Thomas W. Baumgarte

Curriculum Vitae

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Education

Doctorate: Ludwig-Maximilians-Universität München (thesis prepared at Cornell University, Ithaca, NY)	Nov. 1995
Diplom: Ludwig-Maximilians-Universität München (thesis prepared at Max-Planck-Institut für Astrophysik, Garching, Germany)	April 1993

Appointments

William R. Kenan Jr. Professor of Physics, Bowdoin College	2016 – present
Professor of Physics, Bowdoin College	2009 – 2015
Visiting Scientist, Max-Planck-Institut für Astrophysik, Garching, Germany	2012 – 2013
Chair, Department of Physics, Bowdoin College	2009 – 2012
Associate Professor of Physics, Bowdoin College	2005 – 2009
Assistant Professor of Physics, Bowdoin College	2001 – 2005
Visiting Research Assistant Professor, University of Illinois at Urbana-Champaign	1999 – 2001
Postdoctoral Research Associate, University of Illinois at Urbana-Champaign	1996 – 1999
Research Associate, Cornell University	1995 – 1996

Honors and Fellowships

Fellow of the Simons Foundation	2018
Fellow of the American Physical Society	2016
Friedrich Wilhelm Bessel Research Award of the Alexander von Humboldt Foundation	2012
Kavli Institute of Theoretical Physics Scholar	2006 – 2008
Fellow of the John Simon Guggenheim Memorial Foundation	2004
German Academic Exchange Service (DAAD) Scholar	1993 – 1995

Other Professional Activities

Continuous support through National Science Foundation grants	1999 – present
Review panels for the National Science Foundation and the Deutsche Forschungsgemeinschaft	
Committee of Visitors for the National Science Foundation's Division of Physics	Feb. 2009, 2012
Reviewed proposals for funding agencies in the US, UK, Canada, Germany, Netherlands, Italy and Poland	
Reviewed manuscripts for numerous journals including *Phys. Rev. Letters*, *Phys. Rev. D*, *The Astrophysical Journal*, *Classical and Quantum Gravity*, *Astronomy & Astrophysics*, *Living Reviews in Relativity* and *Monthly Notices of the Royal Astronomical Society*	
Organizer or Co-organizer for meetings and conferences at the University of Illinois at Urbana-Champaign, Caltech, Bowdoin College and MIT	
Lecturer at Summer School on Numerical Relativity, ICTS, Bangalore, India	June 2013
Lecturer at Heidelberg University (Germany) Physics Graduate Days	Oct. 2016
Lecturer at IMPRES summer school, Heidelberg (Germany)	Sept. 2017
Treasurer/Secretary for APS Topical Group of Gravitation/Division of Gravitational Physics	2014 – 2017
Research Ambassador of the German Academic Exchange Service (DAAD)	2017 – present

Publications

Textbook

1. T. W. Baumgarte and S. L. Shapiro: Numerical Relativity: Solving Einstein's Equations on the Computer; Cambridge University Press (2010)

Invited Review Article

2. T. W. Baumgarte and S. L. Shapiro: Numerical relativity and compact binaries; Physics Reports **376**, 41 (2003)

Other Invited Contributions

3. T. W. Baumgarte: Gravitationswellen gefasst! Physik Journal **15**, Issue 4, 16 (April, 2016)

4. T. W. Baumgarte: Simuliertes Verschmelzen; Physik Journal **14**, Issue 6, 39 (June, 2015)

5. T. W. Baumgarte and S. L. Shapiro: Binary black hole mergers; Physics Today **64**, 32 (October 2011)

Refereed Journals

6. J. Celestino & T. W. Baumgarte: Critical Collapse of ultrarelativistic fluids: damping or growth of aspherical deformations, Phys. Rev. D, in press (2018)

7. S. P. Butler,[1] A. R. Lima, T. W. Baumgarte & S. L. Shapiro: Maximally rotating supermassive stars at the onset of collapse: the perturbative effects of gas pressure, magnetic fields, dark matter and dark energy; Mon. Not. Royal Ast. Soc. **477**, 3694 (2018)

