

CV - Dr. Evan Patrick O'Connor

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Current Appointments

Assistant Professor 04/2017 –
Department of Astronomy & The Oskar Klein Centre
Stockholm University, Stockholm, Sweden

Previous Appointments

Hubble Fellow, North Carolina State University 09/2014 – 03/2017
Post-Doctoral Fellow, Canadian Institute for Theoretical Astrophysics 09/2012 – 09/2014
Research Assistant, TRIUMF Theory Group 09/2006 – 12/2006
06/2007 – 09/2007
Research Assistant, TRIUMF Dragon Group 05/2006 – 08/2006
Research Assistant, Dominion Radio Astrophysical Observatory 01/2005 – 04/2005
01/2007 – 04/2007
Research Assistant, University of Prince Edward Island Physics 05/2004 – 08/2004
05/2005 – 08/2005

Education

Ph.D. 10/2007 – 06/2012
Ph.D. Advisor - Christian Ott
California Institute of Technology, Pasadena, CA, USA
B. Sc. in Honours Physics, Co-operative Education 09/2002 – 05/2007
Honours Advisor - Sheldon Opps
University of Prince Edward Island, PEI, Canada

Research Interests

- Improving computational simulations of relativistic astrophysical systems (core-collapse supernovae, mergers involving neutron stars, etc.) through detailed microphysics inputs and implementations including:
 - Neutrino radiation transport & interactions
 - Finite-temperature equations of state
- Elucidating the connection between stellar evolution and direct observables of core-collapse supernovae (i.e. neutrinos, or perhaps the overall success/failure)
- Predicting direct observational signatures of the core-collapse supernovae engine via neutrinos and gravitational waves
- Advocating for and providing open-source and open-access scientific tools

Publications, Conference Proceedings, Theses, and Presentations

32 publications in peer reviewed journals (h-index of 23) 2 publications under review
9 Conference proceedings 2 Theses & 1 Book Chapter
34 Invited presentations 33 Contributed presentations & posters

Academic Honors and Awards

Hubble Fellowship, 2014-2017
CITA Postdoctoral Fellowship, 2012-2014
NSERC PGS-D Fellowship, 2009-2012
DAP-APS Travel Grant, 2010
APS-CAM Travel Grant, 2009
NSERC CGS Fellowship, 2007, declined
Full Tuition UPEI Scholarship 2002-2007
Governor General's Bronze Medal, 2002

TAUP Theory Poster Award, 2013
CITA National Fellowship 2012, declined
AAS International Travel Grant, 2011
GGR-APS Travel Grant, 2009
TRIUMF Symposium Award, 2007
TRIUMF Summer Scholarship, 2006
NSERC USRA 2005

Professional Services & Memberships

Principal Maintainer of GR1D, an open-source code for studying stellar collapse & core-collapse supernovae.
Principal Maintainer of NuLib, an open-source library of neutrino interactions for astrophysical simulations.
Contributor to stellarcollapse.org, a community portal for supporting research in stellar collapse, core-collapse supernovae, neutron stars and gamma-ray bursts.

Referee for: The Astrophysical Journal Letters, The Astrophysical Journal, Physical Review D, Monthly Notices of the Royal Astronomical Society, New Astronomy, Publications of the Astronomical Society of Japan

Review Panel: Hubble Space Telescope TAC, Cycle 23, NASA Earth and Space Science Fellowship NSF Division of Astronomical Sciences

Canadian Astronomical Society 2013 – American Physical Society 2009 –

Scientific Outreach

NCMNS Science Cafe - Hubble @ 25, April 2015
NCSU Physics Open-Viewing and Raleigh Astronomy Days - 2014-2016
UofT SN 2014J Observing - Winter 2014
Toronto Public Library - Public lecture on Massive Stars, Spring 2013
Caltech Astronomy Outreach - Transit of Venus and Solar Eclipse Viewing, 2012
- Week long public viewing of SN2011fe/PTF11kly, September 2011
UPEI Astronomy Outreach - Monthly viewing of the night sky, 2005-2007

