Curriculum Vitae

Gary J. Pielak

Department of Chemistry
University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-3290
Phone: 919-962-4495
Email: gary_pielak@unc.edu
Home page: www.chem.unc.edu/people/faculty/pielak/group/

Research Interests:

Protein chemistry and biophysics, especially in living cells.

Employment:

July 2015-

Kenan Distinguished Professor of Chemistry

August 2013-2018

Vice Chair of Facilities in Chemistry

July 2013-July 2015

Glen H. Elder, Jr. Distinguished Term Professor of Research & Undergraduate Education

January 2013-December 2014

Program Director, Molecular Biophysics Cluster, Division of Molecular and Cellular Sciences, Directorate for Biological Sciences, the National Science Foundation, Arlington, NC

January 2000-

Professor of Chemistry, UNC
Professor of Biochemistry & Biophysics, UNC
Member, UNC Lineberger Comprehensive Cancer Center

July 2000 - June 2005 & July 2007 - June 2008

Vice Chair of Undergraduate Studies in Chemistry

January 2000-June 2006

Faculty Director, UNC Macromolecular Interactions Facility

July 1998 - July 1999

Sabbatical Visitor: Professor Christopher M. Dobson, F.R.S.
Oxford Centre for Molecular Sciences
University of Oxford, England

January 1995-December 1999

Associate Professor of Chemistry, UNC

January 1989-June 2016

Co-director UNC Biomolecular NMR Facility

January 1989 - December 1994

Assistant Professor, UNC
Member UNC Integrative Program for Biological & Genome Sciences (previously Program in Molecular Biology and Biotechnology)

June 1986 - January 1989

N.I.H Postdoctoral Fellow: R.J.P. Williams, F.R.S., M.B.E, deceased
Inorganic Chemistry Laboratory, University of Oxford, England

March 1983 - June 1986

N.I.H., Postdoctoral Fellow: Professor M. Smith, F.R.S., deceased
Department of Biochemistry University of British Columbia
Vancouver, B.C. Canada

Education:

January 1983
Ph.D. in Biochemistry
Laboratory of Professor J. Ivan Legg, deceased
Department of Chemistry
Washington State University, Pullman, Washington
Dissertation: Characterization of Arsanilazo & Sulfanilazo Proteins

June 1977
B.A. in Chemistry, *Magna cum Laude*
Bradley University, Peoria, Illinois

Teaching/Mentoring:

Past Postdocs and Their Current Employer
Dr. Guifang Wang (Pennsylvania State University)
Dr. Conggang Li (Chinese Academy of Sciences, Wuhan)
Dr. Austin Smith (Jaguar Gene Therapy)
Dr. Thomas Boothby (U. Wyoming)

Current Postdocs
None

Current Graduate Students
Mr. Oskar Hutcheson
Ms. Julia Brom
Ms. Jordyn Markle

Past Graduate Students and Their Current Employer
Dr. Claire Stewart (Stanford)
Dr. I-Te Chu (Harvard)
Dr. Jonathan (Jack) Eicher
Dr. Joseph 'Joey' Thole (NIH)
Ms. Sasiprapa Jeab Sasiprapa (visitor from Thailand)
Dr. Candice Crilly
Dr. Shannon Speer (Pfizer)
Dr. Samantha (Sam) Stadmiller (Lindy Biosciences)
Dr. Samantha (Pixie) Piszkiewicz (UC Berkeley)
Dr. Alex Guseman (Pitt)
Dr. Annelise Gorensek (Colorado College)
Dr. Rachel Cohen (SprinWorks Therapeutics)
Dr. Austin Smith (Jaguar Gene Therapy)
Dr. Michael Senske (visitor from Germany, FC Bayern München)
Ms. Torii Sutherland (US Coast Guard)
Dr. William Monteith (Alector)
Dr. Mohona Sarkar (KBI)
Dr. Jillian Tyrrell (Biocare Medical)
Dr. Yaqiang Wang (Arrakis Therapeutics)
Ms. Laura Benton (Holy Orders)
Dr. Imola-Gabriela Zigoneanu (Biomedical Engineering, UNC)
Dr. Alex Schlesinger (AgBiome)
Dr. Andrew Miklos (NIH)
Mr. Christopher Barnes, M.A. (Stanford)

Past Graduate Students and Their Current Employer, cont'd

Dr. Rebecca Ruf
Mr. Matthew Hrabak, M.S. (Naval Surface Warfare Center)
Dr. Kristin Slade (Hobart and William Smith Colleges)
Dr. Lisa Charlton (ERT)
Dr. Brian McNulty (Athenix)
Dr. Julie Bryant (Merck)
Dr. Alina Olteanu (Private practice, Houston)
Dr. Dana Albon (Moses Cone Mem. Hosp.)
Dr. Fang Yi (Centocor)
Dr. Chetan Patel (Lilly)
Dr. Artemiza Morar (GlaxoSmithKline)
Mr. Xuming Wang, M.A. (Intel)
Dr. Gresham Weatherly (AbbVie)
Dr. Paula Davis-Searles (Diosynth)
Dr. Jennifer Waldner
Ms. Devon Allen, M.S. (Diosynth)
Dr. David Cohen (Advanced Liquid Logic)
Dr. Aleister Saunders (Drexel)
Dr. Jennifer Marmorino
Dr. Donald Doyle (Georgia Tech.)
Dr. James Beasley, (Venenum)
Dr. Lixin Chen (New Engl. Biolabs)
Dr. Zoey Fredericks (Amgen)
Dr. Douglas S. Auld (Novartis)
Dr. Stephen F. Betz (Crinetics)
Dr. Sharon Hilgen-Willis (Integral Molecular)
Ms. Xuhong Wang, M.A. (Synermore Biologics)