8. V. Mewes, Y. Zlochower, M. Campanelli, I. R. Ruchlin, Z. B. Etienne & T. W. Baumgarte: Numerical relativity in spherical coordinates with the Einstein toolkit; Phys. Rev. D **97**, 084059 (2018)

9. I. R. Ruchlin, Z. B. Etienne & T. W. Baumgarte: SENR/NRPy+: Numerical relativity in singular curvilinear coordinate systems; Phys. Rev. D **97**, 064036 (2018)

10. C. Gundlach & T. W. Baumgarte: Critical gravitational collapse with angular momentum. II. Soft equations of state; Phys. Rev. D **97**, 064006 (2018)

11. K. A. Dennison & T. W. Baumgarte: Schwarzschild-de Sitter spacetimes, McVittie coordinates, and trumpet geometries; Phys. Rev. D **96**, 124014 (2017)

12. A. J. Miller & T. W. Baumgarte: Bondi accretion in trumpet geometries; Class. Quantum Grav. **34**, 035007 (2017)

13. C. Gundlach & T. W. Baumgarte: Critical gravitational collapse with angular momentum; Phys. Rev. D **94**, 084012 (2016)

14. T. W. Baumgarte & C. Gundlach: Critical collapse of rotating radiation fluids; Phys. Rev. Lett. **116**, 221103 (2016)

15. T. W. Baumgarte & P. J. Montero: Critical phenomena in the aspherical gravitational collapse of radiation fluids; Phys. Rev. D **92**, 124065 (2015) [Featured as an "Editors' Selection"]

[1] Bowdoin College undergraduate students are underlined.

16. T. W. Baumgarte, P. J. Montero & E. Müller: Numerical relativity in spherical polar coordinates: off-center simulations; Phys. Rev. D **91**, 064035 (2015)

17. K. A. Dennison, T. W. Baumgarte & P. J. Montero: Trumpet slices in Kerr spacetimes; Phys. Rev. Lett. **113**, 261101 (2014)

18. N. Sanchis-Gual, P. J. Montero, J. A. Font, E. Müller & T. W. Baumgarte: Fully covariant and conformal formulation of the Z4 system in a reference-metric approach: comparison with the BSSN formulation in spherical symmetry; Phys. Rev. D **89**, 104033 (2014)

19. K. A. Dennison & T. W. Baumgarte: A simple family of analytical trumpet slices of the Schwarzschild spacetime; Class. Quantum Phys. **31**, 117001 (2014)

20. P. J. Montero, T. W. Baumgarte & E. Müller: General relativistic hydrodynamics in curvilinear coordinates; Phys. Rev. D **89**, 084043 (2014)

21. D. Hilditch, T. W. Baumgarte, A. Weyhausen, T. Dietrich, B. Brügmann, P. J. Montero & E. Müller: Collapse of nonlinear gravitational waves in moving-puncture coordinates; Phys. Rev. D **88**, 103009 (2013)

22. A. Bauswein, T. W. Baumgarte & H.-T. Janka: Prompt merger collapse and the maximum mass of neutron stars; Phys. Rev. Lett. **111**, 131101 (2013)

23. T. W. Baumgarte, P. J. Montero, I. Cordero-Carrión and E. Müller: Numerical relativity in spherical polar coordinates: evolution calculations with the BSSN formulation; Phys. Rev. D **87**, 044026 (2013)

24. K. A. Dennison and T. W. Baumgarte: Invariants for tendex and vortex fields; Phys. Rev. D **86**, 107503 (2012)

25. K. A. Dennison and T. W. Baumgarte: Analytical tendex and vortex fields for perturbative black hole initial data; Phys. Rev. D **86**, 084051 (2012)

26. H. E. White, T. W. Baumgarte and S. L. Shapiro: Gravity darkening and brightening in Binaries; Astrophys. J. **752**, 122 (2012)

