Mahesh Narayan

The University of Texas at El Paso, Department of Chemistry; El Paso, Texas 79968; 915-747-6614 (FAX) 747-5748, mnarayan@utep.edu

Professional Preparation

Institution	Degree	Date	Major
Bombay University	B.Sc.	1991	Physics
The Ohio State University	Ph.D..	1997	Biophyics
Cornell University	PostDoc.	97-00	Protein Folding
GE	Analy. Chem	00-01	
Cornell University	Sr. Res. Assoc.	02-05	Protein Folding

Appointments

Institution	Position	Dates
University of Texas at El Paso	Assistant Chairman, Department of Chemistry	2011-present
University of Texas at El Paso	Associate Professor, Department of Chemistry	2011-present
University of Texas at El Paso	Adjunct Professor, BioInformatics; ESE	2006-present
University of Texas at El Paso	Assistant Professor	2005-2011

Summary of accomplishments

Dr. Narayan leads a group of 5 graduate students (MS and Ph.D.) and 5 undergraduate students. He has received grants and awards from the American Heart Association, Alzheimer's Disease Research Foundation, the American Chemical Society, the Medical Center of Americas (Redsky) and has been a Co—Pi or Senior Personnel on projects funded by the US Army (REAP), NSF and the NIH. Dr. Narayan is an established leader in the field of oxidative protein folding and misfolding-related diseases. His research program focuses on dissecting chaperone function and mechanism, directed design of catalytically active minimal chaperone mimics, advance of bio-inspired small molecules for therapeutic intervention in misfolding-related diseases such as Alzheimer's and Parkinson's, and bioanalytical method development. He has recently developed a platform to apply halogen and carbon bonding towards developing drugs targeting Post Traumatic Stress Disorder and Post Concussion syndrome. Dr. Narayan has authored and co-authored 47 research and review articles in free radical biology, protein-structure function, oxidative folding and phytochemical fold agonist intervention for prevention/mitigation of age-related neurodegenerative disorders over the last decade; 2 book chapters; and 4 educational texts.

Professional organizations: American Chemical Society, *Sigma* Xi

Recent papers

Kabiraj, P., Marin, J. E., Varela-Ramirez, A., Zubia, E., Narayan, M. (2014) Ellagic Acid Mitigates SNO-PDI Induced Aggregation of Parkinsonian Biomarkers. ACS Chem Neurosci., 5: 1209-20.

Arumugam A, Agullo P, Boopalan T, Nandy S, Lopez R, Gutierrez C, Narayan M, Rajkumar L. (2014) Neem leaf extract inhibits mammary carcinogenesis by altering cell proliferation, apoptosis, and angiogenesis. Cancer Biol Ther. *15*, 26-34. (Cover)

Sirimulla, S., Bailey, J. B., Vegesna, R., Narayan, M. (2013) Halogen interactions in protein-ligand complexes: implications of halogen bonding for rational drug design. Journal of Chemical Information and Modeling *53,* 2781-91.

Kabiraj, P., Pal, R., Varela-Ramirez, A., Miranda, M., Narayan, M. (2012) "Nitrosative stress mediated misfolded protein aggregation mitigated by Na-D-β-hydroxybutyrate intervention." Biochem Biophys Res Commun. *426*, 438-44.

Narayan M. "Disulfide bonds: protein folding and subcellular protein trafficking." (2012) FEBS J. 279:2272-82.

Sirimulla, S., Pal, R., Raparla, M., Bailey, J. B., Duran, R., Altamirano, A. M., Herndon, W. C., **Narayan, M.** "Identification of Novel Nitrosative Stress Inhibitors through Virtual Screening and Experimental Evaluation" (2012) **Molecular Informatics** *31*, 167-172.

Book Chapter

Narayan, M (2011) "Factors impacting fold maturation of ER-processed proteins: The case of oxidative folding of ribonuclease A" Book Series-Protein Reviews (M. Zouhair Atassi). Book Name: Folding of disulfide proteins (Rowen JY Chang and Salvadore Ventura) Springer.pp-23-42.

