeline’ Graduate Seminar (NEU 992), 28 April 2010.
Undergraduate History of Science Class (LB 330), 16 April 2009.
- ‘Women in Physics in the United States: Numbers, Causes, and Solutions.’
Presentation and Discussion, Women in Physics Group, University of Cincinnati,
Cincinnati, OH, 22 April 2010.
Women in Science Organization, Brookhaven National Laboratory, Upton, NY, 20 April 2010.
- ‘Women in Higher Education Leadership: Lessons Learned.’
Women in Science and Engineering, Boston University, Boston, MA, 22–23 February 2010.
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].
3rd IUPAP International Conference on Women in Physics, Seoul, Korea, 8 October 2008.
- ‘Pathways into Science for High-School Girls.’
March Meeting of the American Physical Society, Montreal, CA, 24 March 2004.
- ‘Really?... You Don’t Look Like a Physicist! : Tales From the Leaky Pipeline.’
Lyman Briggs School, Michigan State University, East Lansing, MI, September 2003.

Gender, STEM, and Leadership – Public Presentations

- ‘Science and Advocacy: Shaping Lives in Physics.’
Keynote address, IAEA/APS Conference for Undergraduate Women in Physics, 21 January 2021.
- ‘Full STEM Ahead: The Journeys of UC San Diego Women in Science.’ [speaker and moderator]
Evenings of Non Conventional Wisdom, UC San Diego, La Jolla, CA, 24 March 2021.
Video available at <https://sixtieth.ucsd.edu>
- ‘Promoting Gender Equity in STEM: Theory and Applications.’
Keynote address, Conference for Undergraduate Women in Physics, University of Virginia,
Charlottesville, VA, 12 January 2018.
- ‘Using SciComm to Foster Equity, Diversity, and Inclusion in Science and Beyond.’ [panel presentation]
panelist at Virtual San Diego Communicating Science Conference, 26 September 2020.
- ‘Gravity and Gravitas: A physicist’s approach to academic leadership.’
Ledden Lunch Talk, UC San Diego, La Jolla, CA, 2 December 2019.
- ‘Stepping Beyond Your Comfort Zone: How Global Education Prepares Future Academic Leaders.’
Cambridge Alumni Parlour Talk, La Jolla, CA, 6 March 2019.
- ‘Women as Leaders.’
Keynote Address, UC San Diego Women’s Conference, UC San Diego, La Jolla, CA, 8 March 2018.
Panelist, Power of Collaboration Global Summit, United Nations, New York, NY, 5 March 2018.

The Future of Higher Education – Academic Presentations

- ‘Provosts’ Perspectives on Internationalization.’ [panel presentation]
Association of International Education Administrators Annual Conference,
Washington, DC, 21 February 2023.