27. T. W. Baumgarte: An alternative approach to solving the Hamiltonian constraint; Phys. Rev. D **85**, 084013 (2012)

28. A. N. Staley, T. W. Baumgarte, J. D. Brown, B. Farris and S. L. Shapiro: Oppenheimer-Snyder collapse in moving-puncture coordinates; Class. Quantum Grav. **29**, 015003 (2012)

29. T. W. Baumgarte: Puncture black hole initial data in the conformal thin-sandwich formalism; Class. Quantum Grav. **28**, 215003 (2011)

30. K. A. Dennison, J. D. Wendell, T. W. Baumgarte and J. D. Brown: Trumpet slices of the Schwarzschild-Tangherlini spacetime; Phys. Rev. D **82**, 124057 (2010)

31. J. D. Immerman and T. W. Baumgarte: Trumpet-puncture initial data for black holes; Phys. Rev. D **80**, 061501 (R) (2009)

32. T. W. Baumgarte and S. L. Shapiro: A formalism for the construction of binary neutron stars with arbitrary spin; Phys. Rev. D **80**, 064009 (2009); erratum Phys. Rev. D **80**, 089901 (2009)

33. V. Paschalidis, M. MacLeod, T. W. Baumgarte and S. L. Shapiro: Merger of white dwarf-neutron star binaries: Prelude to hydrodynamic simulations in general relativity; Phys. Rev. D **80**, 024006 (2009)

34. T. W. Baumgarte, Z. B. Etienne, Y. T. Liu, K. Matera, N. Ó Murchadha, S. L. Shapiro and K. Taniguchi: Equilibrium initial data for moving puncture simulations: The stationary 1+log slicing; Class. Quantum Grav. **26**, 085007 (2009)

35. Z. B. Etienne, Y. T. Liu, S. L. Shapiro and T. W. Baumgarte: Relativistic simulations of black hole-neutron star mergers: effects of black-hole spin; Phys. Rev. D **79**, 044024 (2009)

36. G. B. Cook and T. W. Baumgarte: Excision boundary conditions for the conformal metric; Phys. Rev. D **78**, 104016 (2008)

37. T. W. Baumgarte, P. Brady, J. D. E. Creighton, L. Lehner, F. Pretorius and R. DeVoe: Learning about compact binary merger: the interplay between numerical relativity and gravitational-wave astronomy; Phys. Rev. D **77**, 084009 (2008)

38. Z. Etienne, J. A. Faber, Y. T. Liu, S. L. Shapiro, K. Taniguchi and T. W. Baumgarte: Fully Relativistic Simulations of Black Hole-Neutron Star Mergers; Phys. Rev. D **77**, 084002 (2008)

39. K. Taniguchi, T. W. Baumgarte, F. A. Faber and S. L. Shapiro: Relativistic black hole-neutron star binaries in quasiequilibrium: effects of the black hole excision boundary condition; Phys. Rev. D **77**, 044003 (2008)

40. K. Matera, T. W. Baumgarte and E. Gourgoulhon: Shells around black holes: the effect of freely specifiable quantities in Einstein's constraint equations; Phys. Rev. D **77**, 024049 (2008)

41. F. A. Faber, T. W. Baumgarte, S. L. Shapiro and K. Taniguchi: Relativistic hydrodynamics in the presence of puncture black holes; Phys. Rev. D **76**, 104021 (2007)

42. Z. B. Etienne, J. A. Faber, Y. T. Liu, S. L. Shapiro and T. W. Baumgarte: Filling the holes: Evolving excised binary black hole initial data with puncture techniques; Phys. Rev. D **76**, 101503 (R) (2007)

43. K. Taniguchi, T. W. Baumgarte, F. A. Faber and S. L. Shapiro: Quasiequilibrium black hole-neutron star binaries in general relativity; Phys. Rev. D **75**, 084005 (2007)

44. T. W. Baumgarte and S. G. Naculich: Analytical representation of a black hole puncture solution; Phys. Rev. D **75**, 067502 (2007)

45. T. W. Baumgarte, N. Ó Murchadha and H. P. Pfeiffer: The Einstein constraints: uniqueness and non-uniqueness in the conformal thin sandwich approach; Phys. Rev. D **75**, 044009 (2007)

