

Curriculum Vitae: Sacha Elmer Kopp

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Professional Preparation:

- The University of Chicago, Physics Ph.D., August 1994
- The University of Chicago, Physics S.M., June 1992
- The University of Chicago, Physics A.B., *with Honors*, June 1990

Professional Appointments:

- 2022 – Provost
Gonzaga University
- 2019 – 2022 Senior Vice Chancellor for Academic Affairs
University of Nebraska at Omaha
- 2019 – 2022 Professor, Department of Physics and Department of Teacher Education
University of Nebraska at Omaha
- 2014 – 2018 Dean, College of Arts and Sciences
State University of New York at Stony Brook
- 2014 – 2019 Professor, Department of Physics
State University of New York at Stony Brook
- 2010 – 2014 Associate Dean for Undergraduate Education,
College of Natural Sciences
University of Texas at Austin
- 2012 – 2014 Professor, Department of Physics
University of Texas
- 2008 – 2010 Associate Chair for Undergraduate Affairs,
Department of Physics
University of Texas
- 2006 – 2012 Associate Professor, Department of Physics
University of Texas
- 2000 – 2006 Assistant Professor, Department of Physics
University of Texas
- 1998 – 1999 Visiting Assistant Professor, Department of Physics
Syracuse University
- 1995 – 1998 Postdoctoral Fellow, Department of Physics
Syracuse University
- 1990 – 1994 U.S. Dep't of Education GAAN Fellow, Department of Physics
University of Chicago

Senior Vice Chancellor for Academic Affairs, University of Nebraska at Omaha (2019 – 2022)

Responsible for campus academic sector, 6 colleges, 8 deans, 650 tenure-line and 130 instructional faculty, 270 staff, \$150M budget, \$40M sponsored research, serving 16,000 students.

- Strategic Planning and Community Engagement
 - Funded \$3M for campus “Completion Imperative” for student success and completion
 - Created \$10M “UNO Big Ideas” process to identify and prioritize campus areas of academic excellence which would become signature themes for UNO and subjects of investment:
 - STEM Education Center
 - National Counterterrorism and Intelligence Studies Center, a center of excellence recognized by the Department of Homeland Security and featured in the *Wall Street Journal* and aligned with nearby Offutt Airforce Base
 - Research cluster (4 colleges) in Informatics in Healthcare
 - Department of Biomechanics featured on the cover of *Science*
 - Ted Kooser Center for Medical Humanities and Healing Arts
 - Samuel Bak Academic Learning Center and Museum dedicated to the study of human rights, the Holocaust, and genocide studies.
 - Launched “UNO’s Strategic Investment: Race, Class, Social Justice, and Inequality” to strengthen and support campus ideas in DEAI in partnership with non-profits and civic organizations in the city of Omaha. Created opportunities for research and service learning.
 - Supported relationship with artist Samuel Bak toward gift of his art and estate and possible creation of Samuel Bak Academic Learning Center and Museum
 - Doubled the Office of Digital Learning, leading to growth in online programs from 20 to 63
 - Launched partnership with Omaha Chamber of Commerce to conduct DEAI landscape analysis of Omaha businesses in collaboration with UNO Department of Psychology
- Faculty and Staff Development
 - Launched over 250 full time faculty recruitments and 12 academic advisors
 - Worked with Faculty Senate to create merit/service-based title of Senior Lecturer
 - Worked with Faculty Senate to create merit/service-based title of Distinguished Professor
 - Created Faculty DEI Committee to enhance recruitment, retention of underrepresented groups
 - Created Faculty Search Guidelines to reduce effects of implicit bias in faculty recruiting; led to 65% female, 35% underrepresented groups within entering faculty cohorts
 - Doubled the size of the Minority Faculty Development program from 8 to 16 positions
 - Created paid 7 week summer on-boarding program for new faculty
 - Expanded the mission of the Center for Faculty Excellence to encompass faculty and staff professional development, DEAI training, recruitment best practices, leadership development
 - Supported creation of a new ladder-rank promotional system for academic advisors
- Student Success and Completion
 - Enrollment growth of 5%, SCH growth of 8%, retention growth of 4%
 - Supported creation of partnership with Hastings College and pipeline to UNO programs
 - Served on team to formulate partnership with Metro Community College, including concurrent enrollment, creation of degree pathways, and reverse articulation to encourage AA completion
 - Created process for course prioritization and seat availability, leading to >8000 SCH growth
 - Created “early alert” system to trigger outreach for at-risk students based on attendance, mid-course grades, financial status.
 - Reformulated CR/NC policy, Academic Probation and Suspension, leading to greater retention
 - Created Religious Observance Accommodations Policy for the campus

