

Curriculum vitae

Daniel Herschlag, Ph.D.

Stanford University School of Medicine
Department of Biochemistry
279 Campus Drive West, Beckman Center, Room B471A
Stanford, CA 94305-5101
Phone: (650) 723-9442
Email: herschla@stanford.edu
URL: <http://herschlaglab.stanford.edu>

Education

- 1989-1992 Postdoctoral Scholar, University of Colorado
Advisor: Dr. T.R. Cech
Mechanism of RNA self-splicing
- 1983-1988 Ph.D., Biochemistry, Brandeis University
Advisor: Dr. W.P. Jencks
Mechanisms of phosphoryl transfer
- 1982-1983 University of Minnesota
Research with Dr. J.E. Gander
Enzymology of glycopeptide synthesis
- 1979-1982 B.S., Biochemistry, SUNY-Binghamton
Research with Dr. E.S. Stevens
Structural Characterization of glycopeptides
- 1976-1978 University of Michigan

Professional Experience

- 2012-2016 Stanford Institute of Chemical Biology, Executive Committee
- 2011-2015 Senior Associate Dean of Graduate Education and Postdoctoral Affairs, Stanford University School of Medicine
- 2002-present Professor of Biochemistry, Stanford University School of Medicine;
Professor of Chemical Engineering and of Chemistry, by Courtesy
- 2001-2002 Associate Professor of Biochemistry, Stanford University School of Medicine;
Associate Professor of Chemical Engineering and of Chemistry, by Courtesy
- 1997-2000 Associate Professor of Biochemistry, Stanford University School of Medicine;
Associate Professor of Chemistry, by Courtesy
- 1992-1997 Assistant Professor of Biochemistry, Stanford University School of Medicine;
Assistant Professor of Chemistry, by Courtesy

Awards and Honors

- 2018 National Academy of Sciences Member
- 2016 Stanford University Postdoctoral Association (SURPAS) Outstanding Ally Award, Stanford University
- 2012 Faculty Award for Student Services, Stanford University School of Medicine
- 2010 ASBMB William Rose Award
- 2005 AAAS Fellow
- 2002-2012 NIH Merit Award
- 2000 Cope Scholar Award from the American Chemical Society
- 1998-2002 Established Investigator of the American Heart Association
- 1997 Pfizer Award in Enzyme Chemistry from the Division of Biological Chemistry of the American Chemical Society
- 1995-2000 David and Lucile Packard Fellowship in Science and Engineering

1993-1996	Searle Scholar
1990-1997	Lucille P. Markey Scholar in Biomedical Science
1989-1990	Helen Hay Whitney Postdoctoral Fellowship (Colorado)
1986-1987	Gillette Foundation Fellowship (Brandeis)
1982	Award for Excellence in Biochemistry (SUNY-Binghamton)
1982	American Institute of Chemists Award in Biochemistry (SUNY-Binghamton)
1979	Phi Beta Kappa (Michigan)
1978, 1979	James B. Angell Scholar (Michigan)

Activities and Service

2018	Reviewer, NIH Special Emphasis Panel
2017-	Mentor, Stanford SoLID: Solidarity, Leadership, Inclusion, Diversity Mentorship Program
2016-	Member, United Health Council
2016	Reviewer, NIH National Heart, Lung and Blood Institute Intramural Site Visit Review
2015, 2016, 2017	Reviewer, NIH Director's New Innovator Award
2015	Reviewer, NIH Center for Systems Biology of RNA
2015	Host, Off-The-Farm ADVANCE Dinner
2015	Reviewer, NIH Biomedical Technology Research Resource (P41)
2014, 2015	Review Panel, NSF: Molecular and Cellular Biosciences
2014, 2015	Reviewer, HHMI International Student Research Fellowships Competition
2012, 2014, 2016	Reviewer, NIH Pioneer Director's Award
2013	Program Theme Organizer, ASBMB
2011-present	Member, Stanford Medical Science Training Program Advisory Committee
2010-present	Advisory Board, PloS Biology
2007-2010	Study Section, NIH (MSFE)
2006-present	Editorial Advisory Board, Biopolymers
2005-2010	Advisory Board, Faculty of 1000 Chemical Biology
2005	Organization Committee, Winter Enzyme Mechanisms Conference
2005	Member, Faculty of 1000
2004-present	Editorial Board, PloS Biology
2003	Program Planning Committee, ASBMB National Meeting
2002-2003	Member of Board of Directors, RNA Society
1999	Co-chair, Enzymes, Coenzymes and Metabolic Pathways Gordon Conference
1998	Nominating Committee, American Society of Biochemistry and Molecular Biology
1998-2002	Editorial Board, Annual Review of Biochemistry
1998	Co-Vice chair, Enzymes, Coenzymes and Metabolic Pathways Gordon Conference
1996	Co-organizer, Bay Area Enzyme Discussion Group
1995-present	Editorial Board, RNA
1995-2000	Co-organizer, Bay Area RNA Club