Teaching & Mentoring Experience

- Lecturer at 3 summer schools on Nuclear Astrophysics, Supernova, and related topics (2015-2017)
- Mentored 2 NCSSM high school students on a 2 week computational project on supernova remnants (2015)
- Mentor of NCSU undergraduate student working on neutrino scattering in NuLib (2014-2015)
- Lecturer for University of Toronto's Department of Astrophysics Summer Student Program (SURP), 2013
- Mentor of NSERC USRA summer student working on neutrino interactions in supernovae (2013)
- Co-mentor of Caltech SURF student working on pair-instability supernovae (2010)
- Head teaching assistant for PH002, Caltech's core physics class for non-physics majors covering quantum and statistical physics: 2007/08 and 2008/09. Laboratory teaching assistant for Caltech's PH003: Fall term, 2009/10. Undergraduate teaching assistant for UPEI's freshman and sophomore physics laboratories, sophomore and junior theoretical physics classes: 2003/04 through 2005/06

Refereed Publications

S. Richers, C.D. Ott, E. Abdikamalov, E. O'Connor, Sullivan, C. *Equation of State Effects on Gravitational Waves from Rotating Core Collapse*, Phys. Rev. D **95** 063019 2017

- C. J. Horowitz, O. L. Caballero, Zidu Lin, **E. O'Connor**, A. Schwenk *Neutrino-nucleon scattering in supernova matter from the virial expansion* Phys. Rev. C **95** 025801 2017
- F. Foucart, **E. O'Connor**, L. Roberts, L. E. Kidder, H. P. Pfeiffer, M. A. Scheel, *Impact of an improved neutrino energy estimate on outflows in neutron star merger simulations*, Phys. Rev. D **94** 123016 2016
- L. Roberts, C.D. Ott, R. Haas, **E. O'Connor**, P. Diener, E. Schnetter, *General Relativistic Three-Dimensional Multi-Group Neutrino Radiation-Hydrodynamics Simulations of Core-Collapse Supernovae*, Astrophys. J. **831** 98 2016
- L. Lehner, S. L. Liebling, C. Palenzuela, Caballero, O. L., **E. O'Connor**, M. Anderson, D. Neilson, *Unequal mass binary neutron star mergers and multimessenger signals*, CQG **33** 184002 2016
- F. Foucart, R. Haas, M. D. Duez, **E O'Connor**, C. D. Ott, L. Roberts, L. E. Kidder, J. Lippuner, H. P. Pfeiffer, M. A. Scheel, *Low mass binary neutron star mergers : gravitational waves and neutrino emission* Phys. Rev. D. **93** 044019 2016
- C. Sullivan, **E. O'Connor**, R. G. T. Zegers, T. Grubb, S. M. Austin, *The Sensitivity of Core-Collapse Supernovae to Nuclear Electron Capture* Astrophys. J. **816** 44 2016
- S. Richers, D. Kasen, **E. O'Connor**, R. Fernandez, C.D. Ott, *Monte Carlo Neutrino Transport Through Remnant Disks from Neutron Star Mergers*, Astrophys. J. **813** 38 2015
- C. Palenzuela, S. Liebling, D. Neilsen, L. Lehner, Caballero, O. L., **E. O'Connor**, M. Anderson, *Effects of the micro-physical Equation of State in the mergers of magnetized Neutron Stars With Neutrino Cooling*, Phys. Rev. D **92**, 044045 2015
- E. O'Connor**, *An Open-Source Neutrino Radiation Hydrodynamics Code for Core-Collapse Supernovae* Astrophys. J. Supp., **219**, 24 2015
- F. Foucart, **E. O'Connor**, L. Roberts, M. D. Duez, R. Haas, L. E. Kidder, C. D. Ott, H. P. Pfeiffer, M. A. Scheel, B. Szilagyi. *Post-merger evolution of a neutron star-black hole binary with neutrino transport* Phys. Rev. D **91**, 124021 2015
- F. Foucart, M. B. Deaton, M. D. Duez, **E. O'Connor**, C. D. Ott, R. Haas, L. E. Kidder, H. P. Pfeiffer, M. A. Scheel, B. Szilagyi. *Neutron star-black hole mergers with a nuclear equation of state and neutrino cooling: Dependence in the binary parameters* Phys. Rev. D **90**, 024026 2014
- J. Kaplan, C. D. Ott, **E. O'Connor**, K. Kiuchi, L. Roberts, M. Duez, *The Influence of Thermal Pressure on Hypermassive Neutron Star Merger Remnants* Astrophys. J **790** 19 2014
- D. Neilsen, S. Liebling, M. Anderson, L. Lehner, **E. O'Connor**, C. Palenzuela, *Magnetized Neutron Stars With Realistic Equations of State and Neutrino Cooling* Phys. Rev. D **89**, 104029 2014
- S. M. Couch, **E. O'Connor**, *High-Resolution Three-Dimensional Simulations of Core-Collapse Supernovae in Multiple Progenitors* Astrophys. J, **785** 123 2014
- M. B. Deaton, M. D. Duez, F. Foucart, **E. O'Connor**, C. D. Ott, L. E. Kidder, C. Muhlberger, M. A. Scheel, B. Szilagyi. *Black Hole-Neutron Star Mergers with a Hot Nuclear Equation of State: Outflow and Neutrino-Cooled Disk for a Low-Mass, High-Spin Case* Astrophys. J, **776** 47 2013
- C. D. Ott, E. Abdikamalov, P. Mösta, R. Haas, S. Drasco, **E. O'Connor**, C. Reisswig, C. Meakin, E. Schnetter, *General-Relativistic Simulations of Three-Dimensional Core-Collapse Supernovae*, Astrophys. J., **768** 115, 2013
- E. O'Connor** , C. D. Ott, *The Progenitor Dependence of the Preexplosion Neutrino Emission in Core-Collapse Supernovae* Astrophys. J, **762** 126, 2013
- C. J. Horowitz, G. Shen, **E. O'Connor**, C. D. Ott, *Charged current neutrino interactions in core-collapse supernovae in a virial expansion* Phys. Rev. C **86** 065806, 2012
- E. Abdikamalov, A. Burrows, C. D. Ott, F. Löffler, **E. O'Connor**, J. Dolence, E. Schnetter, *A New Monte Carlo Method for Time-Dependent Neutrino Radiation Transport*, Astrophys. J., **755** 111, 2012
- C. D. Ott, E. Abdikamalov, **E. O'Connor**, C. Reisswig, R. Haas, P. Kalmus, S. Drasco, A. Burrows, E. Schnetter,

