

## CURRICULUM VITAE: PATRICK BRADY

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### Mailing address:

Department of Physics,  
University of Wisconsin - Milwaukee,  
P.O. Box 413, Milwaukee WI 53201

### Degrees:

Ph.D.        Theoretical Physics. (University of Alberta, Canada. 1994)  
M.Sc.        Mathematical Physics. (University College Dublin. 1989)  
B.Sc.        Mathematical Science. (University College Dublin. 1988)

### Academic Employment:

2007-        Professor of Physics, UWM  
2004-2007   Associate Professor of Physics, UWM  
1999-2004   Assistant Professor of Physics, UWM  
1998-1999   Research Associate, Institute for Theoretical Physics, U. C. Santa Barbara  
1995-1998   Prize Fellow, California Institute of Technology  
1993-1995   Research Associate, University of Newcastle, England

### Awards:

2006        Graduate School/UWM Foundation Research Award  
2002-2007   Cottrell Scholar  
2002-2006   Sloan Research Fellow  
1993        Izaak Walton Killam Memorial Scholarship, University of Alberta  
1993        Andrew Stewart Memorial Prize, University of Alberta  
1990        Recruitment Scholarship, University of Alberta  
1989        Eolas Basic Research Award for study in Ireland  
1988        Scholarship in Mathematical Science, University College, Dublin.

### Grants Awarded:

2007-(2010) *National Science Foundation, Gravity Program, PHY-0701817*  
Amount: \$1,380,000  
Investigators: B. Allen, P. Brady, J. Creighton, M. Papa and A. Wiseman

2006-(2011) *National Science Foundation, Physics at the Information Frontier, PHY-0600953*  
Amount: \$7,750,000 (approx 50% will remain at UWM)  
Investigators: P. R. Brady, J. D. Creighton, L. S. Finn, E. Katsavounidis, A. Lazzarini

2004-(2008) *National Science Foundation, Major Research Instrumentation, PHY-0421416*  
Amount: \$1,444,972  
Investigators: B. Allen, P. Brady, J. Creighton, S. Koranda and A. Wiseman

2003-(2008) *National Science Foundation, Information Technology Research, PHY-0326281*  
Via subcontract from MIT, Amount: \$847,000  
Investigators: B. Allen, P. Brady, J. Creighton (co-I), S. Koranda and A. Wiseman

2002-2007   *National Science Foundation, Gravity Program, PHY-0200852*

- Amount: \$2,300,000  
 Investigators: B. Allen, P. Brady, J. Creighton, S. Koranda and A. Wiseman  
 2001-(2006) *National Science Foundation, Information Technology Research*  
 Via subcontract from U. Florida, Amount: \$932,000  
 Investigators: B. Allen, P. Brady, J. Creighton, S. Koranda and A. Wiseman  
 2000-2003 *National Science Foundation, Major Research Instrumentation, PHY-0079638*  
 Amount: \$415,326  
 Investigators: B. Allen, P. Brady and A. Wiseman  
 1999-2002 *National Science Foundation, Gravity Program, PHY-9970821*  
 Amount: \$168,908  
 Investigators: P. Brady  
 1999 *Forbairt international collaboration grant, Republic of Ireland*  
 Investigators: P. Brady and A. Ottewill  
 1996 *Forbairt international collaboration grant, Republic of Ireland*  
 Investigators: P. Brady and A. Ottewill

**Professional:**

- 2004- Chair, (LSC) Data Analysis Software Working Group  
<http://www.lsc-group.phys.uwm.edu/daswg>  
 1999- Reviewer for Austrian Science Fund, Israeli Science Foundation, NASA and  
 National Science Foundation.  
 1993- Referee for Physical Review Letters, Physical Review D, Classical and  
 Quantum Gravity, and Monthly Notices of the Royal Astronomical Society.  
 2005 External examiner on PhD by Jakob Hansen, University of Copenhagen  
 2005 Member of LIGO Scientific Collaboration (LSC) Committee on next LIGO  
 Director  
 2004-2005 Member of LSC MOU review committee  
 2004-2006 Member, LSC Executive Committee  
 2002-2005 Secretary/Treasurer APS Topical Group on Gravitation  
 2002 *Task Group for an NSF/NASA Computational Effort in Gravitational Wave  
 Science*. Committee member.  
 2000-2008 Co-chair of the LSC Inspiral Analysis Group  
<http://www.lsc-group.phys.uwm.edu/ligovirgo/cbc>

