

Education

- 2009–2015 **Ph.D. in Physics** (GPA: 3.96/4.00) | [University of California, Los Angeles](#) | Los Angeles, CA
- Advisor: Zvi Bern
 - With a team of collaborators, performed previously intractable scattering-amplitude computations to unravel underlying structures and symmetries of quantum field theories
 - Focused on quantum gravity and its ultraviolet divergences—infinities that obstruct the union of general relativity and quantum mechanics
- 2004–2009 **B.S. in Physics, B.A. in Mathematics** (GPA: 4.00/4.00) | [University of Cincinnati](#) | Cincinnati, OH
- Physics (High Honors) | Mathematics (Honors)
 - Electrical Engineering (6 quarters) | Industrial Management (4 quarters)

Experience

- Sept. 2015 **Postdoctoral Fellow** | [Nordic Institute for Theoretical Physics \(Nordita\)](#) | Stockholm, Sweden
- Present
- Coupled physical insights with efficient algorithms to build Wolfram Language (Mathematica) libraries of analytical and numerical tools for scattering-amplitude calculations
 - Implemented optimized strategies for memory-intensive amplitude constructions, utilizing the parallel-processing capabilities of UCLA's Hoffman2 Cluster
 - Discovered new—and elucidated existing—low-energy theorems for seemingly disparate particles such as gluons, gravitons and dilatons, with a focus on quantum corrections
- Mar. 2012 **Graduate Student Researcher** | [UCLA, Department of Physics](#) | Los Angeles, CA
- Aug. 2015
- Through leading-edge computations, changed 30-year-old ideas concerning ultraviolet divergences, evanescent effects and dualities in nonsupersymmetric theories of gravity through two loop orders
 - Constructed new loop-level evidence for the conjectured duality between the color algebra of Yang-Mills theory and the kinematics of gravity scattering amplitudes in the nonsupersymmetric sector
- Sept. 2009 **Teaching Assistant** | [UCLA, Department of Physics](#) | Los Angeles, CA
- June 2015
- Recipient of the “Outstanding Teaching Award” for the 2012–2013 academic year
 - 19 quarters of teaching experience, from introductory labs to upper-division courses
- June 2007 **Research Assistant** | [University of Cincinnati, Nanomaterials Physics Group](#) | Cincinnati, OH
- Jan. 2008
- Fabricated solid immersion lenses to enhance spatial resolution in nanostructure imaging
- Sept. 2006 **Electrical Product Engineering Co-Op** | [Texas Instruments](#) | Stafford, TX
- Mar. 2007
- Initiated, designed and coded an addition to the digital-signal-processor test program
 - Tested chips for a variety of operating parameters and investigated failure data
- June 2005 **Planning and Logistics Co-Op** | [GE Aviation](#) | Evendale, OH
- Sept. 2005
- Programmed a comprehensive, user-friendly macro with VBA in Excel to consolidate and analyze data patterns in outside-vendor schedule stability

Publications

- Summary: 7 papers, 200+ citations | Profile: inspirehep.net/author/profile/J.Nohle.1
- Recent:
- P. Di Vecchia, R. Marotta, M. Mojaza and J. Nohle, “*New Soft Theorems for the Gravity Dilaton and the Nambu-Goldstone Dilaton at Subsubleading Order*,” Phys. Rev. D 93, 085015 (2016)
 - Z. Bern, S. Davies and J. Nohle, “*Double-Copy Constructions and Unitarity Cuts*,” Phys. Rev. D 93, 105015 (2016)
 - Z. Bern, C. Cheung, H.-H. Chi, S. Davies, L. Dixon and J. Nohle, “*Evanescent Effects Can Alter Ultraviolet Divergences in Quantum Gravity without Physical Consequences*,” Phys. Rev. Lett. 115, 211301 (2015)

Programming Skills

- Proficient: C++, Wolfram Language (Mathematica) | Prior Experience: VBA, Visual Basic, SQL, Perl, Pascal
- Sample: Reduction of tensor integrals to scalar integrals | github.com/nohle/resume-and-code-sample