AMY C. ROSENZWEIG

Departments of Molecular Biosciences & Chemistry
Northwestern University
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EDUCATION

Amherst College, B. A. in Chemistry, *Summa Cum Laude*, 1988
Massachusetts Institute of Technology, Ph. D. in Inorganic Chemistry, 1994

PROFESSIONAL APPOINTMENTS

Chair, Department of Molecular Biosciences, Northwestern University, 2023-present
Weinberg Family Distinguished Professor of Life Sciences, Northwestern University, 2012-present
Professor, Departments of Molecular Biosciences and of Chemistry, Northwestern University, 2005-present
Irving M. Klotz Research Professor, Northwestern University, 2004-2006
Associate Professor, Departments of Biochemistry, Molecular Biology, and Cell Biology and of Chemistry, Northwestern University, 2002-2005
Assistant Professor, Departments of Biochemistry, Molecular Biology, and Cell Biology and of Chemistry, Northwestern University, 1997–2002
Harvard Medical School and Dana Farber Cancer Institute, NIH Postdoctoral Fellowship, 1994–1997

RESEARCH INTERESTS

Structural biology and bioinorganic chemistry, metal uptake and transport, oxygen activation by metalloenzymes, membrane proteins

HONORS AND AWARDS

The Protein Society Hans Neurath Award, 2021
American Chemical Society Alfred Bader Award in Bioinorganic or Bioorganic Chemistry, 2021
Elected Member, National Academy of Sciences, 2017
Elected Fellow, American Academy of Arts and Sciences, 2014
Royal Society of Chemistry Joseph Chatt Award, 2014
Ivano Bertini Award, 2014
Fletcher Undergraduate Research Faculty Award, 2014
Elected Fellow, American Association for the Advancement of Science, 2007
American Chemical Society Nobel Laureate Signature Award for Graduate Education, 2006
Honorary Degree, Doctor of Science, Amherst College, 2005
MacArthur Fellow, 2003
Camille Dreyfus Teacher Scholar Award, 2001
David and Lucile Packard Fellow, 1999
National Institutes of Health Postdoctoral Fellowship, 1994-1997
General Electric Predoctoral Fellowship, 1988-1989
Howard Waters Doughty Prize for best thesis in Chemistry, 1988
White Prize for excellence in Chemistry, 1987

PROFESSIONAL ACTIVITIES

Advisory boards and committees

Searle Scholars Program Advisory Board, 2020-2025, Chair 2023-2025
Member, National Advisory General Medical Sciences Council (NIGMS Council), NIH, 2020-2024

Review Committee for the PhD Programs in Biomedical and Biological Sciences, University of Southern California, 2023
Editorial Board, *Proc. Natl. Acad. Sci. USA*, 2019-present
Member, Stanford Synchrotron Radiation Light Source Structural Molecular Biology Advisory Committee (SMBAC), 2014-present
Board of Reviewing Editors, *Science*, 2015-2023
Editorial Advisory Board of *Accounts of Chemical Research*, 2018-2023
National Academy of Sciences Award Selection Committee, 2021-2022
American Chemical Society National Award Selection Committee, 2019-2022
Editorial Advisory Board of *Biochemistry*, 2017-2020
Elected Member, ASBMB Nominating Committee, 2015-2018
Scientific Advisory Board of the Cluster of Excellence "Unifying Concepts in Catalysis, UniCAT," Berlin, Germany, 2013-2017
Elected Councilor, Society for Biological Inorganic Chemistry, 2013-2017
Co-editor, Catalysis and Regulation section of *Current Opinion in Structural Biology*, December 2015 issue
Editorial Advisory Board of the *Journal of Inorganic Biochemistry*, 2010-2014
Editorial Advisory Board of the *Journal of Biological Inorganic Chemistry*, 2009-2011
Editorial Advisory Board of *Inorganic Chemistry*, 2009-2012
Co-editor, *Methods in Enzymology* volumes 494 and 495, *Methods in Methane Metabolism*, 2011
Elected Chair, Bioinorganic Subdivision, American Chemical Society, 2009
Co-Editor, Bioinorganic Chemistry section of *Current Opinion in Chemical Biology*, April 2006 issue
Elected Councilor, Division of Biological Chemistry, American Chemical Society, 2005-2008
Editorial Advisory Board of the *Journal of Biological Inorganic Chemistry*, 2004-2006
Elected member, Advanced Photon Source Users Organization Steering Committee (APSUO), 2000-2003