Peer Review Activities

Manuscript Review:

Annual Review of Biochemistry, Biochemistry, Biophysical Journal, Cell, eLife, The EMBO Journal, Inorganic Chemistry, Journal of Molecular Biology, Journal of Organic Chemistry, Journal of Physical Chemistry, Journal of the American Chemical Society, Molecular and Cellular Biology, Molecular Cell, Nature, Nature Chemical Biology, Nature Chemistry, Nature Communications, Nature Methods, Nature Structural & Molecular Biology, Nucleic Acids Research, PLOS Biology, PLOS Computational Biology, PNAS, RNA, Science, Structure

Editorial Boards:

Annual Review of Biochemistry, Biopolymers, PLOS Biology, RNA

Grant Review:

Angewandte Chemie, Biotechnology and Biological Sciences Research Council, Department of Energy, HHMI International Student Research Fellowships Competition, National Institutes of Health, National Institutes of Health Special Emphasis Panel, National Science Foundation, Research Corp for Scientific Advancement, Wellcome Trust

Teaching Activities (Partial)

2015-2016

BIOC 202 Biochemistry Bootcamp (Lecture)
BIOC 222 Skills and Practice Leadership (Workshop)
BIOC 228 Understanding Chemistry in Biology (Workshop)
BIOS 229 Drug Discovery Simulation (Workshop)
BIOC 241 Biological Macromolecules (Lecture)
BIOS 242 Writing Compelling Fellowships (Practicum)
BIOS 243 Grant Writing Academy (Lecture)
BIOS 250 Interdisciplinary Drug Discovery (Workshop)

2013-2014

BIOC 222 Skills and Practice Leadership (Workshop)
BIOS 229 Drug Discovery Simulation (Workshop)
BIOC 360 Developing Original Research (Seminar)

2012-2013

BIOC 241 Biological Macromolecules (Lecture and Discussion)
BIOC 360 Developing Original Research (Seminar)

2010-2011

BIOC 241 Biological Macromolecules (Lecture and Discussion)

2009-2010

BIOC 241 Biological Macromolecules (Lecture)

2008-2009

BIOC 220 Chemistry of Biological Processes (Lecture)
BIOC 241 Biological Macromolecules (Lecture)

2007-2008

BIOC 220 Chemistry of Biological Processes (Lecture)
BIOC 241 Biological Macromolecules (Lecture)

2006-2007

BIOC 241 Biological Macromolecules (Lecture)

2005-2006

BIOC 220 Chemistry of Biological Processes (Lecture)
BIOC 241 Biological Macromolecules (Lecture)

2004-2005

BIOC 220 Chemistry of Biological Processes (Lecture)
BIOC 241 Biological Macromolecules (Lecture)

2003-2004

BIOC 241 Biological Macromolecules (Lecture)

2002-2003

BIOC 214 Physical and Chemical Principles of Biochemistry (Lecture)
BIOC 241 Biological Macromolecules (Lecture)

2001-2002

BIOC 221 The Teaching of Biochemistry (Lecture)
BIOC 241 Biological Macromolecules (Lecture)

2000-2001

BIOC 241 Biological Macromolecules (Lecture)

1999-2000

BIOC 241 Biological Macromolecules (Lecture)

1997-1998

BIOC 214 Physical and Chemical Principles of Biochemistry (Lecture)

1995-1996

BIOC 201 Advanced Molecular Biology (Lecture)
BIOC 214 Physical and Chemical Principles of Biochemistry (Lecture)

1994-1995

BIOC 201 Advanced Molecular Biology (Lecture)

1993-1994

BIOC 200 Applied Biochemistry (Lecture)
BIOC 201 Advanced Molecular Biology (Lecture)

Publications (through 2018)

260 Scientific articles; H-index: 86 (Google Scholar)

Memberships

American Association for the Advancement of Science; American Chemical Society; American Society for Biochemistry and Molecular Biology; Biophysical Society; Protein Society; RNA Society.