- Supported creation of Exploratory Studies program in the College of Arts and Sciences to support “undeclared” students with dedicated curriculum and learning community environment.
- Created Academic Focus Areas (meta-majors) to enhance academic advising
- Worked to create joint Bachelors in Pharmacological Sciences with UNMC
- Launched Medical Humanities major in the College of Arts and Sciences
- Created position of Quantitative Literacy Director for the campus
- Created January term in academic calendar in collaboration with Student Gov’t, Faculty Senate
- Created suite of domestic study-away in addition to study-abroad for new January session
- Created \$1M pool of laptops and WiFi hotspots for internet-insecure students during pandemic
- Grew number of online programs from 23 to 63, and online tuition revenue from \$22M to \$44M
- Leadership and Organization
 - Recruited Dr. Martha Garcia-Murillo, Dean of the College of Information Science & Technology
 - Recruited Dr. Michelle Trawick, Dean of College of Business Administration
 - Appointed Dr. Juan Casas as Acting Dean of the Graduate School
 - Appointed Dr. Candice Batton to a new role of Assistant VC for Faculty Affairs
 - Recruited Dr. Sarah Edwards to a new role of Assistant VC for Curriculum and Programs
 - Appointed Dr. Ken Bayles as Associate Vice Chancellor for Research and Creative Activities
 - Launched internal faculty review of the Office of Research and Creative Activities (ORCA) and reorganization (enlargement) of the office to better support grants development and pre- and post-award support across STEM, humanities, social sciences.
 - Revived the UNO “Faculty Leadership Fellowship,” a one-year “sabbatical” to shadow academic leaders, develop a project, and obtain coaching for faculty interested in administration.
- Fiscal management and revenues
 - Worked collaboratively with colleges to manage through 3.9% reduction in state-aided funds
 - Developed plans for \$9M in enhanced fee/tuition remission related to COVID19
 - Led review of academic program size and resource allocation. Led to prioritization of high-demand courses, and increased revenue and decreased expenses per academic semester.
 - Doubled online instruction from \$22M to \$48M in tuition revenue per academic year
 - Summer session tuition revenue increased from \$6-7M to \$14M
 - Adopted the Nebraska Promise scholarship program, offering free college to Nebraska families with <\$60,000 adjusted gross income, requiring \$2.8M in internal funding to offset tuition.
 - Launched Career Currency program: corporate partnerships with Union Pacific, Mutual of Omaha, Omaha Public Power, Kiewit, Blue Cross, Werner Trucking, Physicians Mutual, 1st National Bank of Omaha. Corporations pay UNO for a ‘bank’ of credits which employees can utilize without out-of-pocket expenses, much like programs at Target and Walmart. UNO’s Career Currency program now accounts for 2% of annual tuition revenue and students, and a higher diversity of adult learners at UNO.
 - Sponsored research at UNO has grown from \$17M (2018/19) to \$40M (thus far in 2021/22)
 - In 6 UNO Big Ideas, supported \$40M NCITE grant, \$10M COBRE, \$2M STEM Education
 - Co-led with the CFO the UNO Campus Master Space Planning process, developing plans for:
 - Prioritizing renovation of the Durham Science Center
 - Creating an admissions/welcome/events center in prior Alumni House
 - Repurposing several recreational facilities for teaching and research labs in health and kinesiology.
 - A new STEM Education Center in the basement of the College of Education.
 - Developing an academic center and museum for holocaust and human rights studies
 - Supported \$3M grant from Susan Thompson Buffet Foundation for student completion.

Dean, College of Arts and Sciences, Stony Brook University (2014-2018)

Responsible for largest college of the university, 10,000 undergraduates, 2,000 graduate students, 470 tenure-line and 130 instructional faculty, 27 departments, 200 staff, \$90M budget, \$46M sponsored research.

- Strategic Planning
 - Led faculty through two-year Strategic Plan process, aligned to University Strategic Plan. Focused on research initiatives in which the college could play a significant role and in which the NY and Long-Island landscape was a differentiator. Our plan targeted partnership with:
 - Brookhaven National Laboratory
 - Stony Brook Medicine
 - Stony Brook's Turkana Basin Institute in Kenya
 - The Institute for Advanced Computational Science
 - Simons Flatiron Institute
 - Created data-driven process to assess program alignment with College Strategic Plan
 - Created Center for Study of Social Justice, Inequalities, and Policy
 - Created interdisciplinary Department of Women's, Gender, and Sexuality Studies
 - Funded [Algonquin Language Reclamation Project](#) in collaboration with Shinnecock and Unkechaug Nations of Long Island and the Stony Brook Linguistics Department
 - Spearheaded plans for art studios, music recital hall, and cross-college genomics core facility
- Faculty Development
 - Hired 80 faculty in diverse areas of program excellence, strategic priority, and student need, and increased representation of women and faculty from underrepresented groups.
 - Created first-ever promotional track for contract instructors: lecturer, senior lecturer, professor of practice within confines of faculty union contract
 - Increased number of full-time faculty; adjunct-taught courses decreased from 25% to 3%
 - Created faculty workload-policy and faculty contact-hour policy
 - Created separate cluster hires in collaboration with the Stony Brook Dean of Medicine, Dean of Engineering, Dean of Marine and Atmospheric Sciences, and Dean of Business
 - Nuclear physics and leadership of the BNL electron-ion collider
 - Computational neuroscience, drug discovery, ecology&evolution, and galaxy formation
 - Archeology of the Turkana Basin in Kenya
 - Alan Alda Center for the Communication of Science
 - Medical imaging and structural biology
 - (NB: Stony Brook's Departments of Biochemistry and Department of Neuroscience were jointly funded and overseen by the College of Arts and Sciences and the School of Medicine)
 - Created merit-based pay raise system for departments within unionized framework
 - Created College Teaching Excellence Award, student-nominated and student-elected
 - Expanded mission of Humanities Institute to include not only scholarship and education, but also public communication, partnering with Naomi Wolf, as highlighted in the [Chronicle of Higher Education](#). Resulted in 30 major media articles by faculty and students.
- Undergraduate Education
 - Created partnership with Stony Brook Admissions to enhance freshman recruiting, leading to increased overall enrollment and better results for our campus DEAI mission: the College had a 70% increase of students in humanities, arts, and social science majors as well as 30% increase in Hispanic and Latino/a and African-American students, 50% increase of women in STEM disciplines, drawing from high needs school districts in NYC and Long Island

