Benjamin Prather

Curriculum Vita

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Education:

Florida State University — Tallahasssee, Florida
Ph.D. Pure Mathematics — Fall 2021 (Expected)

Florida State University — Tallahasssee, Florida
M.S. Pure Mathematics — December 2017

The University of Utah — Salt Lake City, Utah
B.S. Mechanical Engineering, automation and control theory — December 1998
Computer Science, formal verification — 1999-2001

Gulf Coast Community College — Panama City, Florida
A.A. Pre-Engineering — August 1995

Employment:

Non-academic employment available upon request.

Florida State University — 2016-2021

Teaching Assistant	Proctor computer aided labs, aide lecturers.
	Teaching: Pre-Calculus, Calculus II, Calculus III.
Math Tutor	Tutoring for athletic department.

Gulf Coast State College — 2006-2012

Adjunct Instructor	Teaching: Pre-Algebra and Intermediate Algebra.
Mathematics Learning Manager	Tutor developmental mathematics through calculus I.
	Conduct test review workshops.
	Supervise student tutors.

University of Utah, College of Computing — 2000-2001

Research Assistant	Study formal verification of computer protocol.
	Maintain and expand an in-house model checker.
Teaching Assistant	Lead discussion for rigorous C++ courses.
	Graded programs and exams questions.

Instructor of Record:

MAT2312 Calculus III	Florida State University	Spring & Summer 2020, Spring 2021
MAT2312 Calculus II	Florida State University	Fall 2018, Spring 2019
MAT1140 Pre-Calculus	Florida State University	Fall 2017, Spring 2018
MAT0018 Introductory Algebra	Gulf Coast State College	Spring 2012
MAT0002 Pre-Algebra	Gulf Coast State College	Summer 2011
MAT0002 Pre-Algebra	Gulf Coast State College	Spring 2011
MAT0002 Pre-Algebra	Gulf Coast State College	Summer 2010
MAT0002 Pre-Algebra	Gulf Coast State College	Summer 2008
MAT0002 Pre-Algebra	Gulf Coast State College	Fall 2007
MAT0024 Introductory Algebra	Gulf Coast State College	Summer 2007

Research Interests:

Non-associative geometry. Analysis on octonionic algebras. Non-associative modules. Non-standard analysis. Foundations of mathematics.

Publications:

Nolder, C.A., Prather, B. "Split Signature Hopf Fibrations" Proc. AMS (pending)

Prather, B. "Split-Octonionic Cauchy Integral Formula" Adv. Appl. Clifford Algebras (2019) 29: 89. https://doi.org/10.1007/s00006-019-1010-z

Prather, B. "Hypercubic Self-tilings" arXiv:1910.06206 [math.CO] preprint. https://doi.org/10.1007/s00006-019-1010-z

Prather, B. "Is Space-Time Curved" *Prog. Phys.* (2013) 9:3, pp.157-159. http://www.ptep-online.com/2013/PP-34-24.pdf

Service to Field:

Reviewer for Adv. Appl. Clifford Algebras since spring 2019

Conference Talks:

"Split-Octonionic Cauchy Integral Formula" November 2019
AMS Fall Southeastern Sectional Meeting Gainesville, FL
Special Session on Algebras, Analysis and Physics

FSU Presentations:

"Octonionic Modules and Hopf-like Structures I & II" Algebra Seminar October 2019
"Dueling Metric Spaces" Topology Seminar September 2019
"Hopf Algebras I&II" Algebra Seminar February 2019
"Octonions and Physics" Algebra and Analysis Seminar January 2019
"Octonions, Operators and Adjoints" Algebra Seminar December 2018
"The Symmetry of the Octonions" Topology Seminar September 2019
"Why Not Sedenions I&II" Algebra Seminar March 2018
"Split-Octonions" Candidacy Exam November 2017
"Octonions" Algebra Seminar October 2017
"Hypercubic Self-tilings" Geometry Seminar October 2016

Awards:

Top Waffle, Waffle House University. (2005)
Who's Who amongst American Community College Students. (1994-1995)

Leadership:

Resaurant Management (2005-2006)
President of Campus Christian Ministries (2000)
Gulf Coast Community College Brain Bowl team (1994-95, captain 1995)
Gulf Coast Triathlon Board (1994)

Department Service:

AWM Mentorship Program, Fall 2019

Projects:

Built a sumo-wrestling robot.
Built a cancer treatment positioning device.
Wrote an operating system.
Designed a CPU.
Wrote a LISP interpretor.
Wrote a distributed client/server application.