

J. MARTIN SCHOLTZ, Ph.D.

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PROFILE

As a faculty member for nearly 25 years and an administrator for nearly 15 years, I have become familiar with the research and administrative enterprise in higher education. I am experienced with governance, strategic planning and budgeting, process improvement, compliance, grant administration, research infrastructure, program development, operations, commercialization, and innovation in research, teaching and learning.

EDUCATION AND TRAINING

B.S., Chemistry (Minors: Math and Life Sciences), University of Nebraska–Lincoln, 1984
Ph.D., Chemistry, University of California–Berkeley, 1989
Post-Doctoral, Physical Biochemistry, Stanford University School of Medicine, 1984-1989

CURRENT POSITIONS – TEXAS A&M UNIVERSITY

Executive Associate Vice President for Research, Texas A&M University
Professor, Department of Molecular & Cellular Medicine, College of Medicine, Texas A&M Health Science Center, Texas A&M University
Professor, Department of Biochemistry and Biophysics, College of Agriculture and Life Sciences, Texas A&M University

ADMINISTRATIVE POSITIONS – DIVISION OF RESEARCH – TEXAS A&M (2010 - PRESENT)

Executive Associate Vice President for Research (2013 - present)
Senior Associate Vice President for Research (2012 - 2013)
Associate Vice President for Research (2010 - 2012)

ACADEMIC POSITIONS – TEXAS A&M (1993 - PRESENT)

Professor (2004-present) of Molecular & Cellular Medicine and Biochemistry & Biophysics
Professor and Chair (2004-2009) of Molecular & Cellular Medicine
Associate Professor and Interim Head (2003-2004) of Medical Biochemistry & Genetics
Associate Professor (1999-2003) of Biochemistry & Biophysics
Assistant Professor (1993-1999) of Medical Biochemistry & Genetics and Biochemistry & Biophysics

ADMINISTRATIVE SUMMARY

In 2003, while still an Associate Professor, I was asked by my dean and my faculty colleagues to serve as the Interim Head of the Department of Medical Biochemistry & Genetics. Over the next two and one-half years, we reorganized the six “basic” science departments in the college into four new departments which better aligned us along research themes and areas. I was asked to serve as the first chair of the new Department of Molecular & Cellular Medicine and served until the end of 2009 in that capacity. During this time period, we significantly increased the number of faculty in the department as well as increasing the research activity in a significant manner.

In January of 2010, I accepted the offer to join the Division of Research at Texas A&M University. During this full-time administrative position, I have had the opportunity to participate in nearly all aspects of the activities of the division and have taken on increasing responsibilities.

Some highlights of my involvement include:

- *Research Development Services*: Helped to establish an office and program for proposal writing training and services to faculty investigators. Developed a team to help write large and multi-disciplinary proposals.
- *Research Development Fund*: Helped to facilitate procedures for distributing ca. \$7m per year for research infrastructure and core facilities.
- *Internal Grants Programs*: Managed programs that provided seed funding for multidisciplinary efforts, funding for seed grants in non-STEM areas and an Arts & Humanities Fellows program.
- *Limited Submissions Program*: Managed the Limited submission process for proposals from Texas A&M.
- *International Research Partnerships*: Managed grant programs with CONACYT from Mexico, CAPES and FAPESP from Brazil, Weizmann Institute from Israel and NSFC from China.
- *Research Communications*: Managed the research communications team including an outward-facing site to promote the research accomplishments at Texas A&M.
- *Research Integrity*: Served as the Research Integrity Officer and ran the scientific misconduct program at Texas A&M.
- *Economic Development*: Helped to establish a university-community economic development relationship and program.
- *Research Commercialization*: Helped to incorporate the A&M System Commercialization and Technology transfer office into the University.
- *Research Grants and Contracts*: Helped to incorporate the A&M System Sponsored Research Services office into the University and optimize the program for better service for the PIs and system members.
- *Research Compliance*: Helped to provide executive leadership to manage research compliance.
- *Biosafety Program*: Helped to organize the Institutional Biosafety Committee and its leadership.
- *Human Research Protection Program*: Helped to organize the Institutional Review Board and its leadership.
- *Animal Welfare Program*: Helped to organize the Institutional Animal Care and Use Committee and its leadership.
- *Biocontainment Facility*: Helped to lead a multi-year planning, financing and construction project for a Biosafety Level 3 Agricultural animal facility.
- *Laboratory Construction*: Provided general oversight for the construction and renovations of research laboratory space.
- *Post-doctoral Office*: Helped to establish a program and Post-Doctoral Association to provide a focal point for post docs at Texas A&M.
- *Research Core Facilities*: Provided senior oversight to a number of core research facilities on campus.

- *Research Computing Facility*: Helped to integrate the High Performance Research Computing group into the division.
- *Animal Care Facilities*: Provided senior oversight for the animal care facilities on campus.
- *Research Policies and Procedures*: Helped to write and manage the institutional rules and policies regarding the conduct of research at Texas A&M.
- *University Research Council*: Served as a member and liaison to the executive committee of the major advisory committee to the VPR.
- *Council of Principal Investigators*: Served as the liaison between the division and the executive committee of the CPI.
- *Research Fellows Program*: Helped to establish and guide the Division's Research Fellows program, with two fellows in the inaugural class.