46. K. Taniguchi, T. W. Baumgarte, F. A. Faber and S. L. Shapiro: Quasiequilibrium sequences of black hole-neutron star binaries in general relativity; Phys. Rev. D **74**, 041502 (R) (2006)

47. K. A. Dennison, T. W. Baumgarte and H. P. Pfeiffer: Approximate Initial Data for Binary Black Holes; Phys. Rev. D **74**, 064016 (2006)

48. F. A. Faber, T. W. Baumgarte, S. L. Shapiro and K. Taniguchi: General Relativistic Binary Merger Simulations and Short Gamma-Ray Bursts; Astrophys. J. Letters **641**, L93 (2006)

49. F. A. Faber, T. W. Baumgarte, S. L. Shapiro, K. Taniguchi and F. A. Rasio: The Dynamical Evolution of Black Hole-Neutron Star Binaries in General Relativity: Simulations of Tidal Disruption; Phys. Rev. D **73**, 024012 (2006)

50. L. M. Burko, T. W. Baumgarte and C. Beetle: Towards a Wave–Extraction Method for Numerical Relativity: III. Analytical Examples for the Beetle–Burko Radiation Scalar; Phys. Rev. D **73**, 024002 (2006)

51. K. Taniguchi, T. W. Baumgarte, F. A. Faber and S. L. Shapiro: Black Hole-Neutron Star Binaries in General Relativity: Effects of Neutron Star Spin; Phys. Rev. D **72**, 044008 (2005)

52. I. A. Morrison, T. W. Baumgarte, S. L. Shapiro and V. R. Pandharipande: The Moment of Inertia of the Binary Pulsar J0737-3039A: Constraining the Nuclear Equation of State; Astrophys. J. Letters **617**, L135 (2004)

53. H.-J. Yo, J. N. Cook, S. L. Shapiro and T. W. Baumgarte: Quasi-equilibrium Binary Black Hole Initial Data for Dynamical Evolution; Phys. Rev. D **70**, 084033 (2004)

54. T. W. Baumgarte, M. L. Skoge and S. L. Shapiro: Black Hole-Neutron Star Binaries in General Relativity: Quasiequilibrium Formulation; Phys. Rev. D **70**, 064040 (2004)

55. I. A. Morrison, T. W. Baumgarte and S. L. Shapiro: Effect of Differential Rotation on the Maximum Mass of Neutron Stars: Realistic Nuclear Equations of State; Astrophys. J. **610**, 941 (2004)

56. P. Marronetti, M. D. Duez, S. L. Shapiro and T. W. Baumgarte: Dynamical Determination of the Innermost Stable Circular Orbit: Binary Neutron Stars; Phys. Rev. Lett. **92**, 141101 (2004)

57. M. Saijo, T. W. Baumgarte and S. L. Shapiro: One-Armed Spiral Instability in Differentially Rotating Stars; Astrophys. J. **595**, 352 (2003)

58. M. D. Hannam, C. R. Evans, G. B. Cook and T. W. Baumgarte: Can a Combination of the Conformal Thin-Sandwich and Puncture Methods Yield Binary Black Hole Solutions in Quasi-equilibrium?; Phys. Rev. D **68**, 064003 (2003)

59. T. W. Baumgarte and S. L. Shapiro: Collapse of a Magnetized Star to a Black Hole; Astrophys. J. **585**, 930 (2003)

60. T. W. Baumgarte and S. L. Shapiro: General-Relativistic MHD for the Numerical Construction of Dynamical Spacetimes; Astrophys. J. **585**, 921 (2003)

61. M. D. Duez, P. Marronetti, S. L. Shapiro and T. W. Baumgarte: Hydrodynamic Simulations in 3+1 General Relativity; Phys. Rev. D **67**, 024004 (2003)

62. N. D. Lyford, T. W. Baumgarte and S. L. Shapiro: Effects of Differential Rotation on the Maximum Mass of Neutron Stars; Astrophys. J. **583**, 410 (2003)