Past STEM Teacher-researcher Fellows

Ms. Candice Jackson, Thomasville High School (2011)
Mr. Oryan Lowry, South Robeson High School (2012)

Current Undergraduate Students

Ms. Ruta Petrikis
Mr. Thomas Redvanly
Mr. Owen Young
Mr. Joshua Bourque

Past Undergraduates and Where They Went Next

Mr. Hudson Malsch (UNC)
Ms. Ashlee Propst (UNC)
Ms. Penelope Mewborn (UNC Nutrition)
Ms. Shikun 'Rinco' Wang (Yale)
Ms. Sophia Hazlett (University College London)
Mr. Francis Lauzier (Wayne State)
Mr. Octavio Origel (Northwestern)
Mr. Owen Warmuth (Wisconsin)
Ms. Shreya Nakkala (UNC)
Mr. Jhoan Aguilar (Postbac UNC)
Mr. Gustavo Panduro (UNC)
Mr. Gerardo Perez (MIT)
Mr. Cody Weyhrich (Virginia Tech)
Mr. Aakash Mehta (NIEHS)
Mr. Anthony Arrington (UNC Pembroke)

Past Undergraduates and Where They Went Next, cont'd

Mr. Kenny Nguyen (U Wyoming)
Mr. Luis Acosta (Actuarial School)
Mr. Thomas Lanier (UNC)
Mr. Larry Zhou (NIH)
Mr. Eduardo Guizan (Pharmacy School, UNC)
Mr. Emilio Guzman (Med. School, UNC)
Mr. Joe Lu (Actuary School)
Ms. Beth Willard (Disney World)
Mr. Vishavpreet 'Ricky' Singh (Med. School, UNC)
Mr. Alexander Krois (Grad. School, Scripps)
Ms. Yuri Yang (Technician, U. Toronto)
Ms. Amanda Rosett (SURE, back to Susquehanna U.)
Ms. Kristen Black (Colegio Bilingüe New Horizons, Dominican Republic)
Mr. Emmanuel Chan (Technician, UNC)
Ms. Heidi Scronce (Technician, Duke)
Ms. Niama Sharaf (Grad. School, Pitt)
Mr. Christopher Barnes (Grad. School, Chemistry, UNC)
Mr. Evan Lutz (Med. School, ECU)
Ms. Sandy An (MD/PhD program, Wake Forest, U.)
Mr. Hao Wu
Ms. Hayley Fischer (Med. School, ECU)
Ms. Michelle Mian (Dental School, Harvard)
Ms. Essraa Bayoumi
Mr. Michael Minder (Med. School, Duke)
Mr. Chris Kragel (Med. School, ECU)
Mr. Devin Barrett (Grad. School, Chemistry, UNC)
Mr. Joseph Batchelor (University of California, Berkeley)
Mr. Matthew Dedmon (Grad. School, University of Cambridge, UK)
Mr. Scott Kennedy (Grad. School, UNC)
Ms. Maria Lind (Grad. School, UGA)
Mr. Ikey Kakouras (Duke)
Ms. Kimberly Clay (Med. School, UNC)
Ms. Amret Thompson (Med. School, Wake Forest)
Mr. Daniel Hostetter (Grad. School, Stanford)
Ms. Melisa Lehti (Grad. School, Botany, Wisconsin)
Mr. Phil Hardwidge (Grad. School, Immunology, Mayo Clinic)
Mr. Sherif Ghobrial (Grad. School, Env. Sci. & Eng., UNC)
Mr. Chetan Patel (Grad. School, Chemistry, UNC)
Ms. Sonja Trojak (Med. School, UNC)
Mr. Bryan Fine (Med. School, U South Florida)
Ms. Xecerla Littles (Med. School, Tulane)
Ms. Shelly Finger (Vet. School, Texas A&M)
Mr. Luiz Alcazar-Roman (Grad. School, Chemistry)
Mr. Harvey Chui (Med. School, UNC)
Ms. Kara Bortone (Grad. School, Chemistry, U. Texas)
Mr. Sudip Parikh (Grad. School, Biochem., Scripps)
Mr. Richard Bruick (Grad. School, Biochem., Scripps)
Ms. Andrea Lee (Grad. School, Biochemistry, Scripps)
Mr. Mark Dransfield (Med. School, UNC)
Ms. Jennifer Fencl (Grad. School, Chemistry, UNC)
Ms. Tori Williams (Grad. School, Yale)
Ms. Malika Rauf (back to North Chapel Hill High)
Ms. Melanie Wiley (U. Maryland, then MD/PhD program, U. South Carolina)
Ms. Ashlee Propst (NC State)

Past High School Students and Where They Went Next

Ms. Hanna Qu (Research Triangle High)
Ashlee Propst (NC State)

Courses:

UNC

Advances in Macromolecular Structure
Macromolecular Structure and Metabolism
Macromolecular Interactions
Practical Protein NMR
First Semester General Chemistry
First Year Seminar: You don't have to be a rocket scientist.
General Biochemistry
Protein Chemistry
Enzyme Mechanisms
Molecular Biology Laboratory
Practical Oligonucleotide-Directed Mutagenesis