Conference leadership

Co-organizer, Metals in Biological Chemistry: C-H Bond Activation by Metalloenzymes and Models Symposium, Pacifichem 2025, December 15-20, 2025
Co-chair, 12th International Copper Meeting (Copper 2020 Sorrento), September 18-23, 2022
Co-organizer, Metals in Biological Chemistry: C-H Bond Activation by Metalloenzymes and Models Symposium, Pacifichem 2020, December 16-21, 2021
Co-organizer, Dioxygen Activation Chemistry of Metalloenzymes and Models Symposium, Pacifichem 2015, December 15-20, 2015
Chair, Metals in Biology Gordon Research Conference, 2013
Vice Chair, Metals in Biology Gordon Research Conference, 2012
Scientific Organizing Committee for the 8th International Copper Meeting, Alghero, Sardinia, September 30-October 5, 2012
Co-organizer, Dioxygen Activation Chemistry and Catalytic Oxidation Reactions Symposium, Pacifichem 2010, December 15-20, 2010
Scientific Organizing Committee for the 6th International Copper Meeting, Alghero, Sardinia, October 11-15, 2008
Scientific Organizing Committee for the 4th International Meeting on Copper Homeostasis and its Disorders: Molecular and Cellular Aspects, Ischia, Italy, October 22-28, 2004
Co-organizer, Bader Award Symposium, 227th National Meeting of the American Chemical Society, Anaheim, CA, March 28 – April 1, 2004
Local chair, Midwest Enzyme Chemistry Conference, 2002
Co-organizer, Biological Crystallography Workshop, 2001 APS Users Meeting

Peer review

Member, DOE BES Enzyme Structure and Function Review Panel, March 2021
Ad hoc reviewer for R35 Special Emphasis Panel, November 2019

Member, DOE BES Enzyme Structure and Function Review Panel, March 2018
Member, Proposal Review Panel, Stanford Synchrotron Radiation Light Source, 2010-2015
Ad hoc reviewer for MSFA Study Section, Center for Scientific Review, National Institutes of Health, February 2015
Ad hoc reviewer for MBBP Study Section, Center for Scientific Review, National Institutes of Health, October 2013
Member, NSF CLP Review Panel, March 2013
Member, Special Emphasis Panel, Center for Scientific Review, National Institutes of Health, May 2012
Ad hoc reviewer, Program Project Special Emphasis Panel, Center for Scientific Review, National Institutes of Health, November 2011
Member, MFSA Study Section, Center for Scientific Review, National Institutes of Health, 2006-2010
Ad hoc reviewer for Roadmap Initiative for Membrane Proteins, Center for Scientific Review, National Institutes of Health, June 2005
Ad hoc reviewer for the Metallobiochemistry Study Section, Center for Scientific Review, National Institutes of Health, February 2004, October 2004, February 2006
Ad hoc reviewer for the Nutritional Chemistry Study Section, Center for Scientific Review, National Institutes of Health, October 2003
Grant proposal review for the National Science Foundation, Department of Energy, Department of Agriculture, American Chemical Society Petroleum Research Fund, Research Corporation, Biotechnology and Biological Sciences Research Council (BBSRC, UK), German Research Foundation (DFG), Marsden Fund (Royal Society of New Zealand), Alberta Heritage Foundation for Medical Research (Canada), Nebraska EPSCoR, Swedish Research Council
Macromolecular crystallography proposal review panel (MC PRP) at the Advanced Photon Source, 2003-2005
Manuscript review for *Science, Nature, Nat. Chem.*, *Nat. Chem. Biol.*, *Structure*, *Proc. Natl. Acad. Sci. USA, J. Am. Chem. Soc., Biochemistry, Nat. Struct. Molec. Biol, Cell, eLife, J. Biol. Inorg. Chem., Inorg. Chem., Structure, J. Mol. Biol.*, *J. Biol. Chem.*, *Acc. Chem. Res., J. Bacteriol., Metallomics, FEBS Lett., FEMS Microbiol. Rev., FEMS Microbiol. Lett., Eur. J. Inorg. Chem., Molecular Cell, EMBO J., Environ. Microbiol., PLoS ONE, Biochem. Biophys. Acta, Biochem. J., J. Inorg. Biochem., TIBS, Proteins, Nat. Prod. Rep., Trends Microbiol., Dalton Trans., PloS One, Biochimie, Frontiers Microbiol., Sci. Rep., Essays Biochem., Sci. Adv., ChemBioChem, Microb. Biotechnol., ACS Cent. Sci., ACS Catal., Mol. Catal., J. Mol. Graph.*

