

July 1, 2019

Rene A. Ong

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Research Interests:

High-energy astrophysics, particle astrophysics, dark matter searches, particle physics

Education:

- | | | |
|------|---------------|---|
| 1987 | Ph.D. Physics | Stanford University
Ph.D. Thesis: <i>Measurement of the B Hadron Lifetime</i>
Advisor: John A. Jaros |
| 1983 | M.S. Physics | Stanford University
Advisor: Martin L. Perl |
| 1981 | B.S. Physics | University of Michigan
Undergraduate Thesis: <i>Design of an Enhanced 1 GeV Electron Neutrino Beam</i>
Advisor: Lawrence R. Sulak |

Employment:

- | | | |
|-----------|---|---|
| 2001- | Professor | Department of Physics and Astronomy
University of California, Los Angeles |
| 2016 | Visiting Professor | Institute for Cosmic Ray Research (ICRR)
University of Tokyo, Kashiwa, Japan |
| 2015 | Visiting Scientist | INAF-Milano
Milano, Italy |
| | Visiting Scientist | INFN-Padova, INFN- Bari
Padova and Bari, Italy |
| 2011 | Directeur de Recherche 1 | Laboratoire Leprince Ringuet (LLR)
Ecole Polytechnique, Palaiseau, France |
| 2010-2011 | Ernest Kempton Adams
Research Fellow | Department of Physics
Columbia University |
| 2005 | Visiting Scholar | Department of Physics
University of Michigan |

1998-2001	Associate Professor	Department of Physics & Enrico Fermi Institute University of Chicago
1991-1998	W.W. Grainger Assistant Professor	Department of Physics & Enrico Fermi Institute University of Chicago
1988-1991	Robert R. McCormick Fellow	Enrico Fermi Institute University of Chicago
1987-1988	Postdoctoral Research Associate	Research Division Stanford Linear Accelerator Center
1980-1981	Research Assistant	Department of Physics University of Michigan
1980	Research Assistant	Physics Department Brookhaven National Laboratory
1979	Research Assistant	Space Physics Research Laboratory University of Michigan

Honors and Awards

- Outstanding Teaching Award, Dept. of Physics and Astronomy, UCLA, 2017-2018
- *DESY Silberne Ehrennadel*, Deutsches Elektronen-Synchrotron, Hamburg, Germany, 2017
- Outstanding Teaching Award, Dept. of Physics and Astronomy, UCLA, 2016-2017 (2)
- Ernest Kempton Adams Research Fellow, Columbia University, 2010-11
- Outstanding Referee, American Physical Society, 2010
- Outstanding Teaching Award, Dept. of Physics and Astronomy, UCLA, 2007-2008
- Fellow, American Physical Society, 2003
- Outstanding Teaching Award, Dept. of Physics and Astronomy, UCLA, 2001-2002
- A.P. Sloan Foundation Fellow, 1992
- Robert R. McCormick Fellow, Enrico Fermi Institute, 1988
- Regent's Alumni Scholar, University of Michigan, 1981
- B.S. in Physics with High Honors, University of Michigan 1981
- Phi Beta Kappa, 1980

Scientific Collaboration Leadership:

2014 -	<u>Co-Spokesperson</u> , Cherenkov Telescope Array (CTA) Consortium
2014	<u>Deputy Chair</u> , CTA-US Steering Committee
2009-2013	<u>Spokesperson</u> , VERITAS Collaboration
2007-2009	<u>Deputy Spokesperson</u> , VERITAS Collaboration
2005-2007	<u>Chair</u> , VERITAS Executive Committee
1997-2007	<u>PI</u> , Solar Tower Atmospheric Cherenkov Effect Experiment (STACEE)

Grants

Principal Investigator:

2017-2022	NASA, NNX17AB45G, <i>The GAPS Experiment: A Search for Dark Matter Using Low Energy Antiprotons and Antideuterons (UCLA)</i> \$2,276,889
2019-2020	SAO, SV8-88014:2, <i>Equipment and Fabrication of the VERITAS Data Archive/Library (supplement)</i> \$31,023
2016-2020	NSF, PHY-1607491, <i>Particle Astrophysics with VERITAS and Development for CTA</i> \$1,427,925
2017-2019	SAO, SV8-88014, <i>Equipment and Fabrication of the VERITAS Data Archive/Library</i> \$43,280
2015-2016	NSF, PHY-1519145, <i>Particle Astrophysics with VERITAS and Defining Scientific Horizons for CTA</i> \$19,782
2013-2016	NSF, PHY-1307171, <i>Particle Astrophysics with VERITAS and Defining Scientific Horizons for CTA</i> \$1,444,782
2013-2015	SAO, SV4-82013, <i>Support for the Operation of VERITAS</i> \$55,093
2012-2016	SAO, SV2-82002:2, <i>Operation of VERITAS (supplement)</i> \$77,434
2012-2013	NASA, NNX12AD49G, <i>An Indirect Search for Dark Matter Using Antideuterons: The GAPS Experiment (UCLA)</i> \$50,000
2011-2012	SAO, SV2-82002, <i>Operation of VERITAS</i> \$41,500
2010-2013	NSF, PHY-0969948, <i>Particle Astrophysics with VERITAS</i> \$1,426,211
2010-2011	SAO, SV8-1011, <i>Operation of VERITAS in the period of 12/01/10 to 09/30/11</i> \$47,266
2009-2012	NASA, NNX09AC13G, <i>An Indirect Search for Dark Matter Using Antideuterons: The GAPS Experiment (UCLA)</i> \$966,055

2007-2010	NSF, PHY-0653622, <i>Particle Astrophysics with VERITAS</i> \$1,245,525
2007-2009	SAO, SV7-77008, <i>Operation of VERITAS in the Epoch 2006-2009</i> \$103,533
2007-2008	NSF, PHY-0735031, <i>Particle Astrophysics with VERITAS</i> \$32,913
2006-2009	NSF, PHY-0601203, <i>High-energy Gamma-ray Astrophysics with STACEE</i> \$287,850
2004-2007	NSF, PHY-0354941, <i>Particle Astrophysics with VERITAS</i> \$916,609
2003-2007	SAO, SV74005, <i>VERITAS Phase I: A Cherenkov Telescope for Gamma-Ray Astrophysics</i> \$271,216
2003-2006	NSF, PHY-0244928, <i>STACEE: Gamma-Ray Astrophysics Between 50 and 1000 GeV</i> \$1,095,468
2002-2005	NSF, PHY-0296052, <i>High Energy Gamma-Ray Astrophysics with STACEE</i> \$863,861
2002-2003	NSF, PHY-0218581, <i>High Energy Gamma-Ray Astrophysics with STACEE</i> \$135,002
2000-2002	NSF, PHY-MRI-0079793, <i>Development and Acquisition of Electronic Instrumentation for the VERITAS Consortium Array of High Energy Gamma-Ray Telescopes</i> \$550,204
2003-2004	SAO, SV3-73011, <i>VERITAS Phase I: A Cherenkov Telescope for Gamma-Ray Astrophysics</i> \$15,239
2000-2002	NSF, PHY-0070953, <i>High Energy Gamma-Ray Astrophysics with STACEE</i> \$776,195
1997-2000	NSF, PHY-9722655, <i>STACEE: A Low Threshold Atmospheric Cherenkov Experiment for Gamma Ray Astrophysics</i> \$952,893

Co-PI or Co-Investigator:

