

NIKOLAOS STERGIIOULAS

Assistant Professor
Department of Physics, Aristotle University of Thessaloniki

CURRICULUM VITAE

Thessaloniki
November 2010

1. Personal Information

NAME: Nikolaos Stergioulas
DATE OF BIRTH: 21 March 1967
PLACE OF BIRTH: Gütersloh, Germany
CITIZENSHIP: Greek
FAMILY STATUS: Married with one child
WORK ADDRESS: Department of Physics,
Aristotle University of Thessaloniki,
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2. Studies

- **B.Sc. in Physics**, Department of Physics, Aristotle University of Thessaloniki, 1991
- **M.Sc. In Physics**, Department of Physics, University of Wisconsin-Milwaukee, 1993
- **Ph.D.**, Department of Physics, University of Wisconsin-Milwaukee, 1996

3. Fellowships

- **National Science Foundation Research Assistant**, Department of Physics, University of Wisconsin-Milwaukee, 1993-1996
- **Post-Doctoral Guest Scientist**, Max-Planck-Institute for Gravitational Physics (Albert-Einstein-Institute), Potsdam, March- May, 1998
- **Expert Visiting Scientist Fellowship**, NATO 2001

4. Previous Positions

- **Post-Doctoral Guest Scientist**, Max-Planck-Institute for Gravitational Physics (Albert-Einstein-Institute), Potsdam, March - May, 1998
- **Post-Doctoral Research Scientist**, Max-Planck-Institute for Gravitational Physics (Albert-Einstein-Institute), Potsdam, September 1998 - October 1999
- **Lecturer**, Department of Physics, Aristotle University of Thessaloniki, November 1999 - June 2004
- **Assistant Professor**, Department of Physics, Aristotle University of Thessaloniki, July 2004 - present

5. Visiting Researcher or Visiting Professor

- **University of Illinois at Urbana-Champaign**,
April 1996
- **Max-Planck-Institute for Gravitational Physics**, Potsdam
March - May 1998
March 2001

- September 2004
March 2007
- **Observatoire de Paris**, Meudon
March 1998
 - **Universitaet Tuebingen**
April 1998
July 2004
October 2007
 - **Max-Planck-Institut fuer Astrophysik**, Garching
Januar 1999
November 2003
November 2004
Februar 2008
July 2008
November 2010
 - **Washington University**, St. Louis
March 1999
 - **University of Wisconsin-Milwaukee**, Milwaukee
March 1999
August 2007
 - **University of Southampton**
June 1999
 - **Nicolaus Copernicus Astronomical Center**, Warsaw
June 2000
May 2002
 - **University of Rome**
January 2001
 - **Pennsylvania State University**, State College
October 2002
 - **SISSA**, Trieste
January 2001
November 2001
November 2002
November 2006
 - **University of Kyoto**
Februar 2005
 - **University of Valencia**
April 2005
November 2009
 - **Louisiana State University**
Februar 2007
 - **University of Parma**
March 2007
 - **University of Jena**
October 2008
 - **Max-Planck-Institut for Gravitational Physics - Hannover**
March 2009
 - **Polish Academy of Sciences, Βαρσοβία**, Πολωνία
June 2009

6. Publications

6.1 Ph.D. Thesis

- A-1 **Stergioulas, N.**, The Structure and Stability of Rotating Relativistic Stars, *PhD Thesis, University of Wisconsin-Milwaukee*, (1996)

6.2 Publications in Refereed Journals

- B-1 **Stergioulas, N., & Friedman, J. L.**, Comparing Models of Rapidly Rotating Stars Constructed by Two Numerical Methods, *Astrophysical Journal*, **444**, 306 (1995)
- B-2 **Koranda, S., Stergioulas, N., & Friedman, J. L.**, Upper Limit Set by Causality on the Rotation and Mass of Uniformly Rotating Relativistic Stars, *Astrophysical Journal*, **488**, 799 (1997)
- B-3 **Stergioulas, N. & Friedman, J. L.**, Nonaxisymmetric Neutral Modes of Rotating Relativistic Stars, *Astrophysical Journal*, **492**, 301 (1998)
- B-4 **Stergioulas, N.**, Rotating Stars in Relativity, *Living Reviews in Relativity*, **1**, 8 (1998)
- B-5 **Nozawa, T., Stergioulas, N., Gourgoulhon, E., & Eriguchi, Y.**, Construction of Highly Accurate Models of Rotating Neutron Stars - Comparison of Three Different Numerical Schemes, *Astronomy & Astrophysics Suppl.*, **132**, 431 (1998)
- B-6 **Morsink, S., Stergioulas, N. & Blattnig, S. R.**, Quasi-normal Modes of Rotating Relativistic Stars - Neutral Modes for Realistic Equations of State, *Astrophysical Journal*, **510**, 854 (1999)
- B-7 **Kokkotas, K., & Stergioulas, N.**, Analytic Description of the r-Mode Instability in Uniform Density Stars, *Astronomy & Astrophysics*, **341**, 110 (1999)
- B-8 **Andersson, N., Kokkotas, K., & Stergioulas, N.**, On the Relevance of the r-Mode Instability for Accreting Neutron Stars and White Dwarfs, *Astrophysical Journal*, **516**, 307 (1999)
- B-9 **Stergioulas, N., Kluzniak, W. & Bulik, T.**, Keplerian Frequencies and Innermost Stable Circular Orbits of Rapidly Rotating Strange Stars, *Astronomy & Astrophysics (Letter)*, **352**, 116 (1999)
- B-10 **Font, J. A., Stergioulas, N. & Kokkotas, K. D.**, Nonlinear Hydrodynamical Evolution of Rotating Relativistic Stars: Numerical Methods and Code Tests, *MNRAS*, **313**, 678 (2000)
- B-11 **Andersson, N., Jones, D. I., Kokkotas, K. D. & Stergioulas, N.**, R-mode Runaway and Rapidly Rotating Neutron Stars, *Astrophysical Journal (Letter)*, **534**, 75 (2000)

