Radu A. Ionaș

Curriculum Vitae

Stony Brook University
Department of Physics and Astronomy
Stony Brook, NY 11794-3800
☎ + 1 (631) 632 8100
✉ radu.ionas@stonybrook.edu

Education

2000 – 2007	**PhD in Theoretical Physics**, *Dec. 2007*.
	Stony Brook University, Stony Brook, NY
	Department of Physics and Astronomy and C.N. Yang Institute for Theoretical Physics
	Thesis advisor: Martin Roček
	Thesis title: *Elliptic hyperkähler constructions*
1998 – 2000	**M.Sc. in Physics**, *Jun. 2000*.
	University of Bucharest, Romania
	Justus Liebig Universität, Institut für Theoretische Physik, Giessen, Germany
	(via an *Erasmus European Exchange Program Scholarship*)
1994 – 1998	**B.Sc. in Physics**, *Jun. 1998*.
	University of Bucharest, Romania

Academic Affiliations

Spring 2020 – present	**Lecturer**. Department of Physics and Astronomy, Stony Brook University
Spring 2020	**Lecturer**. Mathematics Department, Stony Brook University
2016 – 2019	**Visiting Research Scholar**. C.N. Yang Institute for Theoretical Physics, Stony Brook University
2009 – 2011	**Postdoctoral Fellow**. School of Mathematics, University of Edinburgh, United Kingdom
2005 – 2008	**Lecturer**. Mathematics Department, Stony Brook University
2000 – 2002	**Teaching Assistant**. Department of Physics and Astronomy, Stony Brook University

Visiting Positions

2011	Simons Institute for Geometry and Physics, Stony Brook, NY
2009	Institut des Hautes Études Scientifiques, Bures-sur-Yvette, France

Teaching

Stony Brook University (recently)

- Theoretical Mechanics (PHY 303)
- Classical Physics for Scientists and Engineers I and II (PHY 131, PHY 132)

- ○ Classical Physics A (PHY 125)
- ○ Physics for Life Sciences II (PHY 122)
- ○ Online Physics Labs (PHY 121.L69, PHY 133.L69, PHY 134.L69)
- ○ Tutorial in Advanced Topics (PHY 447)
- ○ Calculus II (MAT 132)

University of Edinburgh

- ○ Linear Algebra (lecturer)
- ○ Computer Algebra Systems – Maple (tutor)

Stony Brook University (pre 2008)

- ○ Calculus I and II (lecturer, TA)
- ○ Pre-Calculus (lecturer, TA)
- ○ Classical Physics, including laboratories (TA)
- ○ RTG seminar

Awards

Department of Physics and Astronomy's Faculty Teaching Award, SBU, 2023

References

[1] M. Arai, K. Baba, and **Ionas, Radu A.** Revisiting Atiyah-Hitchin manifold in the generalized Legendre transform. *PTEP. Prog. Theor. Exp. Phys.*, (6):Paper No. 063A03, 26, 2023.

[2] M. Arai, K. Baba, and **Ionas, Radu A.** Reconstructing Atiyah-Hitchin manifold in the generalized Legendre transform. *J. Phys. Conf. Ser.*, 2667(1):012077, 2023.

[3] **Ionas, Radu A.** Twisted hyperkähler symmetries and hyperholomorphic line bundles. *J. Geom. Phys.*, 143:41–106, 2019.

[4] **Ionas, Radu A.** An analogue of the Gibbons-Hawking Ansatz for quaternionic Kähler spaces. 1 2019, 1901.11166.

[5] **Ionas, Radu A.** Gravitational instantons of type D_k and a generalization of the Gibbons-Hawking Ansatz. *Comm. Math. Phys.*, 355(2):691–740, 2017.

[6] **Ionas, Radu A.** and A. Neitzke. A Note on conformal symmetry in projective superspace. 11 2008, 0811.2048.

[7] **Ionas, Radu A.** Quaternionic Kähler spaces with large toric symmetry. 11 2008, 0811.3740.

[8] **Ionas, Radu A.** Elliptic constructions of hyperkähler metrics. III. Gravitons and Poncelet polygons. 12 2007, 0712.3601.

[9] **Ionas, Radu A.** Elliptic constructions of hyperkähler metrics II: The Quantum mechanics of a Swann bundle. 12 2007, 0712.3600.

[10] **Ionas, Radu A.** Elliptic constructions of hyperkähler metrics. I. The Atiyah-Hitchin manifold. 12 2007, 0712.3598.

Invited Talks

- Simons Center for Geometry and Physics Seminar – Hidden hyperkähler symmetries and gravitational instantons of type D_k, Aug. 8, 2017 (click for video link).
- Vanderbilt University, Geometry Seminar – Hidden hyperkähler symmetries and gravitational instantons, Mar. 3, 2017.
- Texas A&M University, High Energy Seminar – A generalization of the Gibbons–Hawking Ansatz and gravitational instantons of type D_k, Feb. 16, 2017.
- University of Edinburgh, EMPG Seminar – Twistors, D-instantons, and wall-crossing, Nov. 3, 2009.
- University of Edinburgh, Geometry Seminar – Quaternionic Kähler spaces with large toric symmetry, Oct. 29, 2009.
- University of Leeds, Geometry Seminar – Quaternionic Kähler spaces with large toric symmetry, Oct. 15, 2009.

Professional Service

- Department of Physics and Astronomy's Undegraduate Curriculum Committee, member
- Department of Physics and Astronomy's TA Training Committee, member