Society membership
American Chemical Society
Society of Biological Inorganic Chemistry
American Association for the Advancement of Science
American Society for Biochemistry and Molecular Biology
American Academy of Arts and Sciences
National Academy of Sciences

PUBLICATIONS (GOOGLE SCHOLAR H-INDEX 72)

170. Reyes, R. M.; Rosenzweig, A. C. Purification and biochemical characterization of methanobactin biosynthetic enzymes. *Meth. Enzymol.* **2024**, *in press*.
169. Reyes, R. M.; Rosenzweig, A. C. Methanobactins: structures, biosynthesis, and microbial diversity. *Annu. Rev. Biochem.* **2024**, *in press*.
168. Manley, O. M.; Shriver, T. J.; Xu, T.; Melendrez, I. A.; Palacios, P.; Robson, S. A.; Guo, Y.; Kelleher, N. L.; Ziarek, J. J.; Rosenzweig, A. C. A multi-iron enzyme installs copper-binding oxazolone/thioamide pairs on a nontypeable *Haemophilus influenzae* virulence factor. *Proc. Natl. Acad. Sci. USA* **2024**, 121, e2408092121.

167. Jodts, R. J.; Ho, M. B.; Reyes, R. M.; Park, Y. J.; Doan, P. E.; Rosenzweig, A. C.; Hoffman, B. M. Initial steps in methanobactin biosynthesis: substrate binding by the mixed-valent diiron enzyme MbnBC. *Biochemistry* **2024**, *63*, 1170.
166. Tucci, F. J.; Rosenzweig, A. C. Direct methane oxidation by copper- and iron-dependent methane monooxygenases. *Chem. Rev.* **2024**, *124*, 1288.
165. Tucci, F. J.; Jodts, R. J.; Hoffman, B. M.; Rosenzweig, A. C. Product analog binding identifies the active site of particulate methane monooxygenase. *Nat. Catal.* **2023**, *6*, 1194.
164. Manesis, A. C.; Slater, J. W.; Cantave, K.; Bollinger, Jr., J. M.; Krebs, C.; Rosenzweig, A. C. Capturing a *bis*-Fe(IV) state in *Methylosinus trichosporium* OB3b MbnH. *Biochemistry* **2023**, *62*, 1082.
163. Koo, C. W.; Hershewe, J. M.; Jewett, M. C.; Rosenzweig, A. C. Cell-free protein synthesis of particulate methane monooxygenase into nanodiscs. *ACS Synth. Biol*. **2022**,*11*, 4009.
162. Zhu, Y.; Koo, C. W.; Cassidy, C. K.; Spink, M. C.; Ni, T.; Zanetti-Domingues, L. C.; Bateman, B.; Martin-Fernandez, M. L.; Shen, J.; Sheng, Y.; Song, Y.; Yang, Z.; Rosenzweig, A. C.; Zhang, P. Structure and activity of particulate methane monooxygenase arrays in methanotrophs. *Nat. Commun.* **2022**, *13*, 5221.
161. Schachner, L. F.; Des Soye, B.; Ro, S. Kenney, G. E.; Ives, A. N.; Su, T.; Goo, Y. A.; Jewett, M. C.; Rosenzweig, A. C.; Kelleher, N. L. Revving an engine of human metabolism: activity enhancement of triosephosphate isomerase via hemi-phosphorylation. *ACS Chem. Biol.* **2022**, *10*, 2769-2790.
160. Koo, C. W.; Tucci, F. J.; He, Y.; Rosenzweig, A. C. Recovery of particulate methane monooxygenase structure and activity in a lipid bilayer. *Science* **2022**, *375*, 1287-1291.