- Created a new pipeline development program, the [Pre-College Institute](#), a free week-long residential summer program for high school students from high needs districts on Long Island, allowing them to experience a week in college and in residences, mentored by faculty and current Stony Brook Students. Highlighted in *Chronicle of Higher Education*. Created BA in International Relations & Global Studies
- Created an interdisciplinary [Bachelor of Arts in Biology, requiring non-STEM minor](#)
- Created student advisory council to assess student needs and concerns
- Created weekly “advice from the dean” message to the student body
- Implemented new general education requirements and College-level course planning process
- Closed degree plans in Pharmacology, Cultural Studies, Comparative Literature, and Theater

- Graduate Education
 - Created Master of Arts degree in Computational Linguistics
 - Created Master of Arts degree in Asian Studies
 - Closed graduate plans in Cultural Studies, Comparative Literature, and Theater
 - Created PhD degree in Women’s, Gender, and Sexuality Studies
 - Increased stipends for and number of graduate teaching assistant positions in humanities

- Advancement
 - Created and recruited a 6-member advancement, communications, and stewardship team for the College in collaboration with the VP-Advancement
 - Achieved \$90M campaign goal; increased annual giving from \$3M/year to \$9M/year
 - Completed campaigns for research centers, including
 - Center for Hellenic Studies (\$2M gift);
 - Center for Nuclear Science (\$5M gift);
 - completed \$5M endowment for Center for India Studies;
 - developed successful proposal for \$26M endowment for Department of Economics
 - Increased endowed professorships from 1 to 10, adding chairs in Hellenic Studies, Philosophy, History, Art, Physics, Chemistry, Anthropology, Tamil, Economics;
 - Created two endowed visiting artist positions in visual art and jazz music performance
 - Created *Pre-College Institute* for high-schoolers from low-income Long Island districts

- Fiscal management and revenues
 - Inherited \$6M/year operating deficit in \$90M/year budget, and additionally encountered \$5M unfunded union contractually-obligated salary increases, necessitating \$11M budget correction.
 - Instituted budgeting process aligned with objectives of the College Strategic Plan
 - Increased intercession-based tuition revenues from \$4M to \$6M through online courses
 - Instituted faculty workload analysis and allocation process that reduced adjunct instruction
 - Added grant-writing support staff in the College office
 - Increased sponsored research from \$36M/yr to \$46M/yr
 - Two Department of Energy EFRC grants, each \$10M
 - Created new online course offerings, with result of 30% increase in online enrollment.

Associate Dean, College of Natural Sciences, University of Texas (2010-2014)

Responsible for undergraduate education for 11,000 students in the College of Natural Sciences, the largest of the 14 colleges at UT Austin. Supervise student affairs staff of 130 for CNS Dean's Office.

- **Courses, Curricula, and Degree Programs**
 - Led faculty through creation of Bachelor of Science and Arts (BSA) degree allowing for complementary study of science along with business, communications, liberal arts, or fine arts.
 - Created interdisciplinary degrees in health information technology, neuroscience, public health.
- **College Readiness and Onboarding – reduce rates of non-passing grades by factor of 2**
 - Oversaw pre-matriculation placement testing in math and chemistry for freshmen
 - Created online remediation curricula and peer mentoring for students in placement process
 - Oversaw summer orientation programs for new students
- **Student Success Programs**
 - Oversaw and enlarged capacity for programs that raise graduation rates 64% for at-risk students
 - Expanded peer mentoring program to employ over 800 student mentors annually
 - College's 4 yr grad rates grew to 75% (*cf* 50%), exceeding UT average of 69%
- **Admissions**
 - Increased diversity and success rates of freshman class (probations down by factor of two)
 - Created faculty review process for admissions to the college
- **Academic Advising and Mentoring**
 - Oversaw college's 35 professional academic advisors
 - Created CNS101 (now CNS Cornerstones), placing all freshmen in small cohorts with faculty and peer mentors, following pilot programs that showed 30% increase in 4yr graduation rates.
- **Career Services and Pre-Health Advising**
 - Oversaw office of 12 career and pre-health advisors
 - Initiated ties with Austin Chamber of Commerce, BioTech Austin, and UT Alumni
 - Served as director of Joint Admissions to Medical Program for under-privileged students
 - Created alumni-student networking events and individual mentor matching service
- **Undergraduate Research and International Study**
 - Oversaw Freshmen Research Initiative, serving 850 freshmen annually in faculty-led research
 - Oversaw year-end undergraduate research forum for all students in the college
 - Created faculty-driven partner university program for study abroad at 80 universities
- **Honors Programs**
 - Supported creation of Health Science Scholars and Polymathic Scholars honors programs
 - Awards: 6 successful Goldwaters, 12 NSF fellows, and a Truman and a Marshall scholar
 - Created dedicated Honors Office for the College
- **Student Dean for the College**
 - Faculty advisor for the Natural Sciences Council of Student Government
 - Oversaw 100 student organizations and student life in the college
 - Created weekly blog & email ("Kopp's weekly") read by 11,000 students in the college
 - Created student advisory council for under-represented minorities.
 - Created counseling office for the College
- **Teaching Pedagogy and Innovation Support**
 - Led faculty professional development in hybrid, technology-enhanced "flipped classrooms"
 - Oversaw college development of QUEST web-based platform for curriculum and assessment
 - Developed innovative 'studio style' classrooms for interactive inquiry-based pedagogies
- **Commencement Ceremonies for the College of Natural Sciences**
- **Oversight of College's \$22M instructional budget**