**Graduate students:**

- 2006- Nick Fotopoulos (joint with J. Creighton), University of Wisconsin-Milwaukee.  
 Project Title: *TBD*  
 2005- Rahul Biswas, University of Wisconsin-Milwaukee.  
 Project Title: *TBD*  
 2005-2007 Wei Yan, University of Wisconsin-Milwaukee (MS May 2007)  
 2002-2006 Saikat Ray-Majumder, University of Wisconsin-Milwaukee (PhD: May 2006)  
 Project Title: *Searching for gravitational wave bursts*  
 1999-2004 Duncan Brown, University of Wisconsin-Milwaukee. (PhD: Sept 2004)  
 Project Title: *Search for gravitational waves from MACHO binaries.*

**Undergraduate research projects:**

- 2006 Sean Sweetnam, Carleton College  
*Effects of spin on detection of coalescing compact binaries with LIGO*
- 2003 Denny Mackin, University of Wisconsin-Milwaukee  
*Verification of excess-power search code using hardware injections*
- 2002 Mark Williamsen, University of Wisconsin-Milwaukee. (with Jolien Creighton)  
*Median estimators for noise spectra in gravitational-wave detection*
- 2001 Jon D. Stone, University of Wisconsin-Milwaukee  
*Gravitational wave demonstrations*
- 1998-1999 David Farnham, California Institute of Technology  
*Evolving the Riemann tensor via first-order hyperbolic equations*
- 1996-1997 Mike J Cai, California Institute of Technology  
*Critical phenomena in the gravitational collapse of perfect fluids*

**Postdocs advised:**

- 2007- Jessica Hodges, University of Wisconsin-Milwaukee
- 2007- Ruslan Vaulin, University of Wisconsin-Milwaukee
- 2004-2007 Kipp Cannon, University of Wisconsin-Milwaukee  
Now: Postdoctoral Researcher, Caltech
- 2003-2006 Stephen Fairhurst, University of Wisconsin-Milwaukee  
Now: Lecturer and Royal Society Fellow, Cardiff University
- 2003-2006 Eirini Messaratiki, University of Wisconsin-Milwaukee  
Now: Editor at Institute of Physics Publishing
- 2000-2001 Zeferino Andrade, University of Wisconsin-Milwaukee  
Transferred into computer science
- 1999-2001 Teviet Creighton, University of Wisconsin-Milwaukee  
Now: Asst. Professor at University of Texas at Brownsville

**Courses Taught:**

- 2007 745-717: General Relativity
- 2006 745-711: Classical Dynamics  
188-103-402: Astronomy 103
- 2005 745-711: Classical Dynamics  
745-732: Quantum Field Theory II
- 2004 745-731: Quantum Field Theory I
- 2003 188-103-401: Astronomy 103  
188-103-402: Astronomy 103
- 2002 745-441: Quantum Physics  
188-103-401: Astronomy 103  
188-103-402: Survey of Astronomy
- 2001 745-441: Quantum Physics  
188-103-402: Survey of Astronomy
- 2000 745-717: General Relativity  
745-517: Special Relativity

1999 745-817: Advanced Topics in Gravitation

**Reading courses and special instruction:**

2002 Charles Vento. Advanced Reading in Modern Astronomy  
2001 Duncan Brown. Reading course in Advanced General Relativity

**Service:**

1999-pres Committee member for 4 doctoral students in Physics.  
2004-2006 Academic Graduate Committee, Salary Committee, Webmaster  
2003-2004 Academic Graduate Committee, Astronomy Committee, Webmaster  
2002-2003 Academic Graduate Committee, Astronomy Committee, Webmaster  
2001-2002 Academic Graduate Committee, Astronomy Committee,  
Graduate Financial Committee, Faculty Search Committee  
2000-2001 Academic Graduate Committee (Chair), Astronomy Committee,  
Long Range Planning Committee  
1999-2000 Academic Graduate Committee, Astronomy Committee

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**Publications:**

Brady made direct contributions to the papers by the LIGO Scientific Collaboration (LSC) marked with (\*). These contributions include developing aspects of the analyses, writing major parts of the papers, running the searches, and guiding students or postdocs who were lead authors on the papers.

