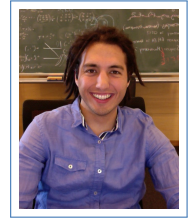


John Kehayias

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📄 9bladed.com



Education

- 2006–2011 **PhD, MS**, *University of California, Santa Cruz*.
Physics
Advisers: Michael Dine and Stefano Profumo
- 2003–2006 **BA**, *Columbia University, New York City*.
Double Major: Physics and Mathematics
- 2002–2003 –, *Rensselaer Polytechnic Institute, Troy, New York*.
Transferred after first year to Columbia University.

Research Positions

- Oct. 2014–
Oct. 2016 **Postdoctoral Scholar**, *Department of Physics & Astronomy, Vanderbilt University, Nashville, TN, United States*.
- Sept. 2011–
Sept. 2014 **Postdoctoral Research Fellow**, *Kavli Institute for the Physics and Mathematics of the Universe, Todai Institutes for Advanced Study, The University of Tokyo, Kashiwa, Japan*.
(Kavli IPMU, WPI)

Computer skills

Languages	Python, C++ , C, Common Lisp, Java, LaTeX	Physics/Math Software	Mathematica, ROOT, gnuplot
Other Applications	Adobe Lightroom and Photoshop, Darktable, common word processing, database, spreadsheet, and presentation software	Operating Systems	Linux, macOS, Windows

Publications

- J. Kehayias and R. J. Scherrer, “**Oscillating and Static Universes from a Single Barotropic Fluid**,” *JCAP* **1512** no. 12, (2015) 015, [arXiv:1509.08915](https://arxiv.org/abs/1509.08915) [hep-th].
- J. Kehayias, T. W. Kephart, and T. J. Weiler, “**The Excess Radio Background and Fast Radio Transients**,” *JCAP* **2015** no. 10, (2015) 053, [arXiv:1509.00011](https://arxiv.org/abs/1509.00011) [astro-ph.CO].
- S. Hellerman, J. Kehayias, and T. T. Yanagida, “**Chaotic Inflation from Nonlinear Sigma Models in Supergravity**,” *Phys.Lett.* **B742** (2015) 390–393, [arXiv:1411.3720](https://arxiv.org/abs/1411.3720) [hep-ph].
- B. Henning, J. Kehayias, H. Murayama, D. Pinner, and T. T. Yanagida, “**A keV String Axion from High Scale Supersymmetry**,” *Phys.Rev.* **D91** no. 4, (2015) 045036, [arXiv:1408.0286](https://arxiv.org/abs/1408.0286) [hep-ph].
- J. Kehayias, S. Mukohyama, and J.-P. Uzan, “**Emergent Lorentz Signature, Fermions, and the Standard Model**,” *Phys.Rev.* **D89** (2014) 105017, [arXiv:1403.0580](https://arxiv.org/abs/1403.0580) [hep-th].
- S. Hellerman, J. Kehayias, and T. T. Yanagida, “**Charge Quantization and the Standard Model from the CP^2 and CP^3 Nonlinear σ -Models**,” *Physics Letters B* **731** (2014) 148 – 153, [arXiv:1312.6889](https://arxiv.org/abs/1312.6889) [hep-th].

- S. Hellerman, J. Kehayias, and T. T. Yanagida, “**Charge Quantization in the $\mathbb{CP}(1)$ Nonlinear Sigma-Model**,” *Physics Letters B* **728** (2014) 358 – 362, arXiv:1309.0692 [hep-th].
- A. Aguirre and J. Kehayias, “**Quantum Instability of the Emergent Universe**,” *Phys.Rev.* **D88** (2013) 103504, arXiv:1306.3232 [hep-th].
- J. L. Evans, M. Ibe, J. Kehayias, and T. T. Yanagida, “**Non-Anomalous Discrete R-symmetry Decreases Three Generations**,” *Phys.Rev.Lett.* **109** (2012) 181801, arXiv:1111.2481 [hep-ph].
- T. Banks and J. Kehayias, “**Fuzzy Geometry via the Spinor Bundle, with Applications to Holographic Space-time and Matrix Theory**,” *Phys. Rev.* **D84** (2011) 086008, arXiv:1106.1179 [hep-th].
- M. Dine, G. Festuccia, J. Kehayias, and W. Wu, “**Axions in the Landscape and String Theory**,” *JHEP* **01** (2011) 012, arXiv:1010.4803 [hep-th].
- J. Kehayias, “**Generalized Gaugino Condensation in Super Yang-Mills Theories: Discrete R-Symmetries and Vacua**,” *Phys. Rev.* **D82** (2010) 125041, arXiv:1005.4686 [hep-th].
- J. Kehayias and S. Profumo, “**Semi-Analytic Calculation of the Gravitational Wave Signal From the Electroweak Phase Transition for General Quartic Scalar Effective Potentials**,” *JCAP* **1003** (2010) 003, arXiv:0911.0687 [hep-ph].
- M. Dine and J. Kehayias, “**Discrete R Symmetries and Low Energy Supersymmetry**,” *Phys. Rev.* **D82** (2010) 055014, arXiv:0909.1615 [hep-ph].
- T. E. Jeltema, J. Kehayias, and S. Profumo, “**Gamma Rays from Clusters and Groups of Galaxies: Cosmic Rays versus Dark Matter**,” *Phys. Rev.* **D80** (2009) 023005, arXiv:0812.0597 [astro-ph].
- J. Kehayias, “**Recent work on gravitational waves from a generic standard model-like effective Higgs potential**,” *Nucl. Phys. Proc. Suppl.* **192-193** (2009) 152–153, arXiv:0912.0007 [hep-ph].

