

VITA
KIMBALL ALAN MILTON

CURRENT POSITION

George Lynn Cross Research Professor, Emeritus, Homer L. Dodge Department 2017–
of Physics and Astronomy, University of Oklahoma, Norman

EMPLOYMENT RECORD

George Lynn Cross Research Professor, Homer L. Dodge Department 2007–2016
of Physics and Astronomy, University of Oklahoma, Norman

Simons Fellow, Laboratoire Kastler Brossel, Université Pierre et Marie Curie 2013–4
Paris, France

Professor, Homer L. Dodge Department of Physics and Astronomy, 1986–2007
University of Oklahoma, Norman

E. T. Jaynes Visiting Professor, Department of Physics 2005–6
Washington University, St. Louis

Senior Visiting Fellow, Department of Physics, Imperial College, London 1995

Visiting Professor, Department of Physics, 1989
Ohio State University, Columbus

Professor, Department of Physics, 1984–1986
Oklahoma State University, Stillwater

Visiting Professor, Department of Physics 1985–1986
and Astronomy, University of Oklahoma, Norman

Adjunct Professor, Department of Physics 1984–1985
and Astronomy, University of Oklahoma, Norman

Associate Professor, Department of Physics, 1981–1984
Oklahoma State University, Stillwater

Adjunct Associate Professor/Associate 1979–1981
Research Physicist, Department of Physics,
University of California at Los Angeles
and

Visiting Associate Professor, Department of
Physics, Ohio State University, Columbus

Adjunct Assistant Professor/Assistant Research 1971–1979
Physicist, Department of Physics, University
of California at Los Angeles

Physicist, Lawrence Radiation Laboratory, Summer 1969
Livermore

Physicist, U.S. Naval Radiological Defense Summer 1967
Laboratory, San Francisco

EDUCATION

Ph.D., Harvard University 1971
Dissertation Title: *Unitarity and Vertex Functions*
Thesis Advisor: Julian Schwinger

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| A.M., Harvard University | 1968 |
| B.S., University of Washington, Seattle, Phi Beta Kappa, Magna cum laude | 1967 |

COURSES TAUGHT

| | Number of Times Taught |
|--|---------------------------|
| At UCLA (1972–1979) | |
| Physics 7A/8A: General Physics: Mechanics (for physical science majors) | 4 |
| Physics 10: Physics (for non-science majors) | 3 |
| Physics 131A and 131B: Mathematical Methods of Physics | 3 + 3 |
| Physics 115A: Quantum Mechanics | 1 |
| Physics 126: Elementary Particle Physics | 1 |
| Physics 199: Special Studies in Physics | 3 |
| Physics 596: Directed Individual Study | 1 |
| Experimental College: Living in the Nuclear Age | 1 |
| At Ohio State University (1979–1981) | |
| Physics 100.01: Vibrations and Waves (for nonscience majors) | 3 |
| Physics 100.02: Energy (for non-science majors) | 1 |
| Physics 626: Mechanics | 1 |
| Physics 627: Thermodynamics and Statistical Mechanics | 1 |
| At Oklahoma State University (1981–1985) | |
| Astronomy 1104: Elementary Astronomy | 1 |
| Physics 2014: General Physics (for physics and engineering students) | 3 |
| Physics 3313: Modern Physics | 2 |
| Physics 4413: Modern Physics II | 1 |
| Physics 5453: Methods of Theoretical Physics | 1 |
| Physics 5613: Quantum Mechanics I | 3 |
| Physics 6010: Quantum Field Theory (on Talk-Back TV, with students at the University of Oklahoma) | 1 + 1 |
| Physics 6000: Doctoral Research | 6 |
| At University of Oklahoma (1985–2016) | |
| Physics 3183: Electricity and Magnetism | 1 |
| Physics 3803: Introduction to Quantum Mechanics I | 1 |
| Physics 3223: Modern Physics for Engineers | 1 |
| Physics 3803: Introduction to Quantum Mechanics I | 1 |
| Physics 4153: Statistical Physics and Thermodynamics | 1 |
| Physics 4803: Introduction to Quantum Mechanics II | 1 |
| Physics 5153: Classical Mechanics | 2 |
| Physics 5163: Statistical Mechanics | 7 |
| Physics 5393: Quantum Mechanics I | 3 |
| Physics 5573: Electrodynamics I | 10 |
| Physics 5583: Electrodynamics II | 7 |
| Physics 6403: Quantum Mechanics II | 2 |
| Physics 6693/5013: Mathematical Methods of Physics I | 10 |