- B-12 **Alcubierre, M., Bruegmann, B., Dramlitsch, T., Font, J. A., Papadopoulos, P., Seidel, E., Stergioulas, N. & Takahashi, R.**, Towards a Stable Numerical Evolution of Strongly Gravitating Systems in General Relativity: The Conformal Treatments, *Physical Review D*, **62**, 044034 (2000)
- B-13 **Stergioulas, N. & Font, J. A.**, Nonlinear r-Modes in Rapidly Rotating Relativistic Stars, *Physical Review Letters*, **86**, 1148 (2001)
- B-14 **Spyrou, N. K. & Stergioulas, N.**, Evolutionary Self-Energy-Loss Effects in Compact Binary Systems: Importance of Rapid Rotation and of Equation of State, *Astronomy & Astrophysics*, **366**, 598 (2001)
- B-15 **Font, J. A., Dimmelmeier, H., Gupta, A. & Stergioulas, N.**, Axisymmetric Modes of Rotating Relativistic Stars in the Cowling Approximation, *MNRAS*, **325**, 1463 (2001)
- B-16 **Messios, N., Papadopoulos, D. B. & Stergioulas, N.**, Torsional Oscillations of Magnetized Relativistic Stars, *MNRAS*, **328**, 1161 (2001)
- B-17 **Papadopoulos, D. B., Stergioulas, N., Vlahos, L. & Kuijpers, J.**, Fast Magnetosonic Waves Driven by Gravitational Waves, *Astronomy & Astrophysics*, **377**, 701 (2001)
- B-18 **Gondek-Rosinska, D., Stergioulas, N., Bulik, T., Kluzniak, W. & Gourgoulhon, E.**, Lower Limits on the Maximum Orbital Frequency Around Rotating Strange Stars, *Astronomy & Astrophysics*, **380**, 190 (2001)
- B-19 **Font, J. A., Goodale, T., Iyer, S., Miller, M., Rezzolla, L., Seidel, E., Stergioulas, N., Suen, W. & Tobias, M.**, Three-Dimensional General Relativistic Hydrodynamics II: Long-Term Dynamics of Single Relativistic Stars, *Physical Review D*, **65**, 084024 (2002)
- B-20 **Jones, D. I., Andersson, N. & Stergioulas, N.**, Time Evolution of the Linear Perturbations of a Rotating Newtonian Polytrope, *MNRAS*, **334**, 933 (2002)
- B-21 **Gressman, P., Lin, L.M., Suen, W.-M., Stergioulas, N. & Friedman, J.L.**, Nonlinear r-Modes in Neutron Stars: Instability of an Unstable Mode, *Phys. Rev. D*, **66**, 041303(R) (2002)
- B-22 **Spyrou, N. & Stergioulas, N.**, Spin-down of Relativistic Stars with Phase Transitions and PSR J0537-6910, *Astronomy & Astrophysics*, **395**, 151 (2002)
- B-23 **Stergioulas, N.**, Rotating Stars in Relativity, *Living Reviews in Relativity*, **6**, 3 (2003)
- B-24 **Kluzniak, W., Abramowicz, M. A., Kato, S., Lee, W. H. & Stergioulas, N.**, Non-linear Resonance in the Accretion Disk of a Millisecond Pulsar, *Astrophysical Journal (Letter)*, **603**, L89 (2004)
- B-25 **Berti, E. & Stergioulas, N.**, Approximate Matching of Analytic and Numerical Solutions for Rapidly Rotating Neutron Stars, *MNRAS*, **350**, 1416 (2004)

