

Roger A. Chevalier

Curriculum Vitae

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Education

Ph.D. Astronomy, Princeton University, 1973
B.S. Astronomy, with honor, California Institute of Technology, 1970

Employment

W. H. Vanderbilt Professor Emeritus of Astronomy, University of Virginia, Char-
lottesville, VA, 2024-
W. H. Vanderbilt Professor of Astronomy, University of Virginia, Charlottesville,
VA, 1990-2024
Professor of Astronomy, University of Virginia, 1985-90
Chair, Department of Astronomy, University of Virginia, 1985-88, 1989-92
Associate Professor of Astronomy, University of Virginia, 1979-85
Associate Astronomer, Kitt Peak National Observatory, Tucson, AZ, 1976-79
Assistant Astronomer, Kitt Peak National Observatory, Tucson, AZ, 1973-76

Honors

NASA Public Service Group Achievement Award to Supernova Science Team (SN
1987A), 1989
Virginia's Outstanding Scientist Award, 1991
President's and Visitors' Research Prize, University of Virginia, 1992
Dannie Heineman Prize for Astrophysics, 1996, American Astronomical Society
and Institute of Physics
Elected to National Academy of Sciences, 1996
Meeting "A Festival of Cosmic Explosions: Celebrating the Contributions and Ac-
complishments of Roger Chevalier" held August 21-23, 2009, Caltech, Pasadena,
CA
Legacy Fellow, American Astronomical Society, 2020 (inaugural group of Fellows)
Distinguished Career Prize, 2024, (High Energy Astrophysics Division of the Amer-
ican Astronomical Society)

Committees

American Astronomical Society: High Energy Astrophysics Division Executive
Committee (1985-86); Councilor (1988-91); Heineman Prize Committee (2001-
03; Chair 2003)
Associated Universities for Research in Astronomy: Observatories Visiting Com-
mittee (1999-2002; Chair 2002)

National Science Foundation: Committee on Large Optical/Infrared Telescopes (1985–86); Committee of Visitors, Division of Astronomical Sciences (1990, 1993); Advisory Committee, Division of Astronomical Sciences (1991–93)

National Aeronautics and Space Administration: Science Working Group on Supernova 1987A (1987–88)

National Academy of Sciences/National Research Council: Committee on Space Astronomy and Astrophysics (1987–88); Theory Panel of Astronomy Survey Committee for the 1990's (1989–90); Committee on Astronomy and Astrophysics (1997–2002); Watson Prize Committee (2000); U.S. National Committee for the International Astronomical Union (2003–2013; Vice-Chair 2004–2007; Chair 2008–2010; Past-Chair 2011–2013); Science Frontier Panel on Stars and Stellar Evolution, Astro2010 Astronomy Decadal Survey (Chair 2008–2010); Henry Draper Medal Selection Committee (2012, 2020)

Universities Space Research Association: Board of Trustees (2000–06)

Selected Visits

JILA Distinguished Visitor, Boulder, CO, 1989; Derieux Lecturer, North Carolina State University, Raleigh, NC, 1997; Distinguished Lecturer, Technion – Israel Institute of Technology, Haifa, Israel, 2013.

PhD students

Robert Emmering, John Houck, Prudence Foster, Phil Plait, Vikram Dwarkadas, Chih-Yueh Wang, Xiaping Tang, Christopher Irwin, Nicholas James

Sponsored postdocs

Robert Kirshner, John Scott, Richard Klein, Stephen Reynolds, James Imamura, Edmund Bertschinger, Terrance Gaetz, Richard Edgar, Peter Lundqvist, John Blondin, Poonam Chandra

Publications

Chevalier, R. A. and Lambert, D. L. 1969. “The Excitation of the Coronal Forbidden Lines I: Fe XIII $\lambda\lambda$ 10747, 10798, and 3388,” *Solar Physics*, **10**, 115.

Chevalier, R. A. and Lambert, D. L. 1970. “The Excitation of the Coronal Forbidden Lines II: [Ca XV] $\lambda\lambda$ 5694 and 5446,” *Solar Physics*, **11**, 243.

Morton, D. C. and Chevalier, R. A. 1972. “Velocity Dispersions in Galaxies: I. The SO Galaxy NGC 7332,” *Astrophys. J.*, **174**, 489.

Ostriker, J. P., Spitzer, L., Jr., and Chevalier, R. A. 1972. “On the Evolution of Globular Clusters,” *Astrophys. J. (Letters)*, **176**, L51.