Trainees

Postgraduate Training:

1. Ben Allred [2014-2017], current position: Senior Scientist, Complete Genomics
2. Yoav Arava [1999-2002], current position: Associate Professor, Technion Israel Institute of Technology
3. Kogan Bao [2003-2007], current position: Vice President, Analytical Sciences, Oncobiologists Inc.
4. Sascha Baumann [2010-2012], current position: Senior Scientist, Helmholtz Institute for Pharmaceutical Research Saarland
5. Marcello Forconi [2003-2009], current position: Associate Professor, College of Charleston
6. Magdalena Gebala [2012-2015], current position: Life Science Research Associate in Herschlag Lab, Stanford University
7. Andre Gerber [2001-2004], current position: Director of Core Research Facilities and Professor, University of Surrey
8. Kristin Gleitsman [2010-2014], current position: Quantitative Biochemist and Molecular Biologist, LumosTech
9. Asmita Gupta [2016-2017], current position: Postdoctoral Fellow, University of California, Santa Cruz
10. Alexander Kravchuk [1999-2004], current position: Senior Scientist, University of Vienna
11. Vandana Lamba [2013-2016], current position: Scientist I, Bristol Myers Squibb
12. Jonathan Lassila [2007-2012], current position: Scientist and Leader of Enzymology and Structural Biology Group, DuPont Industrial Biosciences
13. Jia Liu [2006-2008], current position: Research and Development Project Manager, Complete Genomics Inc.
14. Jon Lorsch [1995-1999], current position: Director, National Institute of General Medical Sciences
15. Karen Maegley [1994-1996], current position: Associate Research Fellow, Pfizer
16. Rui Mei [1993-1996], current position: Vice President of Research and Development, CellMax Life
17. Emilia Mollova [2001-2004], current position: Senior Staff Scientist, Pacific Biosciences
18. Alessio Peracchi [1994-1997], current position: Associate Professor, University of Parma, Italy
19. Rishi Porecha [2009-2010], current position: Global Product Manager, Rainin Instrument, LLC
20. Eliza Ruben [2007-2012], current position: Director, University of Oklahoma Protein Production Core Facility
21. Rick Russell [1997-2002], current position: Associate Professor, University of Texas at Austin
22. Bernard Sattin [2005-2007], current position: Medical Affairs Director at Janssen Pharmaceutical Companies of Johnson and Johnson
23. Jason Schwans [2004-2012], current position: Assistant Professor, California State University, Long Beach
24. Xuesong Shi [2007-2012], current position: Life Science Research Associate in Herschlag Lab, Stanford University
25. Sergey Solomatin [2005-2010], current position: Senior Scientist, Impossible Foods, Inc.
26. Raashi Sreenivasan [2017]
27. Joseph K. Tang [2003-2004], current position: Adjunct Faculty, Capital University
28. Kevin Travers [2001-2005], current position: Associate Director of Assay Development, Veracyte, Inc.
29. Pavanapuresan Vaidyanathan [2014-2015], current position: Scientist II, Clear Labs
30. Shenglong Wang [1996-2001], current position: Product Readiness Group Leader, Bio-Rad Laboratories
31. Shan Yang [2014-2015], current position: Senior Scientist I, Baxter International Inc.
32. Mason Appel (current postdoc)
33. Inga Jarmoskaite (current postdoc)
34. Craig Markin (current postdoc)
35. Filip Yabukarski (current postdoc)

Graduate Students:

1. Suzanne Admiraal [1993-1999], current position: Senior Research Lab Specialist, University of Michigan, Ann Arbor
2. Logan Andrews [2006-2012], current position: Scientist I, Achaogen
3. Yu Bai [2001-2007], current position: Staff Scientist, Regeneron Pharmaceuticals
4. Laura Bartley [1996-2001], current position: Assistant Professor, University of Oklahoma