Correlated Gravitational Wave and Neutrino Signals from General-Relativistic Rapidly Rotating Iron Core Collapse, Phys. Rev. D **86** 024026, 2012

L. Dessart, **E. O'Connor**, C. D. Ott, *The Arduous Journey to Black-Hole Formation in Potential Gamma-Ray Burst Progenitors* Astrophys. J. **754** 76, 2012

B. Dasgupta, **E. O'Connor**, C. D. Ott, *The Role of Collective Neutrino Flavor Oscillations in Core-Collapse Supernova Shock Revival* Phys. Rev. D, **85** 065008, 2012

G. Shen, C.J. Horowitz, **E. O'Connor**, *Second relativistic mean field and virial equation of state for astrophysical simulations* Phys. Rev. C **83** 065808, 2011

C. D. Ott, C. Reisswig, E. Schnetter, **E. O'Connor**, U. Sperhake, F. Löffler, P. Diener, E. Abdikamalov, I. Hawke, A. Burrows, *Dynamics and Gravitational Wave Signature of Collapsar Formation*, Phys. Rev. Lett. **106** 161103, 2011

E. O'Connor & C. D. Ott, *Black Hole Formation in Failing Core-Collapse Supernovae*, Astrophys. J, **730** 70, 2011.

E. O'Connor & C. D. Ott, *A New Spherically Symmetric Open Source Code for Stellar Collapse to Neutron Stars and Black Holes*, Class. Quantum Grav. **27** 114103, 2010.

A. Arcones, G. Martinez-Pinedo, **E. O'Connor**, A. Schwenk, H.-Th. Janka, C. J. Horowitz & K. Langanke, *Influence of light nuclei on neutrino-driven supernova outflows*, Phys. Rev. C **78**, 015806 2008.

E. O'Connor, D Gazit, C. J. Horowitz, A. Schwenk & N. Barnea, *Neutrino Breakup of A=3 Nuclei in Supernovae*, Phys. Rev. C **75**, 055803 2007.