AWARDS, SCHOLARSHIPS AND FELLOWSHIPS

David Memorial Scholarship (Academic, University of Nebraska–Lincoln; 1980–1981)
 Dean's List Honor Role (Academic, University of Nebraska–Lincoln; 1980–1984)
 Regents' Scholarship (Academic, University of Nebraska–Lincoln; 1981–1984)
 Outstanding Freshman Chemistry Student (University of Nebraska–Lincoln; 1981)
 C. J. Frankforter Scholarship (Chemistry, University of Nebraska–Lincoln; 1981–1983)
 Viola C. Jelinick Scholarship (Chemistry, University of Nebraska–Lincoln; 1983–1984)
 Sustained Scholarship (Academic, University of Nebraska–Lincoln; 1983–1984)
 Superior Scholar (Academic, University of Nebraska–Lincoln; 1984)
 Chancellor's Scholar (4.0 GPA Graduate, University of Nebraska–Lincoln; 1984)
 Chemistry Graduate Student Fellowship (University of California–Berkeley; 1984–1986)
 National Institutes of Health Postdoctoral Fellowship (Stanford University; 1989–1992)
 Bank of America–Giannini Foundation Postdoctoral Fellow (Stanford University; 1992–1993)
 American Cancer Society, Junior Faculty Research Award (Texas A&M; 1995–1998)
 College of Medicine Distinguished Junior Investigator Award (Texas A&M; 1998)
 Center for Teaching Excellence Scholar (Texas A&M University; 1998–1999)
 Established Investigator of the American Heart Association (Texas A&M; 1999–2002)
 Teacher/Scholar, University Honors Program (Texas A&M; 2002–2003)

RESEARCH SUMMARY

Although I have degrees in Chemistry (B.S, Nebraska; Ph.D. Berkeley), my research has been at the interface of biophysics and biochemistry. The overall goal of my research program has been to understand the fundamental principles underlying protein folding and stability. My research program provided a good vehicle for training graduate and undergraduate students, giving them well-rounded training on a variety of laboratory skills.

Refereed Publications ([Google Scholar Profile](#))

1. Scholtz, J. M. and Schuster, S. M. (1984) "Substrate Specificity of Hydroxyketoglutarate Aldolase" *Bioorganic Chemistry* **12**, 229–234.
2. Anderson, M.; Scholtz, J. M. and Schuster, S. M. (1985) "Rat Liver 4-Hydroxy-2-ketoglutarate Aldolase: Purification and Kinetic Characterization" *Archives of Biochemistry and Biophysics* **236**, 82–97.

3. Scholtz, J. M. and Schuster, S. M. (1986) "Regulation of Rat Liver 4-Hydroxy-2-ketoglutarate Aldolase" *Biochimica et Biophysica Acta* **869**, 192–196.
4. Scholtz, J. M. and Bartlett, P. A. (1988) "Convenient Differential Protection and Functional Group Manipulation of Aspartic and Glutamic Acids" *Synthesis* 542–544.
5. Scholtz, J. M. and Bartlett, P. A. (1989) "Synthesis and Evaluation of Inhibitors for *Escherichia coli* Carbamyl Phosphate Synthetase" *Bioorganic Chemistry* **17**, 422–433.
6. Morgan, B. P.; Scholtz, J. M.; Ballinger, M. D.; Zipkin, I. D. and Bartlett, P. A. (1991) "Differential Binding Energy: A Detailed Evaluation of the Influence of Hydrogen-Bonding and Hydrophobic Groups on the Inhibition of Thermolysin by Phosphorus-Containing Inhibitors" *Journal of the American Chemical Society* **113**, 297–307.
7. Scholtz, J. M.; Marqusee, S.; Baldwin, R. L.; York, E. J.; Stewart, J. M.; Santoro, M. and Bolen, D. W. (1991) "Calorimetric Determination of the Enthalpy Change for the α -Helix to Coil Transition of an Alanine Peptide in Water" *Proceedings of the National Academy of Sciences, USA* **88**, 2854–2858.
8. Scholtz, J. M.; York, E. J.; Stewart, J. M. and Baldwin, R. L. (1991) "A Neutral, Water-Soluble, α -Helical Peptide: The Effect of Ionic Strength on the Helix-Coil Equilibrium" *Journal of the American Chemical Society* **113**, 5102–5104.
9. Scholtz, J. M.; Qian, H.; York, E. J.; Stewart, J. M. and Baldwin, R. L. (1991) "Parameters of Helix-Coil Transition Theory for Alanine-based Peptides of Varying Chain Lengths in Water" *Biopolymers* **31**, 1463–1470.
10. Rohl, C. A.; Scholtz, J. M.; York, E. J.; Stewart, J. M. and Baldwin, R. L. (1992) "Kinetics of Amide Proton Exchange in Helical Peptides of Varying Chain Lengths. Interpretation by the Lifson-Roig Equation" *Biochemistry* **31**, 1263–1269.
11. Huyghues-Despointes, B. M. P.; Scholtz, J. M. and Baldwin, R. L. (1993) "Helical Peptides with Three Pairs of Asp-Arg and Glu-Arg Residues in Different Orientations and Spacings" *Protein Science* **2**, 80–85.
12. Scholtz, J. M. and Baldwin, R. L. (1993) "Perchlorate-Induced Denaturation of Ribonuclease A: Investigation of Possible Folding Intermediates" *Biochemistry* **32**, 4604–4608.
13. Scholtz, J. M.; Qian, H.; Robbins, V. H. and Baldwin, R. L. (1993) "The Energetics of Ion-Pair and Hydrogen-Bonding Interactions in a Helical Peptide" *Biochemistry* **32**, 9668–9676.
14. Huyghues-Despointes, B. M. P.; Scholtz, J. M. and Baldwin, R. L. (1993) "The Effect of a Single Aspartate on Helix Stability at Different Positions in a Neutral Alanine-Based Peptide" *Protein Science* **2**, 1604–1611.
15. Scholtz, J. M.; Barrick, D.; York, E. J.; Stewart, J. M. and Baldwin, R. L. (1995) "Urea Unfolding of Peptide Helices as a Model for Interpreting Protein Unfolding" *Proceedings of the National Academy of Sciences, USA* **92**, 185–189.
16. Scholtz, J. M. (1995) "Conformational Stability of HPr: The Histidine-containing Phosphocarrier Protein from *B. subtilis*" *Protein Science* **4**, 35–43.
17. Hammen, P. K.; Scholtz, J. M.; Anderson, J. W.; Waygood, E. B. and Klevit, R. E. (1995) "Investigation of a Side Chain-Side Chain Hydrogen Bond by Mutagenesis, Thermodynamics and NMR Spectroscopy" *Protein Science* **4**, 936–944.
18. Myers, J. K.; Pace, C. N. and Scholtz, J. M. (1995) "Denaturant m-values and Heat Capacity Changes: Relation to Changes in Accessible Surface Areas of Protein Unfolding" *Protein Science* **4**, 2138–2148.