Conference Abstracts

1) Narges Kalantarian, James E. Becvar, Mahesh Narayan, and Geoffrey B. Saupe (2012) Enhancement of Public Speaking Paved Through Peer-Led Team Learning PLTLIS, NY
2)Jonathan Muñiz, Geoffrey Saupe, James E. Becvar, and Mahesh Narayan (2012) A Speed of One Molar Per Second Presents Some Blocks In the Road PLTLIS, NY
3)Farhad Zonoozi, Mahesh Narayan, and James E. Becvar (2012) Foundation of the Leaders, by the Leaders, and for the Leaders PLTLIS, NY
4)Nicole Dominguez, Jessica G. Salazar, Mahesh Narayan, and James E. Becvar (2012) Peer Leading Helps More Than the Students Being Led PLTLIS, NY
5)Sandra Andrea Salinas, Andre Perez-Orozco, Mahesh Narayan, Juan Noveron, Bonnie M. Gunn,Geoffrey Saupe, Robert Morales, and James E. Becvar (2013) Chemistry Boot Camp PLTLIS, Houston
6)Celina Duran, Mahesh Narayan, and James E. Becvar (2013) The Formative Assessment of Readiness (FAR) Examination PLTLIS, Houston
7)Sandra Andrea Salinas, Mason Arbogast, James E. Becvar, Geoffrey Saupe, Juan Noveron,
Mahesh Narayan (2013) The War of the Workshops PLTLIS, Houston
8)Jessica G. Salazar, Stephanie Moreno, Mahesh Narayan, James E. Becvar (2013) Transmission: A Stronger Learning Modality PLTLIS, Houston
9) Parijat Kabiraj and Mahesh Narayan (2014) SNO-PDI mediated accumulation of LB-like inclusions in SH-SY5Y cell as a function of Aß (25-35) treatment, GRC, Colby College, NH
10) Parijat Kabiraj, Jose Marin, Armando Varela-Ramirez, Emmanuel S. Zubia, Mahesh Narayan (2014) Prevention of nitrosative stress mediated Lewy-like body formation through ellagic acid intervention in PC12 cell, AC, San Francisco
11) Suman Sirimulla and Mahesh Narayan (2013) *Insilico* Design of Nociceptin Agonists for PTSD through Halogen bonding, Computational Biology Symposium, Washington DC.

Invited Talks

1) From the Kitchen of Narayan et al (2013), BBRC UTEP
2) Chemistry Within the Cerebellum (2013) Chemistry Dept., UTEP
3) Spicy Neuroprotection (2014) Key note Address to ACS Northern Arizona Chapter
4) A Tale of Two Bonds (2014) ICXB, Italy
5) International conference on "Recent advances in Structural Biology and Drug Discovery (RASBDD-IIT-2014), India
6) IDDST-2014, Suzhou, China
7) Soochow University (2014), China
8) Shanghai University of Nanotechnology (2014), China
9) Kinki University (2014) Japan
10) Tokai University (2014) Japan

Ongoing research support

Agency: Redksy/MCA Title: Design and Development of PTSD-Related Nociceptin agonists. **Role**: PI.

Agency: Alzheimer's Disease Research foundation; **Title**: Development of curcuminoids as potent mitigators of nitrosative damage and associated neurodegenerative disorders. **Role**: PI

Agency: UTEP College of Science Research Enhancement; **Title**: Prophylactic drug development against nitrosative-stress linked Parkinson's." **Role**: PI

Agency: US Army REAP program. **Role**: Collaborator

Professional Service
Chair, American Chemical Society Rio Grande Valley section; Assistant Chair, Dept. of Chemistry; T and P committee; Graduate Studies Committee (Chemistry and Bioinformatics); Faculty Advisor, ISA