5. Tara Benz-Moy [2006-2012], current position: Adjunct Lecturer, Butler University
6. Namita Bisaria [2009-2015], current position: Postdoctoral Associate in Bartel Lab, Whitehead Institute
7. Rhiju Das [2000-2005], current position: Associate Professor, Stanford University
8. Mark Engelhardt [2002-2006], current position: Partner, Ovodenovo Scientific Consulting
9. Seshadri Gowrishankar [2014-2016]
10. Max Greenfeld [2005-2012], current position: Technical Lead of Sequencing, GenapSys
11. Dan Hogan [2002-2009], current position: Bioinformatics Scientist, Tocagen, Inc.
12. Greg Hogan [2007-2014], current position: Operations Laboratory Scientist, Counsyl
13. Katrin Karbstein [1997-2003], current position: Associate Professor, Scripps Research Institute
14. Daniel Kraut [2000-2006], current position: Assistant Professor, Villanova University
15. Felix Mueller-Planitz [2000-2006], current position: Group Leader, Ludwig-Maximilians Universitat Munich
16. Geeta Narlikar [1992-1998], current position: Professor, University of California, San Francisco
17. Aditya Natarajan [2009-2015], current position: Life Science Specialist, L.E.K. Consulting
18. Ivana Nikolic-Hughes [1999-2005], current position: Associate Director for Frontiers of Science and Lecturer, Columbia University
19. Patrick O'Brien [1994-2000], current position: Associate Professor, University of Michigan, Ann Arbor
20. Matthew Peck [1995-2001], current position: Research Scientist, University of Oklahoma
21. Raghuvir Sengupta [2009-2016], current position: Biochemist, HP Labs
22. Shu-ou Shan [1994-2000], current position: Professor, California Institute of Technology
23. Paul Sigala [2002-2009], current position: Assistant Professor, University of Utah
24. Breena Stoner [2011-2015], current position: Freelance Scientific Editor
25. Helen Wiersma-Koch [2004-2013], current position: Assistant Professor, Indian River State College
26. Deborah Wilkerson (Knitt) [1992-1998], current position: Senior Director, Clinical Affairs, Viveve, Inc.
27. Jesse Zalatan [2002-2008], current position: Assistant Professor, University of Washington
28. Astha (current visiting graduate student)
29. Steve Bonilla (current graduate student)
30. Daniel Mokhtari (current medical student)
31. Ariana Peck (current graduate student)
32. Marguax Pinney (current graduate student)
33. Andras Sagi (current graduate student)
34. Catherine Stark (current graduate student)

Undergraduate Students:

1. Jamar Borland [2013], current position: Undergraduate student, University of Central Florida
2. John Eugenis [2015], current position: Undergraduate student, CUNY Brooklyn College
3. Nathan Gamarra [2011], current position: Graduate student, University of California, San Francisco
4. Cyrus Jin [2014], current position: Undergraduate student, University of California, Los Angeles
5. Mable Lam [2010], current position: Graduate student, University of California, San Francisco
6. Quan Lam [2015], current position: Graduate student, University of Illinois, Urbana-Champaign
7. Ben Lerner [2014], current position: Graduate student, Stanford university
8. Merouane Ounadjela [2014]: current position: Undergraduate student, McGill University
9. Zora Singh [2013], current position: Graduate student, Johns Hopkins University
10. Matthew Sonnet [2012], current position: Graduate student, Harvard University

High School Students:

1. Elizabeth Burnette [2014], current position: Undergraduate student, Duke University
2. Emily Burnette [2015, 2016], current position: Undergraduate student, Johns Hopkins University Jenny Lu [2012]
3. Gina Hall [2014], current position: Undergraduate student, University of California, Santa Cruz
4. Noah Hashmi [2014], current position: Undergraduate student, Brown University
5. Hannah Rosenfeld [2011], current position: Undergraduate student, University of Virginia
6. Vedika Shenoy [2017], current position: High school student, Lynbrook High School
7. Abitha Thiru [2014], current position: Undergraduate student, San Jose State University
8. Varun Venkatesh [2015, 2016, 2017], current position: Undergraduate student, Columbia University

