

Francis T.F. Tsai

Verna and Marrs McLean
Department of Biochemistry and Molecular Biology
Baylor College of Medicine
One Baylor Plaza, MS: BCM125
Houston, TX 77030

Tel: 713-798-8668
Fax: 713-796-9438
E-mail: ftsai@bcm.edu
<http://www.bcm.edu/labs/tsai>

EDUCATION

Yale University and the Howard Hughes Medical Institute, New Haven, Connecticut

Department of Molecular Biophysics and Biochemistry
Wellcome Trust International Prize Travelling Research Postdoctoral Fellow; 1996-2000
Advisor: Paul B. Sigler, M.D., Ph.D. (deceased)

University of Oxford, Oxford, UK

Department of Biochemistry, Laboratory of Molecular Biophysics
D.Phil. (1997) in Biochemistry; 1993-1996
Advisor: Dale B. Wigley, Ph.D., FRS

Imperial College of Science, Technology, and Medicine, Univ. of London, London, UK

Department of Chemistry and Department of Biochemistry
B.Sc. (Joint Honors; 1993) in Chemistry and Biochemistry; 1990-1993

ACADEMIC APPOINTMENT

Baylor College of Medicine, Houston, Texas

Associate Professor (tenured), Departments of Biochemistry and Molecular Biology, and
Molecular & Cellular Biology; 2007-Present
Assistant Professor (tenure track), Department of Biochemistry & Molecular Biology, 2000-2007

Faculty member, Program in Structural and Computational Biology and Molecular Biophysics,
2000-Present; Houston Area Molecular Biophysics Training Program, 2001-Present; W.M.
Keck Center for Interdisciplinary Bioscience Training and the Gulf Coast Consortia, 2001-
Present; Program in Cell and Molecular Biology, 2002-Present; Program in Translational
Biology and Molecular Medicine, 2007-Present; Dan L. Duncan Cancer Center, 2007-
Present; The Alliance for NanoHealth, 2008-Present.

HONORS AND AWARDS

Norman Hackerman Award in Chemical Research, 2008
Research Scholar Award from the American Cancer Society, 2008-Present
Junior Faculty Research Award from the Gillson Longenbaugh Foundation, 2001-2002
Scientist Development Award from the American Heart Association, 2001-2004
Wellcome Trust International Prize Travelling Research Fellowship, 1997-1998
NIH Individual Postdoctoral Fellowship (declined in lieu of Wellcome Trust fellowship), 1996
Travel Grant from the University of Oxford, 1996
Centro di Cultura Scientifica "Alessandro Volta" Tuition Scholarship and Travel Award, 1995
ACA and IUCr Tuition Scholarship and Travel Award, 1994
EPSRC-Glaxo Wellcome CASE Studentship, 1994-1996
Lincoln College Graduates' Research Fund Award, University of Oxford, 1994, 1995, 1996
SERC Studentship, University of Oxford, 1993-1994
Associateship of the Royal College of Science, 1993