- ‘Leveraging the Power of Arts in Higher Education to Catalyze Change, Growth, and Transformation.’ [panel presentation]
International Conference of Fine Arts Deans 58th Annual Conference,
San Diego, CA, 7 October 2022.
- ‘Advancing an Equity-Centered Approach: Institution-wide Response to the COVID-19 Pandemic and Structural Racism.’
Co-presentation with UC San Diego colleagues at the Annual AAC&U Meeting, 20 January 2022.
- ‘Empathetic University: Promoting Wellness Amidst Grief & Grievances.’ [panel presentation]
World Universities Summit, 23 July 2021.
- ‘Return-to-Learn at UC San Diego.’ [panel presentation]
Live video seminar hosted by the Reinvention Collaborative, 18 May 2020.
- ‘Future of Education.’ [panel presentation]
Webinar hosted by UC San Diego and Cognitive Edge, 29 April 2020.
- ‘Inquisitive and Inclusive Higher Education.’
Keynote Address, Phi Beta Kappa Induction Ceremony, UC San Diego, 4 June 2019.
- ‘Building the Future Together.’
Pediatrics Research Symposium, Rady Children’s Hospital, San Diego, CA, 31 May 2019.
- ‘UC San Diego: Defining the Future of the Public Research University.’
Influence San Diego, La Jolla, CA, 25 April 2019.
- ‘Leadership, Physics, and Peace.’
Gandhi Memorial Lecture, UC San Diego, La Jolla, CA, 28 July 2018.
- ‘Bridging the STEM Diversity Gap [invited panel presentation].’
U.S. News STEM Solutions 2017. San Diego, CA. 25 May 2017.
- ‘Information Technology’s Role in Academe [panel presentation].’
LEAD Workshop, Michigan State University, East Lansing, MI, 11 November 2015.
- ‘The Role of Residential Colleges.’
RHS Professional Development Program, Michigan State University, 11 November 2015.
- ‘Information Technology and the Lyman Briggs Vision.’
IT Leadership Council, Michigan State University, 11 July 2014.
- ‘Themes Pointing the Way Forward.’
3rd Annual STEM Symposium: The Impact of Low Mathematics Preparation on STEM Curricula
Michigan State University, 18 October 2011.
- ‘C.P. Snow’s Two Cultures... and Dan Brown’s *Angels & Demons*,’
Conference on C.P. Snow and the Two Cultures, Michigan State University, 28 May 2009.
- ‘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 Future of Higher Education – Presentations to Governance Bodies

- ‘Erasing Equity Gaps via Collective Impact at UC San Diego.’
UC San Diego 2023 Forum on the Future of Academic Affairs, La Jolla, CA, 26 January 2023.
UC San Diego 2022 Update on the Future of Academic Affairs, La Jolla, CA, 26 May 2022.
UC San Diego 2022 Forum on the Future of Academic Affairs, La Jolla, CA, 18 January 2022.
Representative Assembly, UC San Diego, La Jolla, CA 12 October 2021.
Chancellor’s Associates Colloquium, UC San Diego, La Jolla, CA, 8 October 2021.

- ‘Born from Compassion, Built on Excellence: Student Mental Health at UC San Diego.’ [panel presentation]
UC San Diego Health Convening, 16 November 2021.
- ‘Art Strategy at UC San Diego.’
UC San Diego Foundation Board Retreat, San Diego, CA, 24 September 2021.
- ‘Addressing Students’ Basic Needs in San Diego.’
California Governor’s Council for Postsecondary Education, 10 September 2021.
- ‘Experiential Learning and Career Readiness.’
Academic and Student Affairs Committee, Regents of the University of California, 18 November 2020.
- ‘Leadership Challenges and Opportunities.’
Cabinet Conversations, UC San Diego, La Jolla, CA, 26 October 2020.
- ‘Transforming the Student Experience at UC San Diego.’
Chancellor’s Associates Colloquium, Green Acre Campus Pointe, La Jolla, CA, 18 September 2019.
- ‘Innovations in Advancing Equity and Student Success.’ [panel presentation]
Gathering of CA Legislators and Legislative Staff, Sacramento, CA, 24 April 2019.
- ‘UC San Diego: The University of the Future.’
UC San Diego Foundation Board Retreat, San Diego, CA, 22 March 2019.
- ‘Strengthening UC’s Contribution to the California Dream.’
Regents of the University of California, UCSF Mission Bay, San Francisco, CA, 17 January 2019.
- ‘Advancing Student Success at UC San Diego.’
Alumni Association of UC San Diego, La Jolla, CA, 1 June 2018.
- ‘Academic Vision for UC San Diego.’
UC San Diego Foundation Board of Trustees, La Jolla, CA, 9 March 2018.
- ‘How Lyman Briggs College Prepares STEM Students for the Careers of the Future’
Agricultural Leaders of Michigan, Meeting on Workforce Development
Lansing, MI, 15 August 2012.
- ‘Helping Diverse STEM Students Succeed in Lyman Briggs College’
Annual Retreat of the MSU Board of Trustees. Michigan State University, MI, 20 June 2012.