2019-2022	NSF, PHY-1913798, <i>Particle Astrophysics with VERITAS and pSCT Pathfinder towards CTA</i> \$1,208,516
2017-2022	NASA, 15-APRA15-0083, <i>The GAPS Experiment: A Search for Dark Matter Using Low Energy Antiprotons and Antideuterons</i> \$7,841,000
2012-2019	NSF, PHY-MRI-1229792, <i>MRI Consortium: Development of a Novel Telescope for Very High-Energy Gamma-Ray Astrophysics</i> \$2,548,939
2013-2014	NASA, FERMI12-0044, <i>A Multi-Wavelength Study of Gamma-Ray Production in Cygnus X-3</i> \$86,488
2011-2012	FERMI10-C4-0023, <i>Gamma-ray Production in Cygnus X-3: A Multiwavelength Perspective</i> \$76,244
2010-2014	NASA, APRA10-050, <i>An Indirect Search for Dark Matter Using Antideuterons: The GAPS Experiment</i> \$3,563,319
2010-2013	NSF, PHY-MRI-0990242, <i>MRI-R2 Consortium: Development of Improved Instrumentation for the VERITAS Gamma-Ray Observatory</i> \$1,633,490
2009-2010	NASA, FERMI08-0061, <i>Correlated Analysis of VERITAS and FERMI Data in the Cygnus Region of the Galactic Plane</i> \$80,000
1997-1999	NSF, PHY-9724176, <i>BLANCA: Broad Lateral Non-Imaging Cherenkov Array</i> \$49,049
1996-2000	NSF, PHY-MRI-9512191, <i>Hardware Procurement and Software Development for a Multi-Institutional Mass Storage System</i> \$1,642,649
1994-1997	NSF, PHY-9322583, <i>Chicago Air Shower Array</i> \$1,605,960

Professional Activities

- *Reviewer (Journals):*
Nature, Science, Physical Review Letters, Physics Letters, Physical Review D, Astrophysical Journal, Astronomy and Astrophysics, Astroparticle Physics, Nuclear Instruments and Methods, Particle Data Group
- *Reviewer (Agencies):*
National Science Foundation (PHY, AST, OPP, INT)
Department of Energy (Office of Science)
NASA
Research Corporation
Cottrell Foundation
Guggenheim Foundation
U.S.-Israel Binational Science Foundation
Helmholtz Association (Germany)
Deutsche Forschungsgemeinschaft (Germany)
CNRS (France)
National Research Foundation (South Africa)
Tata Institute of Fundamental Research (India)
Swiss National Science Foundation (SNSF)
Institute for Cosmic Ray Research (ICRR), Kashiwa, Japan
- Member: American Physical Society, American Astronomical Society

Professional Service (since 2000)

National Strategic/Roadmap Committees:

- | | |
|---------|--|
| 2012-16 | <u>Committee on Astronomy and Astrophysics (CAA)</u> , Board on Physics and Astronomy, National Academy of Sciences, Washington D.C., USA. |
| 2011 | <u>Committee to Assess the Deep Underground Science and Engineering Laboratory (DUSEL)</u> , National Academy of Sciences, Washington DC, USA. |
| 2010-12 | <u>Scientific Advisory Committee (SAC)</u> , <i>AStroParticle ERAnet (ASPERA)</i> , <i>The Roadmap for Astroparticle Physics in Europe</i> , Paris, France. |
| 2009-10 | <u>Panel on Particle Astrophysics and Gravitation (PAG)</u> , <i>New Worlds, New Horizons in Astronomy and Astrophysics</i> , Astro2010: The Decadal Survey in Astronomy and Astrophysics, National Academy of Sciences, Washington D.C., USA. |
| 2009 | <u>Particle Astrophysics Scientific Assessment Group (PASAG)</u> , Sub-Panel of the High Energy Physics Advisory Panel (HEPAP), DOE and NSF, Washington D.C., USA. |
| 2005 | <u>NASA Universe Exploration Strategic Roadmap Committee (SRC-8)</u> , NASA, Washington D.C. |

- 2004 Chair, *Science Assessment Group for Experiments in Non-Accelerator Physics (SAGENAP)*, Sub-Panel of the High Energy Physics Advisory Panel (HEPAP), DOE and NSF, Washington D.C, USA.
- 2003 Reviewer, *Connecting Quarks with the Cosmos, Eleven Science Questions for the New Century*, Committee on the Physics of the Universe, National Academy of Sciences, Washington D.C, USA.
- 2003-07 Astronomy and Astrophysics Advisory Committee (AAAC), DOE, NASA, and NSF, Washington D.C, USA.
- 2003 High Energy Physics Facilities Committee, Sub-Panel of the High Energy Physics Advisory Panel (HEPAP), DOE and NSF, Washington D.C., USA.
- 2002-04 High Energy Physics Advisory Panel (HEPAP), DOE and NSF, Washington D.C., USA.
- 2002 Neutrino Facilities Assessment Committee (NFAC), *Neutrinos and Beyond*, National Academy of Sciences, Washington D.C., USA.
- 2001 Long Range Planning for High Energy Physics, Sub-Panel of the High Energy Physics Advisory Panel (HEPAP), DOE and NSF, Washington D.C., USA
- 2000-02 Scientific Assessment Group for Experiments in Non-Accelerator Physics (SAGENAP), DOE and NSF, Washington D.C., USA.
- 2000 Panel on High Energy Astrophysics from Space (HEAS), *Astronomy and Astrophysics in the New Millennium*, Decadal Survey in Astronomy and Astrophysics, National Academy of Sciences, Washington D.C., USA.
- 2000 Panel on Particle, Nuclear, and Gravitational Wave Astrophysics (PNGWA), *Astronomy and Astrophysics in the New Millennium*, Decadal Survey in Astronomy and Astrophysics, National Academy of Sciences, Washington D.C., USA.

Laboratory/Institute/Agency Committees:

- 2019 External Review Committee, Institute for Cosmic Ray Research (ICRR), University of Tokyo, Kashiwa, Japan.
- 2012-17 Physics Research Committee (PRC), Deutsches Elektronen-Synchrotron (DESY) Hamburg, Germany.
- 2011 Review Committee, *Helmholtz Alliance for Astroparticle Physics – HAP*, Helmholtz Association, Karlsruhe, Germany.
- 2011 Committee of Visitors (COV), NSF Astronomy (AST) Division, Washington D.C., USA.
- 2009 Five-Year Program Review, *Program Astroparticle Physics, Research Field Structure of Matter*, Helmholtz Association, Karlsruhe, Germany.

- 2008 Selection Committee, *GLAST Fellowship (Cycle 1) Program*, NASA, Washington D.C., USA.
- 2005-08 Conseil Scientifique, Laboratoire Leprince Ringuet, Ecole Polytechnique, Palaiseau, France.
- 2005 Nominating Committee, Division of Astrophysics (DAS) of the American Physical Society (APS), Washington D.C., USA.
- 2003-04 Director's Review, Physics Division, Lawrence Berkeley National Laboratory (LBNL), Berkeley CA, USA.
- 2003-07 Gamma Ray Large Area Space Telescope (GLAST) User's Committee, NASA, Washington D.C., USA.
- 2003-07 Experimental Program Advisory Committee (EPAC), Stanford Linear Accelerator Center (SLAC), Stanford CA, USA.
- 2002-04 Universities Research Association (URA) Visiting Committee, Fermi National Accelerator Laboratory (FNAL), Batavia IL, USA,
- 2000 Committee of Visitors (COV), NSF Physics (PHY) Division, Washington D.C., USA.
- 2000 Portfolio Allocation Review (PAR), NSF Astronomy (AST) Division, Washington D.C., USA.

Conference Organization:

- 2019 Organizer, *Antideuteron 2019*, March 2019, Los Angeles CA, USA.
- 2019 International Advisory Committee, *International School on Astroparticle Physics (ISAPP) 2019, at the Pierre Auger Observatory*, March 2019, Malargue, Argentina.
- 2016 International Organizing Committee, *Science with the New Generation of High Energy Gamma-ray Experiments (SciNeGHE)*, October 2016, Pisa, Italy.
- 2016 Scientific Organizing Committee, *Cherenkov Telescope Array: the Ground-based Eyes to Observe the Gamma-ray Universe*, COSPAR Event E1.20, August 2016, Istanbul, Turkey.
- 2016 International Advisory Committee, *Cosmic Ray International Seminar (CRIS 2016), New eyes on the Universe*, July 2016, Ischia, Italy.
- 2014 Organizer, *Antideuteron 2014: 1st Cosmic Ray Antideuteron Workshop*, June 2014, Los Angeles CA, USA.
- 2013 Session Organizer, *High Energy Cosmic Rays and their Propagation*, TeV Particle Astrophysics (TeVPA 2013), August 2013, Irvine CA, USA.