Recent Invited Talks

- October 28, 2015 **Brown Bag Seminar**, Michigan Center for Theoretical Physics (MCTP), University of Michigan, Ann Arbor, MI, United States.
“Theory and Applications of Nonlinear Sigma Models”
- April 24, 2015 **Theory Symposium, Santa Cruz Institute for Particle Physics (SCIPP) Reunion and 35th Anniversary Celebration**, University of California, Santa Cruz, Santa Cruz, CA, United States.
“Nonlinear Sigma Models for Fun and Profit”
- March 27, 2014 **High Energy Theory Seminar**, William I. Fine Theoretical Physics Institute (FTPI), University of Minnesota, Minneapolis, MN, United States.
“Charge Quantization and the Standard Model from Nonlinear Sigma Models”
- September–December 2013 **Theory Group Seminar**, UC Berkeley/LBL, Columbia University, YITP/Stony Brook University, NYU, UC Irvine, UC Santa Cruz, University of Tokyo (Komaba), Perimeter Institute, United States, Japan, Canada.
“No GUTs, All Glory: Charge Quantization from Nonlinear Sigma Models”
- December 3, 2012 **Research Center for the Early Universe (RESCEU Group) Seminar**, The University of Tokyo, Sendai, Japan.
“Quantum Instability of the Emergent Universe”
- December 1, 2011 **Particle and Cosmology Group Seminar**, Tohoku University, Sendai, Japan.
“Discrete R-symmetries, Generalized Gaugino Condensation, and Three Generations”

November 24, 2011 **ACP Seminar**, Kavli IPMU, University of Tokyo (WPI), Kashiwa, Japan.
“Discrete R-Symmetries and Generalized Gaugino Condensation (and Three Generations)”

Recent Conferences

- August 19–26, 2016 **“Static and Oscillating Universes”**, Poster at *Rencontres de Moriond: Cosmology 2016*, La Thuile, Aosta Valley, Italy.
- December 16–22, 2015 **“Fast Radio Transients”**, Talk at the *Miami 2015 Conference, a topical conference on elementary particles, astrophysics, and cosmology*, Fort Lauderdale, Florida, United States.
- August 23–29, 2015 **“Light Fields and Flat Directions from Nonlinear Sigma Models in Supergravity”**, Talk at *SUSY 2015, 23rd International Conference on Supersymmetry and Unification of Fundamental Interactions*, Lake Tahoe, California, United States.
- December 17–23, 2014 **“Chaotic Inflation from Nonlinear Sigma Models in Supergravity”**, Talk at the *Miami 2014 Conference, a topical conference on elementary particles, astrophysics, and cosmology*, Fort Lauderdale, Florida, United States.
- August 21–28, 2014 **“Chaotic Inflation and a Light Higgs in Supergravity”**, Talk at *SI 2014, 20th International Summer Institute on Phenomenology of Elementary Particles and Cosmology*, Fuji-Yoshida, Japan.
- August 26–31, 2013 **“No GUTs, All Glory: Charge Quantization from Nonlinear Sigma Models”**, Talk at *SUSY 2013, 21st International Conference on Supersymmetry and Unification of Fundamental Interactions*, ICTP, Trieste, Italy.
- June 9–15, 2013 **“Quantum Instability of the Emergent Universe”**, Talk at *MCCQG, 2nd Mediterranean Conference on Classical and Quantum Gravity*, Veli Lošinj, Croatia.
- August 13–18, 2012 **“Three Generations From a Non-Anomalous Discrete R-Symmetry”**, Talk at *SUSY 2012, 20th International Conference on Supersymmetry and Unification of Fundamental Interactions*, Peking University, Beijing, China.
- August 23–28, 2010 **“Generalized Gaugino Condensation and Discrete R-Symmetries”**, Talk at *SUSY 2010, 18th International Conference on Supersymmetry and Unification of Fundamental Interactions*, Physikalisches Institut, Bonn, Germany.

Recent Honors

- Fellowships Oral Qualifying Exam Fellowship (UCSC)
TA Sabbatical Fellowship (UCSC)
Regents Fellowship (UCSC)

Teaching

- September 2006–June 2011 **Teaching Assistant**, University of California, Santa Cruz.
Classes: Physics 5A, 6A, 6B, 6C, 110B, 116A, 139A
Taught lab sections or discussion sections, graded, gave written evaluations, and held office hours.
- July–August, 2007–2009 **Teaching Assistant, COSMOS: “California State Summer School for Mathematics and Science”**, University of California, Santa Cruz.
Assisted with the particle physics lab section of COSMOS at UCSC for high school students.
- Fall Semester 2004 & 2005 **Grader**, Columbia University, New York City.
ASTR3601, “General Relativity, Black Holes, and Cosmology”
Provided help for students and graded homework assignments.
- Spring Semester 2003 **Undergraduate Teaching Assistant**, Rensselaer Polytechnic Institute, Troy, New York.
PHYS-1200, “Physics II”
Assisted students during in-class laboratory activities and graded course-wide exams.