159. Park, Y. J.; Jodts, R. J.; Slater, J. W.; Reyes, R. M.; Winton, V. J.; Montaser, R. A.; Thomas, P. M.; Dowdle, W. B.; Ruiz, A.; Kelleher, N. L.; Bollinger, J. M., Jr.; Krebs, C.; Hoffman, B. M. Rosenzweig, A. C. A mixed valent Fe(II)Fe(III) species converts cysteine to an oxazolone/thioamide pair in methanobactin biosynthesis. *Proc. Natl. Acad. Sci. USA* **2022,** *119*, e2123566119.
158. Hadley, R. C.; Zhitnitsky, D.; Livnat-Levanon, N.; Masrati, G.; Vigonsky, E.; Rose, J.; Ben-Tal, N.; Rosenzweig, A. C.; Lewinson, O. The copper-linked *Escherichia coli* AZY operon: Structure, metal binding, and a possible physiological role in copper delivery. *J. Biol. Chem.* **2022**, *298*, 101445.
157. Park, Y. J.; Roberts, G. M.; Montaser, R.; Kenney, G. E.; Thomas, P. M.; Kelleher, N. L.; Rosenzweig, A. C. Characterization of a copper-chelating natural product from the methanotroph *Methylosinus* sp. LW3. *Biochemistry* **2021**, *60*, 2845-2850.
156. Jodts, R. J.; Ross, M. O.; Koo, C. W.; Doan, P. E.; Rosenzweig, A. C.; Hoffman, B. M. Coordination of the copper centers in particulate methane monooxygenase: comparison between methanotrophs and characterization of the Cu_C site by EPR and ENDOR spectroscopies. *J. Am. Chem. Soc.* **2021**, *143*, 15358-15368.
155. Manesis, A. C.; Jodts, R. J.; Hoffman, B. M.; Rosenzweig, A. C. Copper binding by a unique family of metalloproteins is dependent on kynurenine formation. *Proc. Natl. Acad. Sci. USA* **2021**, *118*, e2100680118.
154. Cutsail, G. E., III; Ross, M. O.; Rosenzweig, A. C.; DeBeer, S. Towards a unified understanding of the copper sites in particulate methane monooxygenase: an X-ray absorption spectroscopic investigation. *Chem. Sci.* **2021**, *17*, 6194-6209.
153. Koo, C. W.; Rosenzweig, A. C. Biochemistry of aerobic biological methane oxidation. *Chem Soc. Rev.* **2021**, *50*, 3424-3436.
152. Koo, C. W.; Rosenzweig, A. C. Particulate methane monooxygenase and the PmoD protein. *Encyclopedia of Inorganic and Bioinorganic Chemistry* (A. Messerschmidt, ed.), **2020**, DOI: 10.1002/9781119951438.eibc2740.
151. Fisher, O. S.; Sendzik, M. R.; Ross, M. O.; Lawton, T. J.; Hoffman, B. M.; Rosenzweig, A. C. PCu_AC domains from methane-oxidizing bacteria use a histidine brace to bind copper. *J. Biol. Chem.* **2019**, *294*, 16351-16363.
150. Kenney, G. E.; Dassama, L. M. K.; Manesis, A. C.; Ross, M. O.; Chen, S.; Hoffman, B. M.; Rosenzweig, A. C. MbnH is a diheme MauG-like protein associated with microbial copper homeostasis. *J. Biol. Chem.* **2019**, *294*, 16141-16151.