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| Physics 5970/6840: Seminar in Particle Physics | 5 |
| Physics 6213: Advanced Particle Physics | 1 |
| Physics 6433: Quantum Field Theory | 4 |
| Physics 5970: Advanced Quantum Field Theory | 1 |
| Physics 5990: Special Studies | 9 |
| Physics 6980: Doctoral Research | 45 |
| Grad 5003/Univ 4000: OSLEP, Quantum Frontier | 1 |
| At Washington University in St. Louis (2006) | |
| Physics 506: Classical Electrodynamics II | 1 |

FELLOWSHIPS AND GRANTS

| | |
|---|-----------|
| PI, Advances in Casimir-Polder Interactions Between Atoms and Substrates, NSF | 2020-24 |
| PI, Summer School and Workshop on Casimir Effect, Trondheim, Norway, Julian Schwinger Foundation | 2018 |
| PI, Advances in Casimir-Polder Interactions Between Atoms and Substrates, NSF | 2017-20 |
| Casimir effect and van der Waals forces in multilayer systems, Norwegian Research Council, co-investigator | 2016-19 |
| Carl T. Bush Lecturer, Homer L. Dodge Dept. of Physics and Astronomy | 2015-8 |
| PI, Julian Schwinger Foundation, New Directions in Casimir Physics | 2015 |
| PI, Julian Schwinger Foundation, Support of Workshop on Casimir Physics, les Houches | 2014 |
| PI, Simons Foundation, Simons Fellowship for Sabbatical | 2013-14 |
| PI, Julian Schwinger Foundation, Applications of Quantum Vacuum Physics | 2012-2014 |
| APS International Travel Grant, for Aram Saharian | 2011 |
| Principal Investigator, Quantum Vacuum Energy, US NSF | 2010-2013 |
| Principal Investigator, Theory Task, Department of Energy Grant, OU | 1987-2013 |
| National Science Foundation, grant for QFEXT09 | 2009 |
| Principal Convener, Quantum Field Theory Under the Influence of External Conditions (QFEXT09), ESF Grant | 2009 |
| Principal Investigator, Quantum Vacuum Energy, US NSF | 2006-2010 |
| E. T. Jaynes Visiting Professorship, Washington University, St. Louis | 2005-2006 |
| US DOE, EPSCoR, Oklahoma Center for High Energy Physics | 2004-2011 |
| Institute of Physics Publishing, grant for QFEXT03 | 2003 |
| University of Chicago, travel grant for MGX | 2003 |
| National Science Foundation, grant for QFEXT03 | 2003 |
| Co-PI, US Department of Energy, EPSCoR/Lab Partnership Award | 2003-2006 |
| Oak Ridge Associated Universities, grant for QFEXT03 | 2002 |
| OU Research Council Award (for workstation) | 2000 |
| College of Arts and Sciences, Instructional Computing Grant | 2000 |
| Principal Investigator, NSF Cooperative Research Grant | 1996-2000 |
| Special funding from OU for International Collaboration | 1999-2000 |
| Special funding from OU for International Collaboration | 1997-1998 |

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|---|-----------|
| OU College of Arts and Sciences Faculty Research Grant | 1994–1995 |
| UK PPARC Visiting Fellowship | 1995 |
| Pittsburgh Supercomputing Center, C90 grant | 1993 |
| OU Research Council Award (for workstation) | 1991 |
| NSF Grant for <i>Beyond the Standard Model II</i> | 1990 |
| Special Funding from Vice Provost for Research Administration | 1988–1989 |
| OU Associates Funding (for a postdoc) | 1987–1988 |
| Dean’s Starter Grant, Oklahoma State University | 1984–1985 |
| NSF grant for <i>Workshop on Non-Perturbative QCD</i> | 1983 |
| APS/NSF Travel Grant to attend 21st ICHEP, Paris | 1982 |
| Dean’s Starter Grant, Oklahoma State University | 1982–1983 |
| Co-Principal Investigator, Department of Energy Contract, OSU | 1981–1986 |
| Co-Recipient of Alfred P. Sloan Grant, J. Schwinger, P.I. | 1975–1978 |
| NSF Predoctoral Fellow | 1967–1971 |
| Honorary Woodrow Wilson Fellow | 1967–1968 |
| Crown Zellerbach Scholarship | 1963–1967 |