Oxford

Biophysics Tutor. New College, 1988

Cold Spring Harbor

Advanced Cloning Course, 1984, 1987
Advanced Techniques in Molecular Biology

University of British Columbia

Site-specific Mutagenesis Directed by Oligodeoxyribonucleotides, 1985

Service:

Current Committee Assignments in Chemistry

Personnel Committee
Teaching Assistant Professor Search Committee
Staff Awards/Recognition
Approximately 10 Ph.D. Committees
Approximately 5 Undergraduate Honors Committees

Past Committee Assignments in Biochemistry & Biophysics

Biophysics Search Committees; Campbell, Lee, and Kuhlman
Biomolecular NMR core director search, 2018
Assistant Professor search, UNC Biochemistry & Biophysics, 2019

Past Committee Assignments in Chemistry

Personnel Committee
Teaching Assistant Professor Search Committee 2019
Executive Committee, 2015-2020
CHEM 550L Efficacy Committee, 2019-2019
X-Ray Core Director Search, 2018
NMR Core Search, 2018, 2019
Mass Spec Core Search, 2018
Vice Chair of Chemical Research Instrumentation Teaching & Core Laboratories, 2014-2018
Lecturer Search, 2016-2017
Mass Spectroscopy Core Director Search, 2014
Post Tenure Review Committee, 2011-2012, 2020-
Graduate Studies Committee, 2010-2011
Graduate Recruiting Committee, 2010-2011

Past Committee Assignments in Chemistry, continued

Strategic Planning Committee, 2009 - 2010
2010 Departmental Program Review Committee
NMR Committee
Undergraduate Studies Committee, 1992-2008, 2012-2013
Inorganic Search Committee, 2009
Vice Chair of Undergraduate Studies, 2000-2005, 2007- 2008
Chair Selection Committee, 2007
Ad hoc member Parking Committee
Search Committees; Forbes, Thorp, Erie, Morken, and Weeks
Genomics Search Committee, 2001
Several Promotion/Tenure Committees

Current/Past University Service

University Teaching Awards Committee, 2018, 2019, 2020, 2023
University Distinguished Professorship Committee, 2017
Distinguished Dissertation Faculty Review, 2014, 2015
COI Monitoring Committee (Redinbo), 2014
Cross-listed Courses Task Force, 2012
Independent Studies Task Force, 2011
Chair, Curriculum Review Committee, Miscellaneous Subcommittee, 2010
University Research Day Judge, 2010
Chair, Admissions Committee, Biological & Biomedical Sciences Program, 2008
Administrative Boards of the General College, 2003-2013
Mock interviews for the Gates-Cambridge and Churchill Fellowships through the Office of Distinguished Scholarships, 2007
Reviewer, Smallwood Undergraduate Summer Research Grants, 2006
Summer Undergraduate Research Fellowship Committee, 2007-2010, 2015, …2018, 2023
Mock interviews for the Gates-Cambridge and Churchill Fellowships through the Office of Distinguished Scholarships, 2007
Undergraduate Orientation (CTOPS) Professor's Perspective sessions, 2006, 2007, 2008, 2015, 2016, 2017
Financial Exigency and Program Change Committee, 2006-2008
Reviewer, Postdoctoral Awards for Research Excellence, Office of Postdoctoral Services, 2005
Division of Natural Sciences Curriculum Committee
General Education Implementation Committee for the New Undergraduate Curriculum, 2002 - 2003
UNC Curriculum Review, Committee N
Faculty Council
Rhodes Scholarship Mock Interview Committee
Churchill Scholarship Selection Committee
Admissions Committee, Program in Molecular & Cellular Biophysics
Advisory Committee, Curriculum in Applied Sciences
Biomolecular NMR Facility Committee
Macromolecular Interactions Facility Committee
Summer Undergraduate Research Program Selection Committee
Graduate Student Committees:
  Environmental Sciences
  Engineering, Biochemistry & Biophysics,
  Immunology/Microbiology
  Cell & Developmental Biology
Presenter, Project Uplift
Presenter, NC Renaissance Program

Regional/National/International Service

2019 Judge Annual Biomedical Research Conference for Minority Students (ABRCMS)
2016 Outside Honors Examiner, Hobart and William Smith Colleges
2016 Chair, Biophysics *in vivo* subgroup of the Biophysical Society
2015 Chair-elect, Biophysics *in vivo* subgroup of the Biophysical Society

Regional/National/International Service, continued

2011-2015, Member at Large, Biophysics *in vivo* subgroup of the Biophysical Society
2013-2014 Program Director, Molecular Biophysics Cluster, Division of Molecular and Cellular Sciences, Directorate for Biological Sciences, the National Science Foundation
Faculty Search Committee Biochemistry, Washington State University, 2003
One or more tenure/promotion letters per year

Ph.D. Committees

Duke, Georgia Tech., University of Barcelona, Yale
Thesis examiner, Indian Institute of Technology, Indore

Manuscript Referee

ACS Chemical Biology
Angewandte Chemie
Archives of Biochemistry and Biophysics
Biochemistry
Biochimica et Biophysica Acta
Accounts of Chemical Research
Biochimie
Biomacromolecules
Biophysical Chemistry
Biophysical Journal
Biopolymers
BioTechniques
Biotechnology
BMC Biology
ChemBioChem
Chemical Neuroscience
Chemical Physics Letters
Coordination Chemistry Reviews
Crystal Growth & Design
FEBS Letters
Folding and Design
Frontiers of Molecular Biosciences
Inorganica Chimica Acta
Inorganic Biochemistry
International Journal of Biological Macromolecules
Journal of the American Chemical Society
Journal of Biological Chemistry
Journal of Biological Inorganic Chemistry
Journal of Biomolecular NMR
Journal of Chromatography
Journal of Inorganic Biochemistry
Journal of Chromatography

