

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

33 publications in peer reviewed journals (h-index of 26) 4 publications under review
9 Conference proceedings 2 Theses & 1 Book Chapter
35 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 Letters, Physical Review D, Monthly Notices of the Royal Astronomical Society, New Astronomy, Publications of the Astronomical Society of Japan, European Physical Journal A

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

American Physical Society 2009 –

Scientific Outreach

Stockholm University Telescope Viewing - 2018
Astronomy on Tap: Stockholm - Lecture on Massive stars - 2018
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

- Advisor of Stockholm University graduate student
- Advisor of Stockholm University Bachelor project (Spring 2018)
- Shadow Teacher of Gas Dynamics and Stellar Structure and Evolution, Fall 2017, Stockholm University
- Lecturer at 4 summer programs/schools on Nuclear Astrophysics, Supernova, and related topics (2013-2017)
- Co-mentor of Caltech SURF student working on pair-instability supernovae (2010), mentor of NSERC USRA summer student working on neutrino interactions in supernovae (2013), mentor of NCSU undergraduate student working on neutrino scattering in NuLib (2014-2015), Mentor of 2 NCSSM high school students on a 2 week computational project on supernova remnants (2015), co-mentor of student at the Kavli Summer Program in Astrophysics 2017 working on multimessenger signals from rotating core-collapse supernovae.
- 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

- E. O'Connor**, S. Couch, *Two Dimensional Core-Collapse Supernova Explosions Aided by General Relativity with Multi-dimensional Neutrino Transport*, *Astrophys. J.* **854** 63 2018
- 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. Zylberberg, 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

K.-C. Pan, C. Mattes, **E. O'Connor**, S.M. Couch, A. Perego, A. Arcones, *The Impact of Different Neutrino Transport Methods on Multidimensional Core-collapse Supernova Simulations submitted to Journal of Physics G: Focus issue on Core-Collapse Supernovae* arXiv:1806:10030

E. O'Connor, R. Bollig, A. Burrows, S. Couch, T. Fischer, H.-T. Janka, K. Kotake, E. J. Lentz, M. Liebendörfer, O. E. B. Messer, A. Mezzacappa, T. Takiwaki, D. Vartanyan, *Global Comparison of Core-Collapse Supernova Simulations in Spherical Symmetry submitted to Journal of Physics G: Focus issue on Core-Collapse Supernovae* arXiv:1806:04175

W. Brege, M.D. Duez, F. Foucart, M. B. Deaton, J. Caro, D. A. Hemberger, L.E. Kidder, **E. O'Connor**, H.P. Pfeiffer, M. A. Scheel, *Black hole-neutron star mergers using a survey of finite-temperature equations of state submitted to PRD* arXiv:1804.09823

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

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. Sperhake, 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

Extreme-scale Simulation of Supernovae and Magnetars from Realistic Progenitors PI: Sean Couch, Co-PI: Evan O'Connor + 4 others. Award: 159 million processor hours on MIRA and Theta at Argonne National Lab for the calendar year 2018.

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

Shocking Supernovae, Stockholm, <i>Core-Collapse Supernova Simulations</i>	May 28, 2018
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: Neutrinos and Explosions!</i>	February 17, 2016
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* Simulating the Supernova Neutrinosphere with Heavy Ion Collisions <i>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* Neutron-rich Matter and Neutron Stars. <i>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

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 transport simulations of the core-collapse supernova central engine</i>	January 28-31, 2017
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 Failed Supernovae</i>	May 2-5, 2009
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

Physics of Macronovae, Stockholm, Sweden 2 lectures on Eulerian Hydrodynamics	June 12-20, 2018
Kavli Summer Program in Astrophysics: Astrophysics with Gravitational Wave Detections Niels Bohr Institute, Copenhagen, Denmark. 1 lectures on Core-Collapse Supernovae: Neutron Stars, Black Holes, and Gravitational Waves.	July 10-August 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

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