Josh | Nohle

Education

2009–2015 **Ph.D. in Physics** (GPA: 3.96/4.00) | University of California, Los Angeles | Los Angeles, CA

- Advisor: Zvi Bern
- Focus: With a team of collaborators, investigated the underlying structures and symmetries of quantum field theories—particularly quantum gravity—through previously-intractable scattering-amplitude computations

2004–2009 **B.S. in Physics, B.S. 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 – Present **Postdoctoral Fellow** | Nordic Institute for Theoretical Physics (Nordita) | Stockholm, Sweden

- Coupled physical insights with efficient algorithms to build a library of analytical and numerical tools in the Wolfram Language (Mathematica) for the computation of scattering amplitudes, utilizing the parallel-processing capabilities of UCLA's Hoffman2 Cluster [Sample at `github.com/nohle`]
- 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 – Aug. 2015 **Graduate Student Researcher** | UCLA, Department of Physics | Los Angeles, CA

- Through extensive leading-edge computations, resolved 30+ year-old debates regarding the role of ultraviolet divergences (that plague the marriage of general relativity and quantum mechanics) in nonsupersymmetric theories of gravity through two loop orders of quantum corrections
- Constructed first nonsupersymmetric evidence for the conjectured duality between the color algebra of Yang-Mills theory and the kinematics of gravity scattering amplitudes

Sept. 2009 – June 2015 **Teaching Assistant** | UCLA, Department of Physics | Los Angeles, CA

- Recipient of the "Outstanding Teaching Award" for the 2012–2013 academic year
- 20 quarters of teaching experience, from introductory labs to upper-division courses

June 2007 – Jan. 2008 **Research Assistant** | University of Cincinnati, Nanomaterials Physics Group | Cincinnati, OH

- Fabricated solid immersion lenses to increase optical spatial resolution for imaging nanostructures

Sept. 2006 – Mar. 2007 **Electrical Product Engineering Co-op** | Texas Instruments | Stafford, TX

- 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 – Sept. 2005 **Planning and Logistics Co-op** | GE Aviation | Evendale, OH

- 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, 180+ citations

Profile: `inspirehep.net/author/profile/J.Nohle.1`

Programming Languages

Proficient: C++ | Wolfram Language (Mathematica)

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