Smith, W. H. and Chevalier, R. A. 1972. “Radiative Lifetime Studies of the Emission Continua of the Hydrogen and Deuterium Molecules,” *Astrophys. J.*, **177**, 835.

Morton, D. C. and Chevalier, R. A. 1973. “Velocity Dispersions in Galaxies: II. The Ellipticals NGC 1889, 3115, 4473, and 4494,” *Astrophys. J.*, **179**, 55.

Spitzer, L., Jr. and Chevalier, R. A. 1973. “Random Gravitational Encounters and the Evolution of Spherical Systems. V. Gravitational Shocks,” *Astrophys. J.*, **183**, 563.

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- Chevalier, R. A. and Theys, J. C. 1975. "Optically Thin Radiating Shock Waves and the Formation of Density Inhomogeneities," *Astrophys. J.*, **195**, 53.
- Scott, J. S. and Chevalier, R. A. 1975. "Cosmic Ray Production in the Cassiopeia A Supernova Remnant," *Astrophys. J. (Letters)*, **197**, L5.
- Chevalier, R. A. 1975. "The Evolution of Supernova Remnants. III. Thermal Waves," *Astrophys. J.*, **198**, 355.
- Chevalier, R. A. 1975. "The Circularization of Close Binary Orbits: Centaurus X-3," *Astrophys. J.*, **199**, 189.
- Chevalier, R. A. and Gull, T. R. 1975. "The Outer Structure of the Crab Nebula," *Astrophys. J.*, **200**, 399.
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- Chevalier, R. A., Robertson, J. W., and Scott, J. S. 1976. "Cosmic Ray Acceleration and the Radio Evolution of Cassiopeia A," *Astrophysical J.*, **207**, 450.
- Chevalier, R. A. 1976. "The Hydrodynamics of Type II Supernovae," *Astrophys. J.*, **207**, 872.
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- Chevalier, R. A. 1976. "Type I Supernovae and the Galactic Production of Iron," *Nature*, **260**, 689.
- Chevalier, R. A. 1976. "Young SNRs and Cosmic Ray Acceleration," *Comments on Astrophysics*, **6**, 99.
- Chevalier, R. A. 1976. "On the Obliquity of the Hercules X-1 Binary System," *Astrophys. Letters*, **18**, 35.
- Chevalier, R. A. 1976. "The Gas Dynamics of Supernovae and their Remnants (summary)," *Pub. Astron. Soc. Pacific*, **88**, 588.
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- in *I.A.U. Symp. No. 101, Supernova Remnants and Their X-Ray Emission*, ed. J. Danziger and P. Gorenstein (Dordrecht: Reidel), 71-81.
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- Arendt, Richard G ; Boyer, Martha L. ; Dwek, Eli ; Matsuura, Mikako ; Ravi, Aravind P. ; Rest, Armin ; Chevalier, Roger 2023. "JWST NIRCам Observations of SN 1987A: Spitzer Comparison and Spectral Decomposition," *Astrophys. J.*, **959**, id.95, 12 pp.
- Gangopadhyay, Anjasha ; Maeda, Keiichi ; Singh, Avinash ; Nayana, A. J.Chevalier, Roger.....2022. " Bridging between Type IIb and Ib Supernovae: SN IIb 2022crv with a Very Thin Hydrogen Envelope," *Astrophys. J.*, **957**, id 100, 21 pp.

Invited Lectures at Conferences

- "The Gas Dynamics of Supernovae and their Remnants," Minkowski Symposium of the A.S.P., Berkeley, CA, May 1976.
- "Was SN 1054 a Type II Supernova," Supernova session of the I.A.U. General Assembly, Grenoble, France, Sept. 1976.
- "The Supernova Remnant Cassiopeia A," 8th Texas Symposium of Relativistic Astrophysics, Boston, MA, Dec. 1976.
- "Cosmic Ray Acceleration in Supernova Remnants," 15th International Cosmic Ray Conference, Plovdiv, Bulgaria, August 1977.
- "Theory of Supernova Remnant Evolution," Workshop on Supernova Remnants, Victoria, B. C., May 1978.
- "Blast Waves and the Interstellar Medium," Workshop on Supernovae and Supernova Remnants, Erice, Sicily, May 1978.
- "Element Mixing in the Interstellar Medium," Workshop on Chemical Inhomogeneities in the Galaxy, Frascati, Italy, June 1978.
- "The Expansion of Supernova Envelopes," Workshop on Astrophysical Winds, Florence, Italy, June 1978.
- "Hydrodynamic Models of Supernovae," 23rd Herstmonceux Conference, England, April 1979.
- "Shock Waves and High Temperature Phenomena in Supernovae," Special Symposium on Shock Waves in Astrophysics, American Physical Society meeting,