C. Vockenhuber, C.O. Ouellet, L.S. The, L. Buchmann, J. Caggiano, A.A. Chen, H. Crawford, J.M. D'Auria, B. Davids, L. Fogarty, D. Frekers, A. Hussein, D.A. Hutcheon, W. Kutschera, A.M. Laird, R. Lewis, **E. O'Connor**, D. Ottewell, M. Paul, M.M. Pavan, J. Pearson, C. Ruiz, G. Ruprecht, M. Trinczek, B. Wales, A. Wallner, *Measurement of the $Ca^{40}(\alpha, \gamma)Ti^{44}$ reaction relevant for supernova nucleosynthesis*, Phys. Rev. C **76** 035801 2007.

J. Zylinderberg, D. Hutcheon, L. Buchmann, J. Caggiano, W.R. Hannes, A. Hussein, **E. O'Connor**, D. Ottewell, J. Pearson, C. Ruiz, G. Ruprecht, M. Trinczek, C. Vockenhuber, *Charge-state distributions after radiative capture of helium nuclei by a carbon beam*, NIM B **254** 17 2007.

J.M. Pittard, S.M. Dougherty, R.F. Coker, **E. O'Connor**, N.J. Bolingbroke, *Radio emission models of colliding-wind binary systems. Inclusion of IC cooling*, Astron. & Astrophys. **446** 1001 2006.

Submitted and Accepted Publications

C. J. Horowitz, D. K. Berry, M. E. Caplan, T. Fischer, Zidu Lin, W. G. Newton, **E. O'Connor**, L. F. Roberts, *Nuclear pasta and supernova neutrinos at late times submitted to PRL* arXiv:1611.10226 2016

E. O'Connor, S. Couch, *Two Dimensional Core-Collapse Supernova Explosions Aided by General Relativity with Multi-dimensional Neutrino Transport*, submitted to Astrophys. J. arXiv:1511.07443

Conference Proceedings

E. O'Connor, C.J. Horowitz, Z. Lin, S. Couch, *Core-Collapse Supernova Simulations including Neutrino Interactions from the Virial EOS* Proceedings of the International Astronomical Union **S331**, February 2017, M. Renaud *et al.* eds.

C. D. Ott, **E. O'Connor**, S. Gossan, E. Abdikamalov, U. C. T. Gamma, S. Drasco, *Core-Collapse Supernovae, Neutrinos, and Gravitational Waves* Proceedings of The XXV International Conference on Neutrino Physics and Astrophysics, June 2012

E. O'Connor, L. Dessart, C. D. Ott, *Black-Hole Formation in Potential γ -Ray Burst Progenitors* Proceedings of the International Astronomical Union **S279** 373, March 2012

C. D. Ott, E. O'Connor, B. Dasgupta, *New Aspects and Boundary Conditions of Core-Collapse Supernova Theory*, Proceedings of the Hamburg Neutrinos from Supernova Explosions (Havse 2011), arXiv:1111.6282, 2011

E. O'Connor, C. D. Ott, *Thermal Effects on Black Hole Formation in Failed Core-Collapse Supernovae*, Proceedings of Science. Proceedings of the 11th Symposium on Nuclei in the Cosmos. PoS(NIC XI)154 2011

C. D. Ott, E. O'Connor, F. Peng, C. Reisswig, U. Spherhake, E. Schnetter, E. Abdikamalov, P. Diener, F. Löffler, I. Hawke, C.A. Meakin, A. Burrows, *New open-source approaches to the modeling of stellar collapse and the formation of black holes*, Astrophysics and Space Science, Proceedings of the HEDLA 2010 conference doi:10.1007/s10509-010-0553-1 2010

C. D. Ott, E. O'Connor, *Studies of Stellar Collapse and Black Hole Formation with the Open-Source Code GR1D*, AIP Conf. Proc. Proceedings of the OMEG-2010 conference doi:10.1063/1.3485130 2010

C. D. Ott, E. Schnetter, A. Burrows, E. Livne, E. O'Connor, F. Löffler, *Computational models of stellar collapse and core-collapse supernovae* Journal of Physics: Conference Series. Proceedings of the SciDAC 2009 Conference doi:10.1088/1742-6596/180/1/012022 2009

E. O'Connor, S. M. Dougherty, J. M. Pittard, P. M. Williams, *The colliding winds of WR 146: seeing the works* Proceedings of "Massive Stars and High-Energy Emission in OB Associations", a workshop of the JENAM 2005, "Distant Worlds", 2005

