

Brief CV

Ioannis Bakas

Academic Position: Professor, Department of Physics and Applied Mathematics,
National technical University (since March 2012)

Born: 1 August 1960

Place of birth: Kalamata

Research Interests: Theoretical and Mathematical high Energy Physics, gauge theories, string theory, quantum gravity, non-linear systems and symmetries.

Education

- Bachelor in Physics, National University of Athens (*1982*)
- Ph.D. in theoretical Physics, Imperial College, University of London, England (*1985*)

Research Experience and Academic Positions

- Postdoctoral Researcher in the Department of Physics, University of Utah, Salt Lake City, Utah, USA, *1985 - 86*.
- Postdoctoral Researcher in the Department of Physics, The University of Texas at Austin, Austin, Texas, USA, *1986 - 88*.
- Postdoctoral Researcher in the Center for Theoretical Physics, Department of Physics and Astronomy, University of Maryland, College Park, Maryland, USA, *1988 - 91*.
- Research member at the Institute for Advanced Study, School of Natural Sciences, Princeton, New Jersey, USA, *1991*.
- Postdoctoral Researcher in the Theory Division, CERN, Geneva, Switzerland, *1993 - 95*.
- Staff Member in the Theory Division, CERN, Geneva, Switzerland, *1996 - 98*.
- Professor of theoretical physics, Physics department, University of Patras (*1996-2012*).

Long term visiting appointments

- Visiting researcher at the Laboratoire de Physique Theorique, ENSLAPP Annecy-le-Vieux, France, *1995 - 96*.
- Visting Researcher at the Laboratoire de Physique Theorique, Ecole Polytechnique, Palaiseau, France, *2004*.
- Paid Scientific Associate at the Theory Group, Department of Physics, CERN, Geneva, Switzerland, *2004 – 05*.
- Visiting professor at the Arnold Sommerfeld Center for Theoretical Physics, Ludwig Maximilians University, Munich, Germany, *2011-2012, 2013, 2014*.

Participation in recent Research Projects

- RTN European Network “Constituents, Fundamental Forces and Symmetries of the Universe”, MRTN-CT-2004-005104, 2004-2008, head of the Greek node.
- Marie-Curie European Excellence Grant “Standard Model Extensions with Massive Neutrinos: Phenomenology, Model Building and Cosmological Applications”, MEXT-CT-2004-014297, 2004-2009, general scientific responsibile with S. Lola as team leader.
- Πρόγραμμα ΑΡΙΣΤΕΙΑ Ι “Holographic hydrodynamics”, ΕΣΠΙΑ, ΓΓΕΤ, 2012-2015, participating researcher.

- Πρόγραμμα ΑΡΙΣΤΕΙΑ II , ΕΣΠΑ, ΓΓΕΤ, 2014-2015, principal investigator.

Selected publications

1. "Higher Spin Fields and the Gelfand-Dickey Algebra", Communications in Mathematical Physics 123 (1989) 627
2. "The Large N Limit of Extended Conformal Symmetries", Physics Letters B228 (1989) 57
3. "O(2, 2) Transformations and the String Geroch Group", Nuclear Physics B428 (1994) 374
4. "Space-time Interpretation of S-duality and Supersymmetry Violations of T-duality", Physics Letters B343 (1995) 103
5. "Lagrangian Formulation of Symmetric Space Sine-Gordon Models" (with Q.-H. Park and H.-J. Shin), Physics Letters B372 (1996) 45
6. "Domain Walls of Gauged Supergravity, M-Branes and Algebraic Curves" (with A. Brandhuber and K. Sfetsos), Advanced Theoretical and Mathematical Physics 3 (1999) 1657
7. "On the Tensionless Limit of Gauged WZW Models" (with C. Sourdis), Journal of High Energy Physics JHEP 0406 (2004) 049
8. "The Algebraic Structure of Geometric Flows in Two Dimensions", Journal of High Energy Physics JHEP 0510 (2005) 038
9. "Dirichlet Sigma Models and Mean Curvature Flow" (with C. Sourdis), Journal of High Energy Physics JHEP 0706 (2007) 057
10. "Energy-momentum/Cotton Tensor Duality for AdS(4) Black Holes", Journal of High Energy Physics JHEP 0901 (2009) 003
11. "Mixmaster Universe in Horava-Lifshitz Gravity" (with F. Bourliot, D. Lust and P.M. Petropoulos), Classical and Quantum Gravity 27 (2010) 045013
12. "Ancient Solutions of Ricci Flows on Spheres and Generalized Hopf Fibrations" (with S. Kong and L. Ni), J. Reine Angew. Math. 663 (2012) 209
13. "3-Cocycles, Non-Associative Star-Products and the Magnetic Paradigm of R-Flux String Vacua" (with D. Lust), Journal of High Energy Physics JHEP 1401 (2014) 171
14. "Non-equilibrium Dynamics and AdS(4) Robinson-Trautman" (with K. Skenderis), Journal of High Energy Physics JHEP 1408 (2014) 056