- 2012 Scientific Organizing Committee, *Second Cherenkov Telescope Array LINK Meeting*, November 2012, Buenos Aires, Argentina.
- 2012 Scientific Organizing Committee, *Gamma 2012, 5th Heidelberg International Symposium on High-Energy Gamma-ray Astronomy*, July 2012, Heidelberg, Germany.
- 2012 International Advisory Committee, *9th Workshop on Science with the New Generation of High Energy Gamma-ray Experiments (SciNeGHE 2012)*, June 2012, Lecce, Italy.
- 2006 International Organizing Committee, *VI Rencontres du Vietnam: Particle Astrophysics*, Hanoi, Vietnam, August 2006.
- 2005 Organizing Committee, *Towards a Future Ground Based Gamma Ray Observatory*, October 2005, Malibu CA, USA.
- 2005 International Advisory Committee, *Towards a Network of Atmospheric Cherenkov Detectors VII*, April 2004, Palaiseau, France.
- 2004 Organizing Committee, *2004 Meeting of the Division of Particles and Fields (DPF) of the American Physical Society (APS)*, August 2004, Riverside CA, USA.
- 2003 Session Organizer, *April Meeting of the American Physical Society (APS), Joint DAP/DPF Session*, April 2003, Philadelphia PA, USA.
- 2002 Scientific Advisory Committee, *International Symposium: The Universe Viewed in Gamma Rays*, September 2002, Kashiwa, Japan.
- 2002 Program Committee, *SPIE International Symposium on Astronomical Telescopes and Instrumentation*, August 2002, Waikoloa HI, USA.
- 2001 Organizing Committee, *Snowmass 2001, The Future of Particle Physics*, July 2001, Snowmass CO, USA.
- 2000-02 High Energy Neutrino Astrophysics Panel (HENAP), Particle and Nuclear Astrophysics and Gravitation Interaction Committee (PANAGIC).

Postdoctoral Research Associates:

(Most recent position given in parentheses)

2018- Sean Quinn (Postdoctoral Researcher, UCLA)
2015- Ralph Bird (Postdoctoral Researcher, UCLA)
2012-15 Taylor Aune (Scientific Software Engineer, The Climate Corporation)
2009-12 Pratik Majumdar (Associate Professor, SAHA Institute of Nuclear Physics)
2009-15 Isaac Mognet, (Research Scientist, Penn State University)
2005-10 Amanda Weinstein (Associate Professor, Iowa State University)
2002-06 Jeffrey Zweerink, (Research Physicist (part time), UCLA)
2000-02 Jim Hinton (Director, Max-Planck Institute fur Kernphysik, Heidelberg)
1997-99 Zoa Conner (Instructor, College of Southern Maryland)
1995-98 Mark Chantell (Teaching Staff, University of Chicago)
1994-97 Lucy Fortson (Professor, University of Minnesota)
1992-97 Brian Fick (Professor, Michigan Technical University)
1992-06 Kevin Green (Physics Instructor, University of Connecticut-Stamford).
1991-03 Corbin Covault (Professor, Case Western Reserve University)

Graduate Students (Ph.D. supervisor):

(Most recent position given in parentheses)

Jamie Ryan UCLA Astronomy

Matt Buchovecky UCLA Physics UCLA 2019
Very High-Energy Gamma-Ray Emission from the Galactic Center with VERITAS
(Data Scientist, Genius Sports)

Alexis Popkow Ph.D. Physics UCLA 2016
Very High-Energy Astrophysical Processes in the Cygnus Region of the Milky Way
(Senior System Engineer, Raytheon Technologies)

Ken Chow Ph.D. Physics UCLA 2010
A Deep Survey of the Galactic Plane at Very High Energies
(private industry).

Ozlem Celik Ph.D. Physics UCLA 2008
Observations of the Crab Nebula and Pulsar with VERITAS
(Data Science Senior Manager, Accenture)

Alex Jarvis Ph.D. Physics UCLA 2008
Observations of Gamma-Ray Bursts by STACEE
(Lead Data Analyst, Glu Mobile)

- Jennifer Carson Ph.D. Astronomy, UCLA, 2005
STACEE Observations of Markarian 421 above 100 GeV and a New Method for High-Energy Spectral Analysis
 (Professor of Physics, Santa Monica College)
- Scott Oser Ph.D. Physics, Univ. of Chicago, 1999
High Energy Gamma-Ray Observations of the Crab Nebula and Pulsar with the Solar Tower Atmospheric Cherenkov Effect Experiment
 (Professor of Physics, University of British Columbia)
- Joseph Fowler Ph.D. Physics, Univ. of Chicago, 1998
Composition and Spectrum of Cosmic Rays at the Knee Measured by the CASA-BLANCA Experiment
 (Senior ARRA Fellow, NIST)

Undergraduate Students (research supervisor):

(Most recent position given in parentheses)

- Alina Kochocki UCLA, 3rd year student
- Takeru Hayashi UCLA, B.S. Astrophysics 2018
 (Junior Development Engineer, UCLA)
- Richie Nagi UCLA, B.S. Physics 2015
 (Laser Safety Engineer, Velodyne Lidar, Inc.)
- Shuoguang Liu UCLA CSST summer program 2014
 (Graduate student, University of Chicago)
- William Johnson UCLA, B.S. Physics 2013
 (Science teacher, Futures Academy)
- Sabrina Hong UCLA, B.S. Astrophysics 2013
 (Quantum Engineer, Atom Computing)
- Brandon Maupin UCLA, B.S. Physics 2013
 (Physics teacher, William S. Hart Union High School)
- Erika Zetterlund UCLA REU summer program 2012)
 (Graduate student, University of Colorado)
- Jacob Schwartz UCLA, B.S. Physics 2012
 (Graduate student, Princeton University)
- Eylene Pirez UCLA, B.S. Physics 2011
 (Photographer, Access Collective)
- Laura Marchand UCLA, B.S. Physics 2010
 (Associate Principal, ME Engineers)

Nickolas McColl	UCLA, B.S. Physics 2009 (Postdoctoral researcher, UCLA)
Daniel Margala	UCLA, B.S. Physics 2009 (Data Scientist, Fitbit)
Jennifer Sierchio	UCLA REU summer program 2008 (Deep Learning Engineer, MIT Lincoln Laboratories)
Jennifer Helsby	UCLA REU summer program 2007 (Lead Developer of SecureDrop, Freedom of the Press Foundation)
Cyrus Rustomji	UCLA, B.S. Physics 2007 (Chief Executive Officer, South 8 Technologies)
William Gignac	Internship at UCLA, 2006 (Postdoctoral Fellow, Georgia Institute of Technology)
Jeff Dunworth	UCLA, B.S. Physics 2005 (Postdoctoral Assistant Professor, University of Michigan)
Kathryn Grimm	UCLA, B.S. Physics 2004 (Assistant Professor, Cal State University East Bay)
Jason Minamora	UCLA, B.S. Physics 2003 (no known recent position)
Susan Channels	UCLA, B.S. Physics 2002 (no known recent position)
Nicolas Rassat	Visiting graduate student from France 2002 (no known recent position)
Thomas Fishman	University of Chicago, B.A. Physics 2002 (Platform Strategist, Global Creative Strategy)
Eugene Chae	University of Chicago, B.A. Physics 2002 (Principal Data Scientist, Kognitiv Corporation)
Daniel Schuette	University of Chicago, B.A. Physics 2000 UCLA research assistant 2001 (Technical staff, MIT Lincoln Laboratories)
Thomas Brennan	University of Chicago, B.A. Physics 1999 (Assistant Professor, Ferris State University)
Antonino Miceli	University of Chicago, B.A. Physics 1998 (Group Leader, Argonne National Laboratory)
Matthew Pritchard	University of Chicago, B.A. Physics 1997 (Professor, Cornell University)