63. M. L. Skoge and T. W. Baumgarte: Comparing Criteria for Circular Orbits in General Relativity; Phys. Rev. D **66**, 107501 (2002)

64. H.-J. Yo, T. W. Baumgarte, and S. L. Shapiro: Improved Numerical Stability of Stationary Black Hole Evolution Calculations; Phys. Rev. D **66** 084026 (2002)

65. M. Saijo, T. W. Baumgarte, S. L. Shapiro, and M. Shibata: Collapse of a Rotating Supermassive Star to a Supermassive Black Hole: Post-Newtonian Simulations; Astrophys. J. **569**, 349 (2002)

66. A. M. Knapp, E. J. Walker and T. W. Baumgarte, Illustrating Stability Properties of Numerical Relativity in Electrodynamics; Phys. Rev. D **65** 064031 (2002)

67. M. D. Duez, T. W. Baumgarte, S. L. Shapiro, M. Shibata, and K. Uryu: Comparing the Inspiral of Irrotational and Corotational Binary Neutron Stars; Phys. Rev. D **65** 024016 (2002)

68. H.-J. Yo, T. W. Baumgarte, and S. L. Shapiro: A Numerical Testbed for Singularity Excision in Moving Black Hole Spacetimes; Phys. Rev. D **64**, 124011 (2001)

69. M. D. Duez, T. W. Baumgarte, and S. L. Shapiro: Computing the Complete Gravitational Wavetrain from Relativistic Binary Inspiral; Phys. Rev. D, **63**, 084030 (2001)

70. H.-J. Yo, T. W. Baumgarte, and S. L. Shapiro: Gravitational Wavetrains in the Quasiequilibrium Approximation: A Model Problem in Scalar Gravitation; Phys. Rev. D **63**, 064035 (2001)

71. M. Saijo, M. Shibata, T. W. Baumgarte, and S. L. Shapiro: Dynamical Bar Instability in Rotating Stars: Effect of General Relativity; Astrophys. J. **548**, 919 (2001)

72. M. Shibata, T. W. Baumgarte, and S. L. Shapiro: The Bar-mode Instabilities in Differentially Rotating Neutron Stars: Simulations In Full General Relativity; Astrophys. J. **542**, 453 (2000)

73. V. Pavlidou, K. Tassis, T. W. Baumgarte, and S. L. Shapiro: Radiative Falloff in Neutron Star Spacetimes; Phys. Rev. D **62**, 084020 (2000)

74. T. W. Baumgarte: Innermost Stable Circular Orbit of Binary Black Holes; Phys. Rev. D **62**, 024018 (2000)

75. M. Shibata, T. W. Baumgarte, und S. L. Shapiro: Stability and Collapse of Rapidly Rotating, Supramassive Neutron Stars: 3D Simulations in General Relativity; Phys. Rev. D **61**, 044012 (2000)

76. T. W. Baumgarte, S. L. Shapiro, and M. Shibata: On the Maximum Mass of Differentially Rotating Neutron Stars; Astrophys. J. Letters **528**, L29 (2000)

77. T. W. Baumgarte and S. L. Shapiro: Evolution of Rotating Supermassive Stars to the Onset of Collapse; Astrophys. J. **526**, 941 (1999)

78. T. W. Baumgarte and S. L. Shapiro: Luminosity versus Rotation in a Supermassive Star; Astrophys. J. **526**, 937 (1999)

79. L. Rezzolla, M. Shibata, H. Asada, T. W. Baumgarte and S. L. Shapiro: Constructing a Mass-Current Radiation-Reaction Force for Numerical Simulations; Astrophys. J. **525**, 935 (1999)

80. T. W. Baumgarte, S. A. Hughes and S. L. Shapiro: Evolving Einstein's Field Equations with Matter: The 'Hydro without Hydro' Test; Phys. Rev. D **60**, 087501 (1999)

81. T. W. Baumgarte and S. L. Shapiro: Numerical Integration of Einstein's Field Equations; Phys. Rev. D **59**, 024007 (1999)