19. Pullen, K.; Rajagopal, P.; Branchini, Bruce R.; Huffine, M. E.; Reizer, J.; Saier Jr., M. H.; Scholtz, J. M. and Klevit, R. E. (1995) "Phosphorylation of Serine-46 in HPr, a Key Regulatory Protein in Bacteria, Results in Stabilization of its Solution Structure" *Protein Science* **4**, 2478–2486.
20. Smith, J. S. and Scholtz, J. M. (1996) "Guanidine Hydrochloride Unfolding of Peptide Helices: Separation of Denaturant and Salt Effects" *Biochemistry* **35**, 7292–7297.
21. Thapar, R.; Nicholson, E. M.; Waygood, E. B.; Scholtz, J. M. and Klevit, R. E. (1996) "Influence of N-cap Mutations on the Structure and Stability of *E. coli* HPr" *Biochemistry* **35**, 11268–11277.
22. Nicholson, E. M. and Scholtz, J. M. (1996) "Conformational Stability of the *Escherichia coli* HPr Protein: Test of the Linear Extrapolation Method and a Thermodynamic Characterization of Cold Denaturation" *Biochemistry* **35**, 11369–11378.
23. Myers, J. K.; Smith, J. S.; Pace, C. N. and Scholtz, J. M. (1996) "The α -helix of Ribonuclease T1 as an Independent Stability Unit: Direct Comparison of Peptide and Protein Stability" *Journal of Molecular Biology* **263**, 390–395.
24. Huffine, M. E. and Scholtz, J. M. (1996) "Energetic Implications for Protein Phosphorylation: Conformational Stability of HPr Variants that Mimic Phosphorylated Forms" *Journal of Biological Chemistry* **271**, 28898–28902.
25. Myers, J. K.; Pace, C. N. and Scholtz, J. M. (1997) "A Direct Comparison of Helix Propensity in Proteins and Peptides" *Proceedings of the National Academy of Sciences, USA* **94**, 2833–2837. See also the Commentary by Lynne Regan (1997) "Helix is a Helix is a Helix" *Proceedings of the National Academy of Sciences, USA* **94**, 2796–2797.
26. Myers, J. K.; Pace, C. N. and Scholtz, J. M. (1997) "Helix Propensities are Identical in Proteins and Peptides" *Biochemistry* **36**, 10923–10929.
27. Grimsley, J. K.; Scholtz, J. M.; Pace, C. N. and Wild, J. R. (1997) "Equilibrium Unfolding of Organophosphorus Hydrolase Involves a Homodimeric Intermediate" *Biochemistry* **36**, 14366–14374.
28. Smith, J. S. and Scholtz, J. M. (1998) "Energetics of Polar Side-Chain Interactions in Helical Peptides: Salt Effects on Ion Pairs and Hydrogen Bonds" *Biochemistry* **37**, 33–40.
29. Myers, J. K.; Pace, C. N. and Scholtz, J. M. (1998) "Trifluoroethanol Effects on Helix Propensity and Electrostatic Interactions in the Helical Peptide from Ribonuclease T1" *Protein Science* **7**, 383–388.
30. Bayless, K. J.; Meininger, G. A.; Scholtz, J. M. and Davis, G. E. (1998) "Osetopontin Binds to the $\alpha 4\beta 1$ Integrin" *Journal of Cell Science* **111**, 1165–1174.
31. Smith D. L.; Struck, D. K.; Scholtz, J. M. and Young, R. (1998) "Purification and Biochemical Characterization of the Lambda Holin" *Journal of Bacteriology* **180**, 2531–2540.
32. Pace, C. N. and Scholtz, J. M. (1998) "A Helix Propensity Scale Based on Experimental Studies of Peptides and Proteins" *Biophysical Journal* **75**, 422–427.
33. Moye-Sherman, D.; Jin, S.; Ham, I.; Lim, D.; Scholtz, J. M. and Burgess, K. (1998) "Conformational Preferences of RNase A C-Peptide Derivatives Containing a Highly Constrained Analog of Phenylalanine" *Journal of the American Chemical Society* **120**, 9435–9443.
34. Lim, D.; Moye-Sherman, D.; Ham, I.; Jin, S.; Scholtz, J. M. and Burgess, K. (1998) "2,3-Methanoamino Acid Analogs of Arg Stabilize Secondary Structures of a 13-amino Acid Peptide in Aqueous Solution" *Chemical Communications* 2375–2376.