PUBLICATIONS

- Lee, S., Augustin, S., Tatsuta, T., Gerdes, F., Langer, T. and **Tsai, F.T.F.** (2011). Electron Cryomicroscopy Structure of a Membrane-anchored Mitochondrial AAA Protease. ***J. Biol. Chem.*** 286:4404-4411.
- Sielaff, B., Lee, K.S. and **Tsai, F.T.F.** (2011). Structural and Functional Conservation of *Mycobacterium Tuberculosis* GroEL Paralogs Suggests that GroEL1 is a Chaperonin. ***J. Mol. Biol.*** 405:831-839.
- Lee, S. and **Tsai, F.T.F.** (2010). Molecular Motors and Machines. ***ACA Reflexions*** 3:33.
- Sielaff, B. and **Tsai, F.T.F.** (2010). The M-domain Controls Hsp104 Protein Remodeling Activity in an Hsp70/Hsp40-dependent Manner. ***J. Mol. Biol.*** 402:30-37.
- Lee, S., Sielaff, B., Lee, J. and **Tsai, F.T.F.** (2010). CryoEM Structure of Hsp104 and Its Mechanistic Implication for Protein Disaggregation. ***Proc. Natl. Acad. Sci. USA*** 107:8135-8140.
- Sielaff, B., Lee, K.S. and **Tsai, F.T.F.** (2010). Crystallization and Preliminary X-ray Crystallographic Analysis of a GroEL1 Fragment from *Mycobacterium Tuberculosis* H37Rv. ***Acta Crystallogr. F.*** 66:418-420.
- Augustin, S., Gerdes, F., Lee, S., **Tsai, F.T.F.**, Langer, T. and Tatsuta, T. (2009). An Intersubunit Signaling Network Coordinates ATP Hydrolysis by *m*-AAA Proteases. ***Mol. Cell*** 35:574-585.
Commentary by W. Kress and W. Weber-Ban (2009) Mol. Cell 35:545-547.
- Lee, S. and **Tsai, F.T.F.** (2007). Crystallization and Preliminary X-ray Crystallographic Analysis of a 40 kDa N-terminal Fragment of the Yeast Prion-remodeling Factor Hsp104. ***Acta Crystallogr. F.*** 63:784-786.
- Lee, S., Choi, J.-M. and **Tsai, F.T.F.** (2007). Visualizing the ATPase Cycle in a Protein Disaggregating Machine: Structural Basis for Substrate Binding by ClpB. ***Mol. Cell*** 25:261-271.
- Haslberger, T., Weibezahn, J., Zahn, R., Lee, S., **Tsai, F.T.F.**, Bukau, B. and Mogk, A. (2007). M Domains Couple the ClpB Threading Motor with the DnaK Chaperone Activity. ***Mol. Cell*** 25:247-260.
- Zhang, J., **Tsai, F.T.F.** and Geller, D.S. (2006). Differential Interaction of RU486 with the Progesterone and Glucocorticoid Receptors. ***J. Mol. Endocrinol.*** 37:163-173.
- Rees, I, Lee, S., Kim, H. and **Tsai, F.T.F.** (2006). The E3 Ubiquitin Ligase CHIP Binds the Androgen Receptor in a Phosphorylation-dependent Manner. ***Biochim. Biophys. Acta*** 1764:1073-1079.
- Zhang, J., Simisky, J., **Tsai, F.T.F.** and Geller, D.S. (2005). A Critical Role of Helix3-Helix 5 Interaction in Steroid Hormone Receptor Function. ***Proc. Natl. Acad. Sci. USA*** 102:2707-2712.
- Lee, S. and **Tsai, F.T.F.** (2005). Molecular Chaperones in Protein Quality Control. ***J. Biochem. Mol. Biol.*** 38:259-265.
- Weibezahn, J., Tessarz, P., Schlieker, C., Zahn, R., Maglica, Z., Lee, S., Zentgraf, H., Weber-Ban, E.U., Dougan, D.A., **Tsai, F.T.F.**, Mogk, A. and Bukau, B. (2004). Thermotolerance Requires Refolding of Aggregated Proteins by Substrate Translocation Through the Central Pore of ClpB. ***Cell*** 119:653-665.
Commentary by A.L. Horwich (2004) Cell 119:579-58;
Commentary by J. Shorter and S. Lindquist (2005) Nat. Struct. Mol. Biol. 12:4-6.
- Lee, S., Sowa, M.E., Choi, J.-M. and **Tsai, F.T.F.** (2004). The ClpB/Hsp104 Molecular Chaperone - A Protein Disaggregating Machine. ***J. Struct. Biol.*** 146:99-105.
- Lee, S., Sowa, M.E. and **Tsai, F.T.F.** (2004). Structure of the ClpB Molecular Chaperone. National Synchrotron Light Source Activity Report (Highlight Story), Brookhaven National Laboratory, Upton, NY.