- B-26 **Stergioulas, N., Apostolatos, T. A. & Font, J. A.**, Nonlinear Pulsations in Differentially Rotating Neutron Stars: Mass-Shedding-Induced Damping and Splitting of the Fundamental Mode, *MNRAS*, **352**, 1089 (2004)
- B-27 **Baiotti, L., Hawke, I., Montero, P. J., Loeffler, F., Rezzolla, L., Stergioulas, N., Font, J. A. & Seidel, E.**, Three-Dimensional Relativistic Simulations of Rotating Neutron Star Collapse to a Kerr Black Hole, *Physical Review D*, **71**, 024035 (2005)
- B-28 **Zink, B., Stergioulas, N., Hawke, I., Ott, C.D., Schnetter, E. & Mueller, E.**, Formation of Supermassive Black Holes through Fragmentation of Toroidal Supermassive Stars, *Physical Review Letters*, **96**, 161101 (2006)
- B-29 **Dimmelmeier, H., Stergioulas, N. & Font, J.A.**, Non-Linear Axisymmetric Pulsations of Rotating Relativistic Stars in the Conformal Flatness Approximation, *MNRAS*, **368**, 1609 (2006)
- B-30 **Sotani, H., Kokkotas, K.D. & Stergioulas, N.**, Torsional Oscillations of Relativistic Stars with Dipole Magnetic Fields, *MNRAS*, **375**, 261 (2007)
- B-31 **Passamonti, A., Stergioulas, N. & Nagar, A.**, Gravitational Waves from Nonlinear Couplings of Radial and Polar Nonradial Modes in Relativistic Stars, *Physical Review D*, **75**, 084038 (2007)
- B-32 **Zink, B., Stergioulas, N., Hawke, I., Ott, C.D., Schnetter, E. & Mueller, E.**, Non-Axisymmetric Instability and Fragmentation of General Relativistic Quasi-Toroidal Stars, *Physical Review D*, **76**, 024029 (2007)
- B-33 **Sotani, H., Kokkotas, K.D. & Stergioulas, N.**, Alfvén Quasi-Periodic Oscillations in Magnetars, *MNRAS*, **385**, L5-L9 (2008)
- B-34 **Cerdá-Durán, P., Stergioulas, N. & Font, J. A.**, Alfvén QPOs in Magnetars in the Anelastic Approximation, *MNRAS*, **397**, 1607-1620 (2009)
- B-35 **Zink, B., Korobkin, O., Schnetter, E. & Stergioulas, N.**, On the Frequency Band of the f-Mode Instability, *Physical Review D*, **81**, 084055 (2010)
- B-36 **Gabler, M., Cerdá-Durán, P., Font, J. A., Mueller, E. & Stergioulas, N.**, Magneto-elastic Oscillations and the Damping of Crustal Shear Modes in Magnetars, *arXiv:1007.0856, in press, MNRAS* (2010)
- B-37 **Korobkin, O., Abdikamalov, E. B., Schnetter, E., Stergioulas, N. & Zink, B.** Stability of General-Relativistic Accretion Disks, *arXiv:1011.3010, submitted to Physical Review D* (2010)
- B-38 **Birkl, R., Stergioulas, N., & Mueller, E.**, Stationary, Axisymmetric Neutron Stars with Meridional Circulation in General Relativity, *arXiv:1011.5475, submitted to Physical Review D* (2010)

6.3 Publications in Conference Proceedings

- C-1 **Koranda, S. & Stergioulas, N.**, Minimum Period of Neutron Stars, in *Abstracts of contributed papers to the 14th International Conference on General Relativity and Gravitation*, Φλωρεντία, Ιταλία (1995)
- C-2 **Stergioulas, N.**, Nonaxisymmetric Perturbations of Rotating Relativistic Stars, in *Abstracts of contributed papers to the 6th European and 3rd Hellenic Astronomical Society Conference*, Θεσσαλονίκη (1997)
- C-3 **Stergioulas, N., Font, J. A. & Kokkotas, K. D.**, General-Relativistic Hydrodynamical Simulations of Rotating and Pulsating Neutron Stars, in *Proceedings of the 4th Conference of the Hellenic Astronomical Society* (1999)
- C-4 **Stergioulas, N., Font, J. A. & Kokkotas, K. D.**, Nonlinear Evolution of Rotating Relativistic Stars, in *Proceedings of the 19th Texas Symposium on Relativistic Astrophysics*, Nucl. Phys. B Proc. Suppl. **80** 7 (2000)
- C-5 **Stergioulas, N. & Font, J. A.**, Nonlinear Evolution of r-Modes in Rotating Relativistic Stars, in *Highlights of Spanish Astrophysics II, Proceedings of the 4th Scientific Meeting of the Spanish Astronomical Society*, p. 185, eds. J. Zamorano et al., Kluwer publ. (2001)
- C-6 **Stergioulas, N. & Font, J. A.**, Nonlinear r-Modes in Rotating Relativistic Stars, in *Proceedings of the 9th Marcel Grossman Meeting*, p. 2357, eds. V.G. Gurzadyan et al., World Scientific (2002)
- C-7 **Stergioulas, N., Kokkotas, K.D., Andersson, N. & Jones, D. I.**, R-mode Runaway and Rapidly Rotating Neutron Stars, in *Proceedings of the 9th Marcel Grossman Meeting*, p. 2359, eds. V.G. Gurzadyan et al., World Scientific (2002)
- C-8 **Stergioulas, N. & Font, J. A.**, Nonlinear r-Modes in Rotating Relativistic Stars, in *Proceedings of the Conference on Applied Differential Geometry, Lie Algebras and General Relativity* (2002)
- C-9 **Stergioulas, N. & Font, J. A.**, 3D Numerical Simulations of Rotating and Pulsating Relativistic Stars, in *Proceedings of the 5th Conference of the Hellenic Astronomical Society* (2002)
- C-10 **Apostolatos, T. A., Stergioulas, N. & Font, J. A.**, Axisymmetric Modes of Differentially Rotating Relativistic Stars, in *Proceedings of the 10th Hellenic Relativity Conference "Recent Developments in Gravity"* (2003)
- C-11 **Stergioulas, N. & Hawke, I.**, Equilibrium and Pulsations of Rotating Relativistic Stars in Numerical Relativity, in *Proceedings of the 10th Hellenic Relativity Conference «Recent Developments in Gravity»* (2003)
- C-12 **Stergioulas, N.**, Simulating Sources of Gravitational Waves with Numerical Relativity, in *Proceedings of the 6th Conference of the Hellenic Astronomical Society*, p. 223, ed. P. Laskarides (2004)