Hugh Kim	University of Chicago, B.A. Physics 1996 (Principal/Owner, Greyson Capital Management)
Zandra Kelley	University of Chicago, B.A. Physics 1995 (M.D. Family Medicine, Lawrence General Hospital)
Peter Rauske	University of Chicago, B.A. Physics 1994 (Research Analyst, TradeLink)
Sunil Golwala	University of Chicago, B.A. Physics 1993 (Professor, California Institute of Technology)
Peter Burke	University of Chicago, B.A. Physics 1992 (Professor, University of California, Irvine)

External Reviewer for Ph.D. or Habilitation Theses

Joaquim Palacio	Philosophiae Doctor (Ph.D.) 2018 <i>Indirect Dark Matter Searches on the Triangulum-II Dwarf Spheroidal Galaxy and the Perseus Galaxy Cluster with the MAGIC Telescopes</i> Institut de Fisica d'Altes Energies (IFAE) and Universitat Autònoma de Barcelona (UAB), Barcelona, Spain <u>President of Examining Committee</u>
Riccardo Munini	Tesi Dottorato (Ph.D.), 2016 <i>Solar Modulation of Cosmic Ray Electrons and Positrons Measured by the PAMELA Experiment during the 23rd Solar Minimum</i> Facoltà di Scienze Matematiche, Fisiche e Naturali University of Trieste, Trieste, Italy
Pierre Brun	Habilitation à Diriger les Recherches (H.D.R.), 2014 <i>The High-Energy Universe as a Laboratory for Particle Physics</i> Université Paris VII, Paris, France
Berrie Giebels	Habilitation à Diriger les Recherches (H.D.R.), 2011 <i>A Contribution to Gamma-ray Astronomy of GeV-TeV Active Galaxies with Fermi and H.E.S.S.</i> Université Paris Sud 11, Orsay, France
Mathieu de Naurois	These de Doctorat (Ph.D.), 2000 <i>L'Experience Celeste: Ouverture d'une Nouvelle Fenetre d'Observation entre 20 GeV et 300 GeV</i> Université Paris VI, Paris, France
Berrie Giebels	These de Doctorat (Ph.D.), 1998 <i>Contribution à la Reconversion d'une Centrale Solaire en un Vaste Detecteur pour l'Astronomie Gamma</i> Université de Bordeaux 1, Bordeaux, France

Rene A. Ong

Refereed Publications:

250. "Monte Carlo Studies for the Optimisation of the Cherenkov Telescope Array Layout," A. Acharyya *et al.*, *Astroparticle Phys.* **111**, 35 (2019).
249. "A Search for Pulsed Very High-energy Gamma-rays from 13 Young Pulsars in Archival VERITAS Data," A. Archer *et al.*, *Astrophys. J.* **876**, 95 (2019).
248. "Direct Measurement of Stellar Angular Diameters by the VERITAS Cherenkov Telescopes," W. Benbow *et al.*, *Nature Astronomy* **3**, 511 (2019).
247. *Primary editor*. "Science with the Cherenkov Telescope Array", B.S. Acharya *et al.* (The CTA Consortium), 213 pages, published by World Scientific Publishing Co. Pte. Ltd., ISBN 9789813270091 (2019); arXiv:1709.07997.
246. "Extreme HBL Behavior of Markarian 501 during 2012," M.L. Ahnen *et al.*, *Astron. and Astrophys.* **620**, 181 (2018).
245. "Periastron Observations of TeV Gamma-Ray Emission from a Binary System with a 50-year Period," A.U. Abeysekara *et al.*, *Astrophys. J.* **867**, L19 (2018).
244. "Measurement of Cosmic-ray Electrons at TeV Energies by VERITAS," A. Archer *et al.*, *Phys. Rev.* **D98**, 062004 (2018).
243. "VERITAS and Fermi-LAT Observations of TeV Gamma-Ray Sources Discovered by HAWC in the 2HWC Catalog, A.U. Abeysekara *et al.*, *Astrophys. J.* **866**, 24 (2018).
242. "Multimessenger observations of a flaring blazar coincident with high-energy neutrino IceCube-170922A," M.G. Aartsen *et al.*, *Science* **361**, 1378 (2018).
241. "Measurement of the Iron Spectrum in Cosmic Rays by VERITAS," A. Archer *et al.*, *Phys. Rev.* **D98**, 022009 (2018).
240. "HESS J1943+213: An Extreme Blazar Shining through the Galactic Plane, A. Archer *et al.*, *Astrophys. J.* **862**, 41 (2018).
239. "VERITAS Observations of the BL Lac Object TXS 0506+056," A.U. Abeysekara *et al.*, *Astrophys. J.* **861**, L20 (2018).
238. "A Very High Energy Gamma-Ray Survey towards the Cygnus Region of the Galaxy," A.U. Abeysekara *et al.*, *Astrophys. J.* **861**, 134 (2018).
237. "A Strong Limit on the Very-high-energy Emission from GRB 150323A," A.U. Abeysekara *et al.*, *Astrophys. J.* **857**, 33 (2018).
236. "Multiwavelength Observations of the Blazar BL Lacertae: A New Fast TeV Gamma-ray Flare," A.U. Abeysekara *et al.*, *Astrophys. J.* **856**, 95 (2018).

235. "Multiwavelength Follow-up of a Rare IceCube Neutrino Multiplet," M.G. Aartsen *et al.*, *Astron. and Astrophys.* **607**, 115 (2017).
234. "Discovery of Very-high-energy Emission from RGB J2243+203 and Derivation of its Redshift Upper Limit," A.U. Abeysekara *et al.*, *Astrophys. J. Suppl.* **233**, 7 (2017).
233. "Very-High-Energy Gamma-Ray Observations of the Blazar 1ES 2344+514 with VERITAS," C. Allen *et al.*, *MNRAS* **471**, 2117 (2017).
232. "Multiband Variability Studies and Novel Broadband SED Modeling of Mrk 501 in 2009," M.L. Ahnen *et al.*, *Astron. and Astrophys.* **603**, 31 (2017).
231. "Prospects for Cherenkov Telescope Array Observations of the Young Supernova Remnant RX J1713.7-3946," F. Acero *et al.*, *Astrophys. J.* **840**, 74 (2017).
230. "Gamma-ray Observations under Bright Moonlight with VERITAS," S. Archambault *et al.*, *Astroparticle Phys.* **91**, 34 (2017).
229. "Dark Matter Constraints from a Joint Analysis of Dwarf Spheroidal Galaxy Observations with VERITAS," S. Archambault *et al.*, *Phys. Rev.* **D95**, 082001 (2017).
228. "A Luminous and Isolated Gamma-Ray Flare from the Blazar B2 1215+30," A.U. Abeysekara *et al.*, *Astrophys. J.* **836**, 205 (2017).
227. "Gamma-Ray Observations of Tycho's Supernova Remnant with VERITAS and Fermi," S. Archambault *et al.*, *Astrophys. J.* **836**, 23 (2017).
226. "Search for Magnetically Broadened Cascade Emission from Blazars with VERITAS," S. Archambault *et al.*, *Astrophys. J.* **835**, 288 (2017).
225. "A Search for Spectral Hysteresis and Energy-dependent Time Lags from X-Ray and TeV Gamma-Ray Observations of Mrk 421," A.U. Abeysekara *et al.*, *Astrophys. J.* **834**, 2 (2017).
224. "Very High-Energy Gamma-Ray Follow-Up Program Using Neutrino Triggers from IceCube," M.G. Aartsen *et al.*, *Journal of Instrumentation* **11**, P11009 (2016).
223. "A Search for Very High Energy Gamma Rays from the Missing Link Binary Pulsar J1023+0038 with VERITAS," E. Aliu *et al.*, *Astrophys. J.* **831**, 193 (2016).
222. "Very High Energy Observations of the Binaries V 404 Cyg and 4U 0115+634 during Giant X-Ray Outbursts," A. Archer *et al.*, *Astrophys. J.* **831**, 113 (2016).
221. "Very High Energy Outburst of Markarian 501 in May 2009," E. Aliu *et al.*, *Astron. and Astrophys.* **594**, 76 (2016).
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53. "Upper Limits on D^{*-} and B^{*-} Decays to Two Leptons Plus PI^+ or K^+ ," A.J. Weir *et al.*, Phys. Rev. **D41**, 1384, (1990).
52. "Measurement of the B^0 Meson Lifetime," S.R. Wagner, D.A. Hinshaw, R.A. Ong, A. Snyder *et al.*, Phys Rev. Lett. **64**, 1095 (1990).
51. "Search For B Decay to Higgs Bosons for Higgs Boson Masses Between 50-MeV/ C^2 and 210-MeV/ C^2 ," A. Snyder *et al.*, Phys. Lett. **B229**, 169 (1989).