OTHER HONORS

| | |
|---|-----------|
| Fellow, American Physical Society | 2014 |
| Honorary White Buffalo Mask Award from OU School of Drama | 2011 |
| Foreign member, Royal Norwegian Society of Sciences and Letters Academy | 2011 |
| Fellow, The Institute of Physics (UK) | 2004 |
| Regents’ Award for Superior Research | 1991 |
| Associates Distinguished Lecturer | 1988–1989 |
| Selected for Inclusion in <i>Who’s Who in America</i> , <i>Who’s Who in the South and Southwest</i> , <i>Who’s Who in Science and Engineering</i> , and in <i>American Men and Women in Science</i> | |

SEMINARS AND COLLOQUIA:

University of Alabama, University of Arkansas, Baylor University, Boston University, Brandeis University, University of British Columbia, Brookhaven National Laboratory, CALTECH, University of California, Riverside, Case Western Reserve University, Czech Technical University, Czech Nuclear Physics Institute (Rež), Dartmouth College, University of Durham, East China University of Science and Technology, Shanghai, École Normale Supérieure, FERMILAB, Cal State Fullerton, University of Illinois, Urban-Champaign, Imperial College, Iowa State University, UC Irvine, Joint Institute for Nuclear Research (Dubna), University of Kansas, Kansas State University, KEK, Kyoto University, Laboratoire Kastler Brossel, Los Alamos National Lab., MIT, UNAM, University of Minnesota, University of Mississippi, University of Missouri, University of Munich, State University of New York, Stony Brook, Niels Bohr Institute, University of North Carolina, North Texas State University, Norwegian University of Science and Technology, Ohio State University, Oklahoma State University, University of Oklahoma, University of Oregon, Osaka University, Oxford University, Simon Fraser University, Southampton University, Southern Illinois University-Carbondale, SLAC, University of Texas, Dallas, Texas Tech University, Tokyo University, University of Tübingen, University of Tulsa, UCLA, USC, University of Virginia, University of Wales, Swansea, Washington University, University of Washington,

Zhengzhou University.

VISITING SCIENTIST

| | |
|--------------------------------|------------------------|
| Kyoto University, RIFP | June 1988 |
| KEK | July 1985 |
| Los Alamos National Laboratory | August 1983, June 1986 |
| University of Munich | July 1982 |
| FERMILAB | July 1981, July 1993 |

PARTICIPANT AT CONFERENCES AND SUMMER SCHOOLS

| | |
|---|------|
| CMD29 Mini-Colloquium on Advances in the Casimir Force and Heat Transfer Phenomena, Manchester, UK (virtual speaker) | 2022 |
| Quantum and Thermal Electrodynamics Fluctuations in the Presence of Matter: Progress and Challenges, KITP Santa Barbara | 2022 |
| Third International Conference on Symmetry (virtual) | 2021 |
| Frontiers in Quantum and Mesoscopic Thermodynamics (virtual) | 2021 |
| Unruh Acceleration Radiation, Vacuum Entanglement and Relativity, Princeton (virtual) | 2020 |
| Joint Conference of the CMD Division of EPS and RSEF, Madrid (virtual) | 2020 |
| The Second International Conference on Symmetry, Benasque | 2019 |
| Photonic and Electromagnetic Research Symposium, Rome | 2019 |
| American Physical Society, April Meeting, Denver | 2019 |
| SchwingerFest2018: $g - 2$, UCLA, Los Angeles | 2018 |
| Casimir Effect Workshop and Summer School, Trondheim, Norway | 2018 |
| Julian Schwinger Centennial Conference (Co-organizer), Singapore | 2018 |
| The First International Conference on Symmetry, Barcelona (Co-chair) | 2017 |
| Workshop on Casimir and van der Waals Forces, Trondheim | 2017 |
| Progress in Electromagnetics Research Symposium (PIERS), St. Petersburg, Russia | 2017 |
| Workshop on Cosmology and the Quantum Vacuum, Benasque, Spain | 2016 |
| Workshop on Casimir and van der Waals Physics: Progress and Prospects, Hong Kong | 2016 |
| BernardFest, Washington University, St. Louis | 2016 |
| Frontiers in Quantum and Mesoscopic Thermodynamics, Prague | 2015 |
| Cosmology and the Quantum Vacuum, Rhodes | 2015 |
| American Physical Society, March Meeting, San Antonio | 2015 |
| Progress in Electromagnetics Research Symposium (PIERS), Guangzhou, China | 2014 |
| Casimir Physics Workshop, École de Physique des Houches, Co-organizer with Astrid Lambrecht | 2014 |
| Quantum Vacuum and Gravitation, Université Toulouse Paul Sabatier | 2013 |
| Simons Foundation Meeting, Mathematics and Physical Sciences, New York City | 2013 |
| American Physical Society, March Meeting, Baltimore | 2013 |
| Pan-American Advanced Study Institute (PASI) on “Frontiers of Casimir Physics,” Ushuaia, Argentina | 2012 |
| Mathematical Structures in Quantum Systems, Benasque, Spain | 2012 |