- C-13 **Apostolatos, T. A., Stergioulas, N. & Font, J. A.**, Non-Linear Dynamics of Differentially Rotating Relativistic Stars, in *Proceedings of the 6th Conference of the Hellenic Astronomical Society*, p. 223, ed. P. Laskarides (2004)
- C-14 **Baiotti, L., Hawke, I., Montero, P. J., Loeffler, F., Rezzolla, L., Stergioulas, N., Font, J. A. & Seidel, E.**, 3-D collapse of rotating stars to Kerr black hole , in *Proceedings of the 11th Hellenic Relativity Conference «Recent Developments in Gravity»*, *J. Phys.: Conf. Ser.* **8** 86 (2005)
- C-15 **Baiotti, L., Hawke, I., Montero, P. J., Loeffler, F., Rezzolla, L., Stergioulas, N., Font, J. A. & Seidel, E.**, Three-dimensional relativistic simulations of rotating neutron-star collapse to a Kerr black hole, in *Frontiers of Fundamental Physics: Proceedings of the Sixth International Symposium "Frontiers of Fundamental and Computational Physics"* p. 75, eds. B.G. Sidharth et al., Springer (2005)
- C-16 **Kokkotas, K.D. & Stergioulas, N.**, Gravitational Waves from Compact Sources, in *New Worlds in Astroparticle Physics: Proceedings of the Fifth International Workshop held January 8-10, 2005, in Faro, Portugal*, p. 25, ed. A.M. Mourão et al., World Scientific (2006)
- C-17 **Stergioulas, N., Kokkotas, K.D. & Hawke, I.**, W-Modes in Rotating Relativistic Stars, in *Recent Advances in Astronomy and Astrophysics, 7th International Conference of the Hellenic Astronomical Society*. AIP Conf. Proc., **848** 730 (2006)
- C-18 **Stergioulas, N.**, Nonlinear Pulsations of Rotating Relativistic Stars, in *Albert Einstein Century International Conference*, AIP Conf. Proc., **861** 762 (2006)
- C-19 **Zink, B., Stergioulas, N., Hawke, I., Ott, C.D., Schnetter, E. & Mueller, E.**, Rotational Instabilities in Supermassive Stars: A New Way to Form Supermassive Black Holes, in *Proceedings of the International Scientific Workshop on Cosmology and Gravitational Physics*, p. 155, eds. N.K. Spyrou et al., Ziti Press (2006)
- C-20 **Zink, B., Stergioulas, N., Hawke, I., Ott, C.D., Schnetter, E. & Mueller, E.**, Supermassive Black Hole Formation through Rotational Instabilities, in *Proceedings of the 12th Hellenic Relativity Conference «Recent Developments in Gravity»* *J. Phys.: Conf. Ser.* **68**, 012050 (2007)
- C-21 **Kokkotas, K. D., Sotani, H. & Stergioulas, N.**, Torsional Oscillations of Magnetized Relativistic Stars, in *Proceedings of the 12th Hellenic Relativity Conference «Recent Developments in Gravity»*, *J. Phys.: Conf. Ser.* **68**, 012049 (2007)
- C-22 **Zink, B., Stergioulas, N., Hawke, I., Ott, C.D., Schnetter, E. & Mueller, E.**, Fragmentation of general relativistic quasi-toroidal polytropes, in *Proceedings of the 11th Marcel Grossmann Meeting*, arXiv:0704.0431v1 (2007)
- C-23 **Stergioulas, N., Kokkotas, K. D. & Hawke, I.**, Spacetime Modes of Rapidly Rotating Relativistic Stars, in *Proceedings of the 11th Marcel Grossmann Meeting* (2007)