Associate Chair, Department of Physics, University of Texas (2008-2010)

Responsible for undergraduate education for Department of Physics.

- Initiated a doubling of the number of physics majors from 220 in 2008 to 470 in 2012
- Conducted focus group research of issues related to student success, retention, and satisfaction
- Created marketing campaign to recruit students to the major
- Initiated undergraduate teaching assistant program
- Initiated Physics Department Open House for all students at UT Austin to tour research labs
- Organized science concerts, popular lectures, student/faculty lunches, and movie nights
- Chair of Physics Department Undergraduate Studies Committee
- Department representative on College honors, faculty advisors, and curriculum committees
- Created UTeach Primary program – extension of UTeach program for education majors certifying in K-6 grades. Created 4 interdisciplinary semester-long courses in hands-on learning of science (spans topics of chemistry, physics, biology, geology, astronomy) – collaborated with George Nelson (Western Washington) and Fred Goldberg (San Diego).

External Research Activities:

My scholarly work focused on the physics of elementary particles. It involved participating in and leading multi-university, international collaborative teams that studied the basic building blocks of matter and the forces that govern their behavior. My work was conducted at particle accelerators at Fermilab (Chicago), Cornell (Ithaca), and CERN (Geneva). My graduate work included study of the particle responsible for the weak nuclear force and participation in an experiment that discovered the top quark, one of the 12 basic building blocks of all matter. My postdoctoral fellowship included a lead role in the design and construction of an instrument at the Cornell accelerator, used by over 400 scientists in the study of “bottom quarks” and “charm quarks.” My later work included project management roles in the construction and operation of a \$130M particle beam facility which we used to demonstrate that the neutrino has mass and contributes to the gravitational matter in the universe. I also conducted research in the design and operations of particle accelerators at Fermilab and CERN. Most recently, I became interested in STEM education, and worked with cross-departmental teams studying inquiry-based instruction on the self-efficacy of K-6 teachers in teaching science, led a cross-departmental team on the impact of flipped classroom pedagogical techniques in student outcomes and retention, and conducted research in persistence in STEM disciplines for at-risk communities.

- STEM Education and Student Success (2008 –)
- Neutrino scattering cross sections at the MINERvA experiment, Fermilab (2007 – 2012)
- Neutrino oscillation studies at the MINOS experiment, Fermilab (2000 – 2012)
- Accelerator R&D at Fermilab and CERN
 - Synchronization of the 8 GeV Booster and 120 GeV Main Injector accelerators
 - Secondary Emission Monitors for the Main Injector and 400 MeV transfer lines.
 - Development of an AC Dipole for the Fermilab Tevatron and CERN LHC
 - Tomographic imaging of particle beams in the Fermilab Main Injector
 - Study of linear and non-linear optics using ramped correctors in the Fermilab and CERN Boosters
- CLEO-III Ring-Imaging Čerenkov detector, Cornell Electron Synchrotron Ring (1995 –1999)
- The Collider Detector at Fermilab: Proton-Antiproton Collisions at 1800 GeV (1987 – 1995)

Refereed Publications

Citation summary results	Citeable papers	Published only
Total number of citable papers analyzed:	345	291
Total number of citations:	29,870	27,720
Average citations per paper:	86.6	95.3
Breakdown of papers by citations:		
Renowned papers (500+)	8	7
Famous papers (250-499)	9	8
Very well-known papers (100-249)	65	61
Well-known papers (50-99)	63	60
Known papers (10-49)	141	133
Less known papers (1-9)	46	20
Unknown papers (0)	13	2
Additional Citation Metrics		
h index	90	88

Selected publications as PI:

1. "Do Inquiring Minds have Positive Attitudes? The Science Education of Preservice Elementary Teachers," C.Riegler-Crumb, K.Morton, C.Moore, A.Chimonidou, C.Labrake, S.Kopp, *Sci.Educ.* 2015 Sep; 99(5): 819-836
2. "Accelerator Neutrino Beams," S. Kopp, invited review article, *Phys. Rept.* **439**: 101 (2007).
3. "Properties of the W Boson from the Fermilab Tevatron," S. Kopp, invited review article, *International Journal of Modern Physics A* **10**, 4413 (1995).
4. "Secondary Beam Monitors System for the NuMI Facility at FNAL," S. Kopp *et al.*, *Nucl. Instr. Meth.* **A568**:503-519,2006
5. "Parametrization of the driven betatron oscillation," R.Miyamoto, S. Kopp, A. Jansson, M. Sypfers, *Phys. Rev. ST Accel. Beams* **11**:084002 (2008)
6. "Beam-Based Alignment of the NuMI Target Station Components at FNAL," R.Zwaska *et al.*, *Nucl. Instr. Meth.* **A568**:548-560,2006
7. "The Hadron Hose: Continuous Toroidal Focusing for Conventional Neutrino Beams," J. Hylen *et al.*, *Nucl. Instr. and Meth.* **A498** pp 29-51 (2003).
8. "Construction, Pattern Recognition, and Performance of the CLEO III LiF-TEA RICH Detector," *Nucl. Instr. and Meth.* **A502**, 91 (2003)
9. "Undergraduate Peer Assistants in a Large Lecture Course," S. Kopp, *J. Phys. Ed* **35**(6), 423 (2000).
10. "CLEO-III Ring Imaging Cherenkov Detector," M.Artuso *et al.*, *Nucl. Instr. Meth.* **A461**, 545(2001)
11. "Beam Tests of the CLEO-III RICH," M. Artuso *et al.*, *Nucl. Instr. Meth.* **A441**, 374 (2000).
12. "The CLEO-III Detector," S. Kopp, *Nucl. Instr. Meth.* **A384**, 61 (1996)

Selected publications with P. Adamson *et al* (MINOS Collaboration):

13. "The NuMI Neutrino Beam," P. Adamson *et al.*, *Nucl. Instr. Meth.* **A806**: 279 (2016).
14. "Measurement of the neutrino mass splitting and flavor mixing," *Phys.Rev.Lett.*106.181801 (2011)
15. "Search for sterile neutrino mixing," *Phys.Rev.***D81**:052004 (2010)
16. "Search for muon-neutrino to electron-neutrino transitions," *Phys.Rev.Lett.***103**:261802, 2009
17. "First Measurement of ν_{μ} and ν_e Events in an Off-Axis Horn-Focused Neutrino Beam," *Phys. Rev. Lett.* **102**:211801, 2009
18. "Search for active neutrino disappearance using neutral-current interactions," *Phys. Rev. Lett.* **101**:221804,2008

19. "Measurement of Neutrino Oscillations with the MINOS Detectors in the NuMI Beam," *Phys.Rev.Lett.***101**:131802, 2008
20. "A Study of Muon Neutrino Disappearance Using the Fermilab Main Injector Neutrino Beam," *Phys.Rev.***D77**:072002, 2008
21. "Observation of muon neutrino disappearance with the MINOS detectors and the NuMI neutrino beam," *Phys.Rev.Lett.***97**:191801, 2006

Selected publications with M.S. Alam *et al* (CLEO Collaboration):

22. "Branching Fraction and Photon Energy Spectrum for $b \rightarrow s\gamma$ " *Phys.Rev.Lett.* **87** 251807 (2001).
23. "Study of $B \rightarrow \psi(2S)K$ and $B \rightarrow \psi(2S)K^*(892)$ Decays," *Phys. Rev.* **D63**:031103 (2001)
24. "Study of Exclusive Two-Body B^0 Meson Decays to Charmonium," *Phys. Rev.* **D62**:051101(2000)
25. "Search for CP Violation in $B^+ \rightarrow \psi K^+$ and $B^+ \rightarrow \psi(2S)K^+$ Decays," *Phys. Rev. Lett.* **84**:5940 (2000).
26. "Measurement of the B^0 and B^+ Masses," *Phys. Rev.* **D61**:11101 (2000).
27. "First Observation of the Decay $B \rightarrow \psi\phi K$," *Phys. Rev. Lett.* **84**:1393 (2000).

Selected publications with F. Abe *et al* (CDF Collaboration):

28. "The $e\tau$ and $\mu\tau$ Decays of Top Quark Pairs Produced in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev. Lett.* **79**, 3585 (1997)
29. "Search for New Gauge Bosons Decaying into Dileptons in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev. Lett.* **79**, 2192 (1997)
30. "Measurements of $\sigma B(W \rightarrow e\nu)$ and $\sigma B(Z^0 \rightarrow e^+e^-)$ in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev. Lett.* **76**, 3070 (1996).
31. "Search for New Charged Bosons Heavier than the W in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev. Lett.* **74**, 2900 (1995).
32. "Observation of $t\bar{t}$ Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.800$ GeV," *Phys. Rev. Lett.* **74**, 2626 (1995).
33. "A Direct Measurement of the W Boson Width $\Gamma(W)$," *Phys. Rev. Lett.* **74**, 341 (1995).
34. "Search for the Top Quark Decaying into a Charged Higgs Boson in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev. Lett.* **73**, 2667 (1994).
35. "Evidence for $t\bar{t}$ Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev.* **D 50**, 2966 (1994); *Phys. Rev. Lett.* **73**, 225 (1994).
36. "Measurement of the Ratio $\sigma B(W \rightarrow e\nu) / \sigma B(Z^0 \rightarrow e^+e^-)$ in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev. Lett.* **73**, 220 (1994); *Phys. Rev.* **D52**, 2624 (1995)
37. "Measurement of the Ratio $\sigma(W \rightarrow e\nu) / \sigma(Z^0 \rightarrow e^+e^-)$ in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV," *Phys. Rev. Lett.* **64**, 152 (1990).