Theses

E. O'Connor, *Topics in Core-Collapse Supernova Theory: The Formation of Black Holes and the Transport of Neutrinos*, Ph.D. dissertation, California Institute of Technology, Pasadena, California, USA, 2012

E. O'Connor, *Discontinuous Molecular Dynamics studies of Model Langmuir Monolayers*, Honours Thesis, University of Prince Edward Island, Canada, 2007

Book Chapters

E. O'Connor, *The Core-Collapse Supernova-Black Hole Connection* Handbook of Supernovae. edited by Athem W. Alsabti and Paul Murdin. Springer International Publishing (2017)

Computer Time Awards

Petascale Simulation of Magnetorotational Core-Collapse Supernovae PI: Sean Couch, Co-PI: Evan O'Connor + 6 others. Award: 50 million processor hours on MIRA at Argonne National Lab for the calendar year 2015, renewed at 100 million processor hours for 2016 and 2017.

Invited Presentations

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| NNN, Warwick, UK, <i>Supernova Neutrino Production</i> | October 26, 2017 |
| Astronomy Seminar, Stockholm University, <i>ν-Radiation Hydrodynamic Simulations of CCSNe</i> | September 22, 2017 |
| ν Eclipse, Knoxville, <i>CEvNS in CCSNe</i> | August 20-22, 2017 |
| MICRA2017, MSU, Michigan, <i>Neutrino Transport in CCSNe</i> | July 18, 2017 |
| NuInt 2017, Fields Institute, Toronto, <i>The CCSNe Neutrino Signal</i> | June 30, 2017 |
| The Physics of Extreme-Gravity Stars, Nordita, Stockholm, <i>Core Collapse Supernovae: formation of neutron stars and black holes</i> | June 12, 2017 |
| Nuclear Physics Seminar, University of Minnesota, <i>The Death of Massive Stars</i> | April 8, 2016 |
| SN@Dune, Virginia Tech, Blacksberg, Virginia <i>The Microphysics and Neutrino Signal of Core-Collapse Supernovae</i> | March 11, 2016 |
| MSU Astronomy and Astrophysics Seminar, <i>Core-Collapse Supernovae:</i> | February 17, 2016 |

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| <i>Neutrinos and Explosions!</i> | |
| Technische Universität Darmstadt. <i>Neutrinos in Mergers</i> | December 3, 2015 |
| Berkeley TAC Seminar, Berkeley, California <i>Core-Collapse Supernovae: Neutrinos and Explosions</i> | November 9, 2015 |
| CNP Seminar, Virginia Tech, Blacksburg, Virginia <i>Core-Collapse Supernovae: Neutrinos and Explosions</i> | September 30, 2015 |
| Numazu Workshop 2015, Mishima, Japan <i>Microphysical Aspects of Core-Collapse Supernovae</i> | September 2, 2015 |
| FOE 2015, NSCU <i>Multidimensional Simulations of Core-Collapse Supernovae in FLASH</i> | June 3, 2015 |
| APS April Meeting, Baltimore, MD <i>Microphysical Aspects of Supernovae and Compact Object Merger Modelling</i> | April 11, 2015 |
| DOE Topical Collaboration, NSCU <i>The Collapse Phase Neutrino and Nuclear Physics</i> | May 1, 2014 |
| ECT* <i>Simulating the Supernova Neutrinosphere with Heavy Ion Collisions Introduction to Supernovae and Simulations of Supernovae</i> | April 7, 2014 |
| TNT Colloquium, NCSU <i>The Death Throes of Massive Stars: Black Holes, Explosions, and Neutrinos</i> | January 14, 2014 |
| University of Calgary Physics Colloquium. <i>The Death Throes of Massive Stars: Explosions, Neutrinos, and Black Holes</i> | November 22, 2013 |
| JINA Seminar. <i>Core-Collapse Supernovae: Explosions and Signals</i> | November 4, 2013 |
| ECT* <i>Neutron-rich Matter and Neutron Stars. Core-Collapse Supernovae: Status and Predictions</i> | October 2, 2013 |
| UPEI Physics Department. <i>Core-Collapse Supernovae: Essentials to Explosions</i> | July 3, 2013 |
| 2013 CAP Congress. <i>The Death Throes of Massive Stars: Supernovae, Black Holes, and Neutrinos</i> | May 27-31, 2013 |
| Perimeter Institute. <i>The Death Throes of Massive Stars: Supernovae, Black Holes, and Neutrinos</i> | April 9, 2013 |
| University of Guelph. <i>Black Holes and 3D General Relativistic Simulations of Core-Collapse Supernovae</i> | November 12, 2012 |
| Nuclear Astrophysics Town Hall. Presentation to the working group 'Core collapse Supernovae, Neutron Star Mergers and GRBs' on <i>Core-Collapse Supernova Mechanism Modelling</i> | October 9, 2012 |
| Technische Universität Darmstadt. <i>Core-Collapse Supernovae Neutrinos</i> | September 17, 2012 |
| CITA gravity meeting (CITA). <i>Core-Collapse Supernovae: Black Holes and Neutrinos</i> | December 6, 2011 |
| CCAPP Seminar (OSU). <i>Black Hole Formation in Failing Core-Collapse Supernovae</i> | November 29, 2011 |
| ITC Seminar (Harvard-Smithsonian CfA). <i>Microphysical Aspects of Core-Collapse Supernovae</i> | November 15, 2011 |
| Astrophysical Transients workshop, (INT, UofW). <i>Microphysical Aspects of Core-Collapse Supernovae</i> | August 4, 2011 |
| MICRA2011 workshop, Perimeter Institute <i>The Role of Collective Neutrino Flavor Oscillations in Core-Collapse Supernova Shock Revival</i> | June 21, 2011 |
| LA-Astro Seminar (Los Alamos National Laboratory). <i>Black Hole Formation in Failing Core-Collapse Supernovae</i> | June 8, 2011 |
| WNPPC08 (Banff, Alberta). <i>Light Elements in Supernovae</i> | February 15-17, 2008 |