149. Ro, S. Y.; Schachner, L. F.; Koo, C. W.; Purohit, R.; Remis, J. P.; Kenney, G. E.; Liauw, B. W.; Thomas, P. M.; Patrie, S. M.; Kelleher, N. L.; Rosenzweig, A. C. Native top-down mass spectrometry provides insights into the copper centers of membrane-bound methane monooxygenase. *Nat. Commun.* **2019**, *10*, 2675.
148. Ross, M. O.; MacMillan, F.; Wang, J.; Nisthal, A.; Lawton, T. J.; Olafson, B. D.; Mayo, S. L.; Rosenzweig, A. C.; Hoffman, B. M. Particulate methane monooxygenase contains only monocopper centers. *Science* **2019**, *364*, 566-570.
147. Ross, M. O.; Fisher, O. S.; Morgada, M. N.; Krzyaniak, M. D.; Wasielewski, M. R.; Vila, A. J.; Hoffman, B. M.; Rosenzweig, A. C. Formation and electronic structure of an atypical Cu_A site. *J. Am. Chem. Soc.* **2019**, *141*, 4678-4686.
146. Fisher, O. S.; Kenney, G. E.; Ross, M. O.; Ro, S. Y.; Lemma, B. E.; Batelu, S.; Thomas, P. M.; Sosnowski, V. C.; DeHart, C. J.; Kelleher, N. L.; Stemmler, T. L.; Hoffman, B. M.; Rosenzweig, A. C. Characterization of a long overlooked copper protein from methane- and ammonia-oxidizing bacteria. *Nat. Commun.* **2018**, *9*, 4276.
145. Deng, Y. W.; Ro, S. Y.; Rosenzweig, A. C. Structure and function of the lanthanide-dependent methanol dehydrogenase XoxF from the methanotroph *Methylomicrobium buryatense* 5GB1C. *J. Biol. Inorg. Chem.* **2018**, *7*, 1037.
144. Ro, S. Y.; Ross, M. O.; Deng, Y. W.; Batelu, S.; Lawton, T. J.; Hurley, J. D.; Stemmler, T. L.; Hoffman, B. M.; Rosenzweig, A. C. From micelles to bicelles: effect of the membrane on particulate methane monooxygenase activity. *J. Biol. Chem.* **2018**, *293*, 10457-10465.
143. Park, Y. J.; Kenney, G. E.; Schachner, L. F.; Kelleher, N. L.; Rosenzweig, A. C. Repurposed HisC aminotransferases complete the biosynthesis of some methanobactins. *Biochemistry* **2018**, *57*, 3515-3523.
142. Kenney, G. E.; Dassama, L. M. K.; Pandelia, M.-E.; Gizzi, A. S.; Martinie, R. J.; Gao, P.; DeHart, C. J.; Schachner, L. F.; Skinner, O. S.; Ro, S. Y., Zhu, X.; Sadek, M.; Thomas, P. M.; Almo, S. C.; Bollinger, J. M., Jr.; Krebs, C.; Kelleher, N. L.; Rosenzweig, A. C. The biosynthesis of methanobactin. *Science* **2018**, *359*, 1411-1416.