50. "First Measurements of Hadronic Decays of the Z Boson," G.S. Abrams *et al.*, Phys. Rev. Lett. **63**, 1558 (1989).
49. "The MARK-II Detector for the SLC," G.S. Abrams *et al.*, Nucl. Instrum. Meth. Phys. Res. **A281**, 55 (1989).
48. "Initial Measurements of Z Boson Parameters in $e^+ e^-$ Annihilation," G.S. Abrams *et al.*, Phys. Rev. Lett. **63**, 724 (1989).
47. "Searches For Nonminimal Higgs Bosons from a Virtual Z Decaying into a Muon Pair at PEP," S. Komamiya *et al.*, Phys. Rev. **D40**, 721 (1989).
46. "Lambda- c^+ Production and Semileptonic Decay in 29-GeV $e^+ e^-$ Annihilation," S.R Klein *et al.*, Phys. Rev. Lett. **62**, 2444, (1989).
45. "Limits on New Lepton Pairs (L^-, L^0) with Arbitrary Neutrino Mass," D.P. Stoker *et al.*, Phys. Rev. **D39**, 1811 (1989).
44. "Measurement of Single and Double Radiative Low Q^2 Bhabha Scattering at $E(\text{cm}) = 29$ GeV," D. Karlen *et al.*, Phys. Rev. **D39**, 1861 (1989).
43. "A Refined Measurement of the B Hadron Lifetime," R.A. Ong, J.A. Jaros *et al.*, Phys. Rev. Lett. **62**, 1236 (1989).
42. "Bose-Einstein Correlations in $e^+ e^-$ Collisions," I. Juricic *et al.*, Phys. Rev. **D39**, 1 (1989).
41. "Eta and Eta' Production in $e^+ e^-$ Annihilation at 29 GeV, Evidence for the $D(S)^+$ Decays Into Eta Pi^+ and Eta' Pi^+ ," G. Wormser *et al.*, Phys. Rev. Lett. **61**, 1057 (1988).
40. "Observation of Psi Production in $e^+ e^-$ Annihilation at 29 GeV," G. Wormser. R.A. Ong *et al.*, Phys. Rev. **D38**, 1001(1988).
39. "Inclusive Lepton Production in $e^+ e^-$ Annihilation at 29 GeV," R.A. Ong, A.J. Weir *et al.*, Phys. Rev. Lett. **60**, 2587 (1988).
38. "Determination of alpha-s from Energy-Energy Correlations in $e^+ e^-$ Annihilation at 29 GeV," D.R. Wood *et al.*, Phys. Rev. **D37**, 3091(1988).
37. "Measurement of the Tau Lifetime," D. Amidei *et al.*, Phys. Rev. **D37**, 1750 (1988).
36. "Multi-Hadronic Events at $E(\text{CM}) = 29$ GeV and Predictions of QCD Models From $E(\text{CM}) = 29$ GeV to $E(\text{CM}) = 93$ GeV," A. Petersen *et al.*, Phys. Rev. **D37**, 1 (1988).
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34. "Upper Limit on the Branching Ratio for the Decay $\text{Tau}^- \rightarrow \text{Pi}^- \text{Eta Tau-Neutrino}$," K.K. Gan *et al.*, Phys. Lett. **B197**, 561 (1987).

33. "Measurement of the D^0 Lifetime from the Upgraded Mark-II Detector at PEP," S.R. Wagner, D.A. Hinshaw, R.A. Ong *et al.*, Phys. Rev. **D36**, 2850 (1987).
32. "Observation of the Spin 1 F1 (1285) in the Reaction $\Gamma \Gamma^* \rightarrow \text{Eta}^0 \text{Pi}^+ \text{Pi}^-$," G. Gidal *et al.*, Phys. Rev. Lett. **59**, 2016 (1987).
31. "Evidence for a Spin 1 Resonance in the Reaction $\Gamma \Gamma^* \rightarrow \text{K}^0 \text{K}^+ \text{Pi}^-$," G. Gidal *et al.*, Phys. Rev. Lett. **59**, 2016 (1987).
30. "Study of Tau Decay Modes With Multiple Neutral Mesons in the Final States," K.K. Gan *et al.*, Phys. Rev. Lett. **59**, 411 (1987).
29. "Limit on the Decay $D^0 \rightarrow e^+ \mu^-$," K. Riles *et al.*, Phys. Rev. **D35**, 2914 (1987).
28. "Search For Heavy Neutrino Production at PEP," C. Wendt *et al.*, Phys. Rev. Lett. **58**, 1810 (1987).
27. "Observation of Xi^- Production in $e^+ e^-$ Annihilation at 29 GeV," S.R. Klein *et al.*, Phys. Rev. Lett. **58**, 644 (1987).
26. "Measurement of the Branching Fractions of the Tau Lepton Using a Tagged Sample of Tau Decays," P.R. Burchat *et al.*, Phys Rev. **D35**, 27 (1987).
25. "Prototype Results of a High Resolution Vertex Drift Chamber for The Mark-II SLC Upgrade Detector," J.P. Alexander *et al.*, Nucl. Instrum. Meth. Phys. Res. **A252**, 350 (1986).
24. "A Study of Noncollinear Two Charged Particle Events Produced in 29 GeV Electron-Positron Annihilation," M.L. Perl *et al.*, Phys. Rev. **D34**, 3321, (1986).
23. "Measurement of the D^0 and D^+ Lifetimes," L. Gladney, J.A. Jaros, R.A. Ong *et al.*, Phys. Rev. **D34**, 2601, (1986).
22. "A Comparison of the Particle Flow in Three Jet and Radiative Two Jet Events from $e^+ e^-$ Annihilation at $E(\text{cm}) = 29 \text{ GeV}$," P.D. Sheldon *et al.*, Phys. Rev. Lett. **57**, 1398 (1986).
21. "Study of the Decay $\text{Tau} \rightarrow \text{Pi}^- \text{Pi}^- \text{Pi}^+ \text{Tau-Neutrino}$," W.B. Schmidke *et al.*, Phys. Rev. Lett. **57**, 527 (1986).
20. "Measurement of the Branching Fractions $\text{Tau} \rightarrow \text{Rho}^- \text{Tau}^- \text{Neutrino}$ and $\text{Tau} \rightarrow \text{K}^- \text{Tau}^- \text{Neutrino}$," J.M Yelton *et al.*, Phys. Rev. Lett. **56**, 812 (1986).
19. "Charged Meson Pair Production in Gamma-Gamma Interactions," J. Boyer *et al.*, Phys. Rev. Lett. **56**, 207 (1986).
18. "Searches for Unstable Neutral Leptons in Low Multiplicity Events from Electron-Positron Annihilation," M.L. Perl *et al.*, Phys. Rev. **D32**, 2859 (1985).
17. "Inclusive Charged Particle Distributions in Nearly Threefold Symmetric Three Jet Events at $E(\text{CM}) = 29 \text{ GeV}$," A. Petersen *et al.*, Phys. Rev. Lett. **55**, 1954 (1985)..