- Lee, S., Sowa, M.E., Watanabe, Y., Sigler, P.B.[†], Chiu, W., Yoshida, M. and **Tsai, F.T.F.** (2003). The Structure of ClpB: A Molecular Chaperone that Rescues Proteins from an Aggregated State. *Cell* 115:229-240. [[†]Deceased in January 2000].
Commentary by A. Mogk and B. Bukau (2004) Curr. Biol. 14:R78-R80.
- Lee, S., Hisayoshi, M., Yoshida, M. and **Tsai, F.T.F.** (2003). Crystallization and Preliminary X-ray Crystallographic Analysis of the Hsp100 Chaperone ClpB from *Thermus Thermophilus*. *Acta Crystallogr. D* 59:2334-2336.
- Lee, S. and **Tsai, F.T.F.** (2002). Structure of the Molecular Chaperone ClpB from *Thermus Thermophilus*. Advanced Photon Source User Activity Report, Argonne National Laboratory, Argonne, IL.
- Geller, D.S., Farhi, A., Pinkerton, M., Fradley, M., Moritz, M., Spitzer, A., Meinke, G., **Tsai, F.T.F.**, Sigler, P.B. and Lifton, R.P. (2000). Activating Mineralocorticoid Receptor Mutation in Hypertension Exacerbated by Pregnancy. *Science* 289:119-123.
Commentary by I. Wickelgren (2000) Science 289:23-26.
- Tsai, F.T.F.** and Sigler, P.B. (2000). Structural Determinants of Preinitiation Complex Assembly on Human Pol II Promoters. Advanced Photon Source User Activity Report, Argonne National Laboratory, Argonne, IL.
- Tsai, F.T.F.** and Sigler, P.B. (2000). Structural Basis of Preinitiation Complex Assembly on Human Pol II Promoters. *EMBO J.* 19:25-36.
Commentary by M. Convery et al. (2000) Curr. Opin. Struct. Biol. 10:129.
Cited in the "Advanced Information on the Nobel Prize in Chemistry 2006"
http://nobelprize.org/nobel_prizes/chemistry/laureates/2006/chemadv06.pdf
- Tsai, F.T.F.**, Littlefield, O., Kosa, P.F., Cox, J.M., Schepartz, A. and Sigler, P.B. (1998). Polarity of Transcription on Pol II and Archaeal Promoters: Where is the "One-way Sign" and How is it Read? *Cold Spring Harb. Symp. Quant. Biol.* 63:53-61.
- Tsai, F.T.F.**, Singh, O.M.P., Skarzynski, T., Wonacott, A.J., Weston, S., Tucker, A., Pauptit, R.A., Breeze, A.L., Poyser, J.P., O'Brien, R., Ladbury, J.E. and Wigley, D.B. (1997). The High Resolution Crystal Structure of a 24 kDa Gyrase B Fragment from *E. coli* Complexed with One of the Most Potent Coumarin Inhibitors Clorobiocin. *Proteins* 28:41-52.
- Tsai, F.T.F.**, Subramanya, H.S., Brannigan, J.A., Wilkinson, A.J. and Wigley, D.B. (1996). Crystallization and Preliminary Crystallographic Analysis of the DNA Gyrase B Protein from *B. Stearothermophilus*. *Acta Crystallogr. D* 52:1216-1218.
- Lewis, R.J., **Tsai, F.T.F.** and Wigley, D.B. (1996). Molecular Mechanisms of Drug Inhibition of DNA Gyrase. *BioEssays* 18:661-671.
- ABSTRACTS** (past 3 years)
- Tsai, F.T.F.** (2011) Structure, Function, and Mechanism of a Protein Disaggregating Machine. 16th Annual Structural Biology Symposium, Sealy Center for Structural Biology and Molecular Biophysics, Galveston, TX.
- Sielaff, B., Lee, S. and **Tsai, F.T.F.** (2011) The M-domain Controls the Hsp104 Protein Disaggregating Activity. Annual Meeting of the American Society for Biochemistry and Molecular Biology, Washington, DC.
- Tsai, F.T.F.**, Sielaff, B., Lee, J. and Lee, S. (2011) Structure and Mechanism of the Hsp104 AAA+ ATPase. Keystone Symposium on AAA+ and Related ATP-Driven Protein Machines: Structure, Function and Mechanism. Tahoe City, CA.
- Lee, J., Lee, S. and **Tsai, F.T.F.** (2011) Structure-Function Analysis of the M-domain of Yeast Hsp104. Keystone Symposium on AAA+ and Related ATP-Driven Protein Machines: Structure, Function and Mechanism. Tahoe City, CA.
- Tsai, F.T.F.** (2011). Targeting the Androgen Receptor for Degradation in Prostate Cancer Cells. IMPaCT 2011, Orlando, FL.

Lee, S., Augustin, S., Tatsuta, T., Gerdes, F., Langer, T. and **Tsai, F.T.F.** (2011). Three-dimensional Structure of a Membrane-anchored AAA Machine. 55th Annual Meeting of the Biophysical Society, Baltimore, MD.

Lee, S., Augustin, S., Tatsuta, T., Gerdes, F., Langer, T. and **Tsai, F.T.F.** (2010). Structure of a Membrane-associated AAA Machine. 2010 Annual Meeting of the American Crystallographic Association, Chicago, IL.

Tsai, F.T.F., Lee, S., Sielaff, B. and Lee, J. (2010). Three-dimensional Structure of Hsp104, a Yeast Prion-remodeling Machine. 3rd International Symposium on Diffraction Structural Biology, Gif-sur-Yvette Cedex, France.

Tsai, F.T.F., Lee, S., Sielaff, B. and Lee, J. (2010). Three-Dimensional Structure of the Hsp104 AAA+ ATPase. Molecular Chaperones and Stress Responses, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

Tsai, F.T.F., Lee, S., Sielaff, B. and Lee, J. (2010). Structure of a Prion-remodeling Machine. 5th International Conference on Structural Analysis of Supramolecular Assemblies by Hybrid Methods. Lake Tahoe, CA.