- Washington, D. C., April 1980.
- “Supernova Remnants,” COSPAR Symposium on Theoretical High Energy Astrophysics, Budapest, Hungary, June 1980.
- “Supernovae - Birthplace of Pulsars?” I.A.U. Symposium No. 95 ”Pulsars,” Bonn, Germany, August 1980.
- “The Theory of Supernova Light Curves,” Southeast Section of the A.P.S. meeting, Chapel Hill, N.C., November 1980.
- “Young Supernova Remnants,” NATO Advanced Study Institute on Supernovae, Cambridge, England, July 1981.
- “The Interaction of Supernova Ejecta with an Ambient Medium,” I.A.U. Symposium No. 101 ”Supernova Remnants and Their X-Ray Emission, Venice, Italy, August 1982.
- “The Interaction of Supernovae with a Circumstellar Medium,” 11th Texas Symposium on Relativistic Astrophysics, Austin, TX, December 1982.
- “Supernova Remnants,” High Energy Astrophysics session of the American Astronomical Society Meeting, Boston, MA, January 1983.
- “Interaction of Supernovae with the Interstellar Medium,” Rutherford Appleton Laboratory Workshop on Gas in the Interstellar Medium, Abingdon, England, May 1984.
- “The Origin of Neutron Stars,” Green Bank Workshop on Millisecond Pulsars, Green Bank, W. Va., June 1984.
- “Supernova Interaction with a Circumstellar Wind and the Distance to SN 1979c,” Workshop on Supernova as Distance Indicators, Cambridge, MA, Sept. 1984.
- “Evolution of the Crab Nebula,” Workshop on the Crab Nebula and Related Supernova Remnants, Fairfax, VA, Oct. 1984.
- “The Radio and X-Ray Emission from Supernovae,” Indian Academy of Sciences Workshop on Supernovae, Bangalore, India, Oct. 1984.
- “Support and Ionization of the Galactic Corona,” Green Bank Workshop on Gaseous Halos of Galaxies, Green Bank, W. Va., May 1985.
- “Supernovae at Radio to γ -Ray Wavelengths,” meeting of American Astronomical Society, Houston, TX, January 1986.
- “Young Supernova Remnants,” meeting of American Physical Society, Washington, DC, April 1986.
- “The Radio and X-Ray Emission from SN1987A,” Workshop on Planning for Space Observations of SN1987A, NASA Goddard, Greenbelt, MD, March 1987.
- “Multiwavelength Observations of SN1987A,” Workshop on Non-Accelerator Particle Physics, Rochester, NY, June 1987.
- “The Early Evolution of Supernova Remnants,” IAU Colloquium 101, The Interaction of Supernova Remnants with the Interstellar Medium, Penticton, British Columbia, June 1987.
- “The Interaction of SN1987A with its Surroundings,” ESO Workshop on SN1987A, Garching, Germany, July 1987.
- “Multiwavelength Observations of SN1987A,” Workshop on Multiwavelength Astrophysics,” Taos, NM, August 1987.

