

**EDUCATION**

- **University of California, Berkeley** 2007 – 2011  
-Biophysics of cancer studied using advanced physical tools (Ph.D.)  
GPA: 4.00
- **University of Virginia** 2002 – 2006  
-Biochemistry (B.S.); Physics (B.A.); Mathematics (Minor)  
-Echols Scholar  
GPA: 3.74

**EXPERIENCE*****Employment***

- **Research associate** 2018 – Current  
-Department of Microbiology, Cancer Biology and Immunology (UVA)
- **Visiting assistant professor** 2017 – 2018  
-Biology department, Hollins University, Roanoke VA
- **Research associate** 2011 – 2015  
-Howard Hughes Medical Institute (HHMI), University of Illinois, Urbana-Champaign (UIUC)

***STEM Communication***

- **Faculty opinions associate faculty member (UVA)** 2019 – Current  
-Write layman articles on recent scientific publications in online platform
- **Science correspondent** Summer 2013  
-Richard Casement internship at *The Economist*, London UK
- **Genome Day (UIUC)** 2012 – 2014  
-Annual day-long event to share research with local elementary school students
- **Community Resources for Science (Berkeley)** 2008 – 2009  
-Enables graduate students to go to elementary schools to teach science

***STEM Teaching***

- **Cell and molecular biology (Hollins)** Spring 2018  
-For biology majors, design and implement complete course pedagogy  
-Lecture and 2 lab sections
- **How the immune system works (Hollins)**  
-For non-majors, design and implement complete course pedagogy  
-Lecture only
- **Immunology (Hollins)** Fall 2017  
-For biology majors, design and implement complete course pedagogy  
-Lecture and 2 lab sections
- **Human physiology (Hollins)** Spring 2017  
-For biology majors  
-Lecture and 1 lab section
- **Center for the Physics of Living Cells (UIUC)** Summer 2012  
-Week-long course for graduate students and postdocs
- **Organic chemistry (Berkeley)** Spring 2010  
-Led weekly lab sections, graded lab reports and exams
- **Math Tutoring, San Quentin State Prison, CA** Fall 2008  
-Tutored prisoners in math as part of the Prison University Project
- **Physics lab (UVA)** Spring 2007  
-Wrote introductory physics problems

- **Organic chemistry (UVA)** Fall 2005  
-Led discussion sections, proctored and graded exams

### ***Mentorship and DEI***

- **Under-represented minority student mentor (UVA)** 2019 – 2020  
-Participated in the Summer Research Internship Program which recruits under-represented minority students to conduct research at UVA  
-Mentored students from Puerto Rico and Saudi Arabia  
-Wrote recommendation letters
- **Sustained Dialogue (Hollins)** Fall 2017  
-Engage in dialogue with diversity students, staff and faculty on racially and culturally sensitivity issues
- **Undergraduate mentor (Berkeley)** 2008 – 2011  
-Managed research directions and experiments

### ***Leadership***

- **Church council (University Baptist Church, Charlottesville)** 2019 – 2021  
-At-large member
- **Subgroup leader (UIUC)** 2011 – 2015  
-Managed weekly subgroup meetings
- **Biophysics admissions committee (Berkeley)** 2009 – 2011  
-Read applications, interviewed prospective students, decided admits and rejects
- **Retreat organizer (Berkeley)** 2007 – 2009  
-Prepared agendas, invited speakers
- **Editor (UVA)** 2004 – 2005  
-Science section of *The Cavalier Daily*
- **President (UVA)** 2003 – 2005  
-Solar Car Team

### **ACHIEVEMENTS and HONORS**

- **Center for the Physics of Living Cells Travel Grants (UIUC)** 2013  
- \$1500
- **DOD Breast Cancer Idea Award (Berkeley)** 2010  
-\$500,000 / 2 years, co-lead grant writer
- **NSF GRFP Honorable Mention (Berkeley)** 2009
- **NIH Molecular Biophysics Training Grant (Berkeley)** 2007 – 2008  
-\$30,000 / year
- **Member, The Jefferson Literary and Debating Society (UVA)** 2003 – 2006
- **Advisor, The Honor Committee (UVA)** 2003 – 2006
- **Echols Scholar (UVA)** 2002 – 2006  
-No course requirements, select faculty advisors, priority course registration
- **Semi-finalist, Siemen's Westinghouse Science and Technology Competition** 2001