Tsai, F.T.F., Lee, S., Sielaff, B. and Lee, J. (2009). Structure and Mechanism of a Prion-remodeling Machine. The EMBO Meeting 2009, Amsterdam, The Netherlands.

Tsai, F.T.F. (2009). Three-dimensional Structure of a Prion-remodeling Machine. Annual Meeting of the American Society for Biochemistry and Molecular Biology, New Orleans, LA.

RESEARCH SUPPORT (Total Support: ~US\$ 5.1 Million since 1st faculty appointment)

Active

“Structure/Mechanism of a Prion-remodeling Factor”

National Institutes of Health

R01 AI076239

Tsai (PI)

2008-2012

Annual: \$307,000

Overall: \$1,220,860

Grant

“Deciphering the Degron Code - Transcription Regulation by Ubiquitination”

American Cancer Society

RSG-08-090-01-TBE

Tsai (PI)

2008-2011

Annual: \$180,000

Overall: \$720,000

Grant

“Structural and Mechanistic Studies of ATP-dependent Molecular Machines”

Robert A. Welch Foundation

Q-1530

Tsai (PI)

2010-2012

Annual: \$70,000

Overall: \$140,000

Grant

“To Degrade or Not to Degrade - Targeting the Androgen Receptor in AR-dependent Prostate Cancer”

Department of Defense (Idea Development Award)

W81XWH-08-1-0092

Tsai (PI)

2008-2012 (no cost)

Annual: \$190,358

Overall: \$544,324

Contract

Completed

“Chemistry and Mechanism of RNA Polymerase II Transcription”

Robert A. Welch Foundation

Q-1530

Tsai (PI)

2007-2010

Annual: \$50,000

Overall: \$150,000

Grant

“Structural Studies of Clp/Hsp100 Molecular Chaperones”

National Institutes of Health

R01 GM067672

Tsai (PI)

2004-2008

Annual: \$260,101

Overall: \$1,348,604

Grant

“Chaperonins as a Novel Drug Target to Fight the Persistence and Resistance of *Mycobacterium Tuberculosis*”

National Institutes of Health

R90 DK071505

Sielaff (PI); Tsai (Mentor)

2006-2008

Annual: \$43,591

Overall: \$91,416

Fellowship

“Molecular Chaperones in Androgen Receptor-mediated Prostate Cancer - Structural Studies of the Androgen Receptor-Hsp90 Complex”

Department of Defense

W81XWH-04-1-0033

Lee (PI); Tsai (Co-I)

2004-2006

Annual: \$112,875

Overall: \$338,625

Contract

“Chemistry and Mechanism of Transcriptional Regulation in Eukarya”

Robert A. Welch Foundation

Q-1530

Tsai (PI)

2004-2007

Annual: \$50,000

Overall: \$150,000

Grant

“Structural Basis of Hormone Recognition by the Mineralocorticoid Receptor in Pregnancy-Related Hypertension”

American Heart Association

0130124N

Tsai (PI)

2001-2004

Annual: \$65,000

Overall: \$260,000

Grant

“Chemistry of the Molecular Interactions in Transcriptional Regulation”

Robert A. Welch Foundation

Q-1530

Tsai (PI)

2001-2004

Annual: \$50,000

Overall: \$150,000

Grant

“Structural Studies of Macromolecular Complexes and Assemblies Involved in Protein Folding”

National Synchrotron Light Source

Faculty/Student Res. Support Program

Tsai (PI)

2002

Annual: \$1,491

Overall: \$1,491

Travel Grant

“Structural Studies of the Interferon- β Enhanceosome”

Gillson Longenbaugh Foundation

Junior Faculty Seed Funding Program

Tsai (PI)

2001-2002

Annual: \$25,000

Overall: \$25,000

Award

“Crystallographic Studies of Transcription Factor Complexes Involved in Activated Transcription”

Wellcome Trust

049086/Z/986/Z/LEC/CG

Tsai (PI)

1997-1998

Annual: £30,936 (~\$60,944)

Overall: \$121,887

Fellowship

NATIONAL SCIENTIFIC PARTICIPATION

Faculty Member, Faculty of 1000, 2011-Present

Co-Editor, *Acta Crystallogr. F*, 2010-Present

Reviewer, *Cell*, *Nature*, *Proc. Natl. Acad. Sci. USA*, *EMBO J.*, *Nat. Struct. Mol. Biol.*, *Mol. Cell. Biol.*, *Structure*, *J. Mol. Biol.*, *J. Struct. Biol.*, *Biochem. J.*, *Biochemistry*, *PLoS One*, *Acta Crystallogr. D*, *Acta Crystallogr. F*.