Academic Career and Leadership Development – Academic Presentations

- ‘Impacts of COVID on High-Energy Physics Faculty and Researchers.’ [panel presentation]
Snowmass 2022 International Meeting, U. Washington, 24 July 2022.
- ‘From Scramble to Process: Achieving Proactive Leadership via Design.’
Design@Large Seminar Series, UC San Diego, 7 March 2018.
- ‘Moving the Needle through Professional Development with ACE Programs.’ [panel presentation]
MI-ACE Women’s Network Annual Conference, Lansing, MI, 7 June 2016.
- ‘Supporting and Rewarding STEM Teaching Innovation.’
AAC&U conference on Next Generation STEM Learning, Kansas City, MO, 9 November 2012.
- ‘Using the results of Physics Education Research in College Teaching.’
4th IUPAP Int’l. Conference on Women in Physics, Stellenbosch, South Africa, 8 April 2011.
APS March Meeting (New Faculty Workshop Session), Pittsburgh, PA, 16 March 2009.
- ‘Science Educators in STEM Disciplinary Groups at the Lyman Briggs School.’ [panel presentation]
Workshop on Education Research Positions in STEM Disciplinary Departments,
National Academies of Science, Washington DC, 5 December 2005.
- ‘Progressing Toward Tenure.’
April Meeting of the American Physical Society, Albuquerque, NM, 20 April 2002.

Academic Career and Leadership Development – Mentoring Workshop Presentations

- ‘Supporting Academic Staff: Perspectives from a Dean and Associate Provost,’
Academic Specialist Professional Development Forum, Michigan State University, 7 February 2017.
- ‘Academic Work Life Compatibility: Opportunities, Challenges, and Possibilities.’ [panel presentation]
WorkLife Symposium, Michigan State University, 1 April 2016.
- ‘Leading Change to Minimize the Impact of Implicit Bias.’
LEAD Workshop on Implicit Bias, Michigan State University, 2 February 2016.
- ‘Pathways and Problem-Solving: Perspectives of an Academic Leader.’ [Q&A format]
Big Ten Academic Alliance Leadership Fellows, Michigan State University, 24 April 2017
New Chairs’ Workshop, Michigan State University, 1 December 2016.
New Deans’ Academy, Michigan State University, 2 December 2016 and 9 October 2015.
Leadership Learning Community, Michigan State University, 15 January 2016 and 24 March 2015.
CIC Academic Leadership Program,
University of Wisconsin, Madison, MI, 6 November 2015
University of Michigan, Ann Arbor, MI, 3 November 2012.
CIC Academic Leadership Fellows, Michigan State University, 19 March 2015
- ‘Starting Your Faculty Career.’ [Q&A format]
New Faculty Orientation, Michigan State University, 23 August 2016 and 25 August 2015.
- ‘Survive and Thrive in the Tenure System: Administrative Perspective.’ [panel presentation].
Workshop, Michigan State University, 23 February 2017
also on 19 February 2015, 21 February 2013, 13 October 2011, and 16 October 2008.
- ‘Thriving by 35: Family Planning as a Young Professional.’ [panel presentation]
Women’s Resource Center, Michigan State University, 6 November 2014.
- ‘Women in Leadership: Pathways and Problem-Solving.’ [panel presentation]
WFLAL workshop, Michigan State University, , 28 March 2013.
- ‘College Budgeting and Financial Planning.’
WFLAL workshop, Michigan State University, 8 October 2012.
- ‘Diary of a Leadership Journey.’
Information Technology Leadership Program
Michigan State University, 11 June 2012.
- ‘Transitioning from Faculty to Administrative Roles.’
WFLAL workshop, Michigan State University, 29 March 2012.
- ‘Evaluation of Teaching in Lyman Briggs College... and Beyond.’ [Panel presentation].
The Evaluation of Teaching: New Models, New Requirements, New Opportunities.’
Michigan State University, 29 March, 2011.
- ‘Handling Joint Appointments: Tips for New Administrators.’ [Panel presentaiton]
Michigan State University, 29 March 2010.
- ‘Faculty Mentoring in Lyman Briggs.’ [Panel presentations].
LEAD Workshop, Michigan State University, 21 May 2009.
MULTI Workshop, Michigan State University, 22 November 2005.
- ‘Fresh Perspectives on Academic Careers in the Sciences.’ [Panel presentation].
Graduate Women in Science, Michigan State University, 13 November 2006.