16. "Upper Limit of B^0 Anti- B^0 Mixing in $e^+ e^-$ Annihilation at 29 GeV," T. Schaad *et al.*, Phys. Lett. **B160**, 188 (1985).
15. "Improved Upper Limit on Tau-Neutrino Mass," C. Matteuzzi *et al.*, Phys. Rev. **D32**, 800 (1985).
14. "Design of an Enhanced 1 GeV Electron Neutrino Beam," R.A. Ong *et al.*, Nucl. Instrum. Meth. Phys. Res. **A236**, 256 (1985).
13. "Charged Multiplicity of Hadronic Events Containing Heavy Quark Jets," P.C. Rowson *et al.*, Phys Rev.Lett. **54**, 2580 (1985)
12. "Measurement of K^{*+} and K^0 Inclusive Rates in $e^+ e^-$ Annihilation at 29 GeV," H. Schellman *et al.*, Phys. Rev. **D31**, 3013 (1985).
11. "Measurement of the Branching Fraction for $\text{Tau} \rightarrow \text{Pi}^+ \text{Pi}^0$ Tau-Neutrino and an Upper Limit on the Tau-Neutrino Mass," P.R. Burchat *et al.*, Phys. Rev. Lett. **54**, 2489 (1985).
10. "Search for Monojet Production in $e^+ e^-$ Annihilation," G.J. Feldman *et al.*, Phys. Rev. Lett. **54**, 2289 (1985).
9. "Lambda Production in $e^+ e^-$ Annihilation at 29 GeV," C. de la Vaissiere *et al.*, Phys.Rev.Lett. **54**, 2071 (1985).
8. "A Measurement of the D^0 Lifetime," J.M Yelton *et al.*, Phys. Rev. Lett. **52**, 2019 (1984).
7. "Upper Limit on the Tau-Neutrino Mass," C. Matteuzzi *et al.*, Phys. Rev. Lett. **52**, 1869 (1984).
6. "Search for Supersymmetric Electrons," L. Gladney *et al.*, Phys. Rev. Lett. **51**, 2252 (1983).
5. "Weak Neutral Currents in $e^+ e^-$ Collisions at $\text{sqrt}(S) = 29$ GeV," M.E. Levi *et al.*, Phys. Rev. Lett. **51**, 1941 (1983).
4. "Measurement of the Lifetime of Bottom Hadrons," N. Lockyer *et al.*, Phys. Rev. Lett. **51**, 1316 (1983).
3. "Precise Measurement of the Tau Lifetime", J.A. Jaros *et al.*, Phys. Rev. Lett. **51**, 955 (1983).
2. "Comparison of the N_2^+ Photochemistry at Different Phases of the Solar Cycle," M. R. Torr, D. G. Torr, and R. A. Ong , J. Geophysical Res. **85**, 2171 (1980).
1. "Ionization Frequencies for Major Thermospheric Constituents as a Function of Solar Cycle 21," M. R. Torr, D. G. Torr, R. A. Ong, and H. E. Hinteregger, Geophysical Research Lett. **6**, 771 (1979).

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Invited Talks:

123. "Introduction to Key Science Projects and Particle Acceleration in CTA," Plenary Talk, The 1st CTA Science Symposium, Bologna, Italy, May 5-9, 2019.
122. "Cherenkov Telescope Array: Science Goals and Current Status," Plenary Talk, RICAP 2018, 7th Roma Int. Conf. on AstroParticle Physics, Roma Tre University, Rome, Italy, September 7, 2018.
121. "Cherenkov Telescope Array: Scientific Perspective and Current Status," Seminar, INAF-OAR, Monte Porzio Catone, Italy, September 4, 2018.
120. "Cherenkov Telescope Array: Overview and Galactic Science," Invited Talk, 42nd COSPAR Scientific Assembly, Session E1.5: Origin of Cosmic Rays, Pasadena CA, July 17, 2018.
119. "VHE Astrophysics with the Cherenkov Telescope Array," Astrophysics Seminar, Center for Astrophysics and Space Science (CASS), University of California, San Diego, La Jolla CA, May 2, 2018.
118. "Very High-Energy Astrophysics and the Cherenkov Telescope Array," Colloquium, School of Earth and Space Exploration (SESE), Arizona State University, Tempe AZ, September 6, 2017.
117. "The Cherenkov Telescope Array," Invited Talk, VERITAS Ten Year Celebration, Whipple Observatory, Amado AZ, June 29, 2017.
116. "The Future of Very High-Energy Astrophysics," Seminar, University of Kyoto, Kyoto, Japan, October 4, 2016.
115. "The Future of Very High-Energy Astrophysics," Seminar, Institute for Cosmic Ray Research (ICRR), University of Tokyo, Kashiwa, Japan, September 28, 2016.
114. "The Future of Very High-Energy Astrophysics," Colloquium, Institute of Space and Astronautical Science (ISAS), Sagamihara, Japan, September 21, 2016.
113. "The Future of Very High-Energy Astrophysics," ISEE CICR Colloquium, University of Nagoya, Nagoya, Japan, September 15, 2016.
112. "Very High Energy Astrophysics and the Cherenkov Telescope Array," Colloquium, University of British Columbia, Vancouver BC, Canada, December 3, 2015.
111. "Very High Energy Astrophysics and the Cherenkov Telescope Array," Colloquium, University of Victoria, Victoria BC, Canada, December 2, 2015.
110. "The CTA Key Science Projects," Seminar, INAF-Brera, Milano, Italy, July 2, 2015.

109. "The CTA Dark Matter Program," Seminar, INAF-Brera, Milano, Italy, June 30, 2015.
108. "The Cherenkov Telescope Array for VHE Astrophysics," Seminar, INAF-Merate, Merate, Italy, June 22, 2015.
107. "The Cherenkov Telescope Array for VHE Astrophysics," Seminar, INFN-Padova, Padova, Italy, June 12, 2015.
106. "The Chrenkov Telescope Array for VHE Astrophysics," Seminar, INFN-Bari, Bari, Italy, May 27, 2015.
105. "The Cherenkov Telescope Array for VHE Astrophysics", Invited Talk, Inauguration of the HAWC Gamma-ray Observatory, Puebla, Mexico, March 19, 2015.
104. "Astroparticle Physics," Invited Talk, Nobel Symposium on LHC Results (NS 154), Krusenbergs Herrrgard, Uppsala, Sweden, May 15, 2013.
103. "Very High Energy Astronomy and Prospects for CTA," Colloquium, Lowell Observatory, Flagstaff AZ, May 2, 2013.
102. "Hunting for the Dark Matter of the Universe," Colloquium, USC Engineering Honors Colloquium, April 26, 2013.
101. "The High-Energy Universe," Invited Talk, Scientific Symposium for 50th Anniversary of SLAC, SLAC National Accelerator Laboratory, Stanford CA, August 24, 2012.
100. "Recent Results from VERITAS", Invited Talk, Victor Hess Centennial Anniversary, 39th COSPAR Scientific Assembly, Mysore, India, July 17, 2012.
99. "The Mysterious Gamma-ray Universe," Invited Talk, Moreno Valley College, Moreno Valley CA, April 19, 2012.
98. "Viewing the Universe in High-Energy Gamma-rays with VERITAS," Colloquium, IAFE-Universidad de Buenos Aires, Buenos Aires, Argentina, September 20, 2011.
97. "VHE Galactic Source Highlights from VERITAS," Seminar, IRFU-Saclay, Gif sur Yvette, France, July 28, 2011.
96. "GAPS: An Indirect Dark Matter Search using Anti-Deuterons," Invited Talk, Dark Matter Underground and in the Heavens (DMUH 2011), CERN, Geneva, Switzerland, July 26, 2011.
95. "VHE Galactic Source Highlights from VERITAS," Seminar, LPNHE-Jussieu, University of Paris VI, Paris France, June 14, 2011.
94. "Astrophysical Signatures of Particle Dark Matter," Seminar, LLR-Ecole Polytechnique, Palaiseau, France, May 6, 2011.
93. "Particle Astrophysics at the TeV Scale," Colloquium, Department of Physics, Columbia University, New York NY, February 28, 2011.