Appointed Member, NIH Study Section: MSFB, 2010 - Present

Appointed Member, AHA Study Section: Western Consortium Committee 3A, 2008-2009

Appointed Member, AHA Study Section: Bioengineering and Biotechnology, 2004; 2007

Ad hoc Member, NIH Study Section: MSFB, 2009

Ad hoc Member, NIH Study Section: ZRG1 BCMB-P (58) R, 2009

Ad hoc Member, State of Pennsylvania Department of Health Performance Review, 2007
Ad hoc Member, Pharmacoinformatics Training Program, 2007; 2008
Ad hoc Reviewer, Cancer Research UK: Biological Sciences Committee, 2011
Ad hoc Reviewer, NSF Study Section: MCB - Cellular Systems, 2010
Ad hoc Reviewer, Foundation for Fundamental Research on Matter, The Netherlands, 2010
Ad hoc Reviewer, Biotechnology and Biol. Sciences Research Council, United Kingdom, 2008
Ad hoc Reviewer, Univ. of Houston's Grants to Enhance and Advance Research Program, 2008
Ad hoc Reviewer, NSF Study Section: Global Scientists and Engineers, 2005
Ad hoc Reviewer, NSF Study Section: Molecular Biochemistry, 2004
Ad hoc Reviewer, NSF Study Section: Biotechnology, 2004

Chair, Workshop "Nano-machines in Health and Disease", 2011 NSLS/CFN Users' Meeting, Brookhaven National Laboratory, Upton, NY, May 2011.
Chair, "Molecular Motors and Machines", American Crystallography Association Meeting, Chicago, IL, July 2010.
Co-Chair, Special Workshop "Advances in Biocalorimetry", Center for Structure, Chemistry and Function of Macromolecules at the UT M.D. Anderson Cancer Center, Houston, TX, May 2008.
Chair, Special Topic Symposium "Structural Biology in the Post-genomic Era", 82nd Annual Meeting of the AAAS Southwestern and Rocky Mountain Division, Clear Lake, TX, April 2007.

ADMINISTRATIVE ASSIGNMENT

Member of the Graduate School Promotions Committee, BCM, 2009-Present
Founding Director, X-ray Crystallography Facility, Department of Biochemistry and Molecular Biology, BCM, 2008-Present
Member of the Biochemistry Faculty Search Committee, Department of Biochemistry and Molecular Biology, BCM, 2008-2009
Member of the Standing Exam Committee, Department of Molecular and Cellular Biology, BCM, 2008-2011
Member of the Pharmacoinformatics Training Grant Steering Committee, 2007-2010
Member of the Graduate Education Committee, Department of Biochemistry and Molecular Biology, BCM, 2003-Present
Member of the Graduate Admissions Committee, Department of Biochemistry and Molecular Biology, BCM, 2003-Present

PROFESSIONAL SOCIETIES

Member, Biophysical Society, 2011-Present
Member, American Society for Biochemistry and Molecular Biology, 2008-Present
Member, American Chemical Society, 2008-Present
Member, American Association for the Advancement of Science, 2006-Present
Member, Society of Chinese Bioscientists in America - Texas Chapter, 2006-2009
Member, American Crystallography Association, 1995-Present
Member, Federation of American Societies for Experimental Biology, 1995-Present
Member, Protein Society, 1994-Present

INVITED LECTURES AND PRESENTATIONS

International

Glaxo SmithKline (Host: Dr. O.M.P. Singh), Stevenage, United Kingdom, May 2012.
National Tsing Hua University, Department of Life Science (Host: Dr. M.-C. Kao), Hsinchu, Taiwan, November 2011.

9th International Conference on AAA Proteins (Organizers: Drs. T. Ogura, Y. Fujiki & T. Katayama), Kumamoto City, Japan, November 2011.

University of Heidelberg, Workshop on Biomolecular Machines (Organizers: Drs. M. Mayer, E. Schiebel & V. Sourjik), Heidelberg, Germany, November 2010.

Eidgenössische Technische Hochschule (ETH), Department of Biology (Host: Dr. T. Ishikawa), Zürich, Switzerland, June 2010.

Max Planck Institute for Developmental Biology, Department of Protein Evolution (Host: Dr. A. Lupas), Tübingen, Germany, June 2010.

Max Planck Institute for Biochemistry, Department of Cellular Biochemistry (Host: Dr. F.U. Hartl), Martinsried, Germany, September 2009

The EMBO Meeting 2009 (Chair: Drs. K.-P. Hopfner & D.B. Wigley), Amsterdam, The Netherlands, August 2009.

