

Sarmad Al-Bassam, Ph.D.

Stanford University | School of Medicine
Department of Chemical and Systems Biology
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Education

Ph.D. | MOLECULAR BIOLOGY, 2012 | UNIVERSITY OF SOUTHERN CALIFORNIA
B.S. | BIOCHEMISTRY AND CELL BIOLOGY, 2003 | UNIVERSITY OF CALIFORNIA SAN DIEGO

Research Experience

POSTDOCTORAL SCHOLAR | STANFORD UNIVERSITY | STANFORD, CA | 2013 - Present
“Cell and Systems biology approaches to investigate the molecular determinants of differentiation in adipocytes using high throughput imaging.”

PH.D. STUDENT | UNIVERSITY OF SOUTHERN CALIFORNIA | LOS ANGELES, CA | 2006-2012
“Development of Novel Pulse-Chase Paradigm to Visualize the Trafficking of Transport Vesicles in Living Cells”

- Established fluorescence microscopy live-cell imaging platform and pioneered live cell experiments in my Ph.D. lab.
- Designed and executed a novel approach to sequester transmembrane proteins based on FKBP and small-molecule Rapamycin analogs.
- Optimized platform for visualizing vesicle transport in immortalized cells and primary neurons.
- Developed image analysis procedures to rigorously study the trafficking patterns of different transmembrane proteins.

RESEARCH ASSISTANT, UNIVERSITY OF MICHIGAN | ANN ARBOR, MI | 2003-2005
“Development of Next-Generation RNA Interference Vectors with Enhanced Efficacy and Flexible Design”

- Design and construction of a new RNA polymerase II vectors for RNA interference based on a microRNA precursor miR155
- Experimented with different vector designs and tested the level of efficiency of knockdown of the target genes to develop a vector-based system for short-hairpin RNA (shRNA). In this system different genes can be knocked down from a single vector containing multiple shRNA cassettes in tandem.

Publications

Kaori Watanabe, **Sarmad Al-Bassam**, Yusuke Miyazaki, Thomas J. Wandless, Paul Webster, and Don B. Arnold
“Networks of polarized actin filaments in the axon initial segment provide a mechanism for sorting axonal and dendritic proteins.” **Cell Reports** 2012 Dec 27;2(6):1546-53. [PMID: 23246006]

Sarmad Al-Bassam, Min Xu, Thomas J. Wandless, Don B Arnold “Differential trafficking of transport vesicles contributes to the localization of dendritic proteins.” **Cell Reports** 2012 Jul 26;2(1):89-100. [PMID: 22840400]
* Selected “**Best of 2012**” by Cell Reports in end-of-year edition among the top 5 articles of 2012

Kwon-Ho Chung, Christopher Hart, **Sarmad Al-Bassam**, Adam Avery, Jennifer Tayler, Paresh D Patel, Anne B Vojtek, David Turner. “Polycistronic RNA polymerase II expression vectors for RNA interference based on BIC/miR-155.” **Nucleic Acids Research** 2006 Apr 13;34(7):e53. [PMID: 16614444]

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Scientific Meeting Participation

American Society for Cell Biology | San Francisco, CA | Dec 15-19, 2012

Poster: *A Novel Pulse-Chase Paradigm the Trafficking of Transport Vesicles in Neurons.*

Gordon Research Conference | Ventura, CA

Dendrites: Molecules, Structure & Function | Mar 13-18, 2011

Poster: *Visualizing Real-Time Trafficking of Post-Golgi Carriers in Neurons*

Society For Neuroscience | Chicago, IL | Oct 17 – 21, 2009

Society For Neuroscience | San Diego, CA | Nov 3 – 7, 2007

American Society of Cell Biology | San Diego, CA | Dec 9-13, 2006

Teaching Experience

Teaching Assistant for Cell Biology Course at USC | 2008, 2010

Professors Don Arnold, David McKemy, William McClure and Robert Baker

Teaching Assistant for introductory Biology course at UCSD | 2003

Professors Ethan Bier and Martin Yanofsky

Fellowships and Awards

Joint Initiative Fellowship from the College of Letters Arts and Sciences | USC | 2005-2006

The National Deans List Honorary Award | 2004

Provost's Honors | UCSD | 2000, 2002, 2003

Valedictorian, Valhalla High School, San Diego, CA | 1999

Departmental and University Service

Biological Sciences Senator, USC Graduate Student Government | 2006-2008

Officer, Molecular and Computational Biology Graduate Student Association | 2007-2009