92. "Astrophysical Signatures of Particle Dark Matter," Seminar, Department of Physics, McGill University, Montreal QC, Canada, October 26 2010.
91. "VERITAS Explores the TeV Gamma-ray Sky," Colloquium, Department of Physics and Astronomy, University of California, Riverside, Riverside CA, April 28, 2010
90. "The VERITAS View of the Very High Energy Universe," Colloquium, Department of Physics, University of Wisconsin, Madison WI, December 4, 2009.
89. "Particle Astrophysics at Very High Energies," Colloquium, School of Physics Georgia Inst. of Technology, Atlanta GA, October 28, 2009.
88. "Viewing the Universe at Very High Energies," Highlight Talk, Southern California American Assoc. of Physics Teachers (SCAAPT), CalState-Channel Islands, Camarillo CA, May 2, 2009.
87. "Viewing the Universe at Very High Energies," Colloquium, Department of Physics, Kansas State University, Manhattan KS, April 28, 2009.
86. "Viewing the Universe at Very High Energies", Colloquium, LNS/Astrophysics, Massachusetts Inst. of Technology, Cambridge MA, March 2, 2009.
85. "Exploring the Gamma-ray Sky", Public Lecture, Santa Monica Amateur Astronomy Club (SMAAC), Santa Monica CA, November 14, 2008.
84. "Particle Astrophysics with VERITAS", Seminar, Kellogg Radiation Laboratory, California Inst. of Technology, Pasadena CA, February 29, 2008.
83. "VHE Particle Astrophysics: Science, Projects, Roadmap, and SLAC," Invited Talk, SLAC User's Organization (SLUO), Stanford Linear Accelerator Center, Menlo Park CA, February 7, 2008.
82. "The Very High Energy Universe", Colloquium, Department of Physics, University of California, San Diego, La Jolla CA, May 24, 2007.
81. "Cosmic Ray Studies to 10^{16} eV," Invited Talk, The Cronin Fest, University of Chicago, Chicago IL, September 8, 2007.
80. "Very High Energy Gamma-Ray Astronomy: Status and Future," Invited Talk, 6th Rencontres du Vietnam: Particle Astrophysics, Hanoi, Vietnam, August 9, 2006.
79. "The Landscape for Particle Astrophysics," Colloquium, Department of Physics, University of California, Riverside, Riverside CA, March 16, 2006.
78. "The Landscape for Particle Astrophysics," Colloquium, Department of Physics, University of Massachusetts, Amherst MA, March 8, 2006.
77. "VHE Astrophysics with VERITAS," Seminar, Department of Physics, University of Toronto, Toronto ON, Canada, March 7, 2006.
76. "Exploring the Extreme Universe," Colloquium, Department of Physics, Whittier College, Whittier CA, December 9, 2005.

75. "Exploring the Extreme Universe," Colloquium, Department of Physics, University of Alberta, Edmonton AB, Canada, December 2, 2005.
74. "Future Landscape for Particle Astrophysics," Seminar, Department of Physics and Astronomy, University of California Los Angeles, Los Angeles CA, October 19, 2005.
73. "Summary: Gamma-Ray Science and Techniques," Rapporteur Talk, 29th Int. Cosmic Ray Conference, Pune, India, August 10, 2005.
72. "Future Facilities in Astroparticle Physics and Cosmology," Plenary Talk, XXII Int. Symposium of Lepton-Photon Interactions at High Energies, Uppsala, Sweden, July 4, 2005.
71. "The Extreme Universe," Colloquium, Department of Physics, Columbia University, New York NY, April 18, 2005.
70. "Very High Energy Astrophysics," Colloquium, Department of Physics, University of California, Davis, Davis CA, April 13, 2005.
69. "The Extreme Universe," Colloquium, Department of Physics, University of Michigan, Ann Arbor MI, March 23, 2005.
68. "Report of the Scientific Assessment Group for Experiments in Non-Accelerator Physics, High Energy Physics Advisory Panel (HEPAP), Washington DC, September 24, 2004.
67. "The Limits of Particle Physics and Astronomy," Colloquium, Department of Physics, Brown University, Providence RI, March 1, 2004.
66. "Observations of Active Galactic Nuclei at Very High Energies," Seminar, Department of Astronomy, University of California San Diego, La Jolla CA, November 4, 2003.
65. "Status of VHE Astronomy," Seminar, Laboratory for High Energy Astrophysics (LHEA), Goddard Space Flight Center, Greenbelt MD, October 24, 2003.
64. "High-Energy Cosmic Rays," Invited Talk Series, XXXI SLAC Summer Institute, Stanford Linear Accelerator Center, Stanford CA, August 1-2, 2003.
63. "The Extreme Universe," Colloquium, Department of Physics, University of California, Irvine, Irvine CA, May 1, 2003.
62. "Exploring the High Energy Universe," Seminar, Department of Statistics, University of California, Los Angeles, Los Angeles CA, March 11, 2003
61. "Cosmic Ray Frontiers," Opening Talk, Cosmic Ray Astrophysics Symposium, 2003 Meeting of the American Association for the Advancement of Science (AAAS), Denver CO, February 16, 2003.
60. "The Status of VHE Astronomy," Conference Summary Talk, Int. Symposium: The Universe Viewed in Gamma Rays, Kashiwa, Japan, September 28, 2002.
59. "The VERITAS Project," Invited Talk, Int. Symposium: The Universe Viewed in Gamma Rays, Kashiwa, Japan, September 27, 2002.

58. "A Twenty Year Roadmap for Particle Physics," Seminar, Department of Physics and Astronomy, University of California, Los Angeles, Los Angeles CA, December 5, 2001.
57. "The Extreme Universe: Probing the Limits of Particle Physics and Astronomy," Colloquium, Department of Physics, University of Alabama, Tuscaloosa AL, November 14, 2001.
56. "The VHE Sky: 2006-2010", Seminar, Meeting of the Gamma Ray Large Area Telescope (GLAST) Collaboration, Stanford University, Stanford CA, August 2, 2001.
55. "The Violent Universe: Extending the Limits of Particle Physics and Astronomy," Colloquium, Department of Physics, Stanford University, Stanford CA, February 27, 2001.
54. "Astronomy of the Very High Energy Universe," Colloquium, Institute for Theoretical Physics (ITP), University of California, Santa Barbara, Santa Barbara CA, January 26, 2000.
53. "VHE Particle Astrophysics," Colloquium, Department of Physics, Southern Methodist University, Dallas TX, February 7, 2000.
52. "Very High-Energy Gamma-Ray Astronomy," Overview Talk, Session of the High Astrophysics Division at 195th Meeting of the American Astronomical Society (AAS), Atlanta GA, January 13, 2000.
51. "Exploring the High Energy Universe," Colloquium, Department of Physics, Iowa State University, Ames IA, December 6, 1999.
50. "Exploring the High Energy Universe," Colloquium, Department of Physics, Boston University, Boston MA, November 15, 1999.
49. "High-Energy Particles from the Universe," Plenary Talk, XIX Int. Symposium of Lepton and Photon Interactions at High Energies, Stanford University, Stanford CA, August 12, 1999.
48. "Detection of 100 GeV Gamma Rays from the Crab Nebula," Seminar, Enrico Fermi Institute, University of Chicago, Chicago IL, May 18, 1999.
47. "Exploring the High Energy Universe," Colloquium, Department of Physics, Ohio State University, Columbus OH, April 13, 1999.
46. "Exploring the High Energy Universe," Colloquium, Department of Physics and Astronomy, University of California Los Angeles, Los Angeles CA, April 8, 1999.
45. "The STACEE Project for High-Energy Gamma-Ray Astrophysics," Seminar, Department of Physics, University of Michigan, Ann Arbor MI, March 15, 1999.
44. "Exploring the High-Energy Universe," Seminar, Department of Physics, University of Wisconsin, Madison WI, March 11, 1999.
43. "Probing the High-Energy Universe," Colloquium, Department of Physics, Case Western Reserve University, Cleveland OH, February 11, 1999.