Manuscript Referee, continued

Journal of Magnetic Resonance
Journal of Molecular Biology
Journal of Physical Chemistry
Journal of Physical Chemistry Letters
Journal of Proteome Research
Macromolecules
Magnetic Resonance Letters
Molecular Pharmaceutics
Nature
Nature Methods
Nature Structural Biology
Nucleic Acids Research
Physical Chemistry Chemical Physics
Protein Science
Proteins: Structure, Function, Genetics/Bioinformatics
Proceedings of the National Academy of Sciences, U.S.A.
Scientific Reports
Softmatter

Editorial Duties

1998-1999	Paper Alerts contributor, *Current Opinions in Structural Biology*
2011-	Editorial Advisor, *BMC Biophysics*
2017-	Editorial Advisory Board. *Protein Science*
2021-	Editorial Board, *Magnetic Resonance Letters*

Proposal Review

Panels

Graduate Women in Science Scholarships
Internal Review for Lockheed Martin 2010 University Research Initiative
University Cancer Research Fund, 2009
NIH New Innovators Award, 2008, 2009
NSF Molecular Biochemistry Review Panel. Many times.
NIH Special Emphasis Panel to review proposals in response to RFQ NIH ES2007006, entitled "Scientific Research Analysis," 2007
NIH NIH-NIDDK, Kidney, Urologic and Hematologic Diseases D Sub Committee, 2007
Gordon Research Foundation, 2005
NIH Physical Biochemistry Study Section, Ad hoc, 1996
NIH Metallobiochemistry Study Section, Ad hoc, 2001
NIH Special Emphasis Panel: Technology Development for Biomedical Applications, 2001
NIH Macromolecular Structure & Function A Study Section, Ad hoc, 2011

Ad Hoc, Mail/Email Reviews

Stanford Synchrotron Radiation Lightsource
Czech Science Foundation
Danish Council for Independent Research
Experimental Program to Stimulate Competitive Research,
French National Research Agency (ANR)
Israel Science Foundation
National Science Centre Poland
Netherlands Organisation for Scientific Research
NSERC Canada

Ad Hoc, Mail/Email Reviews, continued

Petroleum Research Fund
Research Corporation
Switzerland: ETH Zurich Research Commission
UK: BBSRC, MRC, Wellcome
U.S.: AAAS Research Competitiveness Program, Cottrell NSF, Nebraska
Wellcome trust/DBT India Alliance

Meetings Organized/Convened

ACS Spring National Meeting, Formulating Biologics: from Laboratory to Market, March 17-23, 2024
8th International Symposium on the Higher Order Structure of Protein Therapeutics (HOS), San Mateo, 2019
Program Committee, Protein Society Symposium, Barcelona, 2015
Program Committee Chair, 26th Annual Protein Society Symposium, 2012
Biophysics Society Subgroup, Biopolymers in vivo, 2012
Chemistry Spectrum: recruiting high school students interested in science to UNC, 2008
Co-chair Proteins Gordon Research Conference, 2007
Vice Co-chair Proteins Gordon Research Conference, 2005
Triangle Biophysics Symposium, 1998
Glaxo-Wellcome UNC Symposium, 1989, 1998
Protein Structure Minisymposium, 1993
Southeastern Magnetic Resonance Conference, 1993
Second Carolina Conference on Protein Engineering, 1989

Research:

Current Grants

Mechanism of protein protection by desiccation-tolerance molecules
Source: NSF, CHE, CLP 2203505
Total award amount: $495,000
Total period covered: 09/01/2022-08/31/2025

Recent Grants

Macromolecular Crowding and Protein Stability In Vitro and in Cells
Source: NSF, MCB 1909664
Total award amount: $968,151
Total period covered: 08/01/19-07/31/23

Impact of cosolutes on protein folding
Source: United States - Israel Binational Science Foundation
Total award amount: $216,000
Total period covered: 08/01/18-07/31/22

Protein stabilizers from tardigrades
Source: National Institutes of Health 1 R01 GM127291-01A1
Total award amount: $1,172,000
Total period covered: 12/01/2018 - 11/30/2021

MRI: Acquisition of a Mass Spectrometer (Co-PI)
Source: NSF 1726291
Total award amount: $1,157,551
Total period covered: 08/15/2017 - 07/31/2020

MRI: Purchase of a 600 MHz spectrometer for high-sensitivity NMR
Source: NSF CHE 1828183
Total award amount: $444750
Total period covered: 08/01/18 - 07/31/2020

Protein stabilizers from tardigrades
Integrative Program for Biological and Genome Sciences
Total award amount: $30,000
Total period covered: 09/01/2018-08/31/2019

Tardigrade proteins as Novel Pharmaceutical Excipients
Source: North Carolina Biotechnology Center
Total award amount: $75,000
Total period covered: 07/01/18-06/30/19

Macromolecular Crowding and Protein Stability In Vitro and in Cells
Source: NSF MCB 1410854
Total award amount: $ 990,000
Total period covered: 09/01/14-08/31/19

Encapsulation and Protein Stability
Source: NSF CHE 1607359
Total award amount: $ 353927
Total period covered: 07/01/2016-06/30/2018

