

Curriculum Vitae

SHAUN DANESH, Ph.D.
Richland College
School of Mathematics, Science and Health Professions
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EDUCATION

University of Texas Southwestern Medical Center, Dallas, TX **2009**
Southwestern Graduate School of Biomedical Sciences
Doctor of Philosophy in Genetics and Development
Dissertation title: *BMP signaling through BMPR1A is required for establishment of pancreatic laterality.*

San Diego State University, San Diego, CA **2002**
Bachelor of Science in Biology with emphasis in Cellular and Molecular Biology
Graduated with Distinction Honor

TEACHING EXPERIENCE

Biology Faculty, Richland College **Fall 2015-Present**

Visiting Scholar, Richland College **2013-2015**

Adjunct Professor, Richland College **2012-2013**

Adjunct Professor, Preston Ridge College **2012-2013**

Science Ambassador, University of Texas Southwestern Medical Center **2010-2013**

SERVICE

ThunderPals initiative for faculty to adjunct mentoring, Richland College
Co-Founder and Co-Chair

Dream Success Team, Richland College
Co-Chair and Biology Gatekeeper Faculty Lead

STEM Fellow, DCCCD STEM Institute

Faculty in Support of Advising Committee, Richland College
Member

Professional Development Subcommittee, Richland College
Alternate Member

RESEARCH EXPERIENCE

University of Texas Southwestern Medical Center

Mentor: Wanpen Vongpatanasin, M.D.

Postdoctoral Fellow II

2011 - 2013

Employed a translational approach to determine the molecular basis of hypertension in humans. Through this work, I was awarded a NIH-National Research Service Award (NIH-T32 NRSA) postdoctoral traineeship by the Cardiology Program in the Department of Internal Medicine at UT Southwestern. A manuscript has been submitted for publication.

University of California, Los Angeles

Mentor: Ligia Toro, Ph.D.

Postdoctoral Fellow I

2009-2011

Revealed two mechanisms by which the human large conductance voltage- and calcium-activated K⁺ channel gene (*hSlo1*) is transcriptionally regulated. I have published these studies in the *Journal of Biological Chemistry* as first author.

Unveiled a regulatory mechanism for a potassium channel, MaxiK, on Thromboxane A2 receptor (a GPCR) signaling. Investigated this exciting interaction in an effort to characterize the effect on downstream TPR signaling as well as in vascular tone regulation and hypertension. I am currently helping to prepare a manuscript detailing these findings for submission to the *Journal of Biological Chemistry*.

Through this work, I was awarded an NIH-NRSA postdoctoral traineeship by the Cellular Neurobiology Training Program in the Department of Physiology at UCLA.

University of Texas Southwestern Medical Center

Mentor: Ondine Cleaver, Ph.D.

Research Assistant

2007-2009

Discovered a vital role for bone morphogenetic protein (BMP) signaling during pancreatic development. Utilizing eight transgenic and conditional knockout mice, I determined that over-expression or knockdown of BMP signaling prevents lateral growth of the pancreas. Mechanistically, I showed that BMPs signal through the BMP receptor, BMPR1a, specifically in the adjacent endothelium to promote vascular remodeling and activate genes including *Bapx1*, *Barx1*, and *Fgf10* that regulate lateral growth of the pancreas.

University of Texas Southwestern Medical Center

Mentor: Paul C. Sternweis, Ph.D.

Research Assistant

2003-2007

Worked in collaboration with Dr. Zhe Chen and Dr. Stephen Sprang to study the role of p115 rhoGEF GAP activity. By comparing conserved sequences in the GAP domain of p115 and GTRAP48 and solving the crystal structure of GTRAP48 bound to Gα13, we were able to elucidate the mechanism by which p115 rhoGEF expresses its GTPase activity on Gα13. These findings allowed me to design gain-of-function variants of GTRAP48 that acquired the ability to GAP Gα13.

San Diego State University
Mentor: Leroy McClenaghan, Ph.D.

Undergraduate Research Assistant

2000-2001

Worked under the supervision of Dr. David Truesdale in the lab of Leroy McClenaghan. Research focused on developing population and evolutionary genetics markers in *Dipodomys merriami* (a kangaroo rat) and *Isomeris arborea* (a caper) for ecological studies.