Grant Support

Current Research Support

- MCB-1714723** (Herschlag with 3 Co-PI's) 08/01/17-07/31/21
NSF
"Collaborative Research: Systematic Investigation of the Structure, Dynamics, and Energetics of Hydrogen Bonds and the Protein Interior Using Ketosteroid Isomerase and Model Systems"
The goals of this project are to explore hydrogen bond structure and energetics in proteins and model systems in order to develop a predictive framework and generalizable tools and to develop QM/MM models in deep synergy with experimental tests.
- P01 GM66275** (PI: Herschlag with 5 Co-PI's) 04/01/13-03/31/19
NIH/NIGMS
"Fundamental Studies of RNA Folding"
The goal of this project is to understand the folding pathways and mechanisms of a single RNA via multifaceted biophysical and biochemical and computational approaches.
- IIP8-63** (Herschlag with 1 Co-PI) 10/01/16-09/30/18
Bio-X
"High-Throughput Quantitative Enzymology: Developing and Deploying a Novel Microfluidic Platform"
The goal of this project is the implement a novel microfluidic system is to implement a novel microfluidic system to simultaneously obtain full kinetic parameters for ~1000 enzyme variants.
- 70NANB15H268** (PI: Fordyce) 10/10/15-09/30/18
National Institute of Standards and Technology
Seed Grant
"Developing and Deploying a Novel Microfluidic Platform for High-Throughput Quantitative Enzymology"
The goal of this project is to develop a novel microfluidic system to simultaneously obtain full kinetic parameters for ~1000 enzyme variants.
- R01 GM49243** (PI: Herschlag) 08/01/13-04/30/18
NIH/ NIGMS
"Enzymology of Catalytic RNA Molecule"
The major goals of this project are to understand on a fundamental level how an RNA enzyme or ribozyme performs catalysis.
- Past Research Support:**
- MCB-0641393** (PI: Herschlag) 08/15/11-07/31/17
NSF
"Mechanistic Investigations of Ketosteroid Isomerase"
- 5R01HG00436106** (PI: Chang) 09/18/07-05/31/15
NIH
"Structural Motifs in RNA"
- R01 GM64798** (PI: Herschlag) 04/01/09-01/31/14
NIH/NIGMS
"Study of Enzymatic Phosphoryl Transfer"
- MCB0641393** (PI: Herschlag) 06/01/07-05/31/11
NSF
"Mechanistic Investigations of Ketosteroid Isomerase"
- 5U54GM07297009** (PI: Delp) 09/15/04-08/31/15
NIH
"Physics-based Simulation of Biological Structures"

5P01 GM06627508 (PI: Herschlag with 7 Co-PI's) NIH Fundamental Studies of RNA Folding *NIH Merit Award, 2002-2012	06/06/03-03/31/18
(PI: Herschlag) American Society for Microbiology "Role of the Yeast Splicing Factor, Prp17, in Cell Cycle Progression: Identification of Gene Targets by Global Transcript Profiling"	07/01/01-10/31/01
9740098N (PI: Herschlag) American Heart Association "Mechanistic Investigations of the Hammerhead Ribozyme"	01/01/98-12/31/02
5R01CA07709713 (PI: Brown) NIH "Gene Expression In Cancer by Microarray Hybridization"	09/30/97-03/31/12
200001671 (PI: Herschlag) The David and Lucile Packard Foundation "Single Molecular Analysis of Biological Processes: From Simple to Complex"	10/01/95-09/30/00
93A110 (PI: Herschlag) Searle Scholar Award: The Chicago Community Trust "Reactions Catalyzed by the Tetrahymena Ribozyme: Transition State Structure and Stabilization"	07/01/93-06/30/96
9243 (PI: Herschlag) Lucille P. Markey Charitable Trust "Mechanism of Catalysis of Biological Phosphoryl Transfer Reactions"	07/01/92-06/30/98
Training Grants:	
1T32GM120007 (PI: Carolyn Bertozzi) NIH "Stanford ChEM-H Chemistry/Biology Interface Predoctoral Training Program"	07/01/16-06/20/21
1T32GM11385401 (PI: Mochly-Rosen) NIH "Molecular Pharmacology Training Program"	07/01/15-06/30/20
70NANG15H192 (PI: Sidow and Cochran) NIH "National Institute of Standards and Technology"	09/01/15-08/31/19
5T32GM00727640 (PI: Cyert) NIH "Cellular and Molecular Biology Training Program"	07/01/08-06/30/19
5T32GM00829427 (PI: Pande) NIH "Molecular Biophysics Training Program"	07/01/07-06/30/17
GT32GM008412REV (PI: Swartz) NIH "Graduate Training in Biotechnology"	07/01/91-06/30/11