- “Theory of Supernova Remnants and the Hot Interstellar Medium,” (3 lectures) NATO ASI on Hot Thin Plasmas in Astrophysics, Cargese, Corsica, September 1987.
- “Circumstellar Interaction and Late Emission from SN1987A,” George Mason Workshop on SN1987A, Fairfax, VA, October 1987.
- “Observations of SN1987A and Their Interpretation,” Workshop on Nuclear Spectroscopy of Astrophysical Sources, Washington, DC, December 1987.
- “Multiwavelength Observations of SN1987A,” AAPT/APS meeting, Arlington, VA, January 1988.
- “Circumstellar Interaction Around SN1987A,” American Physical Society meeting, Baltimore, MD, April 1988.
- “Late Evolution of SN1987A,” White Conference on SN1987A, Canberra, Australia, June 1988.
- “Galactic Halo Gas,” IAU General Assembly, Baltimore, MD, August 1988.
- “High Energy Aspects of SN1987A,” IAU General Assembly, Baltimore, MD, August 1988.
- “Implications of Recent Observations of Supernova 1987A,” meeting of American Astronomical Society, Ann Arbor, MI, June 1989.
- “Supernovae and Supernova Remnants,” Centennial Meeting of the Astronomical Society of the Pacific, Berkeley, CA, June 1989.
- “The Interaction of Supernovae with Circumstellar Matter,” Workshop on Supernovae, Santa Cruz, CA, July 1989.
- “Emission Processes in Supernova 1987A,” APS Topical Conference on Atomic Processes in Plasmas, Gaithersburg, MD, October 1989.
- “Supernovae and Supernova Remnants at High Energies,” Workshop on High Energy Astrophysics in the 21st Century, Taos, NM, December 1989.
- “Supernovae and Supernova Remnants at Low Frequencies,” Workshop on Low Frequency Astrophysics from Space, Arlington, VA, January 1990.
- “Neutron Star fallback in a Supernova,” Workshop on Supernova Mechanisms, Ann Arbor, MI, March 1990.
- “Supernovae and Supernova Remnants in Starbursts,” Space Telescope Institute Workshop on Massive Stars in Starbursts, Baltimore, MD, May 1990.
- “Supernovae and the Interstellar Medium,” (4 lectures) NATO Advanced Study Institute on Supernovae, Les Houches, France, August 1990.
- “The Central Compact Source in SN 1987A,” ESO/EIPC Workshop on SN 1987A and Other Supernovae, Elba, Italy, September 1990.
- “Supernova Remnants,” Workshop on Supernovae and Supernova Remnants, Beijing, China, June 1991.
- “Supernova 1987A and its Surroundings,” Workshop on Supernova Remnant 1987A, Sydney, Australia, May 1992.
- “Supernova Shocks, Expansion, and Remnants,” ASP Meeting on Massive Stars: Their Lives in the Interstellar Medium, Madison, WI, June 1992.
- “Compact Objects in Supernova Remnants,” IAU Colloquium 145, Supernovae and Supernova Remnants, Xi’an, China, May 1993.

- “Magnetic Shaping of Planetary Nebulae,” Herstmonceaux Conference on Circumstellar Media Around Evolved Stars, Cambridge, England, July 1993.
- “Shock Phenomena Associated with Supernova/Circumstellar Interaction,” Workshop on Supernova Remnants and the Physics of Strong Shock Waves, Raleigh, NC, September 1993.
- “Shock Phenomena Around SN 1993J,” Meeting of American Astronomical Society (High Energy Astrophysics Div.), Arlington, VA, January 1994.
- “Neutron Stars in Supernovae After the Explosion,” Symposium on Supernovae (Franklin Institute), Philadelphia, PA, April 1994.
- “Magnetic Effects in the Shaping of Planetary Nebulae,” Conference on Asymmetrical Planetary Nebulae, Haifa, Israel, August 1994.
- “Inside and Outside of Supernovae,” Gamow Seminar in St. Petersburg, Russia, September 1994.
- “Narrow Line Structure in High-Velocity Objects: Supernovae and Their Remnants,” Workshop on High Resolution Spectroscopy, Tucson, AZ, October 1994
- “The Circumstellar Interaction Model for Radio Supernovae,” Conference on Radio Emission from the Stars and the Sun, Barcelona, Spain, July 1995
- “The Evolution of Supernova Remnants,” 11th IAP Meeting on The Interplay between Massive Star Formation, the ISM and Galaxy Formation, Paris, France, July 1995
- “Radioactive Heating of SN 1987A and the Early Mixing of Supernova Ejecta,” Workshop on Galactic Radioactivity, Clemson, SC, March 1996
- “The Shaping of Planetary Nebulae and the SN 1987A Nebula,” Royal Society Meeting on Planetary Nebulae, Liverpool, England, April 1996
- “The Radiation Hydrodynamics of Supernova Shock Waves,” APS Division of Plasma Physics Symposium on Laser-Plasma Astrophysics, Denver, CO, November 1996
- “Shocking Supernova Tales,” (Heineman Prize Lecture) Meeting of the American Astronomical Society, Toronto, Canada, January 1997
- “The Circumstellar Environment of Sk -69 202 and the Interaction with SN 1987A,” CTIO/ESO/LCO Workshop on SN 1987A: 10 Years Later, La Serena, Chile, February 1997
- “Overview of Very Young Supernova Remnants” and “Hydrodynamics of Young Supernova Remnants,” Minnesota Centennial Meeting on Supernova Remnants, Minneapolis, MN, March 1997
- “Supernova Remnants and the Galaxy,” The Dynamics of the Galaxy: Festschrift for J. P. Ostriker, Princeton, NJ, May 1997
- “Circumstellar Interaction,” Institute for Theoretical Physics Conference on Supernovae, Santa Barbara, CA, August 1997
- “SN 1987A and its Environment,” Crafoord Symposium on Advanced Stellar Evolution and Nucleosynthesis, Stockholm, Sweden, September 1997
- “Pulsar Nebulae in Supernovae,” Workshop on the Relationship between Neutron Stars and Supernova Remnants, Marciana Marina, Elba, Italy, July 1998
- “Environments of Oxygen-Rich Remnants” and “Theory of Very Young Rem-

