



# GRAVITY RESEARCH FOUNDATION

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**The trustees are pleased to announce the Awards for Essays for 2024.**

1. \$4,000 - **Holographic Inflation, Primordial Black Holes and Early Structure Formation** by Tom Banks, NHETC and Department of Physics, Rutgers University, Piscataway, NJ 08854-8019; email: [tibanks@ucsc.edu](mailto:tibanks@ucsc.edu) and Willy Fischler, Department of Physics and Texas Cosmology Center, Weinberg Institute, Center for Theory, University of Texas, Austin, TX 78712; email: [fischler@physics.utexas.edu](mailto:fischler@physics.utexas.edu)
2. \$700 - **The Secret Structure of the Gravitational Vacuum** by Samir D. Mathur, Department of Physics, The Ohio State University, Columbus, OH 43210, USA; email: [mathur.16@osu.edu](mailto:mathur.16@osu.edu)
3. \$600 - **Universal Acceleration and Fuzzy Dark Matter** by Douglas Edmonds, Department of Physics, Penn State Hazleton, Hazleton, PA 18202; email: [edmonds@psu.edu](mailto:edmonds@psu.edu), Joshua Erlich, Department of Physics, William and Mary, Williamsburg, VA 23185; email: [jxerli@wm.edu](mailto:jxerli@wm.edu), Djordje Minic and Tatsu Takeuchi, Department of Physics, Virginia Tech, Blacksburg, VA 24061; emails: [dminic@vt.edu](mailto:dminic@vt.edu), [takeuchi@vt.edu](mailto:takeuchi@vt.edu)
4. \$500 - **In Search of the Biggest Bangs since the Big Bang** by John Ellis<sup>1,2</sup>, Malcolm Fairbairn<sup>1</sup>, Juan Urrutia<sup>3,4</sup> and Ville Vaskonen<sup>4,5,6</sup>, <sup>1</sup>TPPC Group, Physics Department, King's College London, Strand WC2R 2LS, UK; <sup>2</sup>Theoretical Physics Department, CERN, CH-1211 Geneva 23, Switzerland; <sup>3</sup>Keemilise ja Bioloogilise Füüsika Instituut, Rävala pst. 10, 10143 Tallinn, Estonia; <sup>4</sup>Department of Cybernetics, Tallinn University of Technology, Akadeemia tee 21, 12618 Tallinn, Estonia; <sup>5</sup>Dipartimento di Fisica e Astronomia, Università degli Studi di Padova, Via Marzolo 8, 35131 Padova, Italy; <sup>6</sup>Istituto Nazionale di Fisica Nucleare, Sezione di Padova, Via Marzolo 8, 35131 Padova, Italy; emails: [john.ellis@cern.ch](mailto:john.ellis@cern.ch), [malcolm.fairbairn@kcl.ac.uk](mailto:malcolm.fairbairn@kcl.ac.uk), [juan.urrutia@kbfi.ee](mailto:juan.urrutia@kbfi.ee), [ville.vaskonen@kbfi.ee](mailto:ville.vaskonen@kbfi.ee)
5. \$400 - **Fully Extremal Black Holes: A Black Hole Graveyard?** by Francesco DiFilippo, Institute of Theoretical Physics, Faculty of Mathematics and Physics, Charles University, V Holešovičkách 2, 180 00 Prague 8, Czech Republic, email: [francesco.difilippo@matfyz.cuni.cz](mailto:francesco.difilippo@matfyz.cuni.cz), Stefano Liberati, SISSA – International School for Advanced Studies, Via Bonomea 265, 34136 Trieste, Italy; IFPU – Institute for Fundamental Physics of the Universe, Via Beirut 2, 34104 Trieste, Italy; INFN Sezione di Trieste, Via Valerio 2, 34127 Trieste, Italy; email: [liberati@sissa.it](mailto:liberati@sissa.it) and Matt Visser, School of Mathematics and Statistics, Victoria University of Wellington, PO Box 600, Wellington 6140, New Zealand; email: [matt.visser@sms.vuw.ac.nz](mailto:matt.visser@sms.vuw.ac.nz)

**Selected for Honorable Mention this year were (listed in alphabetical order):** Francesco Alessio and Michele Arzano; Spyros Basilakos, Dimitri V. Nanopoulos, Theodoros Papanikolaou, Emmanuel N. Saridakis and Charalampos Tzerefos; Elmo Benedetto, Christian Corda and Ignazio Licata; Nigel T. Bishop, Vishnu Kakkat, Amos S. Kubeka, Monos Naidoo and Petrus J. van der Walt; Philippe Brax and Pierre Vanhove; Molly Burkmar and Marco Bruni; Juan A. Cañas, A. Martin-Ruiz and J. Bernal; Raúl Carballo-Rubio and Astrid Eichhorn; Juanca Carrasco-Martinez; Man Ho Chan; S. Mahesh Chandran and S. Shankaranarayanan; Hong Zhe Chen; RY Chiao, NA Inan, DA Singleton, ME Tobar; Sayantan Choudhury; A. A. Coley; Bruno Arderucio Costa; Jesse Daas, Cristobal Laporte, Frank Saueressig and Tim van Dijk; John Bruce Davies; Arthur E. Fischer; T. R. Govindarajan; Eduardo Guendelman; Yuan K. Ha; Shahar Hod; Viqar Husain, Irfan Javed, Sanjeev Seahra and Nomaan X; Lawrence M. Krauss, Francesco Marino, Samuel L. Braunstein, Mir Faizal and Naveed A. Shah; Philip D. Mannheim; Alexander I. Nesterov; Fabrizio Pinto; Tom Rudelius; Jorge G. Russo; Victoria Shenderov, Mark Suppiah, Thomas Beitel, Sreenath K.Manikandan and Igor Pikovski; Tejinder P. Singh; Slava G.Turyshev; C.S.Unnikrishnan; Jenny Wagner

This announcement and abstracts of award-winning and honorable mention essays are posted on our web site, <http://www.gravityresearchfoundation.org>. The five award-winning essays are also posted on our website and will be published in the October 2024 SPECIAL ISSUE of the International Journal of Modern Physics D (IJMPD).