RESEARCH GRANTS AND HONORS

Cardiology Program: Postdoctoral Traineeship **2011**
National Institutes of Health: T32 National Research Service Award
University of Texas Southwestern Medical Center, Dallas, TX
Department of Internal Medicine, Division of Cardiology

Cellular Neurobiology Training Program: Postdoctoral Traineeship **2010**
National Institutes of Health: T32 National Research Service Award
University of California, Los Angeles, Los Angeles, CA
Department of Physiology

Graduate Student Organization **2007**
Campus-wide research poster competition award: Top 5 honor
University of Texas Southwestern Medical Center, Dallas, TX

PUBLICATIONS

Peer reviewed articles:

Solow, E., **Danesh, S.M.**, Velasco, A., Onwuegbuchu, E., Raheja, P., Arbique, D., Wang, Z., LaRocca, T., Kaplon, R., Price, A., Mineo, C., Vongpatanasin, W. "Increased endothelial expression of NADPH oxidase P47PHOX in human hypertension" *Manuscript submitted*.

Danesh, S.M., Kundu, P., Lu, R., Stefani, E., Toro, L. "Distinct transcriptional regulation of human large conductance voltage- and calcium-activated K⁺ channel gene (hSlo1) by activated estrogen receptor alpha and c-Src tyrosine kinase" *J Biol Chem*. Sep 9;286(36):31064-71. 2011

Danesh, S.M., Villasenor, A., Chong, D., Soukup, C., Cleaver, O. "BMP and BMP receptor expression during murine organogenesis" *Gene Expr Patterns*. Jun;9(5):255-65. 2009

Chen, Z., Singer, W.D., **Danesh, S.M.**, Sternweis, P.C., Sprang, S.R. "CRYSTAL STRUCTURES OF THE COMPLEX OF PDZ-RhoGEF RGS DOMAIN AND G13: A RGS domain that recognizes the ground state of GTP hydrolysis" *Structure*. 16(10): 1532-43 2008

Sternweis, P.C., Carter, A.M., Chen, Z., **Danesh, S.M.**, Hsiung, Y.F., Singer, W.D. "Regulation of Rho guanine nucleotide exchange factors by G-proteins" in *Advances in Protein Chemistry*. 74; 189-227. 2007

CONFERENCES AND PRESENTATIONS

Dream, Baltimore, MD. Achieving the Dream's Annual Institute on Student Success	2015
Convocation workshop, Richland College Workshop presentation: <i>Caring Behaviors in Biology 1406</i>	2015
NACADA, Minneapolis, MN Global Community for Academic Advising: 38 th Annual Meeting.	2014
American Society of Microbiology, Danvers, MA Conference for undergraduate educators: 21 st Annual Meeting.	2014
American Heart Association, Chicago, IL Conference for High Blood Pressure Research: 68 th Annual Meeting Poster presentation in absentia	2014
Biophysical Society, Baltimore, MD Two poster presentations: 55 th Annual Meeting.	2011
University of California, Los Angeles, Los Angeles, CA Poster presentation: Brain Research Institute	2010
Biophysical Society, San Francisco, CA Attendee - 54 th Annual Meeting.	2010
UCLA Molecular Pharmacology Retreat, Huntington Beach, CA Poster presentation	2009
University of Texas Southwestern Medical Center, Dallas, TX Platform presentation: Graduate Student Poster Session; 40 th Annual Sigma Xi Research Forum	2008
University of Texas Southwestern Medical Center, Dallas, TX Cardiovascular Research Symposium Platform presentation: 8 th Annual meeting. Cardiovascular Research Symposium	2008
University of Texas Southwestern Medical Center, Dallas, TX Graduate Student Poster Session Platform presentation: 39 th Annual Sigma Xi Research Forum	2007
University of Texas Southwestern Medical Center, Dallas, TX Cardiovascular Research Symposium Platform presentation: 7 th Annual symposium.	2007
San Diego State University, San Diego, CA Invited as a recruitment speaker on behalf of University of Texas Southwestern Medical Center graduate school.	2004

AFFILIATIONS

American Biophysical Society

American Heart Association

American Society for Microbiology

University of Texas Southwestern Medical Center Postdoctoral Association

University of California, Los Angeles Postdoctoral Association

Richland Faculty Association