Academic Career and Leadership Development – Public Presentations

‘Shaping a Life in Physics.’

Keynote remarks, Middle School Girls Visit Day, MAE Department,
UC San Diego, La Jolla, CA, 6 December 2022.

Keynote address, Conference for Undergraduate Women in Physics,
UC Irvine, Irvine, CA, 18 January 2020.

Wayne State University, Detroit, MI, 14 January 2017.

‘Celebrating Your Future.’

Keynote, Caledonian Society at Muir College, UC San Diego, La Jolla, CA, 25 January 2019.

‘Career Development for Graduate Students in High-Energy Physics.’

PHENO Symposium 2017 Invited Session, University of Pittsburgh, Pittsburgh, PA, 8 May 2017.

‘University Careers in Science’ [panel presentations]

Career Day, The Pingry School, Martinsville, NJ, 29 January 2016.

‘From Asteroid Orbits to the Higgs Boson: Why Your Undergraduate Research is Important’

West Michigan Regional Undergraduate Research Conference,
Van Andel Research Institute, Grand Rapids, MI, 17 November 2012.

‘Studies and Careers in Science’ [panel presentation]

Girls to Women Conference, Lansing, MI, 12 June 2012.

‘Physics in Your Future.’

Science Club, Okemos High School, Okemos, MI, 14 March 2012.

‘A Faculty Ally’s Perspective.’ [Panel presentation]

Faculty Coming Out Panel, hosted by The Queer Students Alliance and the GLFSA,
Michigan State University, 12 October 2011.

Informal Education – Academic Presentations

‘Educational Outreach in the United States.’ [Panel presentation via EVO].

Communicare Fisica III, Frascati, Italy, 14 April 2010

‘A Playful Approach to Physics (the serious business of educational outreach).’

Minute Particulars and Hidden Symmetries, a Symposium Honoring Chris Quigg.
Fermi National Accelerator Laboratory, 14 December 2009.

‘Student-Led Outreach: Spartan Science Day.’

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

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

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

‘Popularizing Particle Physics.’ [Invited plenary lecture].

Meeting of the APS Division of Particles & Fields, Riverside, CA, August 2004.