Intergovernmental Mobility Award

Source: NSF 1410854
Total award amount: $171,167
Total period covered: 12/31/12 – 06/31/13

Macromolecular Crowding and Protein Stability In Vitro and in Cells
Source: NSF MCB 1051819
Total award amount: $ 792,597.00
Total period covered: 02/01/11-01/31/14

E.T.S. Walton Visitor Award: Protein Chemistry in Living Cells
Source Science Foundation of Ireland
Total award amount: $57,484
Total period covered: 01/01/12-12/30/12

In-Cell NMR of Disease-Related Proteins
NIH Pioneer Award 5DP1OD783
Total award amount: $3,750,000
Total period covered: 10/01/2006 – 09/31/2011

Protein Biophysics in Cells,
Source: NSF MCB 0516547
Total award amount: $592,931
Total period covered: 03/01/2006 – 02/28/2009

Electron Transfer Proteins
Source: NIH R01GM020488 (Francis Millett, PI)
Total award amount: $87,300 (to my laboratory)
Total period covered: 08/01/03 – 07/31/08
This was a subcontract to Professor Francis Millet's NIH grant. Prof. Millett is at the University of Arkansas. Our laboratories have collaborated on protein electron transfer for over 10 years. The funds support our work to produce cytochrome c variant proteins.

Perturbation Calorimetry & Protein Surface Area
Source: PRF 42748-AC4
Total award amount: $80,000
Total period covered: 05/01/05-08/31/07

Protein Biophysics in Cells
Source: NSF MCB 0212939
Total award amount: $446,735
Total period covered: 09/01/02 – 08/31/05

Patterned Library Analysis
Source: NIH R01GM058665 (Marshall Edgell, PI)
Total award amount: $ 873,000
Total period covered: 07/01/00 – 06/30/04
co-PI with Marshall Edgell on this grant.

Free Radicals, Proteins Aggregates & Parkinson's Disease
Source: NIH R21 ES 10774
Total award amount: $290,000
Total period covered: 10/01/00 – 9/30/02

Cytochrome c & Apoptosis
Source: NSF MCB0109366

Total award amount: $145,000
Total period covered: 9/01/01-8/31/02

Expansion of the UNC Macromolecular Interactions Facility
Source: North Carolina Biotechnology Center
Total award amount: $88,895
Total period covered: 7/01/2001-6/30/2003

Protein Hydrogen Bonding and NMR Redox Shifts of Cytochrome c
Source: PRF
Total award amount: $60,000
Total period covered: 6/01/00-5/31/02

Replacement of a Failed Centrifuge Rotor
Source: University Research Council
Total award amount: $4,000
Total period covered: 6/01/00-5/31/02

Bringing State-of-the-art NMR to UNC
Source: University Research Council
Total award amount: $2,500
Total period covered: 1/01/00-12/31/01

Honors:

DuPont Young Faculty Award
Morrow Young Faculty Award
Folding & Binding Paper Alert selector for *Current Opinions in Structural Biology*, 1997-1998
Underwood Fund Award (BBSRC, U.K.)
Invited Speaker, Proteins Gordon Conference, 2001
Invited Speaker, Biopolymers Gordon Conference, 2002, 2010
Invited Speaker, RASMB Gordon Conference, 2002
Invited Speaker FASEB Meeting: Protein Folding in the Cell, 2002
Invited Speaker, Toronto Chemical Biophysics Symposium, 2003, 2011
Invited Speaker 13th Conversation in Biomol. Stereodynamics, 2003
Invited Speaker, 18th Annual Gibbs Conference on Biothermodynamics, 2004
Invited Speaker, Eighth Johns Hopkins Folding Meeting, 2005
Invited Speaker, Colorado Protein Stability Conference, 2005
Invited Speaker, Cellular Osmoregulation: Sensors, Transducers & Regulators GRC, 2005
Invited Speaker Trends in Microcalorimetry 2005
Session Chair, Proteins GRC, 2005
Vice co-chair Proteins Gordon Research Conference, 2005
NIH Pioneer Award, 2006
Co-chair Proteins Gordon Research Conference, 2007
Invited Speaker, Southeast Magnetic Resonance Conference, 2007
Invited Speaker, Ions & Osmolytes Symposium, Salt Lake City ACS Meeting, 2008
Plenary Speaker, Beijing Conference & Exhibition on Instrumental Analysis, 2011
Program Committee Chair, 26th Annual Protein Society Symposium, 2012
Science Foundation of Ireland, E.T.S. Walton Visitor Award
Invited Speaker, Molecular Crowding: Chemistry & Physics Meet Biology (Switzerland), 2012
Invited Speaker, 12th Chianti/INSTRUCT Workshop on BioNMR (Italy) 2012