66. (\*) B. Abbott *et al.* [LIGO Scientific Collaboration], “*Implications for the Origin of GRB 070201 from LIGO Observations*”, accepted by Ap. J. [arXiv:0711.1163].
65. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Search of S3 LIGO data for gravitational wave signals from spinning black hole and neutron star binary inspirals*”, submitted to Phys. Rev. D. [arXiv:0712.2050].
64. R. Biswas, P. R. Brady, J. D. E. Creighton, and S. Fairhurst, “*The Loudest Event Statistic: General Formulation, Properties and Applications*”, submitted to Class. Quantum Grav. [arXiv:0710.0465].
63. L. Baggio *et al.* [AURIGA Collaboration] and B. Abbott *et al.* [LIGO Scientific Collaboration], “*A Joint Search for Gravitational Wave Bursts with AURIGA and LIGO*”, submitted [arXiv:0710.0497].
62. B. Abbott *et al.* [LIGO Scientific Collaboration], “*All-sky search for periodic gravitational waves in LIGO S4 data*”, Phys. Rev. D **77**, 022001 (2008) [arXiv:0708.3818].
61. S. Fairhurst and P. Brady, “*Interpreting the results of searches for gravitational waves from coalescing binaries*”, submitted to Class. Quantum Gravity [arXiv:0707.2410].
60. Ravi Kumar Kopparapu *et al.*, “*Host galaxies catalog used in LIGO searches for compact binary coalescence events*”, submitted to Ap. J. [arXiv:0706.1283].
59. B. Abbott *et al.* [LIGO Scientific Collaboration], “*All-sky search for periodic gravitational waves in LIGO S4 data*”, Phys. Rev. D **77**, 022001 (2008) [arXiv:0708.3818].
58. (\*) B. Abbott *et al.* [LIGO Scientific Collaboration], “*Search for gravitational waves from binary inspirals in S3 and S4 LIGO data*”, submitted to Phys. Rev. D..
57. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Upper limit map of a background of gravitational waves*”, Phys. Rev. D **76**, 082003 (2007) [arXiv:astro-ph/0703234].
56. B. Abbott *et al.* [LIGO Scientific Collaboration and ALLEGRO Collaboration], “*First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds*”, Phys. Rev. D **76**, 022001 (2007) [arXiv:gr-qc/0703068].
55. Thomas Baumgarte, Patrick Brady, Jolien D E Creighton, Luis Lehner, Frans Pretorius, Ricky DeVoe, “*Learning about compact binary merger: the interplay between numerical relativity and gravitational-wave astronomy*”, accepted by Phys. Rev. D.
54. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Searching for a stochastic background of gravitational waves with LIGO*”, Astrophys. J **659**, 918 (2007) [arXiv:astro-ph/0608606].

53. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Coherent searches for periodic gravitational waves from unknown isolated sources and Scorpius X-1: Results from the second LIGO science run*”, Phys. Rev. D **76**, 082001 (2007) [arXiv:gr-qc/0605028].
52. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Search for gravitational wave radiation associated with the pulsating tail of the SGR 1806 – 20 hyperflare of 27 December 2004 using LIGO*”, Phys. Rev. D **76**, 062003 (2006).
51. (\*) B. Abbott *et al.* [LIGO Scientific Collaboration], “*Joint LIGO and TAMA300 search for gravitational waves from inspiralling neutron star binaries*”, Phys. Rev. D **73**, 102002 (2006) [arXiv:gr-qc/0512078].
50. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Search for gravitational wave bursts in LIGO’s third science run*”, Class. Quant. Grav. **23**, S29 (2006) [arXiv:gr-qc/0511146].
49. (\*) B. Abbott *et al.* [LIGO Scientific Collaboration], “*Search for gravitational waves from binary black hole inspirals in LIGO data*”, Phys. Rev. D **73**, 062001 (2006) [arXiv:gr-qc/0509129].
48. B. Allen, W. G. Anderson, P. R. Brady, D. A. Brown and J. D. E. Creighton, “*FINDCHIRP: An algorithm for detection of gravitational waves from inspiraling compact binaries*”, submitted to Class. Quantum Grav. [arXiv:gr-qc/0509116].
47. B. Abbott *et al.* [LIGO Scientific Collaboration], “*First all-sky upper limits from LIGO on the strength of periodic gravitational waves using the Hough transform*”, Phys. Rev. D **72**, 102004 (2005) [arXiv:gr-qc/0508065].
46. B. Abbott *et al.* [TAMA Collaboration], “*Upper limits from the LIGO and TAMA detectors on the rate of gravitational-wave bursts*”, Phys. Rev. D **72**, 122004 (2005) [arXiv:gr-qc/0507081].
45. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Upper limits on a stochastic background of gravitational waves*”, Phys. Rev. Lett. **95**, 221101 (2005) [arXiv:astro-ph/0507254].
44. (\*) B. Abbott *et al.* [LIGO Scientific Collaboration], “*Search for gravitational waves from primordial black hole binary coalescences in the galactic halo*”, Phys. Rev. D **72**, 082002 (2005) [arXiv:gr-qc/0505042].
43. (\*) B. Abbott *et al.* [LIGO Scientific Collaboration], “*Search for gravitational waves from galactic and extra-galactic binary neutron stars*”, Phys. Rev. D **72**, 082001 (2005) [arXiv:gr-qc/0505041].
42. B. Abbott *et al.* [LIGO Scientific Collaboration], “*Upper limits on gravitational wave bursts in LIGO’s second science run*”, Phys. Rev. D **72**, 062001 (2005) [arXiv:gr-qc/0505029].
41. B. Abbott *et al.* [LIGO Scientific Collaboration], “*A search for gravitational waves associated with the gamma ray burst GRB030329 using the LIGO detectors*”, Phys. Rev. D **72**, 042002 (2005) [arXiv:gr-qc/0501068].