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

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

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

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

PUBLICATIONS OF ELIZABETH H. SIMMONS

Elementary Particle Theory – Peer-Reviewed Journal Articles

1. ‘Spin-2 Kaluza-Klein Scattering in a Stabilized Warped Background,’ with R.S. Chivukula, D. Foren, K.A. Mohan, and D. Sengupta. *Physical Review* **D104** no. 3, 035015, 2023.
2. ‘Supersymmetry and Sum Rules in the Goldberger-Wise Model,’ with R.S. Chivukula and X. Wang. *Physical Review* **D106** no. 3, 035026, 2022.
3. ‘Vector-Like Top Quark Production via a Chromo-Magnetic Moment at the LHC,’ with R.S. Chivukula, B. Fuks, and X. Wang. *Physical Review* **D104** no. 9, 095024, 2021.
4. ‘Spin-2 Kaluza-Klein Mode Scattering in Models with a Massive Radion,’ with R.S. Chivukula, D. Foren, K.A. Mohan, and D. Sengupta. *Physical Review* **D103** no. 9, 095024, 2021.
5. ‘Narrow Resonances Revisited – Simplifying Multidimensional Constraints,’ with R.S. Chivukula, P. Ittisamai, and J. Osborne. *Physical Review* **D103** no. 9, 095008, 2021.
6. ‘Massive Spin-2 Scattering Amplitudes in Extra-Dimensional Theories,’ with R.S. Chivukula, D. Foren, K.A. Mohan, and D. Sengupta. *Physical Review* **D101** no. 7, 075013, 2020.
7. ‘Scattering Amplitudes of Massive Spin-2 Kaluza-Klein States Grow only as $\mathcal{O}(s)$,’ with R.S. Chivukula, D. Foren, K.A. Mohan, and D. Sengupta. *Physical Review* **D101** no. 5, 055013, 2020.
8. ‘Sum rules for Massive Spin=2 Kaluza-Klein Elastic Scattering Amplitudes,’ with R.S. Chivukula, D. Foren, K.A. Mohan, and D. Sengupta. *Physical Review* **D100** no. 11, 1115033, 2019.
9. ‘Characterizing boosted dijet resonances with energy correlation functions,’ with R.S. Chivukula, K.A. Mohan, and D. Sengupta. *JHEP* **03** 133, 2018.
10. ‘Colorphilic Spin-2 Resonances at the LHC,’ with R.S. Chivukula, and D. Foren. *Physica Scripta* **93** 11, 115301, 2018.
11. ‘ R_K Anomalies and Simplified Limits on Z' models at the LHC,’ with R.S. Chivukula, J. Isaacson, K.A. Mohan, and D. Sengupta. *Physical Review* **D96**, no. 7, 075012, 2017.
12. ‘Broadening the Reach of Simplified Limits on Resonances at the LHC,’ with R.S. Chivukula, P. Ittisamai, and K.A. Mohan. *Physical Review* **D96**, no. 5, 055043, 2017.
13. ‘Simplified Limits on Resonances at the LHC,’ with R.S. Chivukula, P. Ittisamai, and K.A. Mohan. *Physical Review* **D94** 094029, 2016.
14. Direct Search Implications for a Custodially-Embedded Composite Top,’ with R.S. Chivukula, D. Foren, and R. Foadi. *Physical Review* **D94**, 014002, 2016.
15. Diphoton Resonances in the Renormalizable Coloron Model,’ with R.S. Chivukula, A. Farzinnia, and K.A. Mohan. *Physical Review* **D94** 035018, 2016.
16. ‘Color Discriminant Variable and Scalar Diquarks at the LHC,’ with R.S. Chivukula, P. Ittisamai, and K.A. Mohan. *Physical Review* **D92** 075020, 2016.
17. ‘Vacuum Stability and Triviality Analyses of the Renormalizable Coloron Model,’ with R.S. Chivukula and A. Farzinnia. *Physical Review* **D92** 055002, 2015.
18. ‘Distinguishing Di-jet Resonances at the LHC,’ with R.S. Chivukula and Natascia Vignaroli, *Physical Review* **D91** 055019, 2015.
19. ‘Distinguishing Flavor Non-universal Colorons from Z' Bosons at the LHC,’ with R.S. Chivukula and Pawin Ittisamai. *Physical Review* **D91** 055021, 2015.
20. ‘LHC Constraints on a Higgs Partner from an Extended Color Sector,’ with R.S. Chivukula, A. Farzinnia, and J. Ren. *Physical Review* **D90** 015013, 2014.

