

PERSONAL DATA

Name: Mu, Tingwei, Ph.D.

Title: Assistant Professor, Department of Physiology and Biophysics

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EDUCATION AND PROFESSIONAL EXPERIENCE**CASE WESTERN RESERVE UNIVERSITY**

Jan 2011 to present

Tenure-track Assistant Professor, Departments of Physiology and Biophysics*Research:* Understanding ion channel folding and function in the cell**CASE WESTERN RESERVE UNIVERSITY**

Nov 2010 to Dec 2010

Visiting Assistant Professor, Departments of Physiology and Biophysics*Research:* Understanding ion channel folding and function in the cell**THE SCRIPPS RESEARCH INSTITUTE**

Sep 2005 to Nov 2010

Postdoctoral Research Associate, Departments of Chemistry and Molecular and Experimental Medicine, and the Skaggs Institute for Chemical Biology*Research:* Readapting the protein homeostasis network to ameliorate protein-misfolding diseases*Advisor:* Jeffery W. Kelly**CALIFORNIA INSTITUTE OF TECHNOLOGY**

Sep 2000 - Aug 2005

Ph.D., Department of Chemistry*Thesis:* A chemical-scale structure-function study on ligand-gated ion channels*Advisor:* Dennis A. Dougherty; *Co-advisor:* Henry A. Lester**UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA**

Sep 1995 - July 2000

B.S., Department of Chemistry (00 Class)*Research Assistant:* Elucidating molecular recognition in supramolecular systems*Advisor:* Professor Qing-Xiang Guo

Apr 1999 - July 2000

PROFESSIONAL MEMBERSHIPMember of the *American Chemical Society*

2001 to present

Member of the *Biophysical Society*

2005 to present

Member of the *American Association for the Advancement of Science*

2007 to present

Member of *Sigma Xi, the Scientific Research Society*

2007 to present

Member of the *American Society for Cell Biology*

2010 to present

Member of the *American Society for Mass Spectrometry*

2012 to present

TRAINING RECORD**Current Postdoctoral Researcher**

Dr. Dongyun Han, Spring 2011 to present

Dr. Xiaojing Di, Fall 2011 to present

Current Graduate Students

Yanlin (Kate) Fu, Spring 2012 to present, PhD student, Department of Physiology & Biophysics

Rotation Graduate Students

Panjamaporn (Pam) Sangwung, Fall 2011 to Spring 2012, PhD student, Department of Physiology & Biophysics

Summer Undergraduate Students

Tracy Tabib, 2011, BS student, Biology, American University

Renae Brown, 2012, BS student, Biology, CWRU

CONFERENCES AND PRESENTATIONS

- Epilepsy Grand Rounds Seminar, The Epilepsy Center at University Hospitals Case Medical Center Nov 2012
Talk: Readapting the GABA receptor protein homeostasis to ameliorate idiopathic epilepsy
- ASMS Annual Meeting, Vancouver, Canada May 2012
Poster: Manipulating the ERAD Pathway to Restore Epilepsy-Associated GABAA Receptor Function
- ASIP Annual Meeting at Experimental Biology, San Diego, CA Apr 2012
Invited Talk: The Role of ER-Associated Degradation (ERAD) in Channelopathies Due to Protein Misfolding
- Rammelkamp Research Conference, the MetroHealth System, Case Western Reserve University Apr 2012
Talk: Manipulating the ERAD pathway to regulate GABA receptor protein homeostasis
- Cystic fibrosis Seminar, School of Medicine, Case Western Reserve University Nov 2010
Talk: Readapting the protein homeostasis network to ameliorate loss-of-function diseases
- Department of Biochemistry, University of Utah, Salt Lake City, UT Jan 2010
Invited Talk: Readapting the protein homeostasis network to ameliorate protein folding diseases
- Department of Chemistry, Boston College, Chestnut Hill, MA Dec 2009
Invited Talk: Readapting the protein homeostasis network to ameliorate protein folding diseases
- Department of Chemistry, Emory University, Atlanta, GA Dec 2009
Invited Talk: Readapting the protein homeostasis network to ameliorate protein folding diseases
- Gordon Research Conferences on Stress Proteins in Growth, Development & Disease, Andover, NH Jul 2009
Poster: Proteomic profiling of protein homeostasis regulators for protein misfolding diseases
- Department of Pharmacology, Baylor College of Medicine, Houston, TX Mar 2009
Invited Talk: Using chemistry to study ion channels and protein misfolding diseases
- Department of Chemistry, University of Florida, Gainesville, FL Jan 2009
Invited Talk: Ameliorating protein folding diseases by restoring proteostasis
- Department of Chemistry, University of Pittsburgh, Pittsburgh, PA Nov 2008
Invited Talk: Applying chemical biology on ion channels and protein folding diseases
- 2008 Metachromatic Leukodystrophy Disease (MLD) Symposium, DeKalb, IL Sep 2008
Invited Talk: Ameliorating lysosomal storage diseases by restoring protein homeostasis
- The American Chemical Society 236th National Meeting, Philadelphia, PA Aug 2008
Poster: Readapting the protein homeostasis network to ameliorate loss-of-function diseases
- The American Chemical Society 234th National Meeting, Boston, MA Aug 2007
Talk: Using pharmacologic chaperones to improve mutant enzyme activities in lysosomal storage diseases
- The Biophysical Society 49th Annual Meeting, Long Beach, CA Jun 2005
Poster: Probing the agonist binding sites of the Cys-loop receptors using unnatural amino acids
- Gordon Research Conferences on Ligand Recognition and Molecular Gating, Venture, CA Mar 2004
Poster: Mapping the ligand binding sites of a serotonin-gated ion channel

SELECTED PUBLICATIONS

- Ong DS, **Mu TW**, Palmer AE, Kelly JW (2010) Endoplasmic reticulum Ca²⁺ increases enhance glucocerebrosidase folding, trafficking and function. *Nature Chemical Biology*, 6:424-432
- Mu TW**,* Ong DS,* Wang YJ, Balch WE, Yates JR, Segatori L,* Kelly JW (2008) Chemical and biological approaches synergize to ameliorate protein-folding diseases. *Cell*, 134:769-791
Highlighted in *Science*, **2008**, 321, 1419, *Chemical and Engineering News*, **2008**, 86(36), 36, and *ACS Chemical Biology*, **2008**, 3(10), 595.

Curriculum Vitae

Mu TW, Fowler DM, Kelly JW (2008) Partial restoration of mutant enzyme homeostasis in three distinct lysosomal storage disease cell lines by altering calcium homeostasis. *PLoS Biol*, 6: e26.

Highlighted in *Chemical and Engineering News*, **2008**, 86(6), 46, and *ACS Chemical Biology*, **2008**, 3(3), 137.

Mu TW, Lester HA, Dougherty DA (2003) Different binding orientations for the same agonist at homologous receptors: A lock and key or a simple wedge? *J Am Chem Soc*, 125: 6850-6851.

Mu TW, Liu L, Li XS, Guo QX (2001) A theoretical study on the inclusion complexation of cyclodextrins with radical cations and anions. *J Phys Org Chem* 14: 559-565.

RESEARCH FUNDING

Epilepsy Foundation Research Grant Tingwei Mu (PI) 01/01/2012-12/31/2012

The goal of this project is to manipulate the endoplasmic reticulum-associated degradation pathway to enhance GABA_A receptor protein homeostasis.

CTSC Pilot Core Utilization Grant Tingwei Mu (PI) 03/01/2012-10/31/2012

The goal of this project is to use tandem MS proteomics analysis to identify GABA_A receptor protein homeostasis network components.