Ardon Shorr

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Science communicator and mechanobiologist

I co-founded a science communication program and developed 12 workshops for faculty and graduate students at Carnegie Mellon University. We were recognized as one of the top 30 innovators in science communication nationwide. I led communications for two technical startups, explaining nanotechnology water purification and blockchain cryptocurrency, leading to awards and investment.

I'm a biology Ph.D. candidate who creates new tools in mechanobiology and proteomics, including exposure to altered gravity, microfluidic compression devices, and visual processing algorithms. My work has been recognized as a Graduate Research Fellow with the National Science Foundation.

Education

July 2018 (expected)	Ph.D. in Biology	Carnegie Mellon University
May 2009	B.A. in Neuroscience	Oberlin College
May 2009	B.A. in Music Theory	Oberlin College

Technical skills

- Microfluidic systems design
- Difference-Gel Electrophoresis
- PDMS replication molding
- Basic programming
- Husbandry: mice, zebrafish, *Drosophila*
- Statistical analysis

Communication skills

- Data visualization
- Scientific graphic design
- Public speaking
- Grant writing
- Telling science stories
- Talking to the media

Research

Summary Life on Earth evolved under the mechanical influence of gravity. During gravity deprivation, astronauts show health problems that resemble premature aging. In order to identify how living things sense mechanical force, I build devices to apply altered gravity and compression to fruit flies and analyze changes in cell communication. Understanding how living things sense mechanical force helps develop new treatments for human diseases that have mechanical components, such as age-related diseases and long-term space travel.

Peer-reviewed publications

Moorman SJ, **Shorr AZ**. The primary cilium as a gravitational force transducer and a regulator of transcriptional noise. 2008;237: 1955–1959.

Manuscripts in prep

Shorr AZ, LeDuc PR. A high-throughput method for exposing zebrafish to altered gravity, aligning for imaging, and segmenting neurons.

Shorr AZ, Sönmez U, Minden SJ, LeDuc PR. High-throughput mechanotransduction in *Drosophila* embryos with a microfluidic device.

Shorr AZ, Griswold I, Blundon MA, Minden SJ. Quantitative visual analysis & segmentation of DIGE gels using a neural-network-based star/galaxy classifier.

Invited Workshops

Faculty media training. Carnegie Mellon University, 2016-2018

Clear thinking made visual. Telling Science Stories. Indiana University, 2018

Finding and fixing your expert blind spot. Harvard Strategic Data Project, 2017

Why are facts not enough? Institute for Religion in the Age of Science, 2016.

Scientific Presentation: Clear Thinking Made Visible. AAAS 2015, San Jose, CA

Panelist *Oh, I Get It*. SXSW edu 2017, Austin, TX

Webinar *Telling research stories.* Texas A&M University webinar series rated 4.9 / 5

Designing Presentations with Purpose. CMU Alumni webinar rated 4.7 / 5

Contributor GradSciComm: *Mapping the Pathways to Integrate Science Communication Training into STEM Graduate Education*

Honors and Awards

Founder.org class of 2016

National Science Foundation Graduate Research Fellow

First place, McGinnis venture competition

Graduate Student Service Award: Public Communication for Researchers

TEDx talk named editor's choice, over 100,000 views

Work experience

Co-founder, lead writer & designer: Public Communication for Researchers

- Co-founded professional development program that teaches graduate students to explain their work and why it matters
- Built 12 workshops on technical writing, media interviews, visual design
- Produced strategic plans, logos, websites, branding
- Profiled by the National Science Foundation
- Recognized as top 30 innovators in science communication nationwide
- The program draws over 500 students representing all STEM departments

Co-founder: Cultured.Fit

- Created workshops and consulted for academic groups and design firms
- Created educational content on distributed ledgers for programmers

Co-founder and Chief Technology Officer: Rorus, Inc.

- Led the design of written, oral, visual communication in a biotech startup
- Wrote successful grants, scripts for videos, technical white papers, and presentations for investors, leading to awards and investment
- Technical lead to build and verify a new water purification technology
- Synthesized metal nanoparticles embedded into paper
- Designed experiments and built a lab to carry them out