141. Ro, S. Y.; Rosenzweig, A. C. Recent advances in the genetic manipulation of *Methylosinus trichosporium* OB3b. *Methods Enzymol.* **2018**, *605*, 335-349.
140. Kenney, G. E.; Rosenzweig, A. C. Chalkophores. *Annu. Rev. Biochem.* **2018**, *87*, 645-676.
139. Purohit, R.; Ross, M. O.; Batelu, S.; Kusowski, A.; Stemmler, T. L.; Hoffman, B. M.; Rosenzweig, A. C. A Cu^+-specific CopB transporter: revising P_{1B}-type ATPase classification. *Proc. Natl. Acad. Sci. USA* **2018**, *115*, 2108-2113.
138. Kenney, G. E.; Rosenzweig, A. C. Methanobactins: maintaining copper homeostasis in methanotrophs and beyond. *J. Biol. Chem.* **2018**, *293*, 4606-4615.
137. Cao, L.; Caldararu, O.; Rosenzweig, A. C.; Ryde, U. Quantum refinement does not support dinuclear copper sites in the crystal structures of particulate methane monooxygenase. *Angew. Chem. Int. Ed.* **2018**, *57*, 162-166.
136. Rosenzweig, A. C. A biochemical sulfur delivery service. *Science* **2017**, *358*, 307-308
135. Ross, M. O.; Rosenzweig, A. C. A tale of two methane monooxygenases. *J. Biol. Inorg. Chem.* **2017**, *22*, 307-319.
134. Dassama, L. M. K.; Kenney; G. E.; Rosenzweig, A. C. Methanobactins: from genome to function. *Metallomics* **2017**, *9*, 7-20.
133. Smith, A. T.; Ross, M. O.; Hoffman, B. M.; Rosenzweig, A. C. Metal selectivity of a Cd-, Co-, and Zn-transporting P_{1B}-type ATPase. *Biochemistry* **2016**, *56*, 85-95.
132. Dassama, L. M. K.; Kenney; G. E.; Ro, S. Y.; Zielazinski, E. L.; Rosenzweig, A. C. Methanobactin transport machinery. *Proc. Natl. Acad. Sci. USA* **2016**, *113*, 13027-13032.
131. Lawton, T. J.; Rosenzweig, A. C. Biocatalysts for methane conversion: big progress on breaking a small substrate. *Curr. Op. Chem. Biol.* **2016**, *35*, 142-149.
130. Trana, E. N.; Nocek, J. M.; Vander Woude, J.; Span, I.; Smith, S. M.; Rosenzweig, A. C.; Hoffman, B. M. Charge-disproportionation symmetry breaking creates a heterodimeric myoglobin complex with enhanced affinity and rapid intracomplex electron transfer. *J. Am. Chem. Soc.* **2016**, *138*, 12615-12628.