Contributed Presentations and Posters

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| Hubble Symposium, STScI. Presentation on <i>Simulating Core Collapse Supernovae in Multiple Dimensions</i> | March 13, 2017 |
| IAUS 331: SN 1987A, 30 years later, (La Réunion Island, France). Presentation on <i>Three dimensional Simulations of Core-Collapse Supernovae in FLASH</i> | February 20-24, 2017 |
| APS April Meeting, (Washington, DC). Presentation on <i>Multidimensional neutrino</i> | January 28-31, 2017 |

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| <i>transport simulations of the core-collapse supernova central engine</i> | |
| APS April Meeting, (Salt Lake City). Presentation on <i>Neutrino Signals from 1D and 2D Core-Collapse Supernovae Simulations</i> | April 15-18, 2016 |
| 18th Workshop on Nuclear Astrophysics, Ringberg Castle. Presentation on <i>Core-Collapse Supernovae with FLASH</i> | March 14-19, 2016 |
| MICRA2015 workshop, Stockholm University. Presentation on <i>Multidimensional Core-Collapse Supernova Simulations with FLASH</i> | August 17-21, 2015 |
| Neutrino Astrophysics and Fundamental Properties (INT 15-2A, UW), Presentation on <i>Explosions & Neutrino Signals in Core-Collapse Supernovae</i> | June 16, 2015 |
| Hubble Symposium, STScI. Presentation on <i>Neutrino Emission in Core-Collapse Supernovae</i> | March 10, 2015 |
| Coherent, (NCSU). Presentation on <i>The Role of Coherent Scattering in Core-Collapse Supernovae</i> | January 11-12, 2015 |
| AAS Winter Meeting, (Seattle). Presentation on <i>Neutrino Emission from Core-Collapse Supernovae</i> | January 4-8, 2015 |
| The r-process: status and challenges workshop, (INT 14-56W, UW). Presentation on <i>LESA in FLASH</i> | July 28, 2014 |
| CASCA 2014, (Quebec). Presentation on <i>Core-Collapse Supernova Explosions</i> | June 8-12, 2014 |
| MICRA2013 workshop (Trento). Presentation on <i>Neutrino Microphysics: Methods, Inputs, CCSN Progenitor Dependence</i> | September 24, 2013 |
| TAUP, (Monterey). Poster on <i>The Diversity of Core-Collapse Supernova Neutrinos</i> | Sept 8-13, 2013 |
| Fifty-One Ergs, (Raleigh). Presentation on <i>Probing Core-Collapse Progenitor Structure with Observations of Neutrinos</i> | May 13-17, 2013 |
| APS April Meeting, (Denver). Presentation on <i>Progenitor Dependence of the Early Neutrino Signal in Core-Collapse Supernova</i> | April 13-16, 2013 |
| Massive, (Minnesota). Presentation on <i>4 CCSNe Observables and What They Can Tell Us About Massive Stars</i> | October 1-3, 2012 |
| SN2012, (Garching). Poster on <i>The Progenitor Dependence of the Preexplosion Neutrino Emission in CCSNe</i> | September 10-14, 2012 |
| Core-Collapse Supernovae: Models and Observable Signals workshop, (INT 12-2A, UW). Presentation on <i>Core-Collapse Supernova Neutrinos</i> | July 3, 2012 |