42. "The STACEE Project," Seminar, Department of Physics, University of New Mexico, Albuquerque NM, October 27, 1998.
41. "Gamma-Ray Astrophysics: Recent Results and Future Prospects," Seminar, LPNHE, Ecole Polytechnique, Palaiseau (Paris), France, June 15, 1998.
40. "The STACEE Project for High Energy Gamma-Ray Astrophysics," Seminar, Department of Physics, Princeton University, Princeton NJ, April 29, 1998.
39. "The STACEE Project for High Energy Gamma-Ray Astrophysics," Seminar, Department of Physics and Astronomy, University of California Los Angeles, Los Angeles CA, March 11, 1998.
38. "The STACEE Project for High Energy Gamma-Ray Astrophysics," Seminar, Department of Physics, Rutgers University, New Brunswick NJ, February 10, 1998.
37. "The Solar Tower Atmospheric Cherenkov Effect Experiment (STACEE)," Seminar, Department of Physics, University of Pennsylvania, Philadelphia PA, February 9, 1998.
36. "Very High Energy Gamma-Ray Astrophysics," Colloquium, Department of Physics, University of Chicago, Chicago IL, October 2, 1997.
35. "UHE Cosmic Rays, Topological Defects, and the Diffuse Gamma-Ray Background," Seminar, Enrico Fermi Institute, University of Chicago, Chicago IL, June 2, 1997.
34. "Astronomy using Solar Heliostat Mirrors," Seminar, USAF Phillips Laboratory, Kirtland AFB, Albuquerque NM, July 2, 1997.
33. "The STACEE Project for Gamma-Ray Astrophysics," Seminar, Center for Particle Astrophysics, University of California, Berkeley, Berkeley CA, May 20, 1997.
32. "TeV and PeV Gamma-Ray Astrophysics," Colloquium, Department of Physics, University of Toronto, Toronto ON, Canada, March 13, 1997.
31. "Development of the Solar Tower Atmospheric Cherenkov Effect Experiment," Invited Talk, 18th Texas Symposium of Relativistic Astrophysics and Cosmology," Chicago IL, December 18, 1996.
30. "Gamma-Ray Astronomy using Large Area Solar Heliostat Fields," Seminar, Physics Division, Los Alamos National Laboratory, Los Alamos NM, June 12, 1996.
29. "The Death of Cygnus X-3," Seminar, Bartol Research Institute, Newark DE, April 11, 1996.
28. "The Death of Cygnus X-3," Seminar, Enrico Fermi Institute, University of Chicago, Chicago IL, March 11, 1996.
27. "Large Area Atmospheric Cherenkov Detectors for High Energy Gamma-Ray Astronomy," Plenary Talk, 24th Int. Cosmic Ray Conference, Rome, Italy, August 29, 1995.

26. "High Energy Gamma-Ray Astronomy, 20-200 GeV," Seminar, Department of Physics, Leeds University, Leeds, U.K., June 6, 1995.
25. "Astronomy at the Highest Energies," Colloquium, Department of Physics, University of Oregon, Eugene OR, May 4, 1995.
24. "Astronomy at the Highest Energies," Colloquium, Department of Physics, Pittsburgh University, Pittsburgh PA, February 20, 1995.
23. "Using a Large Solar Array for Gamma-Ray Astronomy," Seminar, Enrico Fermi Institute, University of Chicago, Chicago IL, November 10, 1994.
22. "Art in the Realm of the Sciences: Flight and Gravity," Invited Talk, Art Institute of Chicago, Chicago IL, October 22, 1994.
21. "Gamma Rays: TeV Energies and Beyond," Invited Talk, Towards a Next-Generation High-Energy Gamma-Ray Telescope, Stanford University, Stanford CA, August 23, 1994.
20. "Cosmic Rays Below 10^{16} eV," Plenary Talk, Snowmass Summer Study: Particle and Nuclear Astrophysics and Cosmology in the Next Millennium, Snowmass CO, July 6, 1994.
19. "Exploratory Work on the Concept of a Large Area Atmospheric Cherenkov Detector," Invited Talk, Int. Workshop Towards a Major Atmospheric Cherenkov Detector III, Tokyo, Japan, May 26, 1994.
18. "PeV Gamma-Ray Astronomy," Seminar, Department of Physics, University of Illinois Chicago, Chicago IL, May 2, 1994.
- 17.. "100 TeV Astronomy with the CASA-MIA Detector," Seminar, Department of Physics, University of Illinois, Urbana IL, May 2, 1994.
16. "High Energy Gamma-Ray Astronomy," Colloquium, Department of Physics, Indiana University, Bloomington IN, December 6, 1993.
15. "Astrophysics at Energies Greater than 100 TeV," Seminar, Department of Physics, University of Michigan, Ann Arbor MI, April 9, 1993.
14. "Particle Astrophysics with Gamma Rays at Energies Greater than 10 TeV," Plenary Talk, IV Rencontres de Blois: Particle Astrophysics, Blois, France, June 17, 1992.
13. "Physics and Astronomy at PeV Energies," Seminar, Research Division, Stanford Linear Accelerator Center, Stanford CA, March 24, 1992.
12. "Physics and Astronomy at Energies of 10^{14} eV," Colloquium, Department of Physics, Rice University, Houston TX, February 19, 1992.
11. "Results from the CASA-MIA Cosmic Ray and Gamma-Ray Astronomy Facility," Invited Talk, Joint International Lepton-Photon Symposium and Europhysics Conference on High Energy Physics, Geneva, Switzerland, July 27, 1991.

10. "The Physics and Astronomy of Gamma Rays at PeV Energies," Colloquium, Department of Physics, University of California, Berkeley, Berkeley CA, April 24, 1991.
9. "Gamma-Ray Physics and Astronomy at PeV Energies," Seminar, Physics Division, Brookhaven National Laboratory, Upton NY, March 28, 1991.
8. "Physics and Astronomy at PeV Energies," Seminar, Department of Physics, Princeton University, Princeton NJ, March 27, 1991.
7. "Gamma-Ray Physics and Astronomy," Colloquium, Department of Physics, University of Colorado, Boulder CO, March 15, 1991.
6. "Physics and Astronomy at PeV Energies," Seminar, Department of Physics, Harvard University, Cambridge MA, February 21, 1991.
5. "PeV Gamma Rays from Astrophysical Point Sources," Seminar, Department of Physics, University of California, Santa Cruz, Santa Cruz CA, February 8, 1991.
4. "Results and Prospects for Ultra High Energy Gamma-Ray Astronomy," Colloquium, Physics Division, Argonne National Laboratory, Argonne IL, March 31, 1989.
3. "Measurement of the B Hadron Lifetime from Mark II at PEP," Invited Talk, Int. Symposium of Production and Decay of Heavy Flavors, Stanford University, Stanford CA, September 3, 1987.
2. "Recent Measurements of the B Hadron Lifetime," Invited Talk, 15th SLAC Summer Institute, Stanford Linear Accelerator Center, Stanford CA, August 18, 1987.
1. "The Mark II Vertex Drift Chamber," Seminar, Physics Division, Japanese National Laboratory for High Energy Research (KEK), Tsukuba, Japan, May 1983.