- C-24 **Stergioulas, N.**, Numerical Simulations of Black Hole Formation, in *Proceedings of the 4th Aegean Summer School on Black Holes*, Lecture Notes in Physics, Springer, **769**, 177, (2009)
- C-25 **Sotani, H., Kokkotas, K. D. & Stergioulas, N.**, Magnetic Torsional Oscillations in Magnetars, in *Proceedings of the Spanish Relativity Meeting 2008*, AIP Conference Proceedings, **112**, 400-403 (2009)
- C-26 **Sotani, H., Kokkotas, K. D. & Stergioulas, N.**, Alfvén QPOs in Magnetars, in *Proceedings of the 13th Hellenic Relativity Conference «Recent Developments in Gravity»*, J. Phys.: Conf. Ser. **189**, 012038 (2009)
- C-27 **Gabler, M., Cerdá-Durán, P., Font, J. A., Mueller, E. & Stergioulas, N.**, Magneto-elastic Torsional Oscillations of Magnetars, *arXiv:1011.5406*, *Proceedings of the 14th Conference «Recent Developments in Gravity»* (2010)

6.4 Editor of Conference Proceedings

- D-1 **Kokkotas, K. D. & Stergioulas, N.**, eds. *«Recent Developments in Gravity»*, Proceedings of the 10th Hellenic Relativity Conference NEB-X, World Scientific Publ., Singapore (2003)
- D-2 **Spyrou, N.K., Stergioulas, N. & Tsagas, C.**, eds. *«Cosmology and Gravitational Physics»*, *Proceedings of the International Scientific Workshop in Thessaloniki, Dec. 15-16, 2006*, Ziti Press, Thessaloniki (2006)
- D-3 **Stergioulas, N. & Tsagas, C.**, eds. *«Recent Developments in Gravity»*, Proceedings of the 13th Hellenic Relativity Conference NEB-XIII, J. Phys., Conf. Ser., **189**, 011001 (2009)

6.5 Citations

1200+ citations (excluding self-citations)

Citations	Number of papers	Papers
≥100	2	B-1, B-8
50 to 99	5	B-3, B-12, B-13, B-23, B-27
20 to 49	10	B-5, B-6, B-7, B-11, B-15, B-19, B-21, B-24, B-26, B-29
10 to 19	10	B-2, B-4, B-9, B-10, B-16, B-17, B-30, B-33, B-22, B-25
<10	11	B-14, B-18, B-20, B-28, B-31, B-32, B-34, B-35, B-36, B-37, B-38

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7. Research

7.1 Research Topics

- Compact stars as sources of gravitational waves
- Equilibrium and instabilities of rotating relativistic stars
- Nonlinear oscillations of relativistic stars
- MHD oscillations in relativistic models of magnetars
- Numerical Relativity
- Interaction of gravitational waves and plasma
- Relativistic accretion disks

7.2 Invited Speaker

7.2.1 International Conferences

- *Workshop on Linear Perturbations in Rotating and Collapsing Stars*, Potsdam, 1998 **(invited talk)**
- *Joint European and National Astronomical Meeting JENAM'99*, Toulouse, 1999 **(invited review talk)**
- *Joint European and National Astronomical Meeting JENAM'01*, Garching, 2001 **(invited talk)**
- *Workshop on Gravitational-Wave Sources*, Penn-State, 2002 **(invited review talk)**
- *Workshop on High-Frequency Gravitational Waves*, Trieste, 2002 **(invited talk)**
- *SFB Workshop on Rotating Relativistic Stars*, Jena, 2003 **(invited review talk)**
- *1st Virgo-Ego Scientific Forum*, Pisa, 2004 **(invited review talk)**
- *"Albert Einstein Century" International Conference*, Paris, 2005 **(invited review talk)**
- *GWADW-VESF Conference*, Isola d'Elba, 2006 **(invited review talk)**
- *11th Marcel Grossmann Meeting on General Relativity*, Berlin, 2006 **(invited talk)**
- *"The Schutz Symposium on Gravitational Waves and Relativistic Astrophysics"*, Santorini, 2006 **(invited review talk)**
- *6th International Workshop on "New Worlds in Astroparticle Physics"*, Faro, 2007 **(invited review talk)**
- *ENTApP-GWA joint meeting "Gravitational Wave Sources and Observation"*, Tuebingen, 2007 **(invited review talk)**
- *"Numerical Modeling of Astrophysical Sources of Gravitational Radiation"*, Valencia, 2008 **(invited review talk)**
- *"SFB Colloquium on Reinhard Meinel's 50th Birthday"*, Jena, 2008 **(invited review talk)**
- *12th Marcel Grossmann Meeting on General Relativity*, Paris, 2009 **(invited review talk)**
- *2nd Workshop on Numerical Simulations in Relativistic Astrophysics (CoCoNuT Meeting)*, Valencia, 2009 **(invited talk)**
- *COMPSTAR 2011 Workshop "Gravitational Waves and Electromagnetic Radiation from Compact Stars"*, Catania, 2011 **(invited review talk)**

