

Trevor Scheopner

Trajectory

Postdoc, <i>Max Planck Institute for Gravitational Physics (the Albert Einstein Institute)</i>	2024–Present
Supervisors: Alessandra Buonanno & Jan Steinhoff	
Ph.D. in Physics, <i>University of California at Los Angeles</i>	2018–2024
Thesis Advisor: Zvi Bern	
Further Committee: Michael Gutperle, Eric d’Hoker, Mikhail Solon	
Thesis: “ Classical and Quantum Effective Field Theories for Gravitating Spinning Bodies ”	
B.S. in Physics, B.S. in Mathematics, <i>University of Kansas</i>	2014–2018
Physics Thesis: “ Canonical Quantization of GR using the ADM Formalism ”	
Math Thesis: “ Modeling the dynamics of a guitar string beyond the wave equation ”	

Publications

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- M. Alavverdian, Z. Bern, D. Kosmopoulos, A. Luna, R. Roiban, T. Scheopner, F. Teng
“**Observables and Unconstrained Spin Tensor Dynamics in General Relativity from Scattering Amplitudes**”, [arXiv:2503.03739](#) [hep-th]
 - M. Alavverdian, Z. Bern, D. Kosmopoulos, A. Luna, R. Roiban, T. Scheopner, F. Teng
“**Conservative Spin-Magnitude Change in Orbital Evolution in General Relativity**”, *Phys. Rev. Lett.* **134** (2025) 10, 101602, [arXiv:2407.10928](#) [hep-th]
 - T. Scheopner and J. Vines
“**Dynamical Implications of the Kerr Multipole Moments for Spinning Black Holes**”, *JHEP* **12** (2024) 060, [arXiv:2311.18421](#) [gr-qc]
 - Z. Bern, D. Kosmopoulos, A. Luna, R. Roiban, T. Scheopner, F. Teng, and J. Vines
“**Quantum Field Theory, Worldline Theory, and Spin Magnitude Change in Orbital Evolution**”, *Phys.Rev.D* **109** (2024) 4, 045011, [arXiv:2308.14176](#) [hep-th]
 - L. de la Cruz, A. Luna, and T. Scheopner
“**Yang-Mills observables: from KMOC to eikonal through EFT**”, *JHEP* **01** (2022) 045, [arXiv:2108.02178](#) [hep-th]

Conference Talks and Seminars

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| • Amplitudes 2025 at <i>Seoul National University</i> | June 17, 2025 |
| • Seminar at the <i>AEI</i> | March 5, 2025 |
| • General Relativity from Amplitudes Alliance (GRAMPA) Seminar | November 11, 2024 |
| • Invited Seminar Speaker at <i>CalTech</i> | May 15, 2024 |
| • California Amplitudes 2024 at <i>University of California at Davis</i> | May 12, 2024 |
| • QCD Meets Gravity 2023 at <i>CERN</i> | December 14, 2023 |
| • Southern California Strings and Fields at <i>UCLA</i> | March 25, 2023 |
| • California Amplitudes at <i>UC San Diego</i> | March 18, 2023 |

Honors, Awards, and Funding

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| • Supported by the <i>Mani L. Bhaumik Institute for Theoretical Physics at UCLA</i> | 2021–2024 |
| • Supported by U.S. Department of Energy (DOE) award DE-SC0009937 | 2022–2024 |
| • Winner of the Physics Upper Division Graduate Teaching Award (for courses 221A, 221B) | 2022 |
| • Finalist for the UCLA Academic Senate’s Distinguished Teaching Award (for all prior courses) | 2022 |
| • Winner of the Teaching Assistant of the Year Abelman Award (for courses 220, 210A, 210B) | 2021 |
| • Winner of the Physics Lower Division Graduate Teaching Award (for courses 1AH, 1BH, 1CH) | 2020 |
| • Recipient of the Robert Finkelstein Fellowship in Theoretical Physics | 2019 |

Teaching Experience

- Extensive Physics and Mathematics tutoring of High school students, undergraduates, graduate students, and private individuals 2018–2024
- Editor for the Annual UCLA Physics Ph.D. Comprehensive Exam 2023, 2022, 2021
- Tutor for the APS Bridge Program 2021–2023
- UCLA Physics Department Supplementary Tutor 2019–2023
- UCLA Physics 221B – Graduate Quantum Mechanics II Winter 2022
- UCLA Physics 221A – Graduate Quantum Mechanics I Fall 2021
- UCLA Physics 210B – Graduate Electromagnetism II Spring 2021
- UCLA Physics 210A – Graduate Electromagnetism I Winter 2021
- UCLA Physics 220 – Graduate Classical Mechanics Fall 2020
- UCLA Physics 5AL – Intro Mechanics Lab for Life Science Majors Summer 2020
- UCLA Physics 1CH – Honors Physics III: E&M, Optics, and Special Relativity Spring 2020
- UCLA Physics 1BH – Honors Physics II: Oscillations, Waves, and E&M Fields Winter 2020
- UCLA Physics 1AH – Honors Physics I: Mechanics Fall 2019
- UCLA Physics 1B – Physics II: Oscillations, Waves, Electromagnetic Fields Summer 2019
- UCLA Physics 10 – Physics for Non-STEM Majors Spring 2019
- UCLA Physics 1A – Physics I: Mechanics for Scientists and Engineers Winter 2019
- UCLA Physics 5A – Intro to Mechanics for Life Science Majors Fall 2018