- nants,” Workshop on Young Supernova Remnants, Boulder, CO, October 1998
- “Supernova Remnant Models and Gamma-Ray Burst Analogies,” Institute for Theoretical Physics Conference on Gamma-Ray Bursts and Their Afterglows, Santa Barbara, CA, March 1999
- “Interaction of Supernovae and Gamma-Ray Bursts with their Surroundings,” STScI Symposium on The Largest Explosions Since the Big Bang: Supernovae and Gamma-ray Bursts, Baltimore, MD, May 1999
- “High Energy Emission from Supernovae and Remnants,” IAU Symposium No. 195 on Highly Energetic Physical Processes and Mechanisms for Emissions from Astrophysical Plasmas, Bozeman, MT, July 1999
- “Abundances in SN 1987A and Other Supernovae,” American Chemical Society Symposium on The Origin of the Elements in the Solar System, New Orleans, LA, August 1999
- “Mixing of Supernova Ejecta in Their Surroundings,” Workshop on Astronomy with Radioactivities, Ringberg Castle, Germany, September 1999
- “The Connection Between Supernovae and Gamma-Ray Bursts: On the Distribution of Circumstellar Matter,” Fifth Huntsville Gamma-Ray Burst Symposium, Huntsville, AL, October 1999
- “Hydrodynamic Instabilities and Clumping in Supernova Remnants,” Third Symposium on Laser Astrophysics, Houston, TX, March 2000
- “Supernovae and Gamma-Ray Bursts in the Winds of Massive Stars,” Workshop on Interacting Winds from Massive Stars, Les Iles-de-la-Madeleine, Canada, July 2000
- “Supernova Remnants in Molecular Clouds,” Maryland Conference on Young Supernova Remnants, College Park, MD, October 2000
- “The Supernova/Gamma-Ray Burst Connection: Theoretical Implications,” Workshop on Gamma-Ray Bursts in the Afterglow Era, Rome, Italy, October 2000
- “Radioactivity and Supernova Remnant Evolution,” Workshop on Astronomy with Radioactivities III, Ringberg Castle, Germany, May 2001
- “Interactions between Plerions, Pulsar Nebulae and Supernova Remnants,” Conference on Neutron Stars in Supernova Remnants, Boston, MA, August 2001
- “Instabilities and Structure in Supernova Remnants,” 4th International Conference on High Energy Density Laboratory Astrophysics, Ann Arbor, MI, February 2002
- “The Supernova – Gamma-Ray Burst Connection,” Harvard Theoretical Astrophysics conference on Gamma-Ray Bursts: the Biggest Explosions in the Universe, Cambridge, MA, May 2002
- “Circumstellar Interaction Around Supernovae,” ESO conference From Twilight to Highlight: the Physics of Supernovae, Garching, Germany, July 2002
- “Pulsar Wind Nebulae: Theoretical Aspects and Observational Constraints,” COSPAR meeting on High Energy Emission from Supernova Remnants and Neutron Stars, Houston, TX, October 2002
- “The Surroundings of Gamma-Ray Bursts: Constraints on Progenitors,” IAU Colloquium 192, Supernova: 10 Years of SN 1993J, Valencia, Spain, April 2003
- “Supernova Remnant and Pulsar Wind Nebula Interactions,” 3-D Signatures in