## Selected samples of written and oral STEM communication

### *Written for technical audience*

1. “HGF/MET Signaling in Malignant Brain Tumors” *Int. J. Mol. Sci.* 2020, **first author**
2. “Integrin molecular tension within motile focal adhesions” *Biophys. J.* 2016, co-author
3. “Ultrasensitivity of cell adhesion to the presence of mechanically strong ligands” *Physical Review X* 2016, **co-first author**
4. “Nanoscale obstacle arrays frustrate transport of EphA2 – Ephrin-A1 clusters in cancer cell lines” *Nano Letters* 2013, **co-first author**
5. “DNA-mediated assembly of protein heterodimers on membrane surfaces” *JACS* 2013, co-author
6. “Supported membranes embedded with fixed arrays of gold nanoparticles” *Nano Letters* 2011, co-author
7. “EphA2 receptor activation by monomeric ephrin-A1 on supported membranes” *Biophys. J.* 2011, **first author**
8. “Myosin VIIB from *Drosophila* is a high duty ratio motor” *J. Biol. Chem.* 2005, co-author
9. “Neck length and processivity of Myosin V” *J. Biol. Chem.* 2003, co-author

Citations to date: 379

### *Written for lay audience*

1. Faculty Opinions Recommendation of [Montagne A et al., *Nature* 2020 581(7806):71-76]. Faculty Opinions, Jun 22<sup>nd</sup> 2020
2. Faculty Opinions Recommendation of [Amit M et al., *Nature* 2020 578(7795):449-454]. Faculty Opinions, Mar 11<sup>th</sup> 2020
3. Faculty Opinions Recommendation of [Wu S et al., *Nature* 2019 575(7784):699-703]. Faculty Opinions, Dec 20<sup>th</sup> 2019
4. Faculty Opinions Recommendation of [Madan E et al., *Nature* 2019 572(7768):260-264]. Faculty Opinions, Oct 1<sup>st</sup> 2019
5. Faculty Opinions Recommendation of [Chen P et al., *Cancer Cell* 2019 35(6):868-884.e6]. Faculty Opinions, Jul 10<sup>th</sup> 2019
6. “Put away the knitting” *The Economist*, Sep 7<sup>th</sup> 2013, Print
7. “First, wash your hands” *The Economist*, Sep 7<sup>th</sup> 2013, Technology Quarterly, Print
8. “Promotion and self-promotion” *The Economist*, Aug 31<sup>st</sup> 2013, Print
9. “The sound of silence” *The Economist*, Aug 24<sup>th</sup> 2013, Print
10. “Birds of a feather land together” *The Economist*, Aug 17<sup>th</sup> 2013, Print
11. “Peekaboo” *The Economist*, Aug 17<sup>th</sup> 2013, Print
12. “Cloudy with a chance of war” *The Economist*, Aug 6<sup>th</sup> 2013, Babbage, Online
13. “Primal attractions” *The Economist*, Aug 1<sup>st</sup> 2013, Babbage, Online
14. “A la recherche du temps inconnu” *The Economist*, Jul 27<sup>th</sup> 2013, Print
15. “Old soldiers?” *The Economist*, Jul 20<sup>th</sup> 2013, Print, Top 10 stories on Economist.com for the week
16. “Frogs, geckos, chameleons and more” *The Economist*, Jul 11<sup>th</sup> 2013, Babbage, Online
17. “The elephant in the room” *The Economist*, Jul 6<sup>th</sup> 2013, Print
18. “Why is hands-free texting dangerous?” *The Economist*, Jun 24<sup>th</sup> 2013, The Economist explains, Online
19. “Keep your mind on the road” *The Economist*, Jun 22<sup>nd</sup> 2013, Print

Views to date: >700,000

### *Presenting science for technical and lay audiences (select examples)*

- Society for Neuro-Oncology Virtual Meeting 2020  
Title: *Identification of pathogenesis-relevant microRNAs in brain metastasis*
- Candidate interview (Hollins) 2017  
Title: *Understanding cancer metastasis from the perspective of a membrane protein called EphA2*
- Group meeting (UIUC) 2013  
Title: *Communicating science to a non-scientific audience*
- Center for the Physics of Living Cells (UIUC) 2012  
Title: *Introduction to cancer*
- Cal Day, Berkeley, CA 2010  
Title: *Fighting Cancer Cells: In Force and Organization*

- Annual meeting of the Biophysical Society, San Francisco, CA 2010  
Title: *EphA2 receptor is activated by monomeric ephrin-A1 in cancer cells*
- Biophysics Graduate Group Retreat, Point Reyes, CA 2009  
Title: *Receptor cluster size affects signaling in breast epithelial cancer cells*
- National Institutes of Health, summer student poster day 2004  
Title: *Characterization of Myosin XVIII*
- City Council, Rockville, MD 2002  
Title: *The effect of IQ motifs on the functions of Myosin V as a processive motor protein*

## REFERENCES

*Current post-doctoral adviser:*

**Roger Abounader**

Arthur and Margaret Ebbert Endowed Chair  
Department of Microbiology, Immunology, and Cancer Biology  
University of Virginia  
[ra6u@virginia.edu](mailto:ra6u@virginia.edu)

*Former post-doctoral adviser:*

**Taekjip Ha**

Bloomberg Distinguished Professor  
Howard Hughes Medical Investigator  
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*Former science editor:*

**Geoffrey Carr**

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*The Economist*  
London, UK  
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