82. T. W. Baumgarte and S. L. Shapiro: Radiation of Angular Momentum by Neutrinos from Merged Binary Neutron Stars; Astrophys. J. **504**, 431 (1998)

83. M. A. Scheel, T. W. Baumgarte, G. B. Cook, S. L. Shapiro, and S. A. Teukolsky: Treating Instabilities in a Hyperbolic Formulation of Einstein's Equations; Phys. Rev. D **58**, 044020 (1998)

84. M. Shibata, T. W. Baumgarte and S. L. Shapiro: Stability of coalescing binary stars against gravitational collapse: hydrodynamical simulations; Phys. Rev. D **58**, 023002 (1998)

85. T. W. Baumgarte, G. B. Cook, M. A. Scheel, S. L. Shapiro, and S. A. Teukolsky: General Relativistic Models of Binary Neutron Stars in Quasiequilibrium; Phys. Rev. D **57**, 7299 (1998)

86. T. W. Baumgarte, G. B. Cook, M. A. Scheel, S. L. Shapiro, and S. A. Teukolsky: The Stability of Relativistic Neutron Stars in Binary Orbit; Phys. Rev. D **57**, 6181 (1998)

87. R. Gomez *et. al.* (The Binary Black Hole Grand Challenge Alliance): Stable characteristic evolution of generic 3-dimensional single-black-hole spacetimes; Phys. Rev. Lett. **80**, 3915 (1998)

88. G. B. Cook *et. al.* (The Binary Black Hole Grand Challenge Alliance): Boosted three-dimensional black-hole evolutions with singularity excision; Phys. Rev. Lett. **80**, 2512 (1998) (see also Phys. Rev. Focus **1**, Story 3 (1998))

89. A. M. Abrahams *et. al.* (The Binary Black Hole Grand Challenge Alliance): Gravitational wave extraction and outer boundary conditions by perturbative matching; Phys. Rev. Lett. **80**, 1812 (1998)

90. L. Rezzolla, A. M. Abrahams, T. W. Baumgarte, G. B. Cook, M. A. Scheel, S. L. Shapiro, and S. A. Teukolsky: Waveform propagation in black hole spacetimes: Evaluating the quality of numerical solutions; Phys. Rev. D **57**, 1084 (1998)

91. M. A. Scheel, T. W. Baumgarte, G. B. Cook, S. L. Shapiro, and S. A. Teukolsky: Numerical Evolution of Black Holes with a Hyperbolic Formultation of General Relativity; Phys. Rev. D **56**, 6320 (1997)

92. T. W. Baumgarte, G. B. Cook, M. A. Scheel, S. L. Shapiro, and S. A. Teukolsky: Binary Neutron Stars in General Relativity: Quasi-Equilibrium Models; Phys. Rev. Lett. **79**, 1182 (1997)

93. T. W. Baumgarte, G. B. Cook, M. A. Scheel, S. L. Shapiro, and S. A. Teukolsky: Implementing an apparent-horizon finder in three dimensions; Phys. Rev. D, **54**, 4849 (1996)

94. T. W. Baumgarte, H.-T. Janka, W. Keil, S. L. Shapiro and S. A. Teukolsky: Delayed Collapse of Hot Neutron Stars to Black Holes Via Hadronic Phase Transitions; Astrophys. J. **468**, 823 (1996)

95. T. W. Baumgarte, S. L. Shapiro and S. A. Teukolsky: Computing the Delayed Collapse of Hot Neutron Stars to Black Holes; Astrophys. J. **458**, 680 (1996)

96. T. W. Baumgarte, S. L. Shapiro and S. A. Teukolsky: Computing Supernova Collapse to Neutron Stars and Black Holes; Astrophys. J. **443**, 717 (1995)

97. T. W. Baumgarte and B. G. Schmidt: Quasi-normal Modes in Coupled Systems; Class. Quantum Grav. **10**, 2067 (1993)

98. T. W. Baumgarte: The Newtonian Limit in a Model Problem; Gen. Rel. Grav. **25**, 1189 (1993)

99. T. W. Baumgarte and A. D. Rendall: Regularity of Spherically Symmetric Static Solutions of the Einstein Equations; Class. Quantum Grav. **10**, 327 (1993)