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| American Astronomical Society, Anchorage | 2012 |
| Casimir Physics School, Lorentz Center, Leiden | 2012 |
| Symposium on \mathcal{PT} Quantum Mechanics, Heidelberg | 2011 |
| Quantum Field Theory Under the Influence of External Conditions (QFEXT11), Benasque, Spain | 2011 |
| Frontiers in Quantum and Mesoscopic Thermodynamics, Prague | 2011 |
| Workshop on Observability and Theoretical Grounding of Thermal Casimir Forces Trondheim, Norway | 2011 |
| Workshop on Spontaneous Energy Focusing Phenomena and Multiscale Physics, Singapore | 2010 |
| Symposium on Pseudo-Hermitian Hamiltonians in Quantum Physics, Hangzhou | 2010 |
| Nonperturbative Quantum Field Theory, Norman | 2010 |
| Cosmology, the Quantum Vacuum, and Zeta Functions, Barcelona | 2010 |
| Joint Meeting of APS and AAPT, Washington | 2010 |
| Workshop on Casimir Force Control, Santa Fe | 2009 |
| 9th Conference on Quantum Field Theory Under the Influence of External Conditions (QFEXT09), Norman, OK (Principal Organizer) | 2009 |
| Casimir Forces and Their Measurement, Satellite Workshop at 12th International Conference on Noncontact Atomic Force Microscopy, Yale | 2009 |
| 3rd International Workshop on the Interconnection Between Particle Physics and Cosmology, Norman | 2009 |
| Royal Norwegian Society of Science and Letters Seminar in honor of Iver Brevik, NTNU, Trondheim | 2009 |
| Quantum Mechanics in the Complex Domain, Washington University (chief organizer) | 2009 |
| Annual AAAS/Winter AAPT Meeting, Chicago | 2009 |
| International Conference on High Energy Physics, Philadelphia | 2008 |
| 60 Years of the Casimir Effect, Brasilia, Brazil | 2008 |
| International Seminar on Contemporary Problems of Elementary Particle Physics Dedicated to the Memory of Igor Solovtsov, JINR, Dubna, Russia | 2008 |
| Eighth Workshop on Quantum Field Theory Under the Influence of External Conditions, QFEXT07, Leipzig | 2007 |
| Sixth Workshop on Pseudo-Hermitian Hamiltonians in Quantum Physics, City University, London | 2007 |
| Thermal Radiation at the Nanoscale: Forces, Heat Transfer, and Coherence, Les Houches, France | 2007 |
| Midwest Theory Conference, Lawrence, KS | 2007 |
| Conference on Heat Kernels in Mathematics and Physics, Blaubeuren | 2006 |
| Marcel Grossmann 11, Berlin | 2006 |
| Seventh Workshop on Quantum Field Theory Under the Influence of External Conditions, QFEXT05, Barcelona | 2005 |
| Supersymmetry, Gauge Theories, and Quantum Gravity, 60th Anniversary of L. F. Urrutia, UNAM, Mexico | 2005 |
| Workshop on Semiclassical Approximation and Vacuum Energy, | |