| IAU Symposium 279: Death of Massive Star: Supernovae & Gamma-Ray Bursts, (Nikko, Japan). Poster on <i>The Arduous Journey to Black-Hole Formation in Potential Gamma-Ray Burst Progenitors</i> | March 12-16, 2012 |
| TASC 11, (UCSB). Presentation on <i>The Role of Collective Neutrino Oscillations in Core-Collapse Supernova Shock Revival</i> | November 4, 2011 |
| APS-DNP Fall Meeting, (MSU). Presentation on <i>Computational Resources for Including Nuclear Physics in Astrophysical Simulations</i> | October 26-29, 2011 |
| MESAFest workshop, (KiTP UCSB), Presentation on <i>Massive star evolution in MESA</i> | May 17-18, 2011 |
| APS April Meeting, (Anaheim). Presentation on <i>Black Hole Formation in Failing Core-Collapse Supernovae</i> | April 30 - May 3, 2011 |
| NIC XI, (Heidelberg). Poster on <i>Thermal Effects on Black Hole Formation in Failed Core-Collapse Supernovae</i> | July 19-23, 2010 |
| HEDLA2010, (Caltech). Poster on <i>Black Hole Formation in Failing Supernovae</i> | March 15-18, 2010 |
| APS April Meeting, (Washington, DC). Presentation on <i>GR1D: An open-source hydro-code for studying stellar collapse and black hole formation</i> | February 13-17, 2010 |
| MICRA2009 workshop, Niels Bohr Institute. Presentation on <i>Black Hole Formation in Failing Core-Collapse Supernovae</i> | August 24-28, 2009 |
| MICRA2009 workshop, Niels Bohr Institute. Presentation on <i>Low Density Nuclear Matter</i> | August 24-28, 2009 |
| AAS214, (Pasadena). Poster on <i>The Formation of Black Holes in Failing Core-Collapse Supernovae</i> | June 7-11, 2009 |
| APS April Meeting, (Denver). Presentation on <i>Black Hole Formation in</i> | May 2-5, 2009 |

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| <i>Failed Supernovae</i> | |
| TASC (UC Irvine). Presentation on <i>Probing Black Hole Formation with GR Hydrodynamics</i> | October 24, 2008 |
| WNPPC07 (Banff, Alberta). Presentation on <i>Low Density Nuclear Matter Equation of State for Supernovae</i> | February 15-17, 2007 |

Summer Schools

Lectured At

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| Kavli Summer Program in Astrophysics: Astrophysics with Gravitational Wave Detections Neils Bohr Institute, Copenhagen, Denmark. 1 lectures on Core-Collapse Supernovae: Neutron Stars, Black Holes, and Gravitational Waves. | July 10-Augst 18, 2017, |
| 2015 International School on Numerical Relativity and Gravitational Waves, Daejeon, South Korea. 3 lectures on Nuclear Astrophysics | July 26-31, 2015 |
| Caltech Gravitational Wave Summer School, Pasadena, USA. 1 lecture on Physics of Core-Collapse Supernovae | July 6-10, 2015 |

Attended

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| WE-Heraeus Summer School on Nuclear Astrophysics in the Cosmos, (GSI & University of Heidelberg), Germany | July 2010 |
| CompSchool2009 (NBI), Copenhagen, Denmark | August 2009 |
| PiTP Summer School (IAS), Princeton, New Jersey, USA | July 2009 |
| TRIUMF Summer School (TRIUMF), Vancouver, Canada | August 2008 |