40. L. Blackburn, et al. (The joint LIGO/Virgo working group), “*A first comparison of search methods for gravitational wave bursts using LIGO and Virgo simulated data*”, *Class. Quant. Grav.* **22**, S1293 (2005) [arXiv:gr-qc/0504060].
39. L. Blackburn, et al. (The joint LIGO/Virgo working group), “*A First Comparison Between LIGO and Virgo Inspiral Search Pipelines*”, *Class. Quant. Grav.* **22**, S1149 (2005) [arXiv:gr-qc/0504050].
38. B. Abbott, et al. (LIGO Scientific Collaboration), “*Limits on gravitational wave emission from selected pulsars using LIGO data*”, *Phys. Rev. Lett.* **94**, 181103 (2005) [arXiv:gr-qc/0410007].
37. D. A. Brown, et al., “*Searching for gravitational waves from binary inspirals with LIGO*”, *Class. Quant. Grav.* **21**, S1625 (2004).
36. P. J. Sutton, M. Ando, P. R. Brady, L. Cadonati et al, “*Plans for the LIGO-TAMA joint search for gravitational wave bursts*”, *Class. Quantum Grav.* **21**, S1801-S1807 (2004). [arXiv:gr-qc/0412123].
35. P. R. Brady and S. Ray-Majumder, “*Incorporating source-modeling information into searches for gravitational-wave bursts*”, *Class. Quantum Grav.* **21**, S1839-S1847 (2004), [arXiv:gr-qc/0405036].
34. P. R. Brady, J. D. E. Creighton and A. G. Wiseman, “*Upper limits on gravitational-wave signals based on loudest events*”, *Class. Quantum Grav.* **21**, S1775-S1781 (2004), [arXiv:gr-qc/0405044].
33. B. Abbott, et al. (LIGO Scientific Collaboration), “*Analysis of First LIGO Science Data for Stochastic Gravitational Waves*”, *Phys. Rev. D* **69**, 122004 (2004). [arXiv:gr-qc/0312088].
32. B. Abbott, et al. (LIGO Scientific Collaboration), “*First upper limits from LIGO on gravitational wave bursts*”, *Phys. Rev. D* **69**, 102001 (2004). [arXiv:gr-qc/0312056].
31. (\*) B. Abbott, et al. (LIGO Scientific Collaboration), “*First analysis of LIGO data for binary neutron star coalescence*”, *Phys. Rev. D* **69**, 122001 (2004). [arXiv:gr-qc/0308069].
30. B. Abbott, et al. (LIGO Scientific Collaboration), “*Upper Limit on the Strength of Continuous Gravitational Waves Using the First Science Data from GEO and LIGO*”, *Phys. Rev. D* **69**, 082004 (2004). [arXiv:gr-qc/0308050].
29. B. Abbott, et al. (LIGO Scientific Collaboration), “*The LIGO detectors during the first science run*”, *Nucl. Instrum. Methods* **A517**, 154 (2004), [arXiv:gr-qc/0308043].
28. Patrick R Brady, Mathew W Choptuik, Carsten Gundlach and David Nielsen, “*Black-hole threshold solutions in stiff fluid collapse*”, *Class. Quant. Grav.* **19**, 6359-6376 (2002), [arXiv:gr-qc/0207096].