Honors, continued

Invited Speaker, EUROMAR (Dublin, Ireland), 2012
Glen H. Elder, Jr. Distinguished Term Professor of Research and Undergraduate Education, 2013-
Invited Speaker, Annual Protein Society Symposium, 2013
Invited Speaker, American Chemical Society National Meeting, New Orleans, April 7-11, 2013
Invited Speaker Graduate School Solvation Science Summer School, Bochum Germany, June 10-13, 2014
Invited Speaker Annual Meeting of the Biophysical Society of Japan. September 25-27, 2014
TC Wang Lecturer, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, March 18, 2015
Kenan Distinguished Professorship 2015-
2016 Chair, Biophysics *In Vivo* subgroup of the Biophysical Society
Invited Speaker, EMBO Conference on The Biochemistry and Chemistry of Biocatalysis: From Understanding to Design, Oulu, Finland, June 2016
Carl Brändén Award from the Protein Society, 2016
Invited Speaker, Intrinsically Disordered Proteins: Structure, Function & Interactions, Philadelphia, August 23
Invited Speaker, Nobel Symposium on Protein Folding: From Mechanisms to Impact on Cells, Stockholm, Sweden, June 11-14, 2017
University Mentor Award for Lifetime Achievement from UNC-CH. 2017
Invited Speaker, First International Symposium on Chemistry for Multimolecular Crowding Biosystems, Kobe, Japan, December 12-13, 2017
Invited Speaker, Physical and Quantitative Understanding of Cells at Molecular Level, Chemical Society of Japan, Kyoto, December 14-16, 2017
Invited Speaker, Mini-workshop on Protein Biophysics: Interplay Between Experiments and Theories, Kyoto University, December 18, 2017
Invited Speaker, EMBO Workshop, *In situ* methods in Cell Biology and Cellular Biophysics, Berlin, July 26-28, 2018
Invited Speaker, Gibbs Conference on Biothermodynamics, Carbondale, IL, October 6-9, 2018
Invited Speaker, 11th Biennial Carolina Biophysics Symposium, October 25, 2018
Invited Speaker, Intrinsically Disordered Protein Subgroup Symposium, Biophysical Society Meeting, Baltimore, March 2, 2019
Bradley University 2018 College of Liberal Arts and Sciences Distinguished Alumnus Award
UNC-CH 2019 Excellence in Basic Science Mentoring Award
Invited Speaker, 20th Conversation in Biomolecular Structure and Dynamics, Albany, June 13 & 14, 2019 (2 talks)
Invited Speaker, Workshop on Macromolecular Crowding, Telluride, CO, July 16-20, 2019
Invited Speaker, Workshop on Intrinsically-Disordered Proteins, Telluride, CO, July 16-20, 2019
Invited Speaker, ACS Fall National Meeting, San Diego, August 25-29
Invited Speaker, The Dr. and Mrs. Satti Paddi and Parvarti Reddy Public Lecture, Understanding Protein Behaviour in Living Cells, Memorial University, St. John's, Newfoundland, Canada, October 17
Invited Speaker, Protein Folding Dynamics Gordon Research Conference, Galveston, TX, January 5-9, 2020
Plenary Lecture, EUROMAR, Portorož, Slovenia, remote, July 2021
Invited Speaker, Colorado Protein Stability Conference, Breckenridge, August 2022

Honors, continued

Invited Speaker, German Biophysical Society (DGfB) Meeting Konstanz, Germany, September 2022
Invited speaker, Specificity Determinants of Biomolecular Interactions, commemorating the late professor Aharon Katzir, Rehovot Israel, November 29, 2022
UNC Johnston Teaching Excellence Award, 2023
McElvian Lecture, Department of Chemistry, University of Wisconsin, Madison, February 21, 2023
UNC Faculty Award for Excellence in Doctoral Mentoring, 2023
Invited speaker, Prague Protein Spring meeting, May 4-6, 2023
Invited speaker, Gesellschaft Deutscher Chemiker, Braunschweig, Germany, April 5, 2023
Invited speaker, Telluride Workshop on Macromolecular Crowding, Telluride, CO, June 5-9, 2023
Invited speaker, Biomolecules and Nanostructures meeting, Zakopane, Poland, June 14-18, 2023
Fellow of the Biophysical Society, class of 2024
Invited speaker, Protein Folding Dynamics Gordon Research Conference, Galveston, TX, January 7-12, 2024
Plenary lecture, 20th European Magnetic Resonance Congress (Euromar), Bilbao, Spain June 30 – July 4

Research Seminars:

May 1, 2024-April 30, 2025

Plenary lecture, 20th European Magnetic Resonance Congress (Euromar), Bilbao, Spain June 30 – July 4

May 1, 2023-April 30, 2024

Prague Protein Spring meeting, May 4-6
Gesellschaft Deutscher Chemiker, Braunschweig, Germany, April 5
Telluride Workshop on Macromolecular Crowding, Telluride, CO, June 5-9
Biomolecules and Nanostructures meeting, Zakopane, Poland, June 14-18
UC Berkeley, October 16
UCSF, October 18
Protein Folding Dynamics Gordon Research Conference, Galveston, TX, January 8
Johns Hopkins, March 10
ACS Spring National Meeting, New Orleans, March 17-23

May 1, 2022-April 30, 2023

Colorado Protein Stability Conference, Breckenridge, August 9
ACS Fall National Meeting, August 21
German Biophysical Society (DGfB) Meeting Konstanz, Germany, September 20-23
Specificity Determinants of Biomolecular Interactions, commemorating the late professor Aharon Katzir, Rehovot Israel, November 29
McElvian Lecture, Department of Chemistry, University of Wisconsin, Madison, February 21
Department of Biochemistry and Biophysics, UNC-Chapel Hill, April 25

May 1, 2021-April 30, 2022

Plenary lecture, EUROMAR, Portorož, Slovenia (remote), July 4-8
Tulane, February 14
Institute of Pharmacology and Structural Biology, Toulouse (remote), March 15

May 1, 2020-April 30, 2021

ACS Fall National Meeting (virtual), August 17
BASF (virtual), September 23

May 1, 2019-April 30, 2020

20th Conversation in Biomolecular Structure and Dynamics, Albany, June 13 & 14 (2 talks)
Workshop on Macromolecular Crowding, Telluride, CO, July 16-20
Workshop on Intrinsically-Disordered Proteins, Telluride, CO, July 16-20
ACS Fall National Meeting, San Diego, August 25-29
The Dr. and Mrs. Satti Paddi and Parvarti Reddy Public Lecture, Understanding Protein Behaviour in Living Cells, Memorial University, St. John's, Newfoundland, Canada, October 17
Department of Chemistry, Memorial University, St. John's, Newfoundland, Canada, October 18
Protein Folding Dynamics Gordon Conference, Galveston, TX, January 5-9
University of Colorado, Denver, CO, March 6.