NIH

"Training Program in Biochemistry"

Selected Invited Seminars

Gordon Conferences: Biomolecular Recognition and Immobilization, Brewster Academy, Wolfeboro, NH, August 1994; Bioorganic Chemistry, Plymouth State College, Plymouth, NH, June 1994; Isotopes in the Physical and Life Sciences, Ventura, CA, February 1996; Nucleic Acids, New Hampton School, New Hampton, NH, June 1996; Bioorganic Chemistry, Proctor Academy, Andover, NH, June 1998; Nucleic Acids, Salve Regina University, Newport, RI, June 1998; Metals in Biology, Ventura, CA, January 1999; Enzymes, Kimball Union Academy, Meriden, NH, July, 2000; Molecular Genetics, Connecticut College, New London, CT, July, 2000; Physical Organic Chemistry, Holderness School, Holderness, NH, July, 2001; Nucleic Acids, Roger Williams University, Bristol, RI, June, 2002; Molecular Genetics, Connecticut College, New London, CT, July, 2002; Single Molecule Approaches to Biology, Colby-Sawyer College, New London, NH, June, 2006; Nucleic Acids, Salve Regina University, Newport, RI, June, 2007; Enzymes, Coenzymes & Metabolic Pathways, Waterville Valley, NH, 2009; Biopolymers, Salve Regina University, Newport, RI, June 2012; Bioorganic Chemistry, Proctor Academy, Andover, NH, June 2013; Post-Transcriptional Gene Regulation, Salve Regina University, Newport, RI, July 2014; Enzymes, Coenzymes & Metabolic Pathways, Waterville Valley, NH, July 2015

Selected Meetings: Workshop on Site-specific Recombination and Transposition, Woods Hole, September 1994; Keystone Symposium: "Ribozymes: Basic Science and Therapeutic Applications", Jan. 1995; Table Ronde Roussel Uclaf: "Structural Basis of Enzymatic Activity in Enzymes and Ribozymes", Paris, May 1995; NATO Advanced Research Workshop: "Bioorganic Chemistry", Pennsylvania, May 1995; Repligen Award Symposium for W.P. Jencks, ACS meeting, August 1996; Novel Biocatalysts Workshop, Instituto Juan March, Madrid, Spain, March 1997; Chemistry in Biology Symposium, Salk Institute, San Diego, January 1998; 27th Reaction Mechanisms Conference, Asilomar, CA, June 1998; Phosphoryl Transfer: A Molecular Basis for Signaling, Lake Tahoe, CA, October 1998 (ASBMB); ASBMB National Meeting, San Francisco, May, 1999; RNA Biochemistry, Bavaria, Germany, November, 1999; NIH Workshop on Single Molecule Techniques, Bethesda, MD, April, 2000; RNA Structure Symposium, Santa Cruz, CA, July, 2000; Symposium in Molecular Biology, RNA and Protein Folding, Penn State University, August, 2000; Cope Scholar Award, ACS, Washington, DC, August, 2000; ASBMB National Meeting, New Orleans, LA, April, 2002; Ribozymes & RNA Catalysis: International Workshop, Dundee, Scotland, August, 2002; Enzyme Mechanisms Conference, Galveston, TX, January, 2003; Biophysical Society Annual Meeting, San Antonio, TX, March, 2003; ACS Meeting, Frontiers in Enzymology, New York, September, 2003; FASEB Conference on Nucleic Acid Enzymology, June, 2004; The 19th Enzyme Mechanism Conference, Pacific Grove, CA, January, 2005; Cold Spring Harbor Systems Biology Meeting, March, 2005; Ohio State MBI Enzyme Dynamics Workshop, OH May, 2005; ACS Meeting, Frontiers in RNA Catalysis, Washington D.C., August, 2005; Keystone Symposium on Nucleic Acid Enzymes, Taos, NM, February, 2006; Biophysical Society, RNA Folding and Unfolding, Salt Lake City, UT, February, 2006; FASEB Conference, Post-Transcriptional Control of Gene Expression: Mechanisms of mRNA Decay, Snowmass, CO, June, 2006; ACS Meeting, Division of Biological Chemistry, Enzymatic Catalysis and Transition States, Repligen Award Symposium (Vern Schramm), San Francisco, September, 2006; ACS Meeting, Division of Physical Chemistry, RNA Folding, Chicago, March, 2007; University of Sheffield, UK, NACON VII, April, 2007; ASBMB National Meeting, Translational Control, Washington D.C., May, 2007; ACS Meeting, Division of Physical Chemistry; Award in Pure Chemistry Symposium (Xiaowei Zou), Boston, August, 2007; Protein Dynamics and Catalysis Conference, NY May 2008; FASEB National meeting, Nucleic Acid Enzymes, June 2008; ASBMB, William C. Rose Award Lecture, April 2010; Telluride Science Research Center Workshop: Toward Meaningful Analysis of Phosphoryl Transfers and RNA Catalysis: Experiments and Computations, June 2010; RNA Society Platform Talk, Annual Meeting, Seattle, WA, June 2010; ACS National Meeting, Repligen Symposium, Philadelphia, August 2012; 245th ACS National Meeting, Frontiers in RNA Catalysis and Folding: Interface of Theory and Experiment, New Orleans, LA, April 2013; ASBMB Annual Meeting, RNA Function and Protein Synthesis, Boston, MA, April 2013; The Role of Dynamics in Enzyme Catalyzed Reactions, Telluride Science Research Center, Telluride, CO, July 2013; Biochemical Society Single Biomolecules Meeting, Hertfordshire, UK, September 2014; Novel Enzymes, Ghent, Belgium, October 2014; The Role of Dynamics in Enzyme Catalyzed Reactions, Telluride, CO, August 2015; North Carolina Symposium on RNA Biology XI, Durham, NC, October 2015; 24th Solvay Conference, on Chemistry, Catalysis in Chemistry and Biology, October 2016; Challenges in Dissecting and Understanding Nucleic Acid, Telluride Science Research Center, Telluride, CO, June 2017; Protein Folding Dynamics and Stability Meeting, Halle, DE, October 2017

