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2024 JOSA A Emerging Researcher Best Paper Prize: editorial

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JOSA A Editor-in-Chief Olga Korotkova, Deputy Editor Markus Testorf, and the members of the 2024 Emerging Researcher Best Paper Prize Committee announce the recipient of the 2024 prize for the best paper published by an emerging researcher in the Journal.

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The JOSA A Emerging Researcher Best Paper Prize was established in 2018 to highlight the work of an early-career researcher (within five years of earning their highest degree) who is the first author of a paper judged to be an outstanding contribution to any field of classical optics, image science, and vision. This year's selection committee, responsible for identifying a winner from a set of nominated papers published in 2024 based on scientific significance, quality, and presentation of the results, was chaired by Deputy Editor Markus Testorf and included Feature Editor Svetlana Avramov-Zamurovic and Topical Editors Angela Dudley, Fu Feng, Michela Lecca, Mircea Mujat, Jonathan Petruccelli, Zhimin Shi, and Renjie Zhou. It is our distinct pleasure to announce the recipient of the prize for 2024.

The winning paper is "Geometric construction of relativistic and non-relativistic distortion" [1], written by Gordon Wells, from the University of Glasgow in the UK, and his colleagues. Their article describes a web-based ray-tracing application capable of visualizing the distortions of a scene that observers moving at relativistic speed would experience. The selection committee recognizes the importance of developing tools to explore abstract concepts through intuitive visual representations. The paper complements the creative use of ray-tracing with a clear development of the underlying theory and a fully functional web application. The interest the paper has created in the optics community is further testimony of its importance, and the committee believes that, in terms of both content and format, it may serve as a model for future research projects.

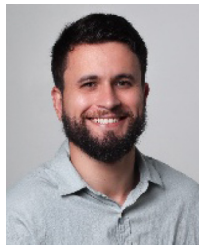
The paper "Proposal to correct aberration and turbulence effects in the propagation of Laguerre-Gaussian modes" [2] by P. H. Grosman and J. A. O. Huguenin, from the Universidade Federal Fluminense, Brazil, received an honorable mention. This article presents a study of the effects of aberration and turbulence on Laguerre-Gaussian modes and proposes a method to correct these effects using a spatial light modulator. The paper stood out as a well-crafted contribution epitomizing the virtues of good scientific writing.

Congratulations to Gordon Wells and Pedro Grosman on their selections and our best wishes for their future scientific careers!

Gordon Wells

Gordon Wells is a machine learning engineer from the UK. He earned a BSc in computing science and physics from the University of Glasgow in 2020. As an undergraduate, he worked under the supervision of Dr. Johannes Courtial on the development of interactive visualization tools for optical distortions arising from high-speed motion. He is currently working in industry, with experience in machine learning for satellite imagery, geospatial analysis, and applied ML systems for real-world data.

Pedro H. Grosman



Pedro H. Grosman holds a Ph.D. in physics from the Universidade Federal Fluminense (UFF), where he conducted research at the Laboratory of Optics and Quantum Information, focusing on optical and quantum information studies. He earned his bachelor's degree in computational physics from UFF, actively engaging in research on agent-based computational modeling and quantum computation using intense light beams. During his master's degree at the Universidade Federal de Minas Gerais, he developed experimental setups aimed at mitigating atmospheric turbulence effects on entangled photon beams. His research interests include numerical methods, simulations, and machine learning applications within optics and quantum physics.

REFERENCES

1. G. Wells, Y.-C. Wu, M. Locher, *et al.*, "Geometric construction of relativistic and non-relativistic distortion," J. Opt. Soc. Am. A **41**, 1329–1336 (2024).
2. P. H. Grosman and J. A. O. Huguenin, "Proposal to correct aberration and turbulence effects in the propagation of Laguerre-Gaussian modes," J. Opt. Soc. Am. A **41**, 2125–2133 (2024).