Academia Sinica, Institute of Biological Chemistry (Host: Dr. M.-D. Tsai), Taipei, Taiwan, November 2008.

National Taiwan University, Department of Biochemical Science and Technology (Host: Dr. C.C. Yang), Taipei, Taiwan, November 2008.

Hong Kong University of Science and Technology, Department of Biochemistry (Host: Dr. M. Zhang), Hong Kong, China, November 2008.

Nankai University, College of Life Science (Host: Dr. Z. Rao), Tianjin, China, November 2008.

Tsinghua University, Department of Biological Sciences and Biotechnology (Host: Dr. Y. Shi), Beijing, China, November 2008.

Kyoto University, Institute for Chemical Research (Host: Dr. M. Uesugi), Kyoto, Japan, November 2008.

University of Oxford, Wellcome Trust Centre for Human Genetics (Host: Dr. R. Copley), Oxford, United Kingdom, August 2006.

University of Cologne, Institute for Genetics (Host: Dr. T. Langer), Cologne, Germany, July 2006.

16th Annual Meeting Korean Society for Molecular and Cellular Biology (Chair: Dr. C.H. Chung), Seoul, South Korea, October 2004.

National Institute for Biotechnology (Host: Dr. V. Wray), Braunschweig, Germany, May 2001.

EMBO Conference: Millennium Symposium on Structural Biology (Organizers: Drs. A. Hoenger, M. Saraste, I. Sinning & D. Suck), European Molecular Biology Laboratory, Heidelberg, Germany, March 2000.

Imperial College of Science, Technology and Medicine, Department of Biochemistry (Host: Dr. K.A. Brown), London, United Kingdom, March 2000.

National Institute for Biotechnology (Host: Dr. H.J. Hecht), Braunschweig, Germany, Aug. 1999.

Imperial Cancer Research Fund, Lincoln's Inn Fields (Host: Dr. N. McDonald), London, United Kingdom, August 1999.

University of Oxford, Department of Biochemistry (Graduate Symposium), Oxford, United Kingdom, March 1996.

National

University of Texas Southwestern Medical Center, Biophysics Discussion Group (Host: Dr. E.J. Goldsmith), Dallas, TX, March 2012.

56th Annual Meeting of the Biophysical Society (Organizers: Drs. Y. Goldman and S. Reck-Peterson), San Diego, CA, February 2012.

University of Texas El Paso, Program in Bioinformatics (Host: Dr. M. Narayan), El Paso, TX, October 2011.

Georgia Institute of Technology, Center for Nanobiology of the Macromolecular Assembly Disorders (Host: Dr. Y.O. Chernoff), Atlanta, GA, April 2011.

16th Structural Biology Symposium (Organizers: Drs. W. Braun & J. Iwahara), Sealy Center for Structural Biology and Molecular Biophysics, UT Medical Branch, Galveston, TX, April 2011.

Keystone Symposium on AAA+ and Related ATP-Driven Protein Machines: Structure, Function and Mechanism (Organizers: Drs. A. Matouschek, R.T. Sauer & P.I. Hanson), Tahoe City, CA, March 2011.

Annual Meeting of the American Crystallography Association (Program Chair: Dr. Ross Angel), Chicago, IL, July 2010.

Molecular Chaperones and Stress Responses (Organizers: Drs. F.U. Hartl, D. Ron & J. Weissman), Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, May 2010.

5th International Conference on Structural Analysis of Supramolecular Assemblies by Hybrid Methods (Organizers: Drs. W. Sundquist & P. Stewart), Tahoe City, CA, March 2010.

Experimental Biology 2009 (Session organizers: Drs. J. Frydman & R. Tycko), New Orleans, LA, April 2009.

University of Texas M.D. Anderson Cancer Center, Pharmacoinformatics Training Program (Host: Dr. G.J. Rodriguez), Houston, TX, March 2009.

University of Kentucky College of Medicine, Department of Molecular and Cellular Biochemistry (Host: Dr. Y.I. Chi), Lexington, KY, December 2008.

Molecular Chaperones and Stress Responses (Organizers: Drs. J. Bardwell, D. Ron & J. Weissman), Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, May 2008.

Kansas State University, Department of Biochemistry (Host: Dr. M. Zolkiewski), Manhattan, KS, April 2008.

Yale University, Department of Molecular Biophysics and Biochemistry (Host: Dr. J. Wang), New Haven, CT, July 2007.

Harvard University, Department of Molecular and Cellular Biology (Host: Dr. R. Gaudet), Cambridge, MA, July 2007.