Selected University Seminars: UCSF, Pharmaceutical Chemistry, April 1994; University of California, Berkeley, Structural Biology, April 1994; Scripps Research Institute, December 1994; Harvard University, Medical School, Genetics Department (MGH), February 1995; University of California, San Francisco, Biochemistry and Biophysics, October 1995; Columbia, Biochemistry and Biophysics, November 1995; Johns Hopkins University, Biochemistry and Biophysics, February 1998; Yale University, Biochemistry and Biophysics, November 1998; University of California, Berkeley, Structural Biology, April, 1999; Harvard University, Molecular and Cell Biology, Cambridge, MA, December, 1999; Harvard University Medical School, Cambridge, MA, January, 2000; UCSF, Biochemistry and Biophysics, January, 2001; MIT, Department of Chemistry, Biological Chemistry Division, February, 2001; Dowd Lectures, University of Pittsburgh, Chemistry Department, April, 2001; Cal Tech, Department of Chemistry, May, 2001; Boehringer Ingelheim Research Lecture, Univ. of British Columbia, Chemistry Department, February, 2002; Scripps Research Institute, Structure & Chemistry Affinity Group Seminar Series, May 2002; CalTech Physics Colloquium, March, 2003; Cal Tech, Department of Chemistry, April, 2005; MIT/CSBi, December, 2005; UC Berkeley, Structural and Quantitative Biology, March, 2006; Princeton University, Lewis-Sigler Institute, April, 2006; University of Chicago, May, 2007; University of Texas, Southwestern Medical Center, April, 2008; Columbia University, Department of Biological Sciences, December 2008; Tiselius Symposium on Horizons in Biochemistry, Uppsala University, Sweden, October 2008; University of Michigan, Department of Biological Chemistry, March, 2009; Powered by NCBC Scientific Lecture, NIH April 2009; University of Manchester Interdisciplinary Biocentre International Seminar, April 2010; UCSF, California Institute for Quantitative Biosciences (QB3) Invitational Speaker Series, April 2010; CalTech, Department of Chemistry, April 2010; University of Pittsburgh, Department of Structural Biology, May 2010; Yale University, Joe Coleman Memorial Lecture, December 2011; Keynote Speaker, BECUR Undergraduate Conference, University of Arizona, February 2012; Molecular Biophysics Training Program Seminar, Student-invited speaker, UC San Diego, May 2012; College of Sciences Distinguished Speaker Series, Orlando, FL, September 2012; University of Wisconsin-Madison, David E. Green Lecture in Enzyme Chemistry, March 2014; Case Western Reserve University, Student invited guest seminar for Harland Lecture series, April 2014; University of Rochester, Department of Biochemistry and Biophysics seminar series, April 2014; University of Maryland Baltimore County, November 2014; University of Pennsylvania, February 2016; Keynote at 29th Annual Mary and Randolph T. Wedding Research Symposium, University of California, Riverside, September 2016; Interdisciplinary Life Science Seminar Series Speaker, University of Zurich, December 2016; Cell Biology Department Student-invited Seminar, Harvard University, February 2017; Department of Chemistry and Biochemistry, University of Colorado, Boulder, April 2017; Department of Chemistry, Dartmouth University, April 2017; Biochemistry Seminar Series, Louisiana State University Health Sciences Center, December 2017; Structure and Quantitative Biology Seminar Series, University of California, Berkeley, January 2018