7.2.2 Summer and Winter Schools

- *SFB School on Compact Objects*, Potsdam, 2004, **(two invited lectures)**
- *4th Aegean Summer School on Black Holes*, 2007 **(one invited lecture)**
- *44th Karpacz Winter School on Theoretical Physics “The Complex Physics of Compact Stars”*, Ladek Zdroj, 2008 **(six invited lectures)**

7.2.3 National Conferences

- *6th Conference of the Hellenic Astronomical Society*, Athens, 2003 **(main session invited talk)**

7.2.4 Universities and Research Institutes

- *Observatoire de Paris*, Meudon, March 1998
- *University of Tuebingen*, April 1998
- *Max-Planck-Institut fuer Astrophysik*, Garching, January 1999
- *University of Wisconsin-Milwaukee*, March 1999
- *University of Southampton*, June 1999
- *Nicolaus Copernicus Astronomical Center*, Warsaw, June 2000
- *University of Rome*, June 2001
- *SISSA*, Trieste, January 2001
- *SISSA*, Trieste, November 2001
- *Universitaet Tuebingen*, July 2004
- *University of Kyoto*, February 2005
- *Louisiana State University*, February 2007
- *University of Parma*, March 2007
- *University of Wisconsin-Milwaukee*, September 2007
- *Ακαδημία Αθηνών*, September 2007
- *Max-Planck-Institut fuer Astrophysik*, Garching, July 2008
- *Max-Planck-Institut fuer Garvitationsphysik*, Hannover, March 2009
- *Polish Academy of Sciences*, Warsaw, June 2009
- *University of Tuebingen*, July 2010

7.3 Contributed talks

7.3.1 International Conferences

- *4th Midwest Relativity Meeting*, St. Louis, 1994
- *14th International Conference on General Relativity and Gravitation*, Florence, 1995
- *5th Midwest Relativity Meeting*, Milwaukee, 1995
- *Joint European and National Astronomical Meeting (JENAM’97) and 3rd Hellenic Astronomical Society Conference*, Thessaloniki, 1997
- *19th Texas Symposium on Relativistic Astrophysics*, Paris, 1998
- *NASA Neutron Star Grand Challenge meeting*, St. Louis, 1999
- *9th Marcel Grossman Meeting*, Rome, 2000

- *1st European Network Relativistic Hydrodynamics Workshop*, Potsdam, 2001
- *2nd Meeting of EU Network on Sources of Gravitational Waves*, Chalkidiki, 2001
- *4th Meeting of EU Network on Sources of Gravitational Waves*, Palma, 2002
- *Sources of Gravitational Waves, EU Network Conference*, ICTP Trieste, 2003
- *ENTApP 2005 Conference*, Valencia, 2005
- *Workshop on General-Relativistic Hydrodynamics*, Potsdam, 2005
- *ENTApP-GWA Joint Meeting*, Paris, 2006
- *Magnetic Oscillations Workshop*, Tuebingen, 2007
- *1st Workshop on Numerical Simulations in Relativistic Astrophysics (CoCoNuT Meeting)*, Garching, 2008

7.3.2 National Conferences

- *7th Conference “Recent Developments in Gravity”*, Athens, 1996
- *8th Conference “Recent Developments in Gravity”*, Samos, 1998
- *Current Issues of Astronomical and Planetary Environmental Concern*, Thessaloniki, 1998
- *4th Conference of the Hellenic Astronomical Society*, Samos, 1999
- *9th Conference “Recent Developments in Gravity”*, Ioannina, 2000
- *Applied Differential Geometry, Lie Algebras and General Relativity 2000*, Thessaloniki, 2000
- *Applied Differential Geometry, Lie Algebras and General Relativity 2001*, Thessaloniki, 2001
- *5th Conference of the Hellenic Astronomical Society*, Crete, 2001
- *10th Conference “Recent Developments in Gravity”*, Chalkidiki, 2002
- *11th Conference “Recent Developments in Gravity”*, Mytilene, 2004
- *1st Workshop on Relativistic Plasma Physics*, Thessaloniki 2004
- *Cosmology and Gravitational Physics*, Thessaloniki, 2005
- *12th Conference “Recent Developments in Gravity”*, Nauplion, 2006
- *8th Conference of the Hellenic Astronomical Society*, Thassos, 2007
- *9th Conference of the Hellenic Astronomical Society*, Athens, 2009
- *14th Conference “Recent Developments in Gravity”*, Ioannina, 2010

