

## CURRICULUM VITAE

Alipasha Vaziri, PhD  
Laboratory of Neurotechnology and Biophysics  
The Rockefeller University  
1230 York Ave., New York, NY 10065, USA  
Phone: +1 212-327-7993  
Web: <http://rockefeller.edu/research/faculty/labheads/AlipashaVaziri>  
Web: <http://vaziria.com>  
Email: [vaziri@rockefeller.edu](mailto:vaziri@rockefeller.edu)

### EDUCATION

- 01/2003                    **Ph.D.** in Physics, University of Vienna, *summa cum laude*, PhD thesis: Quantum Experiments using Higher Dimensional Entangled Photon States with Singularities with Prof. Anton Zeilinger
- 06/2000                    **M.Sc.** in Physics, University of Vienna, *summa cum laude*, Masters thesis: Conservation of the Orbital Angular Momentum of Entangled Photon States with Singularities with Prof. Anton Zeilinger

### CURRENT POSITIONS

- 09/ 2016 – present        **Associate Director** – Kavli Neural Systems Institute at Rockefeller University
- 09/ 2015 – present        **Associate Professor & Head** – Laboratory of Neurotechnology and Biophysics, Rockefeller University
- 09/2015 – present        **Adjunct Investigator** – Research Institute of Molecular Pathology (IMP), Vienna

### PROFESSIONAL CAREER

- 01/ 2013 – 09/2015        **Director** – Interdepartmental Research Platform Quantum phenomena and Nanoscale Biological Systems (QuNaBioS), University of Vienna – An interdepartmental organizational unit of the University of Vienna established by the president to strengthen the interdisciplinary profile of the university
- 07/2014 – 09/2015        **Associate Professor** - Center for Molecular Biology, University of Vienna
- 04/2011 – 09/2015        **Group Leader** - Research Institute of Molecular Pathology (IMP), Vienna
- 04/2011 – 06/2014        **Assistant Professor** - Center for Molecular Biology, University of Vienna
- 10/2012 – 06/2013        **Fellow** - Institute for Advanced Studies (Wissenschaftskolleg zur Berlin)

10/2008 – 12/2012      **Visiting Scientist** – MIT, Department of Chemistry with A. Tokmakoff

04/2007 – 04/2011      **Research Specialist** - Howard Hughes Medical Institute, Janelia Farm Research Campus

11/2005 - 04/2007      **Associate** – McKinsey & Company Strategic business consultant high-tech sector

12/2003 - 08/2005      **Postdoctoral Researcher** - National Institute of Standards and Technology (NIST) & University of Maryland - with Nobel Laureate Dr. William D. Phillips

01/2003 - 12/2003      **Postdoctoral Researcher** - University of Vienna - with Prof. Anton Zeilinger

09/2000 - 01/2003      **Research Scientist and Assistant Lecturer** - University of Vienna

#### PRIZES AND AWARDS

2015                      **Brain Initiative Award**

2014                      **Prize of the City of Vienna**

2013                      **Fellow** of Institute for Advanced Studies (Wissenschaftskolleg zur Berlin)

2012                      Human Frontier Science Program (**HFSP**) **Young Investigators' Award**

2010                      **WWTF Vienna Research Groups** for Young Investigators Award

2003                      PhD Summa cum Laude

#### SCIENTIFIC COMMUNITY SERVICE

- **Member** of the advisory board – Vienna Open Medical Institute
- **Panel member** and peer **reviewer** for: BRAIN Initiative (Panel Member), Human Brain Project (Panel Member), Human Frontier Science Program (HFSP), W.M. Keck Foundation, Volkswagenstiftung, Boehringer Ingelheim Fonds, Netherlands Organization for Scientific Research (NWO, the Dutch research council), Danish Council for Independent Research and Boehringer Ingelheim Fonds
- **Member of the steering committee and organizer**- workshop Quantum Effects in Biological Systems
- **Organizer: Biannual Janelia Conference** *“Acquisition & interpretation of whole-brain functional data”*
- Active and **frequent referee** for publications, amongst others in: Nature, Science, Nature Methods, Cell, Physical Review Letters, Scientific Reports, Optics Express, Optics Letters, PNAS, eLife

## PUBLICATION SUMMARY

- **70 publications**, 2 Nature, 1 Cell, 4 Nature Methods, 1 Nature Neuroscience, 1 Nature Communications, 3 PNAS, 1 eLife
- Citation record as of 10/26/2016 from Google Scholar | **Total citations: 4426** | **h index: 20**
- **112 invited** talks including plenary speaker at conferences, colloquia and seminars
- 2 Book chapters
- 2 patents (2 pending)

## SELECTED PUBLICATIONS (Full list available at [www.vaziria.com](http://www.vaziria.com))

\***Nature Methods**, *in press* (2016), R. Prevedel, A. Verhoef, A. Pernia-Andrade, S. Weisenburger, B. Huang, T. Nöbauer, A. Fernández, J. Delcour, P. Golshani, A. Baltuska and **A. Vaziri**, Fast volumetric calcium imaging across multiple cortical layers using sculpted light

\***Cell**, 176:2, 539 (2016), Maxim. Molodtsov, C. Mieck, J. Dobbelaere, A. Dammermann, S. Westermann, and **A. Vaziri**, Microtubule bundle formation and parallel growth at the microtubule-organizing centers.