Selected Public Media and Non-Refereed Publications:

1. "National Interest" Science: A Dangerous Contradiction," op-ed, Huffington Post, 4/5/16
2. "Should Academics Talk to Katie Couric?" *Chronicle of Higher Education*, Sacha Kopp and Naomi Wolf, 2/17/16
3. "Stony Brook Positions Students for Upward Mobility," College of Arts and Sciences Pre-College Institute featured in *Chronicle of Higher Education*, 5/2018
4. "Enlarging Physics Programs at Colleges and Universities," op-ed, *APS News*, 8/9/10
5. "Measurement and Manipulation of Beta Functions in the Fermilab Booster," M.McAteer *et al*, *Proc. 2011 Part. Accel. Conf.*
6. "Nonlinear dynamics studies in the Fermilab Tevatron using an ac dipole," R.Miyamoto *et al*, *Proc. IEEE 2009 Part. Accel. Conf.*

7. “Geometrical interpretation of nonlinearities from a cylindrical pick-up,” R.Miyamoto, A.Jansson, M.Syphers, S.Kopp, *Proc. IEEE 2007 Part. Accel. Conf.*
8. “Tevatron AC dipole system,” R.Miyamoto *et al*, *Proc. IEEE 2007 Part. Accel. Conf.*
9. “Tevatron Optics Using an AC dipole,” R.Miyamoto *et al*, *Proc. IEEE 2007 Part. Accel. Conf.*
10. “Cycle-to-Cycle Extraction Synchronization of the Fermilab Booster for Multiple Batch Injection to the Main Injector,” R. Zwaska *et al*, *Proc. IEEE 2005 U.S. Part. Accel. Conf.*
11. “Synchronization of the Fermilab Booster and Main Injector for Multiple Batch Injection,” *Proc. European Part. Accel. Conf.*, Luzern, Switzerland (2004).

Textbooks and Instructional Resources:

1. *Quantum Mechanics of Particles and Nuclei*, 4th year undergraduate text
2. *Modern Physics*, e-text, <http://courses.cns.utexas.edu/kopp-PHY355>
3. *Introductory Physics*, e-text, <http://courses.cns.utexas.edu/PHY-bootcamp>
4. *Hands-On-Science*, inquiry-based lab book for pre-service elementary teachers in 4 volumes: (I) physical science, (II) earth science, (III) biology, (IV) astronomy

Seminars, Colloquia and Conferences:

1. “Accelerator Neutrino Beams,” Conference on the History of the Neutrino, Paris, France, 9/2018.
2. “The Ivory Tower Meets the Public Marketplace of Ideas,” public lecture, U. Kansas, 3/14/17.
3. “Preparing for a Career as a Researcher and Public Intellectual,” graduate student workshop, University of Kansas, 3/15/17.
4. “What’s the Value of a College Education, and How Can K-12 and University Educators Work Together to Maximize that Value for Students?” Keynote address at Texas Regional Collaboratives 20th Annual Meeting for K-12 Teachers, Austin, TX, 7/19/14
5. “How to Recruit Physics Majors,” Physics Department Colloquium, Louisiana State Univ, 9/2012, Tufts Univ, 4/2011, Univ. Nebraska, 3/2011
6. “How to Recruit Physics Majors,” Amer. Assoc. Phys. Teachers Meeting, Jacksonville, 1/2011
7. “Neutrino Oscillations,” Physics Department Colloquium, University of Chicago (12/2010); Syracuse University (11/2010); University of Texas (9/2010)
8. “Accelerator-Based Neutrino Beams,” lectures at International School on Neutrino Physics, KEK, Japan, 8/2010, Benasque, Spain, 6/2008, UCLA, 8/2006
9. “In Situ Measurements of Neutrino Beam Flux,” Int’l Conf. Neutrinos, Athens, Greece, 5/2010
10. “Hands-On Science: An Inquiry-Based Integrated Science Content Course for Pre-service Elementary Teachers,” PTEC Conference, Austin, TX, 5/2010
11. “Review of Neutrino Oscillations,” Int’l Conf Leptons & Photons, Hamburg, Germany, 8/2009
12. “In Situ Measurements of Neutrino Beam Flux,” NuInt09 Conference, Barcelona, Spain, 5/2009
13. “Review of Neutrino Oscillations,” Int’l Conf Flavor and CP Violation, Lake Placid, 5/2009
14. “Neutrino Results from Fermilab,” Physics Dep’t Colloq, Columbia 4/2008, UTennessee 2/2008
15. “Determining the Neutrino Beam Flux,” NuFact2007 Conference, Osaka, Japan, 8/2007