Gordon Research Conferences – Proteins (Organizers: Drs. C.P. Hill & G.J. Pielak), Plymouth, NH, June 2007.

University of Houston, Department of Biology and Biochemistry (Host: Dr. H.J. Yeo), Houston, TX, April 2007.

Texas A&M University System Health Science Center, The Institute of Biosciences and Technology (Host: Dr. X.H. Feng), Houston, TX, November 2006.

University of Texas Southwestern Medical Center, Department of Physiology (Host: Dr. Y. Jiang), Dallas, TX, September 2006.

Southwest Macromolecular Symposium (Organizers: Drs. R.G. Brennan, R. Fox & Y. Shamoo), The Woodlands, TX, June 2006.

University of Texas Health Science Center (Host: Dr. W. Wriggers), Houston, TX, June 2006.

Molecular Chaperones and the Heat Shock Response (Organizers: Drs. J. Bardwell, D. Ron & J. Weissman), Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, May 2006.

Rice University, Department of Physics and Astronomy (Host: Dr. C.H. Kiang), Houston, TX, December 2005.

University of Michigan Medical School, Department of Biological Chemistry (Host: Dr. Z. Xu), Ann Arbor, MI, January 2005.

Rice University, Keck Center for Computational and Structural Biology (Host: Dr. T.G. Wensel), Houston, TX, January 2005.

Molecular Chaperones and the Heat Shock Response (Organizers: Drs. J. Bardwell, E. Craig & J. Weissman), Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, May 2004.

Southwest Macromolecular Symposium (Organizers: Drs. K. Krause, F.A. Quiocho, Y. Shamoo & S. Sprang), The Woodlands, TX, October 2003.

Keck Center for Computational and Structural Biology (Chair: Dr. J.S. McMurray), Clear Lake, TX, October 2003.

5th International Conference on AAA Proteins (Organizers: Drs. M.R. Maurizi & A.C. Steven), Warrenton, VA, June 2003.

10th Annual Texas Protein Folders Meeting, Camp Allen, Navasota, TX, April 2002.

Baylor College of Medicine, Program in Structural and Computational Biology and Molecular Biophysics (Host: Dr. W. Chiu), Houston, TX, September 2001.

Rice University, Keck Center for Computational and Structural Biology (Host: Dr. T.G. Wensel), Houston, TX, January 2001.

Baylor College of Medicine, Department of Biochemistry and Molecular Biology (Host: S.J. Wakil), Houston, TX, April 2000.

Case Western Reserve University School of Medicine, Department of Biochemistry (Host: Dr. M.A. Weiss), Cleveland, OH, March 2000.

Purdue University, Department of Biological Sciences (Host: Dr. M.G. Rossmann), West Lafayette, IN, February 2000.

Yale University, Department of Molecular Biophysics and Biochemistry, New Haven, CT, December 1998.

DIDACTIC COURSE WORK AND CURRICULUM DEVELOPMENT WORK

Course Number: GS-SB-403 Advanced X-ray Crystallography (Credits: 3)

Director and Course Instructor

Program in Structural and Computational Biology and Molecular Biophysics

Course Number: GS-GS-510 Structure of Macromolecules (Credits: 3)

Course Instructor

Graduate School of Biomedical Sciences Core Service Curriculum

Course Number: GS-BC-466 Seminar in Biochemistry (Credit: 1)

Course Instructor

Department of Biochemistry and Molecular Biology

Course Number: GS-CB-466 Seminar in Molecular and Cellular Biology (Credit: 1)

Course Instructor

Department of Molecular and Cellular Biology

RESEARCH FELLOW TRAINING

Present

Amadeo B. Biter, Ph.D., Postdoc, 2011-Present

Welch Postdoctoral Fellow, 2011-Present

Ji-Hyun Kim, Ph.D., Postdoc, 2011-Present

Jungsoon Lee, Ph.D., Postdoc, 2009-Present

Sukyeong Lee, Ph.D., Assistant Professor, 2005-Present

DoD New Investigator Award, 2004-2007

AHA Texas Affiliate Beginning Grant-in-Aid, 2006-2008

Nuri Sung, M.S., Research Technician, 2011-Present

Past

Steffen Augustin, Ph.D., Postdoc/Visiting Scientist, 2008

Current location: Research Scientist, ALLERGOPHARMA Joachim Ganzer KG, Germany

Amadeo B. Biter, B.S., Graduate Student (SCBMB), 2004-2011

Professor John J. Trentin Scholarship Award, 2004

Welch Predoctoral Fellow, 2004-2009

Current location: Postdoc, Baylor College of Medicine, USA

Patricia Calderon, B.S., Research Technician, 2001-2002
Current location: Instructor, Westmont College, USA

Lih-Yow Chen, M.S., Graduate Student (BMB), 2004-2005
Welch Predoctoral Fellow, 2004-2005
Current location: Postdoc, University of Lausanne, Switzerland.