21. ‘Constraints on the Scalar Sector of the Renormalizable Coloron Model,’ with R.S. Chivukula, A. Farzinnia and J. Ren. *Physical Review* **D88**: 075020, 2013.
22. ‘Distinguishing Color-Octet and Color-Singlet Resonances at the Large Hadron Collider,’ with A. Atre, R.S. Chivukula, and P. Ittisamai. *Physical Review* **D88**: 055021, 2013.
23. ‘Same-Sign Dileptons from Colored Scalars in the Flavorful Top-Coloron Model,’ with R.S. Chivukula and N. Vignaroli. *Physical Review* **D88**: 034006, 2013
24. ‘Hadron Collider Production of Massive Color-Octet Vector Bosons at Next-to-Leading Order,’ with R.S. Chivukula, A. Farzinnia, and J. Ren. *Physical Review* **D87**: 094011, 2013.
25. ‘A Flavorful Top-Coloron Model,’ with R.S. Chivukula and N. Vignaroli. *Physical Review* **D87**: 075002, 2013.
26. ‘Discovering Strong Top Dynamics at the LHC,’ with R.S. Chivukula, B. Coleppa, P. Ittisamai, H.E. Logan, A. Martin, and J. Ren. *Physical Review* **D86**: 095017, 2012.
27. ‘Discovering Higgsless Electroweak Symmetry Breaking at LHC-8,’ with C. Du, H.-J. He, Y.-P. Kuang, B. Zhang, N.D. Christensen, and R.S. Chivukula. *Physical Review* **D86**: 095011, 2012.
28. ‘Probing Color Octet Couplings at the Large Hadron Collider,’ with A. Atre, R.S. Chivukula, P. Ittisamai, and J.-H. Yu. *Physical Review* **D86**: 054003, 2012.
29. ‘Production of Massive Color-Octet Vector Bosons at Next to Leading Order,’ with R.S. Chivukula, A. Farzinnia, and R. Foadi. *Physical Review* **D85**: 054005, 2012.
30. ‘The Flavor Structure of the Three-Site Higgsless Model,’ with T. Abe, R.S. Chivukula, and M. Tanabashi. *Physical Review* **D85**: 035015, 2012.
31. ‘Technipion Limits from LHC Higgs Searches,’ with R.S. Chivukula, Pawin Ittisamai, and Jing Ren. *Physical Review* **D84**: 115025, 2011. Erratum *ibid.* **D85**: 119903, 2012.
32. ‘LHC Limits on the Top-Higgs in Models with Strong Top-Quark Dynamics,’ with R.S. Chivukula, B. Coleppa, H. Logan, and A. Martin. *Physical Review* **D84**: 095022, 2011.
33. ‘Patterns of Custodial Isospin Violation from a Composite Top,’ with R.S. Chivukula and R. Foadi. *Physical Review* **D84**: 035026, 2011.
34. ‘Top-Higgs and Top-pion phenomenology in the Top Triangle Moose Model.,’ with R.S. Chivukula, B. Coleppa, H. Logan, and A. Martin. *Physical Review* **D83**: 055013, 2011.
35. ‘Axigluons cannot explain the observed top-quark forward-backward asymmetry,’ with R.S. Chivukula and C.-P. Yuan. *Physical Review* **D82**: 094009, 2010.
36. ‘Global Symmetries and Renormalizability in Lee-Wick Theories,’ with R.S. Chivukula, A. Farzinnia, and R. Foadi. *Physical Review* **D82**: 035015, 2010.
37. ‘Condensate Enhancement and D-Meson Mixing in Technicolor Theories,’ with R.S. Chivukula. *Physical Review* **D82**: 033014, 2010.
38. ‘Custodial Isospin violation in the Lee-Wick Standard Model,’ with R.S. Chivukula, A. Farzinnia, and R. Foadi. *Physical Review* **D81**: 095015, 2010. .
39. ‘The Limits of Custodial Symmetry,’ with R.S. Chivukula, S. DiChiara, and R. Foadi. *Physical Review* **D80**: 095001, 2009. Erratum: *Ibid* **D81**: 059902, 2010.
40. ‘ $W_L W_L$ Scattering in Higgsless Models: Identifying Better Effective Theories,’ with A.S. Belyaev, R.S. Chivukula, N.D. Christensen, H.-J. He, M. Kurachi, and M. Tanabashi. *Physical Review* **D80**: 055052, 2009.
41. ‘The Top Triangle Moose: Combining Higgsless and Topcolor Mechanisms for Mass Generation,’ with R.S. Chivukula, N.D. Christensen, and B. Coleppa. *Physical Review* **D80**: 035011, 2009.