27. Warren G Anderson, Patrick R Brady, Jolien Creighton and Eanna E Flanagan, “*An excess power statistic for detection of burst sources of gravitational radiation*”, Phys. Rev. D **63**, 042003 (2001), [arXiv:gr-qc/0008066].
26. Warren G Anderson, Patrick R Brady, Jolien Creighton and Eanna E Flanagan, “*A power filter for the detection of burst sources of gravitational radiation in interferometric detectors*”, Int. J. Mod. Phys. **D9**, 303 (2000), [arXiv:gr-qc/0001044].
25. Patrick R Brady and Teviet Creighton, “*Searching for periodic sources with LIGO. II: Hierarchical searches*”, Phys. Rev. D **61**, 082001 (2000), [arXiv:gr-qc/9812014].
24. B. Allen, K. Blackburn, P. Brady, J. Creighton, T. Creighton, S. Droz, A. Gillespie, S. Hughes, S. Kawamura, T. Lyons, J. Mason, B. J. Owen, F. Raab, M. Regehr, B. Sathyaprakash, R. L. Savage, S. Whitcomb, A. Wiseman, “*Observational limit on gravitational waves from binary neutron stars in the Galaxy*”, Phys. Rev. Letters, **83**, 1498 (1999), [arXiv:gr-qc/9903108].
23. Patrick R Brady, Chris M Chambers, William G Larrackers and Eric Poisson, “*Radiative falloff in Schwarzschild-de Sitter spacetime*”, Phys. Rev. D **60**, 064003 (1999), [arXiv:gr-qc/9902010].
22. Patrick R Brady, Jolien Creighton and Kip S Thorne, “*Computing the merger of black-hole binaries: the IBBH problem*”, Phys. Rev. D **58**, 061501 (1998), [arXiv:gr-qc/9804057].
21. Patrick R Brady, Serge Droz, and Sharon M Morsink, “*The late time singularity inside non-spherical black holes*”, Phys. Rev. D **58**, 084034 (1998), [arXiv:gr-qc/9805008].
20. Patrick R Brady and Adrian C Ottewill, “*Quantum corrections to critical phenomena in gravitational collapse*”, Phys. Rev. D **58**, 024006 (1998), [arXiv:gr-qc/9804058].
19. Patrick R Brady, Robert C Myers and Ian G Moss, “*Cosmic censorship: as strong as ever*”, Phys. Rev. Letters **80**, 3432 (1998), [arXiv:gr-qc/9801032].
18. Patrick R Brady, Teviet Creighton, Curt Cutler and Bernard Schutz, “*Searching for periodic sources with LIGO*”, Phys. Rev. D **57**, 2101 (1998), [arXiv:gr-qc/9702050].
17. Patrick R Brady, Chris M Chambers and Sérgio Gonçalves, “*Phases of massive scalar field collapse*”, Phys. Rev. D **56**, R6057 (1997), [arXiv:gr-qc/9709014].
16. Patrick R Brady and Scott Hughes, “*A neutron star is unaffected by a companion at order  $\mu/R$* ”, Phys. Rev. Letters **79**, 1186-1188 (1997).
15. Patrick R Brady, Chris Chambers, William Krivan and Pablo Laguna, “*Telling tails in the presence of a cosmological constant*”, Phys. Rev. D **55**, 7538-7545 (1997).
14. Patrick R Brady, Serge Droz, Werner Israel and Sharon M Morsink, “*Double null dynamics: (2+2)-splitting of the Einstein field equations*”, Class. and Quantum Grav. **13**, 2211-2230 (1996).

13. Patrick R Brady and John D Smith, “*Black hole singularities: a numerical approach*”, Phys. Rev. Letters **75**, 1256 (1995).
12. Patrick R Brady and Chris M Chambers, “*Non-linear instability of Kerr-type Cauchy horizons*”, Phys. Rev. D**51**, 4177 (1995).
11. Patrick R Brady, “*Self-similar scalar field collapse: naked singularities and critical behavior*”, Phys. Rev. D**51**, 4168 (1995).
10. Roberto Balbinot and Patrick R Brady, “*Inside two dimensional black holes*”, Class. Quantum Grav. **11**, 1763-1773 (1994).
9. Patrick R Brady, “*Analytic example of critical behavior in scalar field collapse*”, Class. Quantum Grav. **11**, 1255-1260 (1994).
8. Patrick R Brady, Dario Nunez and Sukhanya Sinha, “*Cauchy horizon singularity without mass inflation*”, Phys. Rev. D**47**, 4239-4243 (1993).
7. Claude Barrabès, Patrick R Brady and Eric Poisson, “*The death of white holes*”, Phys. Rev. D**47**, 2383-2387 (1993).
6. Warren G Anderson, Patrick R Brady and Roberto Camporesi, “*Vacuum polarization and the black hole singularity*”, Class. Quantum Grav. **10**, 497-503 (1993).
5. Warren G Anderson, Patrick R Brady, Werner Israel and Sharon Morsink, “*Quantum effects in black hole interiors*”, Phys. Rev. Letters **70**, 1041-1044 (1993).
4. Patrick R Brady, “*Stability of Tension Stars*”, Mon. Notices Roy. Astron. Soc.(1992) **255**, 379-381.
3. Patrick R Brady and Eric Poisson, “*Cauchy horizon instability for Reissner-Nordstrom black holes in de Sitter space*”, Class. Quantum Grav., **9**, 121-126 (1992).
2. Roberto Balbinot, Patrick R Brady, Werner Israel and Eric Poisson, “*How singular are black hole interiors?*”, Phys. Lett. **161A**, 223-226 (1991).
1. Patrick R Brady, Jorma Louko and Eric Poisson, “*Stability of a shell around a black hole*”, Phys. Rev. D**44**, 1891-1894 (1991).