May 1, 2018-April 30, 2019

Suzhou Institute of Biomedical Engineering, Suzhou, China, May 10
Soochow University, Suzhou, China, May 11
Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences,

Wuhan, China, May 17
EMBO Workshop, *In situ* methods in Cell Biology and Cellular Biophysics, Berlin, July 26-28
2018 Gibbs Conference on Biothermodynamics, Carbondale, IL, October 6-9
Appalachian State University, Boone, NC, October 19
11th Biennial Carolina Biophysics Symposium, October 25
Bradley University, November 19
Weizmann Institute, Rehovot, Israel, January 29
Fritz Haber Lecture, Hebrew University, Jerusalem, January 31
2019 Intrinsically Disordered Protein Subgroup Symposium, Biophysical Society Meeting, Baltimore, March 2, 2019
Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China, March 27

May 1, 2017-April 30, 2018
China-Japan Joint Symposium on Functional Supramolecular Systems, Wuhan China, May 16
Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China, May 19
Nobel Symposium on Protein Folding: From Mechanisms to Impact on Cells, Stockholm, Sweden, June 11-14
New England Biolabs, December 7
First International Symposium on Chemistry for Multimolecular Crowding Biosystems, Kobe, Japan, December 12-13
Physical and Quantitative Understanding of Cells at Molecular Level, Chemical Society of Japan, Kyoto, December 14-16
Mini-workshop on Protein Biophysics: Interplay Between Experiments and Theories, Kyoto University, December 18
Penn State University, February 22
UNC-CH, Department of Biochemistry and Biophysics, April 24

May 1, 2016-April 30, 2017
Appalachian State University, April 21
University of Wisconsin, March 3
Loyola University New Orleans, February 13
ACS Fall National Meeting, Philadelphia, August 21-25
Annual Protein Society Symposium, Baltimore, July 16-19
Ruhr-University Bochum, Germany, June 23
Leibniz-Institut für Molekulare Pharmakologie (FMP), Berlin, June 20
EMBO Conference on The Biochemistry and Chemistry of Biocatalysis: From Understanding to Design, Oulu, Finland, June 12-15

May 1, 2015-April 30, 2016
Higher Order Structure Conferences, Long Beach, CA, April 11-13
Hobart and William Smith Colleges, April 28

May 1, 2014-April 30, 2015
Workshop on Macromolecular Crowding, Telluride, CO, June 23-27
Washington Area NMR Group, December 4
California Separation Science Society, Higher Order Structure (CASSS-HOS) April 11-13

May 1, 2014-April 30, 2015
Graduate School Solvation Science Summer School, Bochum Germany, June 10-13
Novartis, Emeryville, July 22

Annual Meeting of the Biophysical Society of Japan, Sapporo, September 26
Tokyo Metropolitan University, September 30
University of North Carolina-Chapel Hill, October 8
University of Virginia, November 7
School of Life Sciences, U. of Science & Technology of China, Hefei, March 13
TC Wang Lecturer, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, March 18

May 1, 2013-April 30, 2014

Workshop on Macromolecular Crowding, Telluride, CO, June 25-29
Annual Protein Society Symposium, Boston, July 20-24
National Institute of Environmental Health Science, RTP, NC, September 5
University of Maryland, November 18
University of Puerto Rico, Rio Piedras Campus, November 22
Simon Fraser University, Vancouver, BC Canada, December 6
University of British Columbia, Vancouver, BC Canada, December 9
Florida State University, Tallahassee, January 21
Johns Hopkins, March 10
UNC Greensboro, March 28

May 1, 2012-April 30, 2013

University of Durham (UK), June 1
National University of Ireland, Galway, May 28
Molecular Crowding: Chemistry and Physics meet Biology (Switzerland), June 12
12th Chianti/INSTRUCT Workshop on BioNMR (Italy) June 18
EUROMAR (Dublin, Ireland), July 1
University of Tennessee, October 17
ACS Southeastern Regional Meeting (SERMACS). Raleigh, NC, November 16
Drexel University, February 18
University of Pennsylvania, Hershey, March 18
American Chemical Society National Meeting, New Orleans, April 7-11

May 1, 2011-April 30, 2012

Yale, March 19
King's College London, January 20
National Institute for Medical Research (UK), January 19
University of Oxford (UK), January 17
National Institutes of Health Pioneer Symposium, September 21
Beijing Conference & Exhibition on Instrumental Analysis, Oct 13
National Science Foundation, June 8
University of Minnesota Duluth, May 26