- Stellar Explosions: A Workshop honoring J. Craig Wheeler's 60th birthday, Austin, TX, June 2003
- "Pulsar Wind Nebulae and Their Supernovae," IAU Symposium 218, Young Neutron Stars and Their Environments, Sydney, Australia, July 2003
- "Circumburst Environments of Gamma-Ray Bursts," GRB 2003 Symposium, Santa Fe, NM, October 2003
- "Hydrodynamics of Supernova Remnants," International Space Science Institute workshop on Supernova Remnants, Bern, Switzerland, December 2003
- "Gamma-Ray Bursts and their Environments," European Research and Training Network workshop on Gamma-Ray Bursts, Padua, Italy, April 2004
- "Pulsars and Supernova Remnants," conference on Supernovae as Cosmological Lighthouses, Padua, Italy, June 2004
- "Gamma-Ray Bursts and their Environments," Workshop on the Gamma-Ray Burst – Supernova Connection, Seattle, WA, July 2004
- "Type IIP Supernovae and Red Supergiant Mass Loss" and "Gamma-Ray Bursts," International Space Science Institute workshop on Supernova Remnants II, Bern, Switzerland, September 2004
- "Stellar Endpoints," Tutorial lectures for a program on Grand Challenge Problems in Computational Astrophysics, Los Angeles (UCLA), March 2005
- "Instabilities in the aftermath of core collapse supernovae," Workshop on Astrophysical Fluid Dynamics, Los Angeles, April 2005
- "Radio Emission and Evolution of Pulsar Wind Nebulae," Radcliffe Institute of Advanced Study workshop on The Physics of Neutron Star Winds, Cambridge, MA, May 2005
- "Supernovae – Production and Delivery," Gordon Conference on Origins of Solar Systems, New London, Conn., June 2005
- "Type IIP Supernovae and Red Supergiant Mass Loss," National Radio Astronomy Observatory meeting in honor of Dave Hogg, Charlottesville, VA, September 2005
- "Hydrodynamic Instabilities in Young Supernova Remnants," American Physical Society Division of Plasma Physics Miniconference on Astrophysical Explosions, Denver, CO, October 2005
- "Circumstellar Emission from Type Ib/c Supernovae and the Gamma-Ray Burst Connection," Kavli Institute for Theoretical Physics conference on Supernova and Gamma-Ray Burst Remnants, Santa Barbara, CA, February 2006
- "The Supernova – Gamma-Ray Burst Connection," European Research and Training Network workshop on Gamma-Ray Bursts, Antalya-Belek, Turkey, March 2006
- "From Progenitor to Afterlife," STScI Symposium on Massive Stars, Baltimore, MD, May 2006
- "The Circumstellar Medium of Supernovae," AAS meeting topical session on supernova remnants, Calgary, Canada, June 2006
- "Circumstellar Emission from Type Ib/c Supernovae and the Gamma-Ray Burst Connection," Conference on The Multicoloured Landscape of Compact Objects and their Explosive Origins: Theory vs Observation, Cefalu, Sicily, June 2006

- “SN 1006 in Context: from Type Ia Supernova to Remnant,” IAU Joint Discussion on Supernovae: One Millenium After SN 1006, Prague, Czech Republic, August 2006
- “Circumstellar Emission from Type Ib/c Supernovae and the Gamma-Ray Burst Connection,” workshop on Circumstellar Media and Late Stages of Massive Stellar Evolution, Ensenada, Mexico, September 2006
- “Circumstellar Interaction Around Supernovae,” Conference on Supernova 1987A 20 Years After: Supernovae and Gamma-Ray Bursters, Aspen, CO, February 2007
- “What Gamma-Ray Bursts Explode Into,” Conference on 070228 - The Next Decade of Gamma-Ray Burst Afterglows, Amsterdam, the Netherlands, March 2007
- “The Core Collapse Supernova/Supernova Remnant Connection,” AAS topical meeting on Endpoints and Interactions: Supernova Remnant Workshop, Honolulu, HI, May 2007
- “Supernova Remnants and their Relation to RS Ophiuchi,” Conference on RS Ophiuchi (2006) and the Recurrent Nova Phenomenon, Keele, UK, June 2007
- “Supernova Interactions with the Circumstellar Medium,” workshop on From Massive Stars to Supernova Remnants, Lorentz Center, Leiden, the Netherlands, August 2007
- “Pulsar Wind Nebulae and Neutron Stars in Supernovae,” Workshop on Supernovae and Gamma Ray Bursts, Darjeeling, India, May 2008
- “Supernovae and their Evolution in a Low Metallicity ISM,” IAU Symposium on Low-Metallicity Star Formation: From the First Stars to Dwarf Galaxies, Rapallo, Italy, June 2008
- “Supernova Shock Waves,” COSPAR symposium on Astrophysical Shocks: Space Observations vs. Modeling, Montreal, Canada, July 2008
- “Gamma-ray Bursts and the Supernova Connection,” meeting of Southeast Section of the American Physical Society, Raleigh, NC, October 2008
- “The Supernova – Gamma-Ray Burst Connection,” Program on Gamma-Ray Bursts, Kavli Institute, Beijing, China, May 2009
- “Where have we been, where are we going (summary),” Festival of Cosmic Explosions, Pasadena, CA, August 2009
- “Exploding Stars,” conference Heirs of Galileo, for the International Year of Astronomy, Madrid, Spain, October 2009
- “Supernova Remnant: Progress and Prospects” (summary talk), COSPAR meeting on supernova remnants and pulsar wind nebulae, Bremen, Germany, July 2010
- “Neutron Stars in Supernovae and Their Remnants,” conference Astrophysics of Neutron Stars 2010, Cesme/Izmir, Turkey, August 2010
- “Stars and Stellar Evolution: the Next Decade,” American Astronomical Society meeting, Boston, MA, May 2011
- “Shock waves around core collapse supernovae and their X-ray/radio emission,” Supernovae and their Host Galaxies, Sydney, Australia, June 2011
- “Theory of Circumstellar Interaction,” Explosive ideas about massive stars, Stock-