**Books and monographs:**

2. Duncan A. Brown, Patrick R. Brady, Alexander Dietz, Junwei Cao, Ben Johnson, and John McNabb, “*A Case Study on the Use of Workflow Technologies for Scientific Analysis: Gravitational Wave Data Analysis*”, in Ewa Deelman, Dennis Gannon, Matthew Shields, and Ian Taylor, Eds., *Workflows for eScience*, (Springer-Verlag, 2006)..
1. Patrick Brady and Jolien Creighton (Invited Contribution), “*Gravitational Wave Astronomy*”, in *Encyclopedia of Physical Science and Technology*, (Academic Press, 2001)..

**Technical Reports:**

9. LSC Analysis Committee for LIGO Scientific Collaboration, “*The 2006-2007 Data Analysis White paper of the LIGO Scientific Collaboration*”, LIGO technical report LIGO-T0600XX-00-Z (2006).
8. Burst Working Group, “*Upper limits on the rate of burst sources of gravitational waves*”, LIGO technical report LIGO-T030053-00-Z (2003).
7. Pulsar Working Group, “*Methods to Establish Upper Limits on the Gravitational Wave Amplitude of Continuous Gravitational Waves*”, LIGO technical report LIGO-T020186-00-Z (2002).
6. Inspirial Working Group, “*Determine Upper Limits on Event Rates for Inspiralling Compact Binaries with LIGO Engineering Data*”, LIGO technical report LIGO-T010025-00-Z (2001).
5. Stuart Anderson, Warren Anderson, Kent Blackburn, Patrick Brady, Duncan Brown, Philip Charlton, Jolien Creighton, T. Creighton, L. Samuel Finn, Joe Romano, Daniel Sigg, John T. Whelan, Alan Wiseman, and John Zweizig, “*Conventions for data and software products of the LIGO and the LSC*”, LIGO technical report LIGO-T010095-00-Z (2001).
4. Kent Blackburn, Patrick Brady, Duncan Brown, Jolien Creighton, Albert Lazzarini and Alan Wiseman, “*LAL-LDAS Interface Coding Specification*”, LIGO technical report LIGO-T010003-00-E (2001).
3. Warren Anderson, Masha Barnes, Kent Blackburn, Patrick Brady, Duncan Brown, Jolien Creighton, T. Creighton, Philip Ehrens, Albert Lazzarini, Isaac Salzman and Alan Wiseman, “*MPI Mock Data Challenge*”, LIGO technical report LIGO-T010024-00-Z (2001).
2. Warren Anderson, Patrick Brady, David Chin, Jolien Creighton, Keith Riles and John Whelan, “*Beam Pattern Response Functions and Times of Arrival for Earthbound Interferometers*”, LIGO technical report LIGO-T010110-00-Z (2001).
1. Bruce Allen and Patrick Brady, “*Quantization noise in LIGO interferometers*”, LIGO technical report LIGO-T970128-01-E (1997).

**Conference proceedings and abstracts:**

10. F. Beauville *et al.*, “*Benefits of joint LIGO - Virgo coincidence searches for burst and inspiral signals*”, J. Phys. Conf. Ser. **32**, 212 (2006) [arXiv:gr-qc/0509041].
9. Patrick Brady for the LIGO Scientific Collaboration, “*Upper Limits on binary inspiral signals using LIGO S1 Data*”, Bulletin of the American Physical Society, April 2003.
8. Patrick Brady (Invited Paper), “*Analysis of data from interferometric gravitational-wave detectors*”, in *High Frequency Gravitational-wave Detection*, Proceedings of SPIE Vol. 4856 (2002).
7. Patrick Brady (Invited Abstract), “*Detecting gravitational-waves from precessing neutron stars*”, Bulletin of the American Physical Society, April 2003.

6. Patrick R Brady (Invited Paper), “*Gravitational wave data analysis in the LIGO Scientific Collaboration*”, in *Astrophysical Sources of Gravitational Radiation for Ground-Based Detectors*, edited by Joan Centrella (2001).
  5. Patrick Brady (Invited Abstract) , “*Gravitational-wave data analysis with LIGO*”, Bulletin of the American Physical Society, April 2001.
  4. Patrick R Brady (Invited Paper), “*The internal structure of black holes*”, Prog. Theor. Phys. Suppl. **136** (1999).
  3. Patrick R Brady and Mike J Cai (Invited Paper), “*Critical phenomena in gravitational collapse*”, Invited contribution to proceedings of Marcel Grossmann Eight, 21–27 June 1998, Jerusalem, [arXiv:gr-qc/9812071].
  2. Patrick R Brady, “*Self-similar gravitational collapse*”, talk given at Conference on Mathematical Relativity, Vienna, Austria (1994).
  1. Patrick R Brady, “*Semi-classical effects near mass-inflation singularities*”, in Proceedings of 5th Canadian Conference on General Relativity and Relativistic Astrophysics (1993).
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**Talks and conferences**