35. Peterson, R. W.; Nicholson, E. M.; Thapar, R.; Klevit, R. E. and Scholtz, J. M. (1999) "Increased Helix and Protein Stability Through the Introduction of a New Tertiary Hydrogen Bond" *Journal of Molecular Biology* **286**, 1607–1619.
36. Krishnan, P.; Hocking, A. M.; Scholtz, J. M.; Pace, C. N.; Holik, K. K. and McQuillan, D. J. (1999) "Distinct Secondary Structures of the Leucine–Rich Repeat Proteoglycans Decorin and Biglycan: Glycosylation–Dependent Conformational Stability" *Journal of Biological Chemistry* **274**, 10945–10950.
37. Huyghues–Despointes, B. M. P.; Scholtz, J. M. and Pace, C. N. (1999) "Protein Conformational Stabilities can be Determined from Hydrogen–exchange Rates" *Nature Structural Biology* **6**, 910–912.
38. Grimsley, G. R.; Shaw, K. L.; Fee, L. R.; Alston, R. W.; Huyghues–Despointes, B. M. P.; Thurlkill, R. L.; Scholtz, J. M. and Pace, C. N. (1999) "Increasing Protein Stability by Altering Long–Range Coulombic Interactions" *Protein Science* **8**, 1843–1849.
39. Huyghues–Despointes, B. M. P.; Langhorst, U.; Stayert, J.; Pace, C. N. and Scholtz, J. M. (1999) "Hydrogen–Exchange Stabilities of RNase T1 and Variants with a Buried or Solvent–Exposed Ala6Gly Mutations in the Helix" *Biochemistry* **50**, 16481–16490.
40. Zhu, H.; Celinski, S.; Scholtz, J. M. and Hu, J. C. (2000) "The Contribution of Buried Polar Groups to the Conformational Stability of the GCN4 Coiled–coil" *Journal of Molecular Biology* **300**, 1379–1389.
41. Zhu, H.; Celinski, S.; Scholtz, J. M. and Hu, J. C. (2001) "An Engineered Leucine Zipper a Position Mutant with an Unusual Three-State Unfolding Pathway" *Protein Science* **10**, 24–33.
42. Pace, C. N.; Horn, G.; Hebert, E. J.; Bechert, J.; Shaw, K.; Urbanikova, L.; Scholtz, J. M. and Sevcik, J. (2001) "Tyrosine Hydrogen Bonds Make a Large Contribution to Protein Stability" *Journal of Molecular Biology* **312**, 393–404.
43. Celinski, S. A. and Scholtz, J. M. (2002) "Osmolyte Effects on Helix Formation and the Stability of Coiled-Coils" *Protein Science* **11**, 2048–2051.
44. Nicholson, E. M.; Peterson, R. W. and Scholtz, J. M. (2002) "A Partially Buried Site in Homologous HPr Proteins is Not Optimized for Stability" *Journal of Molecular Biology* **321**, 355–362.
45. Pace, C. N.; Huyghues–Despointes, B. M. P.; Briggs, J. M.; Grimsley, G. R. and Scholtz, J. M. (2002) "Charge–Charge Interactions are the Primary Determinants of the pK Values of Ionizable Groups in Ribonuclease T1" *Biophysical Chemistry* **101–102**, 213–222.
46. Laurents, D. V.; Huyghues–Despointes, B. M. P.; Bruix, M.; Thurlkill, R. L.; Schell, D.; Newsom, S.; Grimsley, G. R.; Shaw, K. L.; Treviño, S.; Rico, M.; Briggs, J. C.; Antosiewicz, J. M.; Scholtz, J. M. and Pace, C. N. (2003) "Charge–Charge Interactions are Key Determinants of the pK values of Ionizable Groups in Ribonuclease Sa (pI=3.5) and a Basic Variant (pI=10.2)" *Journal of Molecular Biology* **325**, 1077–1092.
47. Huyghues–Despointes, B. M. P.; Thurlkill, R. L.; Daily, M. D.; Schell, D.; Briggs, J. C.; Antosiewicz, J. M.; Pace, C. N. and Scholtz, J. M. (2003) "pK Values of Histidines in Ribonuclease Sa: Effect of Salt and Net Charge" *Journal of Molecular Biology* **325**, 1093–1105.
48. Song, G.; Thomas, S.; Dill, K. A.; Scholtz, J. M. and Amato, N. M. (2003) "A Path Planning–Based Study of Protein Folding with a Case Study of Hairpin Formation in Protein G and L" *Pacific Symposium on Biocomputing* **8**, 240–251.