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| Texas A&M University | 2005 |
| Eighth Workshop on Non-Perturbative Quantum Chromodynamics, l'Institut Astrophysique de Paris | 2004 |
| Sixth Workshop on Quantum Field Theory Under the Influence of External Conditions, QFEXT03, Norman (organizer) | 2003 |
| Marcel Grossmann X Meeting on General Relativity, Rio de Janeiro | 2003 |
| 12th International Colloquium on Quantum Groups, Prague | 2003 |
| Workshop on Pseudo-Hermitian Hamiltonians in Quantum Physics, Prague | 2003 |
| Casimir Effect: Recent Developments in Experiment and Theory, ITAMP, Harvard-Smithsonian Center for Astrophysics | 2002 |
| GRG11: Theoretical and Experimental Problems of General Relativity and Gravitation, Tomsk, Russia | 2002 |
| Third International Sakharov Conference, Moscow | 2002 |
| American Physical Society, April Meeting, Albuquerque | 2002 |
| Fifth Workshop on Quantum Field Theory under the Influence of External Conditions, Leipzig | 2001 |
| XXXth International Conference on High Energy Physics, Osaka | 2000 |
| Fradkin Memorial Conference, Moscow (plenary speaker) | 2000 |
| Symmetry Lost and Found (Steve Adler's <i>Festspiel</i>), Princeton | 1999 |
| Fourth Workshop on Quantum Field Theory under the Influence of External Conditions, Leipzig | 1998 |
| XXIX International Conference on High Energy Physics, Vancouver | 1998 |
| 17th Symposium on Theoretical Physics, Seoul | 1998 |
| Lattice 96, Washington University, St. Louis | 1996 |
| Third Workshop on Quantum Field Theory Under the Influence of External Conditions, Leipzig | 1995 |
| Joint April Meeting of APS and AAPT, Washington | 1995 |
| International Institute of Theoretical and Applied Physics, Iowa State | 1994 |
| Harmonic Oscillators II, Cocoyoc, Mexico | 1994 |
| International Europhysics Conference on High Energy Physics, Marseille | 1993 |
| Quarks-92, Zvenigorod, Moscow | 1992 |
| Beyond the Standard Model II, and SuperSymposium, Norman (organizer) | 1990 |
| XXV International Conference on High-Energy Physics, Singapore | 1990 |
| From Symmetries to Strings (Okubofest), Rochester | 1990 |
| Symposium on Current Topics in Theoretical Physics, UCLA | 1988 |
| Eighth Workshop on Grand Unification, Syracuse | 1987 |
| Ferst/Sigma Xi Symposium in honor of J. Schwinger, Georgia Tech | 1986 |
| Sixth Workshop on Grand Unification, Minneapolis | 1985 |
| Fifty Years of Weak Interactions, Wingspread, Racine, Wisconsin | 1984 |
| Workshop on Non-Perturbative QCD, Stillwater (organizer) | 1983 |
| MASUA Theoretical Physics Conference | |
| Columbia, Missouri | 1985 |
| Kansas City, Kansas | 1984 |
| Manhattan, Kansas | 1983 |

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| Lawrence, Kansas | 1987, 1982 |
| Neutrino Mass Mini-Conference, Telemark, Wisconsin | 1982 |
| XXIth International Conference on High Energy Physics, Paris | 1982 |
| Third Workshop on Grand Unification, Chapel Hill | 1982 |
| 1981 International Conference on Neutrino Physics and Astrophysics, Maui | 1981 |
| Second Workshop on Grand Unification, Ann Arbor | 1981 |
| Orbis Scientiæ Miami Beach | 1982 |
| Fort Lauderdale | 1981 |
| Nineteenth Eastern Theoretical Physics Conference, Rutgers | 1980 |
| XXth International Conference on High Energy Physics, Madison | 1980 |
| Supergravity Workshop, Stony Brook | 1979 |
| Caltech Workshop | 1979 |
| Schwingerfest, UCLA (defacto principal organizer) | 1978 |
| Workshop on Classical Particle Electrodynamics, Trieste | 1977 |
| International Neutrino Conference, Aachen | 1976 |
| International Symposium on Lepton and Photon Interactions at High Energies, Stanford | 1975 |
| Sixth Hawaii Topical Conference in Particle Physics | 1975 |
| Aspen Center for Physics | 1992, 1989–1983, 1980, 1978, 1974 |
| Meetings of the Division of Particles and Fields, American Physical Society | |
| Williamsburg, Virginia | 2002 |
| Fermilab, Illinois | 1992 |
| Houston, Texas | 1990 |
| Storrs, Connecticut | 1988 |
| Santa Fe | 1984 |
| Maryland | 1982 |
| UCLA | 1978 |
| Berkeley | 1973 |
| Irvine Conferences | 1977, 1975, 1973 |
| International School of Subnuclear Physics, Erice | 1970 |
| Scottish Universities Summer School, Edinburgh | 1970 |
| Summer School in Theoretical Physics, Boulder, Colorado | 1968 |