Conference Proceedings

100. N. Sanchis-Gual, P. J. Montero, J. A. Font, E. Müller and T. W. Baumgarte: Fully Covariant and Conformal Formulation of the Z4 System Compared to the BSSN Formulation in Spherical Symmetry, Astrophys. Space Sci. Proc. **40**, 203-208 (2015)

101. T. W. Baumgarte: Black Holes: from Speculations to Observations; in the Proceedings of the *Albert Einstein Century International Conference*, J.-M. Alimi, Ed., p. 161, AIP Conference Proceedings 861 (2006)

102. F. A. Faber, T. W. Baumgarte, S. L. Shapiro, K. Taniguchi and F. A. Rasio: Black Hole-Neutron Star Binary Merger Calculations: GRB Progenitors and the Stability of Mass Transfer; in the Proceedings of the *Albert Einstein Century International Conference*, J.-M. Alimi, Ed., p. 622, AIP Conference Proceedings 861 (2006)

103. H.-J. Yo, J. N. Cook, S. L. Shapiro, and T. W. Baumgarte: Initial Data for Dynamical Evolutions of Binary Black Holes in Quasicircular Orbit; in the Proceedings of the *14th Japan Workshop on General Relativity and Gravitation*, Nov. 29th - Dec. 3rd, 2004, eds. T. Tanaka, Kyoto University (2005)

104. M. Saijo, M. Shibata, T. W. Baumgarte, and S. L. Shapiro: Dynamical Bar Instability in Relativistic Rotating Stars; in *Proceedings of the 20th Texas Symposium on Relativistic Astrophysics*, J. Craig Wheeler and H. Martel, Eds., AIP Conference Proceedings, New York (2001)

105. T. W. Baumgarte: The Innermost Stable Circular Orbit in Compact Binaries; in *Astrophysical Sources for Ground-based Gravitational Wave Detectors*, J. M. Centrella, Ed., p. 176, AIP Conference Proceedings 575, New York (2001)

106. T. W. Baumgarte, S. A. Hughes, L. Rezzolla, S. L. Shapiro and M. Shibata: Implementing Fully Relativistic Hydrodynamics in Three Dimensions; in *General Relativity and Relativistic Astrophysics – Eighth Canadian Conference*, C. P. Burgess and R. C. Myers, Eds., p. 53, AIP Conference Proceedings 493, Melville, New York (1999)

107. M. Shibata, T. W. Baumgarte and S. L. Shapiro: Hydrodynamic Simulations of Coalescing Binary Stars: Stability against Gravitational Collapse; in *Numerical Astrophysics*, S. Miyama *et. al.*, Eds., p. 277, Kluwer Academic Publishers (1999)

108. T. W. Baumgarte, S. L. Shapiro, G. B. Cook, M. A. Scheel and S. A. Teukolsky: Binary Neutron Stars in Quasi-Equilibrium Circular Orbit: A Fully Relativistic Treatment; in *Proceedings of the 18th Texas Symposium on Relativistic Astrophysics* Olinto, Frieman and Schramm, Eds., p. 592, World Scientific (1998)

109. T. W. Baumgarte: On the Regularity of Spherically Symmetric Static Spacetimes; in *Rotating Objects and Relativistic Physics*, F. J. Chinea and L. M. González-Romero, Eds., p. 213, Springer Berlin (1993)

Other Publications

110. T. W. Baumgarte: Book review of *A General Relativity Workbook* by Thomas Moore; Am. J. Phys. **81**, 317 (2013)

111. T. W. Baumgarte: Was würde beim Zusammenstoß zweier extrem großer Schwarzer Löcher passieren? New Scientist, issue 13, March 22, page 65 (2013)

112. T. W. Baumgarte: The Apprentice Physicists; Interactions **37**, p. 34, March/April (2007)

113. T. W. Baumgarte: Recent progress in binary black hole simulations, Matters of Gravity **27**, p. 11 (2006)