49. Takano, K.; Scholtz, J. M.; Sacchettini, J. C. and Pace, C. N. (2003) "The Contribution of Polar Group Burial to Protein Stability is Strongly Context Dependent" *Journal of Biological Chemistry* **278**, 31790-31795.
50. Schmittschmitt, J. P. and Scholtz, J. M. (2003) "The Role of Protein Stability, Solubility and Net Charge in Amyloid Fibril Formation" *Protein Science* **12**, 2374-2378.
51. Schmittschmitt, J. P. & Scholtz, J.M. (2004) "The Side Chain of Asp69 Dictates the Folding Mechanism of *Bacillus subtilis* HPr" *Biochemistry* **43**, 1360-1368.
52. Pace, C. N.; Treviño, S.; Prabhakaran, E. & Scholtz, J. M. (2004) "Protein Structure, Stability and Solubility in Water and Other Solvents" *Philosophical Transactions of the Royal Society: Series B* **359**, 1225-1235.
53. Alston, R. W.; Scholtz, J. M.; Reinhart, G. D., Lasagna, M., Urbanikova, L. Sevcik, J. and Pace, C. N. (2004) "Contribution of Single Tryptophan Residues to the Fluorescence and Stability of Ribonuclease Sa" *Biophysical Journal*, **87**, 4036-4047.
54. Trevino, S. R., Gokulan, K., Newsom, S., Thurlkill, R. L., Shaw, K. L., Mitkevich, V. A., Makarov, A. A., Sacchettini, J. C., Scholtz, J. M., and Pace, C. N. (2005) "Asp79 Makes a Large, Unfavorable Contribution to the Stability of RNase Sa" *Journal of Molecular Biology* **354**, 967-978.
55. Trefethen, J. M., Pace, C. N., Scholtz, J. M., and Brems, D. N. (2005) "Charge-charge interactions in the denatured state influence the folding kinetics of ribonuclease Sa" *Protein Science* **14**, 1934-1938.
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58. Movileanu, L., Schmittschmitt, J. P., Scholtz, J. M., and Bayley, H. (2005) "Interactions of peptides with a protein pore" *Biophysical Journal* **89**, 1030-1045.
59. Laurents, D. V., Scholtz, J. M., Rico, M., Pace, C. N., and Bruix, M. (2005) "Ribonuclease Sa conformational stability studied by NMR-monitored hydrogen exchange" *Biochemistry* **44**, 7644-7655.
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62. Thurlkill, R. L., Grimsley, G. R., Scholtz, J. M., and Pace, C. N. (2006) "pK Values of the Ionizable Groups of Proteins" *Protein Science* **15**, 1214-1218.
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74. Grimsley, G. R., Scholtz, J. M., Pace, C. N. (2009) "A summary of the measured pK values of the ionizable groups in folded proteins." *Protein Science* **18**, 247-251.
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phase peptide ions: the effects of multiple potential charge-carrying sites.” *Journal of Physical Chemistry B* **114**, 809-816.

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91. Ridinger, K.; Chateau, M.; Trevino, S.; Pace, C. N. and Scholtz, J. M. (2006) "Studying the effect of extrinsic and intrinsic factors on amyloid formation" 14th Annual Texas Protein Folders Meeting, Navasota, Texas.
92. Trefethen, J. M.; Pace, C. N.; Scholtz, J. M.; Gokran, Y. R. and Brems, D. N. (2006) "Direct evidence of global denatured state expansion correlated to m value changes as a function of pH" 14th Annual Texas Protein Folders Meeting, Navasota, Texas.
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98. Thurlkill, R. L.; Scholtz, J. M. and Pace, C. N. (2009) "Buried hydrogen bonds and buried hydrophobic pockets contribute to the stability of proteins" 17th Annual Texas Protein Folders Meeting, Navasota, Texas.
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100. Ridinger, K.; Auckland, L.; Savva, C.; Holzenburg, A.; Bix, G. and Scholtz, J. M. (2009) "A novel pathway for the process of amyloid formation" FASEB Amyloid Fibril Formation and Protein Misfolding: Molecular Mechanisms and Cellular Effects, Snowmass Village, Colorado.

Presentations, seminars and symposia

1. "Rules for α -helix Formation" Texas A&M University Department of Biochemistry & Biophysics (October 1993).
2. "Establishing an Academic Career" American Chemical Society National Meeting (August 1994).