PERSONAL DATA

Born: November 29, 1944, La Grande, Oregon, USA
 Married to Margarita Baños–Milton,
 daughters: Ysabel Alice, Madeleine Diane, Camille Kathryn

SPEAKER AT PUBLIC FORUMS, ETC.

Nuclear Arms Control: Duncan, Bartlesville, Ponca City, Stillwater, OK (1983)
 SDI: Stillwater, OK (1985)
 Humanities in a Technological Society: Edmond, OK (1986)
 Superconducting Super Collider: Oklahoma City (1992) (three times), Ardmore (1993)
 Big Science vs. Small Science: An Artificial Division: Oklahoma City (1996)

Science in the 21st Century: Norman (1997), Oklahoma City (twice), Lindsay, (1998)
 Science and Religion—The Big Bang, the Evolution of the Universe, and All That:
 Oklahoma City (2000–02) (five times), Norman (2000–01) (eight times), Lawton
 (2000), Pryor (2001), Edmond (2002)
 Mininukes, Proliferation, and WMDs:
 Norman (2005), Oklahoma City (2005), Norman (2007), (2008)
 Science vs. Religion—A Physicist Looks at Faith: Oklahoma City (2007),
 Norman (2008), (2009), (2010); Edmond (2009); Norman (2013)
 Nuclear Power: Part of the Answer to Global Warming?: Oklahoma City (2008),
 Edmond (2009), Norman (2011), (2012), Oklahoma City (2015)
 The Large Hadron Collider and the Discovery of the Higgs Boson: Norman (2012),
 (2013) (twice), Paris (2014)
 The Quantum Universe, 4 lectures, Osher Lifelong Learning Institute (2015), (2017)
 The Quantum Enigma, 4 lectures, Osher Lifelong Learning Institute (2017)

COMMITTEE SERVICE

Homer L. Dodge Department of Physics and Astronomy, OU

| | |
|---|-----------|
| Graduate Studies Committee | 2014–16 |
| Chair and Graduate Liaison | 2015–16 |
| Donor Czar | 2011–13 |
| Cluster Hire, Chair | 2011–13 |
| Departmental Newsletter/Publicity Committee | 2011–13 |
| Departmental Centennial Committee, Chair | 2008–11 |
| Graduate Recruiting Committee | 2006–11 |
| Departmental Search Committee for High-Energy H.L. Dodge Chair | 2008 |
| Graduate Liaison and Chair of Graduate Studies Committee | 1991–2005 |
| Chair, Faculty Search Committee in High-Energy Phenomenology | 1999–2000 |
| Ad hoc Committee for Departmental Program Review | 1997 |
| Ad hoc Committee to Revise Tenure and Promotion Criteria | 1996 |
| Solid State Search Committee | 1993–94 |
| Organizer for <i>Supersymposium</i> and <i>Beyond the Standard Model II</i> | 1988–91 |
| Graduate Recruiting Committee (Chairman) | 1989–91 |
| Committee A | 1987–88 |
| Colloquium Chairman | 1987–88 |
| High Energy Search Committee | 1988 |
| Library Committee | 1987–88 |
| Graduate Studies Committee | 1986–87 |
| Needs Committee | 1986–87 |
| Astronomy Search Committee | 1986–87 |
| University of Oklahoma | |
| OSLEP Committee | 2009–2016 |
| Faculty Awards and Honors Council | 2011–13 |
| Presidential Professors Selection Committee | |
| Graduate Council | 2009–12 |
| Representative on Academic Program Review Committee | 2011–12 |