May 1, 2010-April 30, 2011

University of Toronto, June 3
Biopolymers Gordon Conference, June 6-11
IRB Barcelona, July 2
Swedish Royal Academy of Sciences, August 26
James Madison, September 3
Biological Diffusion & Brownian Dynamics Brainstorm 2 (Heidelberg, Germany) October 11
University of Indiana, October 25
National Science Foundation, November 10
University of Wisconsin, Madison, November 23
Toronto Chemical Biophysics Symposium, April 9

May 1, 2009 – April 30, 2010

University of Richmond, September 4
UCLA, March 11
Davidson, January 29

May 1, 2008 – April 30, 2009

Biophysical Society Workshop on Protein Folding, Stability, and Aggregation, Boston, March 3
Symposium on the Influence of Ions & Osmolytes on Aqueous Macromolecules, ACS Meeting, Salt Lake City, March 23
Workshop on Macromolecular Crowding, Telluride, CO, July 6-10
UNC Wilmington, September 28
Appalachian State University, November 21

May 1, 2007– April 30, 2008

UNC Chemistry, September 12
NIH Pioneer Symposium, September 19
University of Kansas, October 5
Southeastern Magnetic Resonance Conference, U. Alabama November 10
Honors Chemistry, UNC, November 19

May 1, 2006– April 30, 2007

UNC, Chemistry, September 6
Duke, Biochemistry, October 2
University of Pennsylvania, Biophysics, October 18
Drexel University, Bioscience and Biotechnology, October 19
Virginia Tech, Chemistry, January 26
Biophysical Society, Intrinsically Disordered Proteins Subgroup, Baltimore, March 3
Seeing is Believing: The Future of Molecular and Biomolecular Imaging Meeting, Duke, March 11
UNC, Biochemistry & Biophysics, April 17

May 1, 2005 – April 30, 2006

Colorado Protein Stability Conference, Breckenridge, CO
Trends in Microcalorimetry, Boston, MA

Cellular Osmoregulation: Sensors,
Transducers & Regulators GRC, Newport, RI
UNC Chemistry, Chapel Hill, NC
UNC Biochemistry & Biophysics, Chapel Hill, NC
Cold Spring Harbor Meeting on the Intracellular Molecular Environment, Cold Spring Harbor, NY
University of Pittsburgh, Pittsburgh, PA
University of Denver, Denver, CO
University of Colorado, Health Sciences, Denver, CO
U. Massachusetts, Amherst, MA
NIH, Bethesda, MD

May 1, 2004 – April 30, 2005

Northern Illinois University, DeKalb, IL
Rutgers University, New Jersey
Johns Hopkins Folding Meeting, St. Michaels, MD
Duke University, Durham
University of Richmond, Chemistry

May 1, 2003 – April 30, 2004

Gibbs Conference, Carbondale, IL
Microcalorimetry Conference, Atlanta
Yale University, Molecular Biophys. & Biochemistry
Emory University, Chemistry
University of Kentucky, Biochemistry
Wake Forest University, Physics
UNC-Chapel Hill, Chemistry
13th Conversation in Biomolecular Stereodynamics, SUNY Albany

May 1, 2002 – April 30, 2003

Biopolymers Gordon Conference
FASEB Protein Folding in the Cell Meeting
Toronto Biophysics Symposium
Rensselaer Polytechnic, Chemistry
Penn. State, Chemistry
Washington University, Biochemistry
UNC-Chapel Hill, Biochemistry & Biophysics
NC State University, Biochemistry
UNC-Chapel Hill, Chemistry
Drexel University, Biology
University of Pennsylvania, Biophysics

May 1, 2001 – April 30, 2002

Proteins Gordon Conference
Reversible Assoc. in Structural Molecular Biology Gordon Conference
Boston ACI Proteomics Symposium
University of Virginia, Biophysics
Washington State University, Chemistry
Sunesis, Inc., South San Francisco
Stanford University, Biochemistry
Georgia Tech., School of Chemistry and Biochemistry.
Georgia State University, Chemistry

Patents:

Tardigrade disordered proteins as protein stabilizers
US provisional patent application 62/375,238, Published March 25, 2022
Boothby T, Goldstein B, Pielak GJ, Piszkiewicz S, Brozena A

Device for particulate NMR samples in fluid
US 8,773,130 B2
Pielak GJ, Barnes C, Sharaf N, Young G, Pinero F, Charlton L, Seagle C

Publications: [196, >12000 citations, H-index (Google Scholar) 64]

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Chu I-T, Pielak, GJ. 2023. Using NMR-detected hydrogen-deuterium exchange to quantify protein stability in cosolutes, under crowded conditions in vitro and in cells. Magnetic Resonance Letters 3, in press.

Chu I-T, Hutcheson BO, Malsch HR, Pielak GJ. 2023. Macromolecular crowding by polyethylene glycol reduces protein breathing. Journal of Physical Chemistry Letters, 14: 2599–2605.

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Zhang C, Pei Y, Zhang Z, Xu L, Liu X, Jiang L, Pielak GJ, Zhou X, Liu M, Li C. 2022. C-terminal truncation modulates α-synuclein's cytotoxicity and aggregation by promoting the interactions with membrane and chaperone. Communications Biology, 5: 798.

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stability uncovered by liquid-observed vapor exchange NMR. Biochemistry, 60: 3041–3045.

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Pielak G, Piszkiewicz S 2019. Protecting enzymes from stress-induced inactivation *Biochemistry* 58**:** 3825-3833.

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Stadmiller SS Pielak GJ. 2018. Enthalpic stabilization of an SH3 domain by D_2O. *Protein Science*, 27: 1710-1716.

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