Dylan Murphy

Curriculum Vitae

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Personal Information

Full name Dylan Joseph Murphy
Citizenship USA

Education

2010 **S.B., Mathematics, Physics**, *University of Chicago*, Chicago, Illinois.

2019 **Ph.D., Mathematics**, *University of Arizona*, Tucson, Arizona, Dissertation: Additions for Jacobi operators and the Toda hierarchy of lattice equations.

Employment

2022–Present **Analyst, Baseball Research & Development**, *Tampa Bay Rays*, St. Petersburg, FL.
Designing and implementing Bayesian models for player performance forecasting.

2017–2021 **Lecturer**, *University of Arizona School of Information*, Tucson, AZ.
Teaching courses primarily in Bayesian statistics, information theory, and computation in the Python programming language.

Invited Presentations

Oct. 9, 2016 Geometry of discrete Schrödinger operators
AMS Western Sectional Meeting
Special Session on Integrable Systems and Soliton Equations

Mar. 30, 2017 Algebraic geometry of scattering theory for orthogonal polynomials
10th IMACS Conference
Special Session on Painlevé Equations, Integrable Systems, and Random Matrices

Jan. 17, 2020 Additions and the Toda hierarchy
2020 Joint Mathematics Meetings
Special Session on Random Combinatorial Structures, Complex Analysis, and Integrable Systems

Fellowships and Awards

Fall 2014 U. of Arizona Mathematics Department VIGRE Fellowship
2016 U. of Arizona College of Science Galileo Circle Scholar

Teaching

As Graduate Teaching Assistant/Associate at UA Mathematics:

Math 112	College Algebra	*Spring 2011, Summer 2015 (online)*
Math 120R	Precalculus	*Fall 2011, Spring 2012, Summer 2012*
Math 122B	Calculus I	*Fall 2012*
Math 129	Calculus II	*Spring 2013, Fall 2013, Spring 2014, Spring 2015*
Math 196N	Calculus II Problem Solving Workshop	*Fall 2013*
Math 196V	Calculus III Problem Solving Workshop	*Spring 2014*
Math 263	Introduction to Statistics and Biostatistics	*Fall 2015, Spring 2016*

As Lecturer at UA School of Information:

ISTA 116	Statistical Foundations for the Information Age	*Fall 2017 – Spring 2020*
ISTA 130	Computational Thinking and Doing	*Fall 2018 – Fall 2019*
ISTA 311	Foundations of Information and Inference	*Fall 2018 – Spring 2021*
ISTA 331	Principles and Practice of Data Science	*Spring 2020 – Spring 2021*
ISTA 410/ INFO 510	Bayesian Modeling and Inference	*Fall 2020 – Spring 2021*

Service

2014–2016	U. of Arizona Mathematics Graduate Student Colloquium	*Organizer*
2013, 2015	U. of Arizona Mathematics Integration Workshop for new graduate students	*Graduate Assistant*
2014	U. of Arizona Mathematics Department Summer qualifying exam sessions	*Senior Graduate Instructor, Geometry/Topology*

Other Skills

Software	Python (with NumPy/SciPy, scikit-learn, Keras, and PyMC), Julia, R, Stan, MATLAB, git, LaTeX