

PATRICK COOPER

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EDUCATION

University of Pittsburgh , Pittsburgh Pennsylvania	2005 - 2010
B.S. Mathematics <i>summa cum laude</i>	
B.S. Physics <i>summa cum laude</i>	
New York University , New York, New York	2010 - 2015
M.S. Theoretical Physics	
Ph.D. Theoretical Physics	

WORK EXPERIENCE

Co-founder, Director of Programs <i>Community Forge</i>	July 2017 - Present
<ul style="list-style-type: none">• Founder of Community Forge LLC. Principal responsibilities included leading the renovation of the commercial building and the development of its core infrastructure systems, as well as maintaining the day-to-day excellence and sustainability of all of the programming at Community Forge.	
Assistant Professor of Physics <i>Duquesne University</i>	Sep 2016 - May 2022
<ul style="list-style-type: none">• Taught over 50 courses, covering the entire undergraduate physics curriculum, including special topics seminars• Chaired the DEI subcommittee of the faculty senate• Won the John G. Rangos award for innovative teaching• Co-lead the Start Play Hack student group for modifying toys for infants and toddlers with disabilities	
Assistant Professor of Mathematics <i>University of Pittsburgh</i>	Sep 2016 - May 2017
<ul style="list-style-type: none">• Taught Mathematics course ranging from elementary algebra to senior level numerical linear algebra in the undergraduate curriculum	
Adjunct Professor of Engineering <i>Cooper Union</i>	Spring 2014
<ul style="list-style-type: none">• Taught General Relativity to Engineers, Artists and Architects	
Adjunct Professor of Physics <i>New York University</i>	Spring 2015
<ul style="list-style-type: none">• Taught General Relativity to Physics undergrads bound for graduate school• Was the Teaching Assistant, running labs and recitations for 10 courses, from freshman undergraduate physics courses, to graduate Advanced Lab and graduate Classical Mechanics	
Research Staff <i>Laser Insitut für Physik, Hamburg, Germany</i>	Summer 2008
<ul style="list-style-type: none">• Designed and ran a novel experiment to test laser optics desorption of Rubidium in a quantum optical cooling experiment	

PUBLIC SERVICE

FORMER

- Community For Pittsburgh Ultimate *Board of Directors*
- Locally Grown *co-founder, Board of Directors*
- Environmental Advisory Council, Forest Hills Borough Council *Chair*
- Pittsburgh Learning Commons *Board of Directors, co-founder and President*

CURRENT

- Hagush *Board of Directors, co-founder and President*
 - Locally Served *Board of Directors, Treasurer*
 - Election Judge *Board of Elections, Allegheny County*
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OUTREACH

Years of science outreach and communication. Representing the Atlas Collaboration at outreach tables, returning guest on the Eric McKenna podcast, Partner with Carnegie Science center to do outreach (2 Scientists Walk Into A Bar" program), public speaking engagements (Atheist Society NYC, Allegheny Observatory special lecture series), Public debates, Judge for the Western PA Science Fair

RESEARCH

Stückelberg Fields on the Effective p-Brane, 2013

<https://doi.org/10.1103/PhysRevD.88.025047>

Ultraviolet complete Lorentz-invariant theory with superluminal signal propagation, 2014

<https://doi.org/10.1103/PhysRevD.89.084044>

Looking for Integrability on the World Sheet of Confining Strings, 2015

[10.1007/JHEP04\(2015\)127](https://doi.org/10.1007/JHEP04(2015)127)

Spectral decomposition of the ghost propagator and a necessary condition for confinement, 2015

<https://doi.org/10.1103/PhysRevD.93.105024>

Local QCD Action at Finite Temperature, 2016

<https://doi.org/10.1103/PhysRevD.93.105024>

Schwinger-Dyson equations in Coulomb gauge consistent with numerical simulation, 2018

<https://doi.org/10.1103/PhysRevD.93.105024>

Resonance as a Design Strategy for AI and Social Robots, 2022

<https://doi.org/10.3389/fnbot.2022.850489>

“You’re in a Ferrari. I’m Waiting for the Bus”: Confronting
Tensions in Community-University Partnerships

[Under editorial review](#)