27. Invited Chair/Speaker “Gravitational-wave astronomy” at *11th Japanese-American Frontiers of Science Meeting*, Shonan Village Center, Japan. December 2007.
26. Invited lecturer. “Gravitational-wave astronomy and detection” at *TIARA Winter School*, Taiwan. January 2007.
25. Invited talk. “Gravitational-wave astronomy” at *Black Holes VI*, White Point, Nova Scotia, Canada. May 2007.
24. Invited talk. “LIGO Observational Results” at *2nd Workshop On TeV Particle Astrophysics*, Madison, Wisconsin. August 2006.
23. Invited talk. “LIGO Observational Results I” at *April APS Meeting*, Dallas. April 2006.
22. Chair. Session on “Earth-based Gravitational-wave Detectors” at *April APS Meeting*, Tampa, Florida. April 2005
21. Invited talk. “How will theory, observation and instrument development interact within the field?” at *Gravitational Wave Astronomy: Imagining the Future*, Center for Gravitational-Wave Physics, Penn State University. October 2004
20. Invited talk. “LSC Data Analysis” at *LISA Symposium*, Noordwijk. July 2004
19. Invited talk. “The LSC Data Grid” at *Condor Conference*, Madison. April 2004.
18. Invited talk. “Searching for gravitational waves with LIGO” at workshop on *Gravitational Interaction of Compact Objects*, KITP, University of California-Santa Barbara. May 2003.
17. Invited talk. “Analysis of data from earth-based interferometric gravitational wave detectors” at *Workshop on Astrophysical Sources of Gravitational Waves*, University of Maryland. April 2003.
16. Contributed talk. “Upper Limits on binary inspiral signals using LIGO S1 Data” at *April APS Meeting*, Philadelphia. April 2003.
15. Invited talk. “Analysis of data from interferometric gravitational-wave detectors” at *SPIE conference on High Frequency Gravitational-wave Detection*, Hawaii. August 2002.
14. Invited lecturer. “Gravitational collapse and spacetime singularities” at *X Brazilian School on Cosmology and Gravitation*, Mangaratiba, Brazil. August 2002
13. Invited talk. “Detecting gravitational-waves from precessing neutron stars” *April APS Meeting*, Albuquerque. April 2002.
12. Chair. Parallel session on “Sources of Gravitational Waves.” *GR16*, Durban, South Africa. July 2001.

11. Invited talk. “Gravitational-wave data analysis with LIGO” *American Physical Society Meeting*, Washington DC. April 2001.
10. Invited talk. “Gravitational-wave data analysis in the LIGO Scientific Collaboration” at *Workshop on Astrophysical Sources of Gravitational Waves*, Drexel University. October 2000.
9. Invited talk. “R-modes: prospects for detection” at *R-modes in Relativistic Stars*, ITP, University of California-Santa Barbara. August 2000.
8. Contributed talk. “Point splitting regularization of radiation reaction forces” at *Third Capra Meeting on Radiation Reaction*, California Institute of Technology. June 2000.
7. Invited talk. “The internal structure of black holes” at *Gravitational Waves and Black Holes*, Yukawa Institute, Kyoto Japan. July 1999.
6. Invited talk. “Sounds of the Universe: what might we hear via gravitational waves?” at *The Dark Ages:  $5 < z < 1000$* , CIAR Cosmology Program, Newfoundland, Canada. May 1998.
5. Chair of parallel session on “Critical phenomena in gravitational collapse” at *Marcel Grossman 8*, Jerusalem, Israel. June 1997.
4. Contributed talk. “Detection of periodic sources of gravitational waves with LIGO” at *Gravitational Waves*, Aspen, Colorado. January 1997.
3. Contributed talk. “Algorithms for the detection of continuous wave sources with LIGO” at *Gravitational Waves*, Aspen, Colorado. January 1996.
2. Invited talk. “Singularities in self-similar scalar field collapse” at *Workshop on Gravitational Collapse*, IUCAA, June, India. December 1995.
1. Invited talk. “Singularities in self-similar scalar field collapse” at *Mathematical Relativity*, Schrodinger Institute, Vienna, Austria. June 1995.

