

# Daniel Serrano

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Interdisciplinary research program manager, educator, mentor

English | Spanish

Ph.D. Biological Sciences	U. of Maryland College Park	August 2014
M.S. Cell Biology and Molecular Genetics	U. of Maryland College Park	December 2010
B.S. Biochemistry	Virginia Tech	May 2008
B.S. Environmental Science	Virginia Tech	December 2007

## Senior Faculty Specialist

July 2019 – Present

IPST (Institute for Physical Science and Technology) | UMD College Park

### Program Manager (Nanotechnology Research)

NIST Nanoscale Science and Technology Postdoctoral and Visiting Senior Fellowship Program

## Faculty Specialist

Dec. 2016 – June 2019

### Research Educator (Interdisciplinary Network Biology Research)

COMBINE - NSF Research Traineeship graduate fellows program

## Postdoctoral Research Associate

Dec. 2014 – Dec. 2016

### Program Coordinator (Physics Research)




TREND - NSF Research Experience for Undergraduates (REU) program

### Founder and Program Director (Space Science Research)

Terps in Space - Student Spaceflight Experiments Program (SSEP)

Positions held between 2014 and 2021 were at IREAP (Institute for Research in Electronics and Applied Physics)

### Director and Producer (Minority Physics Science Outreach)

Rostros Físicos (@rostrosfisicos    )

Simultaneously holding the roles above, I

- Develop and deliver coursework, seminars, and one-on-one mentoring for researchers in communication and career/professional development
- Guide researchers + students through grant proposal development, from (re)source identification, to writing, to submission logistics
- Produce yearly technical reports to showcase research program progress, productivity, and contribution to funding agency goals
- Coordinate program advertisement, partnership development, participant recruitment, application logistics, and online presence
- Monitor, document, and evaluate junior researcher progress
- Collaborate with experts to develop program evaluation/assessment
- Produce written and audiovisual scientific outreach materials
- Mentor faculty on grant proposal writing and perform high-level editing of grant proposals (over 20; over \$500,000 obtained collectively)

## Fellowships

### AAAS Mass Media Fellow | 2014

Worked as script-writer and producer for Nuestra Tele Noticias science and technology TV show

### NIH R01 Diversity Research Supplement Fellow | 2013-2014

Performed PhD research on cell biology with nanobiomedical applications

### NSF GRFP Graduate Research Fellow | 2010-2013

Performed PhD research on cell biology with nanobiomedical applications

### NSF Bridge to the Doctorate Fellow | 2008-2010

Performed MS research on cell biology with nanobiomedical applications

## Grants

**NSF** | P.I. | \$431,741

*TREND REU: Training and Research Experiences in Nonlinear Dynamics*

co-P.I.s: Daniel Lathrop

**Center for the Advancement of Science in Space** | sole P.I. | \$66,665

*Online Higher Ed Spaceflight Experiments Mentoring Program for Undergraduate and High School Students*

**MD Space Grant Consortium** | sole P.I. | \$35,000

*Student Spaceflight Experiments Program, Mission 16 to the International Space Station*

**NSF** | co-P.I. | \$118,789

*National Physics REU Leadership Group Workshop and Community-Building*

P.I.: Monica Pilsch ; co-P.I.s: Aaron Geller, Brianna Mount

**American Physical Society** | P.I. | \$9,984

*APS Public Outreach and Informing the Public Grant - Rastros Físicos (Physics Footprints): Videos Showcasing the Professional Paths and Research of Hispanic Physicists*

co-P.I.s: Daniel Lathrop

**NIST** | co-P.I. | \$35,000,000

*NIST CNST Nanoscale Science and Technology Visiting Fellows Program*

P.I.: Daniel Lathrop ; co-P.I.s: Marina Leite, Oded Rabin

## Publications and Media

**Journal articles** (of 7 total; [go.umd.edu/serranopubs](http://go.umd.edu/serranopubs)):

McKee, K.E, **Serrano D**, Girvan M, Marbach-Ad G. (2021) An integrated model for interdisciplinary graduate education: Computation and mathematics for biological networks. PLOS One. 16.9: e0257872

**Book chapters**

**Serrano D** and Muro S. Endothelial cell adhesion molecules and drug delivery applications. Helim Aranda-Espinoza (Ed.), *Mechanobiology of the Endothelium*. CRC Press/Taylor & Francis, 2015

**Intellectual Property**

Muro S, **Serrano D**. (2018) Methods of regulating uptake and transcellular transport of leukocytes and therapeutics. US Patent No. 9901625B2

**Multimedia online articles**

*The Turbulent Tangle of Quantum Vortices*. 2016. Lathrop, D and **Serrano, D**. Multimedia online article, <https://funsizephysics.com/turbulent-tangle-quantum-vortices/>

**Online videos (YouTube views listed as of November 2021; +20,000 collective views)**

1. Rostros Físicos YouTube Channel - Over 20 videos (1,925 views)
2. *Modelo del centro de la Tierra usando sodio líquido*. 2017. Serrano, D. (77 views)
3. *Update – Taking the UMD Lathrop 3 meter experiment to full rotational speed*. 2017. Serrano, D. (27 views)
4. *Some limitations of the UMD Lathrop 3 meter experiment*. 2017. (19 views)
5. *Update – Adding a second magnet to the UMD Lathrop 3 meter experiment*. 2017. Serrano, D. (25 views)
6. *A noisy setback in the UMD Lathrop 3 meter experiment*. 2017. Serrano, D. (16 views)

7. *Matthew's studies of sound in the UMD Lathrop 3 meter experiment.* 2017. Serrano, D. (22 views)
8. *Why do we use liquid sodium?* 2017. Serrano, D. (111 views)
9. *Basics of the UMD Lathrop 3 meter experiment.* 2017. Serrano, D. (2500 views)
10. *Investigación sobre Helio Superfluido.* 2016. Serrano, D. (23,000 views)
11. *Superfluid Helium Research Feature Video.* 2015. Serrano, D. (6,400 views)

## **Service**

**Past Chair** (2021), **Chair** (2020), **Chair Elect** (2019) | NSF Physics REU Leadership Group

**Grant proposal/application reviewer** | NSF Physics REU and NSF GRFP

**Research proposal reviewer** | SSEP | 2014 - Present

**Science Journalism Media Screener** | AAAS Kavli Science Journalism Award | 2015 - 2020

**Fellowship application reviewer** | AAAS Mass Media Fellowship | 2015 - Present