- holm, Sweden, August 2011
- “Superluminous Supernovae,” 370 Years of Astronomy in Utrecht, Noordwijkerhout, the Netherlands, April 2012
- “Supernova Remnants,” Fifth Symposium on High-Energy Gamma-Ray Astronomy, Heidelberg, Germany, July 2012
- “Supernova Remnant Evolution Models,” at The Cosmic Kaleidoscope: Pulsars and Their Nebulae, Supernova Remnants and More - A Conference in Memory of Okkie de Jager, Kruger Park, South Africa, August 2012
- “Theory of the Remnants and Surroundings of Supernovae,” ESO/MPA/MPE workshop on Supernovae; Illuminating the Universe: from individuals to populations, Garching, Germany, September 2012
- “The Physics of Supernova Remnants,” Conference on Dust in Core-Collapse Supernovae near & far: understanding its formation and evolution, Ascona, Switzerland, November 2012
- “Young Supernova Remnants,” IAU Symposium 296, Supernova Environmental Impacts, Raichak-on-Ganges (near Kolkata), India, January 2013
- “Supernova Interaction with Dense Mass Loss,” Conference on Ten to the 51 Ergs, North Carolina State University, Raleigh, NC, May 2013
- Three lectures as Distinguished Lecturer: “Superluminous Supernovae,” “High Energy Gamma-Ray Emission from Old Supernova Remnants,” and “Pulsar Nebulae in Supernovae,” Technion – Israel Institute of Technology, Physics Department, Haifa, Israel, June 2013
- “Supernovae and Their Interaction with Their Surroundings,” Conference on Supernovae and Gamma-Ray Bursts 2013, Kyoto, Japan, October 2013
- “Stars and Stellar Evolution,” Conference on Fifteen Years of Chandra, Boston, November 2014.
- “Jet or Shock Breakout? The Low-Luminosity GRB 060218,” McCray Symposium 2015: a Celebration of Supernovae, Superbubbles, Gamma-Ray Bursts, and other Cosmic Explosions, Bern, Switzerland, June 2015
- “Stars and Stellar Evolution,” Decadal Midterm Astronomy and Astrophysics Symposium, Irvine, CA, December 2015
- “Trends in Supernova Remnant Research,” Supernova Remnants: An Odyssey in Space after Stellar Death, Chania (Crete), Greece, June 2016
- “Pulsar Power in Supernovae,” International Space Studies Institute Workshop on Supernovae, Bern, Switzerland, September 2016
- “The Whole Picture,” CSI: Princeton – A Definitive Investigation of the Core-Collapse Supernova Cassiopeia A, Princeton, NJ, April 2017
- “Superluminous Supernovae,” Annual meeting of Taiwan Astronomical Society, Kinmen Island, Taiwan, May 2018
- “What are Type II_n Supernovae?,” Conference on Shocking Supernovae: Surrounding Interactions and Unusual Events, Stockholm, Sweden, May 2018
- “Conference Summary: Where do we Stand?,” Supernova Remnants: An Odyssey in Space after Stellar Death II, Chania (Crete), Greece, June 2019