3. "Rules for Helix Formation in Peptides" Second Annual Texas Protein Folders Meeting in Comfort, TX (March 1994)
4. "N-cap Formation in α -Helices" Fourth Annual Texas Protein Folders Meeting in Navasota, TX (March 1996)
5. "Protein Folding and Stability: Lessons from the α -Helix" Texas A&M University, Department of Pharmacology & Toxicology (December 1996)
6. "Protein Folding and Stability: Lessons from the α -Helix" Cameron University (Lawton, OK), Departments of Chemistry and Biology (February 1997)
7. "Protein Folding: What's the Question?" Wichita Falls-Duncan Local Section of the American Chemical Society (February 1997)
8. "Protein Folding and α -Helix Formation" University of Mississippi, Department of Chemistry (April 1997)
9. "Helix Propensities in Peptides and Proteins" 3rd Annual Johns Hopkins Protein Folding Meeting (March 1998)
10. "Helix Formation in Peptides and Proteins" 6th Annual Texas Protein Folders Meeting in Navasota (May 1998)
11. "Helix Formation in Protein Folding and Stability" Texas A&M University, Department of Medical Biochemistry & Genetics (September 1998).
12. "The Role of Helix Formation in Protein Folding" University of Texas Medical Branch in Galveston (October 1998).
13. "Helix Formation in Protein Folding and Stability" Texas A&M University, Department of Biochemistry & Biophysics (September 1999).
14. "Helix Formation in Protein Folding and Stability" Baylor University, Department of Chemistry (January 2001)
15. Invited Platform Speaker, Gordon Research Conference: Proteins (June 2001)
16. "The Roles of Protein Solubility, Net Charge and Stability in Amyloid Fibril Formation" Tenth Annual Texas Protein Folders Meeting (April 2002)
17. "Protein Folding and Misfolding" American Crystallographic Society, San Antonio, TX, Invited Platform Lecture (May 2002)
18. "Contributions of Long-Range Electrostatic Interactions to Protein Stability, Solubility and Activity" 16th Annual Gibbs Conference on Biothermodynamics, Carbondale, IL. (October 2002)
19. "Contributions of Long-Range Electrostatic Interactions to Protein Stability, Solubility and Activity" 86th Annual International Titisee Conference, Titisee, Germany (October 2002)
20. "Contributions of Long-Range Electrostatic Interactions to Protein Stability, Solubility and Activity", Johns Hopkins University (May 2003)
21. "Electrostatic Interactions in Protein Folding and Misfolding", University of California-Berkeley (June 2003)
22. "Electrostatic Effects in Proteins: Charges and Consequences" *abc5* Conference, Zaragoza, Spain (July 2006)
23. "Electrostatic Effects in Proteins: Charges and Consequences" *AMGEN* (September 2006)
24. "Electrostatic Effects in Proteins: Charges and Consequences" *Texas Protein Folders* (March 2007)

25. "Electrostatic Effects in Proteins: Charges and Consequences" *Sealy Symposium on Structural Biology* (March 2009)
26. "Experimental Studies of Protein Electrostatics" Invited Talk, Telluride Conference (July 2009)
27. "Charges in and from Biopolymers" Biomedical Engineering, Texas A&M (January 2010)
28. "Charges in Proteins: Folding and Misfolding" Invited Talk, Protein Society (August 2010)

Summary of External Research Grants and Contracts

Robert A. Welch Foundation (A-1281 and BE-1281)
Helix Formation and Protein Folding
1994-2015

NIH – Training Grant: Chemistry/Biology Interface (T32 GM 08523)
Title: Graduate Training in Biological Chemistry
1994-1999, Participant

American Cancer Society: Junior Faculty Research Award (JFRA-577)
Folding by Parts: Fragment Studies of the HPr Protein
1995-1998

NIH-Small Instrumentation Grant Program
Acquisition of a Stopped-flow CD
1998, Co-I

National Institutes of Health – FIRST Award (R29 GM52483)
Protein Hierarchy: The Role of Helix Formation in Protein Stability
1995

National Science Foundation-DBI (DBI-9970232)
High Field NMR for Structural Studies of Proteins and Nucleic Acids
1999, Co-I.

Texas Higher Education Coordinating Board-Advanced Research Program
Oxidation of Host Site Amino Acids in Transmembrane Alpha Helical Peptides
2000-2001

American Heart Association: Established Investigator Grant
Cholesterol Effects on the Folding of Membrane Proteins
1999-2003

National Institutes of Health – (R01 GM52483)
Local and Long-Range Interactions in Protein Folding and Stability
2001-2006

NIH – Training Grant: Chemistry/Biology Interface (T32 GM08523)
Graduate Training in Biological Chemistry
2005-2008, Participant.

NIH – Training Grant: Molecular Biophysics (T32 GM065088)
Graduate Training in Molecular Biophysics
2003-2008, Participant

Texas Higher Education Coordinating Board-Advanced Research Program
Insights into the Molecular Basis of Amyloid Diseases
2006-2008

Amgen, Inc. – University Grant Program
Protein Solubility
2007-2010

TEACHING SUMMARY

Courses Taught

Over the course of my career, I have participated in the formal instruction of a range of students from freshman and senior honors students to graduate students to 2nd year medical students.

From 1994 to 2009, I taught the last third of the Medical Biochemistry course for first-year medical students. In addition, I served as a faculty group leader for our small group sessions or Conferences for the Medical Students as part of the Medical Biochemistry & Genetics courses. I have also participated in the instruction of Graduate Students, both in the College of Medicine and in the Department of Biochemistry & Biophysics in the College of Agriculture and Life Sciences. From 1993 through 1996, I taught one portion of the flagship graduate cell biology course in the College of Medicine. I have also contributed to several courses in the Department of Biochemistry and Biophysics. From 1995 to 2009, I gave several lectures in the biophysical chemistry course. I also team taught an undergraduate honors Biochemistry course for sophomore biochemistry majors. Since 2010, I have provided occasional lectures to the medical students, undergraduate biochemistry students and I have also given lectures in other undergraduate and graduate level biochemistry courses.