### Conference organization

11. Scientific Organizing Committee. *Numerical relativity meets data analysis*, KITP, Santa Barbara. January 2008.
10. Scientific Organizing Committee. *12th Gravitational Wave Data Analysis Workshop*, Massachusetts Institute of Technology. December 2007.
9. Scientific Organizing Committee. *11th Gravitational Wave Data Analysis Workshop*, Potsdam, Germany. December 2006.
8. Scientific Organizing Committee. *Numerical Relativity meets Data Analysis*, Massachusetts Institute of Technology. November 2006.
7. Scientific Organizing Committee. *8th Gravitational Wave Data Analysis Workshop*, University of Wisconsin-Milwaukee. December 2003.

6. Scientific Organizing Committee. *Gravitational Wave Phenomenology Workshop*, Center for Gravitational Wave Phenomenology, Penn State University. November 2003.
5. Scientific Organizing Committee. *Workshop on Radiation Reaction*, Center for Gravitational Wave Phenomenology, Penn State University. November 2002.
4. Scientific Organizing Committee. *Gravitational Wave Phenomenology Workshop*, Center for Gravitational Wave Phenomenology, Penn State University. November 2001.
3. Scientific Organizing Committee. *Gravitational Wave Data Analysis Workshop*, Louisiana State University. December 2000.
2. Organizer. *Black Holes and Gravitational Waves*, Dublin, Ireland. Co-organizer with Adrian C Ottewill. August 1999.
1. Organizer. *Workshop on Binary Black Hole Coalescence*, Caltech. Co-organizer with Scott A Hughes. July 1996.

### Seminars and Colloquia

17. Colloquium: *Ripples in Spacetime: Searching for gravitational waves with LIGO*. Dept of Physics and Astronomy, Florida State University (March 2005).
16. Seminar: *Searching for gravitational waves with LIGO*. Dept of Physics and Astronomy, University of Florida - Gainesville (October 2004).
15. Colloquium: *Ripples in spacetime: searching for gravitational waves with LIGO*. Dept. of Physics and Astronomy, Ohio University (October 2003).
14. Seminar: *Searching for gravitational waves with LIGO*. Dept of Physics, University of Wisconsin - Madison (September 2003).
13. Seminar: *Searching for gravitational waves with LIGO*. Canadian Institute for Theoretical Astrophysics, University of Toronto (April 2003).
12. Seminar: *Black hole binaries in the co-rotating frame: techniques in a toy problem*. Theoretical Astrophysics, California Institute of Technology (July 2002).
11. Colloquium: *Ripples in spacetime: Gravitational-wave astronomy and what it might tell us*. Dept. of Physics and Astronomy, University of North Carolina (October 2001).
10. Colloquium: *Cosmic censorship: what's the problem?*. Physics Department, Drexel University (May 2000).
9. Seminar: *Gravitational-wave astronomy: a new challenge for theorists*. Dept. of Physics and Astronomy, University of Illinois (May 2000).
8. Seminar: *Gravitational-wave astronomy: a new challenge for theorists*. Dept of Physics, University of Chicago (April 2000).

7. Seminar: *Gravitational-wave astronomy: a new challenge for theorists*. Center for Gravitational Physics, Pennsylvania State University (April 2000).
6. Colloquium: *Ripples in spacetime: gravitational wave astronomy and what it might tell us*. Dept of Physics, University of Alberta (September 1998).
5. Seminar: *Cosmic censorship: what's the problem?*. Dept of Physics, University of Wisconsin-Milwaukee (April 1998).
4. Colloquium: *Cosmic Censorship: what's the problem?*. Dept of Physics, University of Montana at Bozeman (March 1998).
3. Seminar: *Numerical relativity in a co-rotating frame*. Dept of Applied Mathematics, Southampton University (December 1997).
2. Seminar: *Cosmic censorship and critical phenomena*. Dept of Physics, University of California-Santa Barbara (December 1997).
1. Seminar: *Gravitational waves from binary black holes*. Binary Black Hole Grand Challenge meeting, Los Alamos (October 1997).

**Public Lectures, outreach, etc:**

6. Public lecture. *Ripples in spacetime: Einstein's outstanding prediction*, Edgewood College, Madison, Wisconsin (Mar 2005).
5. Interview and quoted in *Dear Albert: You Were Right* by Steven Potter, Shepherd Express (2 January 2003).
4. Interview and quoted in *Tuning in to Einstein* by Charles W. Petit, US News and World Report (14 January 2002).
3. Public lecture. *Ripples in spacetime: Gravitational-wave astronomy and what it might tell us*, to Milwaukee Astronomical Society (October 2000).
2. Public lecture. *Ripples in spacetime: Gravitational-wave astronomy and what it might tell us*, to Physics Club of Milwaukee (May 2000).
1. Educational posters. Development of educational poster set describing gravitational waves. These posters were displayed at the *American Physical Society* centennial meeting. They are also displayed in the Physics Dept. at UWM, at the LIGO laboratories, and at a number of other universities around the country (1999).