42. ‘ $Z \rightarrow b\bar{b}$ and Chiral Currents in Higgsless Models,’ with T. Abe, R.S. Chivukula, N.D. Christensen, K. Hsieh, S. Matsuzaki, and M. Tanabashi. *Physical Review* **D79**: 075916, 2009.
43. ‘A Four-site Higgsless Model with Wavefunction Mixing,’ with R.S. Chivukula. *Physical Review* **D78**: 077701, 2008.
44. ‘General sum Rules for WW Scattering in Higgsless Models: Equivalence Theorem and Deconstruction Identities,’ with R.S. Chivukula, H.-J. He., M. Kurachi, and M. Tanabashi. *Physical Review* **D78**: 095003, 2008.
45. ‘Low-energy Effective theory, Unitarity, and Non-Decoupling Behavior in a Model with Heavy Higgs-Triplet Fields,’ with R.S. Chivukula and N. D. Christensen. *Physical Review* **D77**: 035001, 2008.
46. ‘Hypercharge-Universal Topcolor,’ with F. Braam, M. Flossdorf, R.S. Chivukula, and S. DiChiara. *Physical Review* **D77**: 055005, 2008.
47. ‘CERN LHC Signatures of New Gauge bosons in Minimal Higgsless Model,’ with H.-J. He, Y.-P. Kuang, Y.-H. Hui, B. Zhang, A. Belyaev, R.S. Chivukula, N.D. Christensen, and A. Pukhov. *Physical Review* **D78**: 031701, 2008.
48. ‘Bounds on the Scale of Fermion Mass Generation in Higgsless Models,’ with R.S. Chivukula, N.D. Christensen, and B. Coleppa. *Physical Review* **D75**: 073018, 2007.
49. ‘The Three Site Model at One Loop,’ with R.S. Chivukula, S. Matsuzaki, and M. Tanabashi. *Physical Review* **D75**: 075012, 2007.
50. ‘Deconstruction and Elastic $\pi\pi$ Scattering in Higgsless Models,’ with R.S. Chivukula, H.-J. He., M. Kurachi, and M. Tanabashi. *Physical Review* **D75**: 035005, 2007.
51. ‘One-Loop Corrections to the S and T Parameters in a Three Site Higgsless Model,’ with R.S. Chivukula and S. Matsuzaki. *Physical Review* **D75**: 073002, 2007.
52. ‘A Three Site Higgsless Model,’ with R.S. Chivukula, B. Coleppa, S. Di Chiara, H.-J. He., M. Kurachi, and M. Tanabashi. *Physical Review* **D74**: 075011, 2006.
53. ‘Ideal Fermion Delocalization in Five Dimensional Gauge Theories,’ with R.S. Chivukula, H.-J. He., M. Kurachi, and M. Tanabashi. *Physical Review* **D72**: 095013, 2005.
54. ‘Multi-Gauge-Boson Vertices and Chiral Lagrangian Parameters in Higgsless Models with Ideal Fermion Delocalization,’ with R.S. Chivukula, H.-J. He., M. Kurachi, and M. Tanabashi. *Physical Review* **D72**: 075012, 2005.
55. ‘The Meaning of Higgs: $\tau^+\tau^-$ and $\gamma\gamma$ at the Tevatron and the LHC,’ with A. Belyaev, A. Blum, and R.S. Chivukula. *Physical Review* **D72**: 055022, 2005.
56. ‘Ideal Fermion Delocalization in Higgsless Models,’ with R.S. Chivukula, H.-J. He., M. Kurachi, and M. Tanabashi. *Physical Review* **D72**: 015008, 2005.
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