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| College of Arts and Sciences Tenure and Promotion Committee (Chair 2010-11) | 2009–11 |
| Faculty Senate | 2008–10 |
| Budget Council, chair 2008–09 | 2007–10 |
| College of Arts and Sciences Nominations Committee | 2007–10 |
| Research Council | 2008 |
| Faculty Awards and Honors Council | 2004–05 |
| Faculty Senate | 2001–04 |
| College of Arts and Sciences Academic Misconduct Board (chair) | 2001–02 |
| College of Arts and Sciences Tenure and Promotion Committee | 1998–99 |
| Campus Tenure Committee | 1995–98 |
| Mathematics Chair Search Committee | 1994 |
| Graduate Council | 1990–93 |
| Faculty Advisory Committee to the President | 1990–92 |
| Campus Environment Subcommittee on Space and Facilities Planning | 1986–88 |
| State of Oklahoma | |
| Superconducting Super Collider Scientific Support Committee | 1987–88 |
| Interview panelist for Oklahoma School for Science and Mathematics | 1996–2003 |
| Department of Physics, OSU | |
| Graduate Admissions (Chairman) | 1982–85 |
| Personnel Committee | 1984–85 |
| Modern Physics Curriculum Committee (Chairman) | 1984–85 |
| Graduate Curriculum Committee | 1983–84 |
| Preliminary Examination Committee (Chairman 1983–84) | 1982–84 |
| Departmental Requirements Committee | 1981–82 |
| College of Arts and Sciences, OSU | |
| Scholarship Committee | 1984–85 |
| Member of Delegation Visiting Higher Educational Institutions, Henan Province, Peoples Republic of China, August 1985 | |

PROFESSIONAL AFFILIATIONS

American Physical Society, Division of Particles and Fields
 American Association for the Advancement of Science
 Sigma Xi

SERVICE TO PROFESSION

- Frequent referee for major journals such as *Nature*, *Nature Physics*, *Nature Photonics*, *Physical Review*, *Physical Review Letters*, *Nuclear Physics*, *Annals of Physics*, *Europhysics Letters*, *Physics Letters*, *Journal of Mathematical Physics*, *Journal of Physics A*, *New Journal of Physics*, *Letters in Mathematical Physics*, *International Journal of Modern Physics*, *Modern Physics Letters*, *European Journal of Physics*, and *American Journal of Physics*. Named “Outstanding Referee” by the American Physical Society, February 1, 2008 (inaugural group).
- Frequent reviewer for funding proposals to public and private funding agencies such as the US Department of Energy, the National Science Foundation, European Science Foundation, Agence Nationale de la Recherche, the Irish Research Council, Interna-

tional Science Foundation, the Guggenheim Memorial Foundation, and the Research Corporation.

- Served on International Advisory Committee for Beyond the Standard Model III, held at Carleton University, Ottawa, in June 1992; for GRG 11, Theoretical and Experimental Problems of General Relativity and Gravitation, Tomsk, Russia, July 2002; for 7th Workshop on Quantum Field Theory Under the Influence of External Conditions (QFEXT05), Barcelona, September 2005; for the 8th Workshop on Quantum Field Theory Under the Influence of External Conditions (QFEXT07), Leipzig, September 2007; for 60 years of Casimir Effect in Brasilia in June, 2008; for the Friedmann Seminar, João Passoa, Brazil, July, 2008, Rio de Janeiro, June 2011; and for the 10th Conference on Quantum Field Theory Under the Influence of External Conditions (QFEXT11), Benasque, Spain, September 2011. Co-organizer with Astrid Lambrecht of Casimir Physics Workshop at École de Physique des Houches, March 30–April 4, 2014. Co-chair, Symmetry 2017, Barcelona, October 2017. Member of Organizing Committee for Schwinger Centennial, Singapore, February 2018.
- On Advisory Board for *Journal of Physics A* (2005–2015).
- On Editorial Board for *American Journal of Physics*’ Resource Letters (2008–2011).
- On NASA Blue Ribbon Panel to evaluate Quantum Thruster Proposal (2014).
- Served on NSF Review Panels (2018, 2021, 2023)
- On Editorial Board for *Symmetry* (2018–).