16. "Beam Flux Techniques for the Minerva Experiment," NuInt07 Conference, Fermilab, 5/2007
17. "Future Neutrino Beams in the U.S.," NNN06 Workshop, Seattle, Washington, 11/2006
18. "Long Baseline Projects in the US," invited plenary talk at the 2006 Neutrino Oscillation Workshop, Otranto, Lecce, Italy, 9/ 2006.
19. "Overview of the NuMI Beam," 5th International Workshop on Neutrino Beams and Instrumentation, CERN, Geneva, Switzerland, 9/2006
20. "Particle Production Uncertainties for the NuMI Beam," 6th International Conference on Neutrino Factories based on Muon Storage Rings (NuFact06), University of California, Irvine, 8/2006.
21. "Results on Neutrino Oscillations from Fermilab," Physics Dept. Colloquium, IIT, 5/2006.
22. "First Results from the Main Injector Neutrino Oscillation Search," High Energy Physics Seminar at University of Chicago, 5/2006, UCLA 4/2006, University of Colorado, Boulder, 4/2006.
23. "Status of the NuMI Beam at Fermilab," U.S. Particle Accelerator Conference, 5/2005.
24. "The NuMI Beam at Fermilab," 33rd ICFA Advanced Beam Dynamics Workshop: High Intensity High Brightness Hadron Beams (ICFA HB2004), Bensheim, Germany, 10/2004.
25. Presentations at the 4th International Workshop on Neutrino Beams and Instrumentation, KEK, Japan, 11/2003: (1) "Secondary Emission Monitors for NuMI," (2) "The MINOS Near Detector"
26. "The NuMI Neutrino Beam and Potential Upgrades to an Off-Axis Experiment," presentation at the NuFact02 Conference, Imperial College, London, 6/2002.
27. Presentations at the 3rd International Workshop on Neutrino Beams and Instrumentation, CERN, Geneva, Switzerland, 3/2002: (1) "Ion Chambers for Monitoring the NuMI Neutrino Beam," (2) "The NuMI Hadron Hose."
28. "The NuMI/MINOS Experiment," HEP Seminar, University of Maryland, 12/2001.
29. "The NuMI/MINOS Experiment," Tamura International School on Neutrino Physics, Tokyo University of Science, Tokyo, Japan, 11/2001.
30. "The NuMI Hadron Hose," 2nd International Workshop on Neutrino Beams and Instrumentation (NBI2000), Fermi National Accelerator Laboratory, 9/2000.
31. "CP Violation at CLEO," Texas Section Meeting of the American Physical Society, 10/1999.
32. "Studies of Decays of the B^0 Mesons for Measuring $\sin 2\beta$," American Physical Society Division of Particles and Fields, Los Angeles, CA, 1/1999.
33. "The CLEO III Upgrade," invited plenary talk at the International Conference on Advanced Technology and Particle Physics, Como, Italy, 10/1998.
34. "The CLEO-III Upgrade," Exp't Particle Physics Seminar, CERN, Geneva, Switzerland, 10/1998.
35. "Status of the CLEO-III Detector and CESR Upgrade at Cornell," Beauty '96, Rome, Italy.
36. "Prototype Studies of the CLEO-III RICH," IEEE Nucl. Sci. Symp., San Francisco, 10/1995.
37. "Electroweak Physics with W Bosons at CDF," HEP Seminar, Lawrence Berkeley Lab, 10/1994.
38. "Electroweak Physics with the W Boson at CDF," Exp't Particle Phys Seminar, CERN, 10/1994.