Teaching Awards

1998–1999	Center for Teaching Excellence Scholar (Texas A&M University)
2002–2003	Teacher/Scholar Award from the University Undergraduate Honors program

Research and Graduate Student Supervision

Postdoctoral or Research Scientists

Gerald Grimsley • Beatrice Huyghues-Despointes • Erode Prabhakaran • Satoshi Iimura

Graduate Students Thesis/Dissertation Advisor

Brian Hubbard • Jeff Myers • Susanna Sroka • Eric M. Nicholson • Jennifer Ross • Ronald Peterson • Jason Schmittschmitt • David Schell • Richard Thurlkill • Abbas Razvi • Saul Treviño • Yun Wei • Jared Trefethen • Hailong Fu • Katherine Ridinger • Ryan Kramer • Anthany Everett

Graduate Student Thesis/Dissertation Committees

Guoxiang He • Ketan S. Gajiwala • Sunghan Yoo • Venkatesh Krishnan • Deborah Rames • Henry Fang • Shuren Liao • Karen Campo • Sub Yegneswaran • Dongyeol Lim • Lori Corley • Michael Thomadakis • Haimanot Bekele • Sharon Shields • Hai Zhu • Kevin Shaw • Iddys Figueroa–García • Layle Watkins • Kathy Bills • Wen Li • Kanishkan Sathasivan • Matthew Meyer • Carrie Vyhldal • Jian Zhang • Mark Powell • Brian Noland • Arina Hadziselimovic • Zee-Yong Park • Roxanne Daugherty • Sam Perkins • Benjamin Lasseter • Peter McCormick • Zhi Lai • Earle Stone • Saritha Suram • Guang Song • Roy Alston • Scott Pinkerton • Min Xu • Shannon Burns • Monique Parachartanakul • Rajesh Ramachandran • Mario Pennella • Edith Osborne • Holly Cargill • Patrick Frantom • Giri Sura • Tony Reeves • Ken Carson • Sam Reyes • David Armstrong • Greg Munoz • Francisco Franco-Torres • Edinson Moreno • Tarek Mahfouz • Sanghamitra Dey • i Zheng • Li Zhang • un Wang • Lichun Li • Arnaldo Diaz • Kayla Green • Janel Beckley • Chonghua Chan Shawna Thomas • Xiotao Qu • Yong-Ick Kim • Pauloa Guerrero • Scarlett Blair • Alex Pavon • Lydia Tapia • Neal Whitaker • Rockann Mosser • Aram Joel Panay • Anup Aggarwal • Jaibir Kherb • Chin-Yuan Chang • Hunin Jung • SoYoun Hwang • Joel Gray • Catrina Reed • Katherine Leehy • Hsin Yi Yeh • Hao-Ching Hsaio • Halee Kim • Amy Knutson • Chinwe Ekenna • Yi-Tang Liao • Chih-Peng Wu • Amanda Tindall • Anqi Chen

Undergraduate Student Advisor

Joy Chen • Brent Symington • Tom Thayil • Tracy Norris • John Thoppil • William Lawrence Scott Celinski • Jason Dugan • Jenks Currie • Scott Worrich • Korina Lopez • Jason Allison • Marisha Burden • Eric Molonson • Nick Kaszczuk • Jenna Gates • Timmy Koovor • Danny Munoa • Matt McMullen • Lauren Crouch • Stephanie Sanchez • Cynthia Vargas • Nicole Motl • Monisha Parikh • Matthew Grunewald • Ethan Kleinschmidt

University Honors Fellow Supervisor

Geoff Funk • Fatema Uddin • Mike Daily • Jennifer Dulin • Katie McQuade • Morgan Chateau

PROFESSIONAL SERVICE – FACULTY & DEPARTMENT

I have always tried to serve my institution or scientific society dating from my days as a post-doctoral fellow. I was first asked to serve on the National Younger Chemist Committee of the American Chemical Society (ACS) and I served for five years, the last two as chair. As a beginning faculty member and assistant professor, I continued serving the National ACS as well as efforts in my department and college. Below is a list of some of my service activities.

College of Medicine Committees

Member, Computers in the Medical Curriculum, College of Medicine, Texas A&M, 1993
Member, Search Committee for Head, Department of Medical Biochemistry & Genetics, Texas A&M, 1995–96
Ad Hoc interviewer for Admissions Committee, Texas A&M College of Medicine, 1995–96, 2006–09
Member, Admissions Committee, Texas A&M College of Medicine, 1996–99

Member, Rural Health Early Assurance Committee, Texas A&M College of Medicine, 1997–99
 Member, Search Committee for Associate Dean for Information Technology, Texas A&M College of Medicine, 1997–98
 Member, Curriculum Steering Committee, Texas A&M College of Medicine, 1999–2000
 Senator, Texas A&M University System Health Science Center Faculty Senate, 2000–01
 Member, Faculty Advisory Committee, College of Medicine, 2000–01
 Member, Research Advisory Committee, College of Medicine, 2001–03
 Chair, Curriculum Renewal Implementation Committee, College of Medicine, 2002–2003
 Member, Executive Committee, College of Medicine, 2003–2009
 Member, Academic Council, College of Medicine, 2003–2009
 Member, Basic Science Departments Realignment Task Forces, 2004
 Member, Facilities Committee, College of Medicine, 2006–2009
 Vice President for Research – Advisory Committee, Health Science Center, 2007–2009
 Texas Institute of Genomic Medicine, Internal Advisory Committee, 2008–2009
 Member, Curriculum Review Committee, 2008–2009