Jae-Mun Choi, M.S., Research Technician, 2002-2005
Current location: Graduate Student, Baylor College of Medicine, USA.

Balvinder Dhaliwal, Ph.D., Postdoc, 2006-2007
Current location: Postdoc, Kings' College London, United Kingdom

Hyeung Kim, Ph.D., Postdoc, 2004-2006
Welch Postdoctoral Fellow, 2004
Current location: Postdoc, Baylor College of Medicine, USA

Changhoon Lee, M.S., Research Technician, 2004-2005
Current location: Graduate Student, University of Texas at Austin, USA

Ki Seog Lee, Ph.D., Postdoc, 2008-2010
Current location: Assistant Professor, Catholic University of Pusan, South Korea

Sukyeong Lee, Ph.D., Instructor, 2000-2005
DoD New Investigator Award, 2004-2007
Current location: Assistant Professor, Baylor College of Medicine, USA

Amit Nanavati, B.S, SMART Student, 2001
Current location: Physician, Boston, USA

Albert S. Reger, Ph.D. Postdoc, 2008-2011
Welch Postdoctoral Fellow, 2008-2011
Current location: Postdoc, Baylor College of Medicine, USA

Bernhard Sielaff, Ph.D., Postdoc 2005-2011
Welch Postdoctoral Fellow, 2005-2006
Keck Postdoctoral Fellow, 2006-2008
V.C. Joshi Memorial Award for "Best Platform Talk", 2010
Current location: Senior Scientist, Abbott Bioresearch Center, USA

Diane Leigh Smith, B.A., Graduate Student (TBMM), 2009-2010
Current location: Graduate Student, Baylor College of Medicine, USA

Mathew E. Sowa, Ph.D., Postdoc, 2002-2004
Welch Postdoctoral Fellow, 2004
Current location: Instructor, Harvard Medical School, USA

Sandeep Srivastava, Ph.D., Postdoc, 2006
Current location: Postdoc, Indian Institute of Science, Bangalore, India

Chunai Wu, Ph.D., Postdoc, 2007-2008
Welch Postdoctoral Fellow, 2007
Current location: Pathologist, National Society of Genetic Counselors, USA

Rotation Student

Mariah Baker (SCBMB), 2002
 Yanira Gonzalez Berrio (BMB), 2004
 Amadeo B. Biter (SCBMB), 2004
 Jennifer M. Bonderoff (CMB), 2003
 Lih-Yow Chen (BMB), 2003
 Jae-Mun Choi (BMB), 2005
 W. Justin Cordill (BMB), 2007
 Michael Evangelista (BMB), 2008
 Edwin Fuh (BMB), 2006
 Corey Hryc (SCBMB), 2011

Hye Jin Kang (SCBMB), 2007
Andrew Laegeler (BMB), 2001
Zao Li (BMB), 2009
Teresa Monkkonen (MCB), 2010
Jesus Gerardo Galaz Montoya (BMB), 2007
Monica Galaz Montoya (BMB), 2009
Jessica M. Moore (BMB), 2010
Waleed Nasser (BMB), 2005
Ilya Borisovich Novikov (BMB), 2010
Ian Rees (SCBMB), 2005
Diane Leigh Smith (TBMM), 2009
Ben J. Tobe (BMB), 2001
Lai Xu (BMB), 2002
Ke Zhang (SCBMB), 2005

GRADUATE STUDENT TRAINING (as committee member)

Present

Nimrat Chatterjee (BMB; Rosenberg Lab), 2010-Present
Kuang-Yui (Michael) Chen (BMB; Barth Lab), 2010-Present
Zana Muhaxhiri (BMB; Prasad Lab, *ex officio*), 2010-Present
María Elisa Terrón-Díaz (CMB; Wehrens Lab), 2008-Present

Past

Christopher R. Booth (SCBMB; Chiu Lab), 2001-2006
Zachary A. Bornholdt (MVM.; Prasad Lab), 2003-2008
Michael Evangelista (BMB; Peters Lab), 2009-2011
Eryong Huang (SCBMB; Shaulsky Lab), 2006-2008
Megan L. Landsverk (BMB; Epstein Lab), 2002-2004
Anthony P. Nguyen (Immunology; Huston Lab), 2001-2006
Shuya Wu (BMB; Quioco Lab), 2001-2005
Ke Zhang (SCBMB; Chen Lab), 2006-2007