Publications

1. Herschlag, D., Stevens, E.S. and Gander, J.E. (1983) **Int. J. Peptide Prot. Res.** 22, 16-20. "Galactofuranosyl-containing Glycopeptide of *Penicillium charlesii*: Vacuum Ultraviolet Circular Dichroism." PMID: 6224750
2. Jencks, W.P., Haber, M.T., Herschlag, D. and Nazaretian, K.L. (1986) **J. Am. Chem. Soc.** 108, 479-483. "Decreasing Reactivity with Increasing Nucleophile Basicity. The Effect of Solvation on β_{nuc} for Phosphoryl Transfer to Amines." PMID: 22175464
3. Herschlag, D. and Jencks, W.P. (1986) **J. Am. Chem. Soc.** 108, 7938-7946. "Pyrophosphate Formation from Acetyl Phosphate and Orthophosphate Anions in Concentrated Aqueous Salt Solutions Does Not Provide Evidence for a Metaphosphate Intermediate."
4. Herschlag, D. and Jencks, W.P. (1987) **J. Am. Chem. Soc.** 109, 4665-4674. "The Effect of Divalent Metal Ions on the Rate and Transition State Structure of Phosphoryl Transfer Reactions."
5. Herschlag, D. (1988) **Bioorganic Chemistry** 16, 62-96. "The Role of Induced Fit and Conformational Changes of Enzymes in Specificity and Catalysis."
6. Herschlag, D. and Jencks, W.P. (1989) **J. Am. Chem. Soc.** 111, 7579-7586. "Evidence That Metaphosphate is Not an Intermediate in Solvolysis Reactions in Aqueous Solution."

7. Herschlag, D. and Jencks, W.P. (1989) **J. Am. Chem. Soc.** *111*, 7587-7596. "Phosphoryl Transfer to Oxyanions: The Nature of the Transition State and Electrostatic Repulsion."
8. Herschlag, D. and Jencks, W.P. (1990) **J. Am. Chem. Soc.** *112*, 1942-1950. "The Effect of Mg²⁺, Hydrogen Bonding and Steric Factors on Rate and Equilibrium Constants for Phosphoryl Transfer between Carboxylate Ions and Pyridines."
9. Herschlag, D. and Jencks, W.P. (1990) **J. Am. Chem. Soc.** *112*, 1951-1956. "Nucleophiles of High Reactivity in Phosphoryl Transfer Reactions: α -Effect Compounds and Fluoride Ion."
10. Herschlag, D. and Jencks, W.P. (1990) **Biochemistry** *29*, 5172-5179. "Catalysis of the Hydrolysis of Phosphorylated Pyridines by Mg(OH)⁺: A Possible Model for Enzymatic Phosphoryl Transfer." PMID: 2378873
11. Herschlag, D. and Cech, T.R. (1990) **Nature** *344*, 405-409. "DNA Cleavage Catalysed by the Ribozyme from *Tetrahymena*." PMID: 1690858
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