Texas A&M Committees

Member, University Committee, Medical Sciences Library Council, Texas A&M University, 1994–97, 1997–2000
 Vice–Chair, University Committee, Medical Sciences Library Council, Texas A&M University, 1997–98
 Chair, University Committee, Medical Sciences Library Council, Texas A&M University, 1998–99
 Member, Biotechnology Service Laboratory Advisory Committee, Texas A&M University, 1994–95
 Member, University Committee on Chemical Safety, Texas A&M University, 1996–
 Member, Protein Chemistry Laboratory Advisory Committee, Texas A&M University, 1996–99
 Member, Faculty Search Committee, Center for Cancer Biology, IBT/Texas A&M University, 1996–97
 Member, Wolfe–Welch Chair Search Committee, Department of Biochemistry & Biophysics, Texas A&M, 1994–95
 Member, Executive Committee, Chemistry–Biology Interface NIH Training Grant, Texas A&M, 1994–99
 Member, Genetics Faculty & Student Awards Committee, Texas A&M University, 1995–96
 Member, Faculty Search Committee, Center for Cancer Biology, IBT/Texas A&M University, 1997–98
 Member, Graduate Program Committee, Department of Biochemistry & Biophysics, Texas A&M University, 1997–01
 Member, Faculty Search Committee, Department of Biochemistry & Biophysics, Texas A&M University, 1998–99
 Faculty Director, Protein Chemistry Laboratory, Texas A&M University, 1999–2003
 Member, Protein Chemistry Laboratory Users Group, Texas A&M University, 2003–09
 Chair, Biochemistry NMR Users Group, Texas A&M University, 1999–09
 Member, Laboratory for Biological Mass Spectrometry Faculty Advisory Committee, 1999–09
 Assistant Director, Center for Advanced Biomolecular Research, Texas A&M University System, 1999–2006

Member, Faculty Search Committee, Department of Biochemistry & Biophysics, Texas A&M University, 2001-02
Elected Member, Council of Principal Investigators, Texas A&M University, 2001-04, 2004-08
Member, Executive Committee of the Council of Principal Investigators, 2007-08
Member, Life Science Task Force, Texas A&M University, 2002-03
Member, NMR Building task force, 2004-2005
User Coordinator for the Design and Build of the NMR Building, 2004-06
Member, Search Committee, Vice President for Research, Texas A&M University, 2008-09
Member, Council on the Built Environment, Maintenance Sub-council, 2011-16
Member, Council on the Built Environment, Facilities Utilization Review Sub-council, 2011-16
Chair, Council on the Built Environment, Facilities Utilization and Planning Sub-council, 2016-
Member, Search Committee – Vice President for Information Technology, Texas A&M University, 2015-16
Member, Search Committee – Associate Vice President for Information Technology, Texas A&M University, 2017 –

National Review and Editorial Service

Editorial Board, *Archives of Biochemistry and Biophysics* 2002-2005; 2006-09
Frequent reviewer for many Journals including *Science*, *Nature*, *Nature Structural Biology*, *PNAS*, *JMB*, *Biochemistry*, *JACS*, *Protein Science*, *Proteins*, and several others.
Grant and Contact reviews for the National Science Foundation (NSF) and to the Petroleum Research Fund of the American Chemical Society (PRF-ACS). I have also served on NIH panels to review shared instrument grants, to review fellowships, CORE grants and various special panels to review program projects.

Regional, State or National Service

Member, Executive Committee of the Younger Chemists Committee of the American Chemical Society, 1991-96
Chair, Executive Committee of the Younger Chemists Committee of the American Chemical Society, 1995-96
Member, Editorial Advisory Board for *Reaction Times: A College Science Newspaper*, American Chemical Society, 1993-97
Associate Member, Society Committee on Education (SOCED) of the American Chemical Society, 1997-1999
Member, Editorial Advisory Board for Chemistry, American Chemical Society, 1997-2000
Member, Task Force on graduate education, American Chemical Society, 1998
Chairs and Meetings Organized
Co-Chair, Seventh Annual Texas Protein Folders Meeting, Navasota 1999
Co-Chair, Eighth Annual Texas Protein Folders Meeting, Navasota 2000
Co-Chair, Ninth Annual Texas Protein Folders Meeting, Navasota 2001
Chair, Center for Advanced Biomolecular Research Retreat, 2001
Co-Chair, Tenth Annual Texas Protein Folders Meeting, Navasota 2002
Chair, Center for Advanced Biomolecular Research Retreat, 2002
Co-Chair, Eleventh Annual Texas Protein Folders Meeting, Navasota 2003
Co-Chair, 12th Annual Texas Protein Folders Meeting, Navasota 2004

Co–Chair, 13th Annual Texas Protein Folders Meeting, Navasota 2005
Co–Chair, 14th Annual Texas Protein Folders Meeting, Navasota 2006
Logistics Co–Chair, 15th Annual Texas Protein Folders Meeting, Navasota 2007
Logistics Co–Chair, 16th Annual Texas Protein Folders Meeting, Navasota 2008
Logistics Co–Chair, 17th Annual Texas Protein Folders Meeting, Navasota 2009

Membership in Scholarly Societies

Professional Societies:

American Chemical Society • American Association for the Advancement of Science • Protein Society • American Institute of Chemists • American Society for Biochemistry and Molecular Biology • Association of Medical and Graduate Departments of Biochemistry (Chairs Group)

Honor Societies:

Phi Eta Sigma • Alpha Lambda Delta • Phi Lambda Upsilon • Phi Beta Kappa • Sigma Xi