7.4 Involvement in Scientific Societies

7.4.1 Elected Member in Committees

- Member of the Governing Council of the **Hellenic Astronomical Society** (2008 – 2010)
- Auditor of the **Hellenic Astronomical Society**, (2000 – 2002, 2004 – 2006)
- Auditor of the **Hellenic Society for Relativity, Gravity and Cosmology** (2010 – present)
- Member of the Selection Committee for the “**Basilis Xanthopoulos International Award for Research in Gravitational Physics**” (2010)

7.4.2 Member in Societies

- Hellenic Astronomical Society (since 2000)
- Hellenic Society for Relativity, Gravity and Cosmology (founding member, since 2010)
- Gravitational Physics Section of the European Physical Society (affiliate member, since 2000)

7.5 Research Grants

Principal Investigator:

- *GSRT “Computational Physics of Compact Sources of Gravitational Radiation” (2001 – 2003)*
- *GSRT “Computational Tools for the Simulation of Phenomena in Relativistic Magneto-Hydrodynamics” (2005 – 2007)*
- *IKY-DAAD “Simulations of Neutron Stars as Sources of Gravitational Waves “ (2006 – 2008)*
- *Marie-Curie Intra-European Fellowship “Realistic Supercomputer Simulations for Gravitational Wave Asteroseismology” (2007 – 2008)*

Participation:

- *NASA “Neutron Star Merger Grand Challenge Project” (1998 – 1999) P.I. E. Seidel, W.-M. Suen*
- *European Union Research and Training Network “Sources of Gravitational Waves” (2000-2003) P.I. E. Seidel – project coordinator, K.D. Kokkotas – local coordinator*
- *NSF Supercomputing Grant “Numerical Relativity and Black Hole Mergers” (2001) P.I. E. Seidel*
- *KBN Polish State Committee for Scientific Research “Astrophysics of Rotating Stars in General Relativity” (2001-2003) P.I. D. Gondek-Rosinska*
- *HERAKLEITOS “Rotating Relativistic Stars” (2004 – 2006) P.I. K.D. Kokkotas*
- *PYTHAGORAS “Large-Scale Simulations of Gravitating Astrophysical Systems” (2004 – 2007) P.I. H. Varvoglis*
- *PYTHAGORAS II “Computational Physics of Magnetized Sources of Gravitational Radiation” (2005 – 2008) P.I. K.D. Kokkotas*
- *ILIAS – “Integrated Large Infrastructures for Astroparticle Science” ENTApP Network-WG3 (2005 – 2010) coordinator K.D. Kokkotas*
- *ESF “The New Physics of Compact Stars” (2008-20012) P.I. D. Blaschke et al.*
- *CTA (Cherenkov Telescope Array) Design Study (2010-2011) local coordinator A. Liolios*

7.6 Conference Organization

Chairman of the organizing committee:

- *13^o Conference “Recent Developments in Gravity”, Thessaloniki, 2008*

Member of the organizing and/or scientific committee:

- *5th Midwest Relativity Meeting, Milwaukee, 1995*
- *Applied Differential Geometry, Lie Algebras and General Relativity, Thessaloniki, 2000*
- *2nd Meeting of EU Network on Sources of Gravitational Waves, Chalkidiki, 2001*
- *Applied Differential Geometry, Lie Algebras and General Relativity, Thessaloniki, 2001*
- *10^o Conference “Recent Developments in Gravity”, Chalkidiki, 2002*
- *Conference on Sources of Gravitational Waves, Trieste, 2003*
- *11^o Conference “Recent Developments in Gravity”, Mytilene, 2004*
- *Cosmology and Gravitational Physics, Thessaloniki, 2005*
- *Celebration of the Laboratory of Astronomy, Thessaloniki, 2007*
- *Extreme Solar Systems, Santorini, 2007*
- *14^o “Recent Developments in Gravity”, Ioannina, 2010*

7.7 Referee

- *Astronomy & Astrophysics*
- *Astrophysical Journal*
- *Astrophysics and Space Science*
- *Classical and Quantum Gravity*
- *Physical Review D*
- *Physical Review Letters*
- *Monthly Notices of the Royal Astronomical Society*

7.8 Editorial Advisor

Editorial advisor for HIPPARCHOS (Journal of the Hellenic Astronomical Society).