Ph.D. STUDENTS SUPERVISED

| | |
|---|-------|
| Walter Wilcox (jointly with J. Schwinger) | 1981 |
| Ted Grose | (ABD) |
| Gary Kohler | (ABD) |
| Dean Miller | 1994 |
| Marios Lymberopoulos | 1994 |
| Inés Caveró-Peláez | 2005 |
| Kuloth Shajesh | 2008 |
| Jeffrey Wagner | 2010 |
| Prachi Parashar | 2011 |
| Nima Pourtolami | (ABD) |
| Elom Abalo | 2012 |
| Li Yang | 2020 |
| Xin Guo | 2023 |

COMMUNITY SERVICE

Member of the Citizen’s Advisory Council for the Norman School Board 1996–97

PUBLICATIONS

Research Papers.

1. Quantum Corrections to Stress Tensors and Conformal Invariance, *Phys. Rev. D* **4**, 3579 (1971).
2. Radiative Corrections for Electron Scattering in an External Field—A New Method of Calculation (with L. L. DeRaad, Jr., R. J. Ivanetich, and W.-y. Tsai), *Phys. Rev. D* **5**, 358 (1972).

3. Compton Scattering. I. Spectral Forms for the Invariant Amplitudes to Order e^4 (with W.-y. Tsai and L. L. DeRaad, Jr.), Phys. Rev. D **6**, 1411 (1972).
4. Compton Scattering. II. Differential Cross Sections and Left-Right Asymmetry (with W.-y. Tsai and L. L. DeRaad, Jr.), Phys. Rev. D **6**, 1428 (1972).
5. Second-Order Radiative Corrections to the Triangle Anomaly. I. (with L. L. DeRaad, Jr. and W.-y. Tsai), Phys. Rev. D **6**, 1766 (1972).
6. Second-Order Radiative Corrections to the Triangle Anomaly. II. (with W.-y. Tsai and L. L. DeRaad, Jr.), Phys. Rev. D **6**, 3491 (1972).
7. Scale Invariance and Spectral Forms for Conformal Stress Tensors, Phys. Rev. D **7**, 1120 (1973).
8. Weak-Boson Triangle Anomalies (with W.-y. Tsai and L. L. DeRaad, Jr.), Phys. Rev. D **8**, 1887 (1973).
9. Source Theory and Unitarity: A Causal Viewpoint, Phys. Rev. D **8**, 3434 (1973).
10. Compton Scattering in External Magnetic Fields: Spin-Zero Charged Particles (with L. L. DeRaad, Jr. and N. D. Hari Dass), Phys. Rev. D **9**, 1041 (1974).
11. Sixth-Order Electron g Factor: Mass-Operator Approach. I. (with W.-y. Tsai and L. L. DeRaad, Jr.), Phys. Rev. D **9**, 1809 (1974).
12. Sixth-Order Electron g Factor: Mass-Operator Approach. II. (with L. L. DeRaad, Jr. and W.-y. Tsai), Phys. Rev. D **9**, 1814 (1974).
13. Weak Muon Magnetic Moment: A Causal Mass-Operator Calculation (with W.-y. Tsai and L. L. DeRaad, Jr.), Phys. Rev. D **9**, 1840 (1974).
14. Vector Anomaly and the Magnetic Moment of the W Boson (with L. L. DeRaad, Jr. and W.-y. Tsai), Phys. Rev. D **9**, 2847 (1974).
15. Scalar- and Matter-Dominated Cosmologies in Schwinger's Scalar-Tensor Theory of Gravity (with Y. J. Ng), Phys. Rev. D **10**, 420 (1974).
16. Compton Scattering in External Magnetic Fields. II. Spin-1/2 Charged Particles (with W.-y. Tsai, L. L. DeRaad, Jr., and N. D. Hari Dass), Phys. Rev. D **10**, 1299 (1974).
17. Dynamics of the Lense-Thirring Effect, Am. J. Phys. **42**, 911 (1974).
18. Spectral Forms for the Photon Propagation Function and the Gell-Mann-Low Function, Phys. Rev. D **10**, 4247 (1974).
19. Compton Scattering in Strong External Electromagnetic Fields (with N. D. Hari Dass, L. L. DeRaad, Jr., and W.-y. Tsai), in *Role of Magnetic Fields in Physics and Astrophysics*, ed. V. Canuto [Ann. N. Y. Acad. Sci., **257**, 72 (1975)].
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