Research Funding

- “Empowering Academically Talented STEM Undergraduates through Early Experiences in Teaching and Mentoring of K-8 Youth,” 2019-2021, C. Cutucache, K. Gomez Johnson, J. Conrad, C. Rauter, S. Kopp, R. Meredith, National Science Foundation DUE-1929154, \$999,984.
- "Collaborative Proposal: CI-TEAM DIFFUSION: Pedagogical Open-Access Research-based Tools for Advancing Learning in Science and Engineering," 2011 – 2013, U.S. National Science Foundation, \$149,914.
- "Upgrade of the Muon Monitor System for the NuMI Facility," 2010 – 2011, Fermi National Accelerator Laboratory, \$130,000.
- "Research on Inquiry-Based In-service Teacher Professional Development on Elementary School Children," 2011-2012, Texas Regional Collaboratives in Science and Math Education, \$380,000.
- "Integrated, Inquiry-Based Natural Science Curriculum for Pre-Service Elementary Teachers," 2010 – 2012, U.S. National Science Foundation, \$179,000.
- “Research in Accelerator Physics,” 2009-2013, Fermi National Accelerator Laboratory, \$290,000.
- "Research in High Energy Physics," 2009 – 2011, U.S. Department of Energy, co-PI’s (all from UT) D. Dicus, K. Lang, J. Ritchie, R. Schwitters, total award for S.Kopp \$826,000.
- “Design of Secondary Emission Monitors for the Nova Facility,” Fermi National Accelerator Laboratory, 2009-2010, \$70,000.
- "Transforming Undergraduate Education Grant," 2009 – 2011, University of Texas Regents, \$250,000.
- “Scientists for Tomorrow Program,” 2008 – 2012, National Science Foundation, Scholarships for Underrepresented Students in the Natural Sciences, \$600,000.
- “Construction of a Replacement Hadron Monitor for the NuMI Facility,” Fermi National Accelerator Laboratory, 2007-2009, \$150,000.
- “Upgrade of the Gas Delivery System for the Muon Monitors for the NuMI Facility,” Fermi National Accelerator Laboratory, 2007-2009, \$70,000.
- "Research in High Energy Physics," 2006 – 2008, U.S. Department of Energy, co-PI’s (all from UT) D. Dicus, J. Klein, K. Lang, J. Ritchie, R. Schwitters, total award for S.Kopp \$313,528.
- “Construction of Secondary Emission Monitors for the Muon Cooling Test Facility,” Fermi National Accelerator Laboratory, 2005, \$6,000.
- "Research in High Energy Physics," 2001 – 2005, U.S. Department of Energy, co-PI’s (all from
- “Research in Accelerator Physics,” Fermi National Accelerator Laboratory, 2005-2008, \$164,835 UT) D. Dicus, J. Klein, K. Lang, J. Ritchie, R. Schwitters, total award for S.Kopp \$470,753.
- “Design and Construction of Profile Monitor SEM’s for the NuMI Beam,” 2002-2005, Fermi National Accelerator Laboratory, \$311,000
- “Design and Construction of NuMI Beam Monitor System,” 2001-2005, Fermi National Accelerator Laboratory, \$383,000
- “Research and Development on the Hadron Hose,” 2001-2002, Fermi National Accelerator Laboratory, \$73,000

Students & Postdoctoral Fellows Supervised:

- A. Chimonidou, postdoctoral fellow, 2008 – 2010, now lecturer at University of Texas
- N. Erickson, postdoctoral fellow, 2011 – 2012, now research scientist at University of Texas
- M. Jerkins, postdoctoral fellow, 2010 – 2012, now at AtomoTech
- L. Loiacono, postdoctoral fellow, 2010 – 2011, now at University of Rochester.
- J. Parker Cravens, postdoctoral fellow, 2008 – 2010, now at Raytheon Corp.
- Mikhail Kostin, postdoctoral fellow 2000 – 2001, now at Michigan State University.
- Meghan McAteer, PhD 2014, dissertation project: “Correction of linear and non-linear optics using ramped corrector magnets in the Booster Accelerator at Fermilab”
- Nick Evans, PhD 2014, dissertation topic: “Tomographic Imaging of Charged Particle Beams”
- Randi Ludwig, PhD 2012, dissertation project: “The Hands-On-Science Curriculum”
- Jasmine Ma, PhD 2011, dissertation project: “Oscillations to Sterile Neutrinos”
- Laura Loiacono, PhD 2010: “Measurement of Neutrino Cross Sections on Iron”
- Ryoichi Miyamoto, PhD 2008, dissertation title: “An AC Dipole for the Fermilab Tevatron”
- Žarko Pavlović, PhD 2008, dissertation: “Neutrino Oscillations with the MINOS Detector”
- Dharmaraj Indurthy, M.S. 2006, dissertation title: “Beam Monitors for the NuMI Facility”
- Robert Zwaska, PhD 2005 “Accelerator Systems and Instrumentation for the NuMI Beam”

Service Work to the Community:

- 2020 – : Member Omaha Chamber DEI Advisory Committee and THRIVE Task Force
- 2019 – : Member, Metropolitan Omaha Educational Consortium
- 2017-2019: Council Member, Setauket Presbyterian Church
- 2010-14: Chair, Vicar Committee, First English Lutheran Church, Austin Texas
- 2010-12: Member, Executive Committee, American Physical Society Texas Section
- 2008-9: Chair, Nominations Committee, APS Division of Particles and Fields
- 2007: Member Long Range Steering Committee of Fermi National Accelerator Laboratory
- 2007-9: Member, NSF Review Panel for DUSEL R&D Proposals, also NSF GRFP
- 2007: Chair, National User Facility Org. (FNAL, BNL, ANL, LBL, ORNL, TJNL, LANL, SLAC, PNNL)
- 2005-2007: Elected Chair, Fermilab Users’ Organization
- 2005: organizer, 5th Int’l Workshop on Neutrino Beams and Instrumentation (NBI2005)
- 2004-5: Chair, Committee on Univ. Collaboration with the Fermilab Accelerator Division.
- 2001-5: Council Member, First English Lutheran Church, Austin, Texas
- 1997 - 1999: Council Member and Treasurer, First English Lutheran Church, Syracuse, NY
- 1995 - 2010: referee for *Phys. Rev. Lett.*, *Phys. Rev. D*, *IEEE Trans. Nucl. Sci.*
- 1992-1995: Summer Minority Student Research program, University of Chicago