8. Academic Work

8.1 Teaching

Aristotle University of Thessaloniki, Department of Physics

- **General Theory of Relativity**, from 2003 - 2004 to present
- **Astrophysics**, from 2000 - 2001 to present
- **Introduction to Astronomy**, from 2009 - 2010 to present
- **Mechanics of Continuous Media**, from 2000 - 2001 to present
- **Numerical Analysis**, from 2000 - 2001 to present
- **Applications of Computational Physics II**, from 2002 - 2003 to 2004 - 2005
- **Laboratory of Applied Informatics**, from 1999 - 2000 to 2008 - 2009

Aristotle University of Thessaloniki, Department of Physics

M.Sc. Program "Computational Physics"

- **Computational Mathematics**, from 2007 - 2008 to present
- **Computational Fluid Mechanics**, from 2004 - 2005 to 2005 - 2006

8.2 Supervision of Ph.D. Students - Member in Ph.D. Committees

Co-supervision (with Prof. E. Mueller) of the Ph.D. Thesis work of:

- **Reiner Birkl**, "*Stationary, Axisymmetric Neutron Stars with Meridional Circulation in General Relativity*", TU-Muenchen/Max-Planck-Institute for Astrophysics, Ph.D. awarded on 12/1/2010.
- **Michael Gabler**, "*Magnetohydrodynamical Oscillations of Magnetars*", TU-Muenchen/Max-Planck-Institute for Astrophysics, expected completion by summer of 2011.

Member in the Ph.D. committees of

- **Gian Mario Manca**, "*Dynamical Instabilities in Rapidly Rotating Neutron Star Models*", Department of Physics, University of Parma, Ph.D. awarded on 7/3/2007.
- **Christian D. Ott**, "*Stellar Iron Core Collapse in 3+1 General Relativity and The Gravitational Wave Signature of Core-Collapse Supernovae*", University of Potsdam, Ph.D. awarded on 30/3/2007.
- **Miltiadis Vavoulidis**, Department of Physics, Aristotle University of Thessaloniki, Ph.D. awarded on 5/5/2008.
- **Ifigenia Klaoudatou**, "*Physics of Cosmological Singularities in Isotropic Universes and Brane Universes*", University of the Aegean, Ph.D. awarded on 23/5/2008.
- **Simos Konstantinidis**, Department of Physics, Aristotle University of Thessaloniki, expected completion by summer of 2011.
- **Alexander Kouretsis**, Department of Physics, Aristotle University of Thessaloniki, expected completion by summer of 2013.

8.3 Supervision of M.Sc. Theses

M.Sc. Program "Computational Physics"

- **G. Askolidis**, *"Three-dimensional Imaging of Data from Numerical Relativity Simulations"* (2005)
- **V. Tziampazlis**, *"Three-dimensional Simulations of Rotational Oscillations in Relativistic Stars"* (2006)
- **D. Voukantzis**, *"Simulations of Compact Binary Systems in the Ellipsoidal Approximation"* (2007)
- **M. Anastasiou** *"Analysis of Individual Pulses from Neutron Stars"* (2007)
- **P. Antoniadis** *"The IDO Method and its Implementation in CUDA"* (2010)
- **V. Frogakis** *"Quasi-Periodic Alfvén Oscillations in Neutron Stars and the Numerical Solution of the MHD Equations"* (2010)
- **P. Kalogeras** *"Theoretical and Numerical Study of the Baroclinic Instability"* (2010)

8.4 Supervision of B.Sc. Theses

- **V. Paschalidis** *"Rapidly Rotating Neutron Star Models"* (2003) (continued with fellowship at University of Chicago)
- **V. Tziampazlis** *"Observational Relativistic Phenomena in Compact Stars"* (continued in the M.Sc. Program "Computational Physics")
- **N. Tsakiris** *"Numerical Relativity"* (2003) (continued in the M.Sc. Program "Computational Physics")
- **D. Voukantzis** *"Gravitational Radiation from Compact Stars"* (2004) (continued in the M.Sc. Program "Computational Physics")
- **P. Charitos** *"Equations of State for Neutron Stars"* (2005) (continued with fellowship at Imperial College, London)
- **Ch. Milea** *"Gravitational Radiation in Numerical Relativity"* (2005) (continued in the Ph.D. Program of the Department of Geology)
- **K. Metallinos** *"High-Entropy Neutron Stars"* (2006) (continued with fellowship at Tufts University)
- **S. Ilonidis** *"Relativistic Simulations of Accretion onto Compact Stars"* (2006) (continued with fellowship at Stanford University)
- **D. Manolidis** *"Self-Consistent Equilibrium Models of Neutron Stars with Tori"* (2007) (continued with fellowship at Washington University, St. Louis)
- **K. Zagkouris** *"Axisymmetric Oscillations of Relativistic Stars with Realistic Equations of State"* (2007) (continued in the M.Sc. Program "Computational Physics")
- **K. Dionysopoulou** *"Charged-Particle Orbits near Magnetized Black Holes"* (2008) (continued with fellowship at Max-Planck-Institute for Gravitational Physics, Potsdam)

8.5. Academic Administrative Work

- Member of the General Assembly of the Department of Physics (2000/01, 2001/02, 2003/04, 2005/06, 2008/9, 2009/10).
- Chairman of the Committee for the Website of the Department of Physics (2006 - 2010).
- Member of the Seminar Committee of the Department of Physics (2001 - 2010).
- Member of the Examination Committee for the entrance exams in the M.Sc. Program "Computational Physics" (2007 - 2009).
- Member of the Erasmus Mundus Committee of the Department of Physics (2004 - 2010).