\***Nature Communications** 7, 12172 (2016), J. Tinsley, M. Molodtsov, R. Prevedel, D. Wartmann, J. Espigulé-Pons, M. Lauwers, and **A. Vaziri**, Direct Detection of a Single Photon by Humans

\* **eLife** 10.7554/eLife.04489 (2015), C. Mieck, M. Molodtsov, K. Drzewicka, B. van der Vaart, G. Litos, G. Schmauss, **A. Vaziri**, and S. Westermann, A non-catalytic head enables processive motility of the kinesin-14 Kar3 to transport the Ndc80 kinetochore complex

\***Nature Methods**, Vol. 11, 7, 727 (2014), R. Prevedel, Y.-G. Yoon, M. Hoffmann, N. Pak, G. Wetzstein, S. Kato, T. Schrödel, R. Raskar, M. Zimmer, E.S. Boyden and **A. Vaziri** (2014), Simultaneous whole-animal 3D-imaging of neuronal activity using light field microscopy

\***Nature Methods**, Vol. 10, 10, 1014 (2013), T. Schroedel, R. Prevedel, K. Aumayr, M. Zimmer and **A. Vaziri**, Brain-wide 3D imaging of neuronal activity in *Caenorhabditis elegans* with sculpted light

**Nature**, Vol. 501, 564 (2013), A. Tedeschi, G. Wutz, S. Huet, M. Jaritz, A. Wuensche, E. Schirghuber, I. F. Davidson, W. Tang, D. A. Cisneros, V. Bhaskara, T. Nishiyama, **A. Vaziri**, A. Wutz, J. Ellenberg and J. Peters, Wapl is an essential regulator of chromatin structure and chromosome segregation

\***Current Opinion in Neurobiology**, 22, 128 (2012), **A. Vaziri** and V. Emiliani, Reshaping the Optical dimension in Optogenetics

**Nature Methods**, 8, 327–333 (2011), A. York, A. Ghitani, **A. Vaziri**, M. Davidson and H. Shroff, Confined Activation and Model-Independent Subdiffractional Localization Enables Whole-Cell PALM with Genetically Expressed Probes

**Nature Neuroscience**, Vol. 13, 967 (2010), A. Losonczy, B. Zemelman, **A. Vaziri** and J. Magee, Network mechanisms of theta related neuronal activity in hippocampal CA1 pyramidal neurons

\***PNAS**, Vol. 107, 11981 (2010), B. Andrasfalvy, B. Zemelman, J. Tang and **A. Vaziri**, Two-photon Optogenetic Control of Neural Activity with Single Synapse Precession by Sculpted Light

**PNAS**, Vol. 107, 10068 (2010), J. Tang, **A. Vaziri**, J. Akerboom, L. Looger and C. Shank, Near-isotropic 3D optical nanoscopy with photon-limited chromophores

\***PNAS**, Vol. 105, 51, 20221 (2008), **A. Vaziri**, J. Tang, H. Shroff and C. Shank, Multilayer Three-dimensional Super-resolution Imaging in Thick Biological Samples

\*Communicating author

### **SELECTED INVITED TALKS AND COLLOQUIA**

**112 invited talks** at international conferences and colloquia - A selected list is given below.

2016 A. Vaziri, Sackler Distinguished Speaker at Yale University, New Haven, USA

2016 A. Vaziri, Invited Seminar Speaker at University of Pennsylvania, Philadelphia, USA

2016 A. Vaziri, Invited Lecture at Weill Cornell, New York, NY, USA

2016 Invited symposium speaker at Genetic Manipulation of Neuronal Activity, Janelia, Ashburn, USA,

2016 Invited symposium speaker at Vienna – New York Science Symposium on Neuroscience, New York

2016 Invited speaker at “New Approaches to Imaging Neurons and Neural Circuits”, Denmark

2016 Invited speaker at The Center for Brain Science at Harvard University, Cambridge, USA

2015 Invited speaker at Max Planck Symposium on Physics and Medicine, Erlangen, Germany

2015 Invited symposium speaker at the OSA’s Optics and the Brain, Vancouver, Canada

2015 Invited symposium Speaker at Simons Foundation Calcium Imaging Data Analysis, New York, USA

2015 Invited symposium Speaker at EMBO|EMBL Symposium: Seeing is Believing, Heidelberg, Germany

2014 Plenary speaker at “Emerging Imaging Technologies in Neuroscience” Paris, France

2014 Annual Nobel Prize Lecture of the Austrian Chemistry Society, Vienna, Austria, Dec. 2014

2014 Invited speaker at Symposium Network of European Neuroscience Institutes, Freiburg, Germany

2014 Invited speaker at Max Planck Florida Institute (MPFI), FL, USA

2014 Genetic Manipulation of Neuronal Activity III, Janelia Farm, Ashburn, VA, USA

2014 Invited colloquium at Google, Venice, CA, USA

2014 Seminar Allen Institute for Brain Research, WA, USA

2013 OSA Incubator Meeting Spatially Precise Optogenetics at Depth, Washington, DC, USA

2013 NERF Neurotechnology Symposium, Leuven, Belgium

2013 "Light in Action" Symposium, University of Central Florida, Orlando, USA

2012 Federation of European Neuroscience (FENS), Barcelona, Spain

2012 47th Winterseminar Biophysical Chemistry, Klosters, Switzerland

2011 Plenary Speaker, 3rd Annual Meeting of the at the Austrian Biophysical Society, Puch, Austria

2011 The next 10<sup>23</sup> femtoseconds conference, Janelia Farm Research Campus, HHMI, Ashburn, USA

2010 Structure and Function of Neural Circuits, EMBL Advanced Training Centre, Heidelberg, Germany

2010 Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland

2010 University of Washington, Seattle, USA

2010 Institute for Quantum Computing (IQC), University of Waterloo, Waterloo, Canada

2010 Columbia University, New York, USA

2009 Bodian Seminar at Mind/Brain Institute, Johns Hopkins University, Baltimore, USA

2009 Optical Society of America, topical meeting, Vancouver, Canada

2009 University of California Los Angeles (UCLA), CA, USA

2008 Massachusetts Institute of Technology (MIT), MA, USA

2007 Stanford University, CA, USA