129. Kenney, G. E.; Goering, A. W.; Ross, M. O.; DeHart, C. J.; Thomas, P. M.; Hoffman, B. M.; Kelleher, N. L.; Rosenzweig, A. C. Characterization of methanobactin from *Methylosinus* sp. LW4. *J. Am. Chem. Soc.* **2016**, *138*, 11124-11127.
128. Lawton, T. L.; Rosenzweig, A. C.; Methane-oxidizing enzymes: an upstream problem in biological gas-to-liquids conversion. *J. Am. Chem. Soc.* **2016**, *138*, 9327-9340.
127. Blanchette, C. D.; Knipe, J. M., Stolaroff, J. K.; DeOtte, J. R.; Oakdale, J. S.; Maiti, A.; Lenhardt, J. M.; Sirajuddin, S.; Rosenzweig, A. C.; Baker, S. E. Printable enzyme-embedded materials for methane to methanol conversion. *Nat. Commun.* **2016**, *7*, 11900.
126. Lawton, T. J.; Rosenzweig, A. C. Methane – make it or break it. *Science* **2016**, *352*, 892-893.
125. Kenney, G. E.; Sadek, M.; Rosenzweig, A. C. Copper-responsive gene expression in the methanotroph *Methylosinus trichosporium* OB3b. *Metallomics* **2016**, *8*, 931-940.
124. Lawton, T. J.; Kenney, G. E.; Hurley, J. D.; Rosenzweig, A. C. The CopC family: structural and bioinformatic insights into a diverse group of periplasmic copper binding proteins. *Biochemistry* **2016**, *55*, 2278-2290.
123. Li, J.; Lawton, T. J.; Kostecki, J. S.; Nisthal, A.; Fang, J.; Mayo, S. L.; Rosenzweig, A. C.; Jewett, M. C. Cell-free protein synthesis enables high yielding synthesis of an active multicopper oxidase. *Biotechnol. J.* **2016**, *11*, 212-218.
122. Klinman, J. P.; Rosenzweig, A. C. Editorial overview: catalysis and regulation. *Curr. Op. Struct. Biol.* **2015**, *35*, IV-VI.
121. Kathman, S. G.; Span, I.; Smith, A. T.; Xu, Z.; Zhan, J.; Rosenzweig, A. C.; Statsyuk, A. V. A small molecule that switches a ubiquitin ligase from a processive to a distributive enzymatic mechanism. *J. Am. Chem. Soc.* **2015**, *137*, 12442-12445.
120. Boal, A. K.; Rosenzweig, A. C. Response from Boal and Rosenzweig to Crystallography and chemistry should always go together: a cautionary tale of protein complexes with cisplatin and carboplatin. *Acta Cryst.* **2015**, *D71*, 1984-1986.
119. Smith, A. T.; Barupala, D.; Stemmler, T. L.; Rosenzweig, A. C. A new metal binding domain involved in cadmium, cobalt, and zinc transport. *Nat. Chem. Biol.* **2015**, *11*, 678-684.
118. Sirajuddin, S.; Rosenzweig, A. C. Enzymatic oxidation of methane. *Biochemistry* **2015**, *54*, 2283-2294.
117. Rosenzweig, A. C. Breaking methane. *Nature* **2015**, *518,* 309-310.
116. Culpepper, M. A.; Rosenzweig, A. C. Structure and protein-protein interactions of methanol dehydrogenase from *Methylococcus capsulatus* (Bath). *Biochemistry* **2014**, *53*, 6211-6219.
115. Sirajuddin, S.; Rosenzweig, A. C. Protocols for structural and functional analysis of particulate methane monooxygenase from *Methylocystis* species strain Rockwell (ATCC 49242). *Hydrocarbon and Lipid Microbiology Protocols* (T. J. McGenity et al, eds.) **2014**, Berlin: Springer-Verlag,10.1007/8623_2014_22.
114. Culpepper, M. A.; Cutsail, G. E., III; Gunderson, W. A.; Hoffman, B. M.; Rosenzweig, A. C. Identification of the valence and coordination environment of the particulate methane monooxygenase copper centers by advanced EPR characterization. *J. Am. Chem. Soc.* **2014**, *136*, 11767-11775.
113. Sirajuddin, S.; Barupala, D.; Helling, S.; Marcus, K.; Stemmler, T. L.; Rosenzweig, A. C. Effects of zinc on particulate methane monooxygenase activity and structure. *J. Biol. Chem.* **2014**, *289*, 21782-21794.
112. Silakov, A.; Grove, T. L.; Radle, M. I.; Bauerle, M. R.; Green, M. T.; Rosenzweig, A. C.; Boal, A. K.; Booker, S. J. Characterization of a cross-linked protein-nucleic acid substrate radical in the reaction catalyzed by RlmN. *J. Am. Chem. Soc.* **2014**, *136*, 8221-8228.
111. Smith, A. T.; Smith, K. P.; Rosenzweig, A. C. Diversity of the metal-transporting P_{1B}-type ATPases. *J. Biol. Inorg. Chem.* **2014**, *6*, 947-960.
110. Austin, R. N.; Kenney, G. E.; Rosenzweig, A. C. Perspective: what is known, and not known, about the connections between alkane oxidation and metal uptake in alkanotrophs in the marine environment. *Metallomics* **2014**, *6*, 1121-1125.

109. Lawton, T. J.; Ham, J.; Sun, T.; Rosenzweig, A. C. Structural conservation of the B subunit in the ammonia monooxygenase/ particulate methane monooxygenase superfamily. *Proteins* **2014**, *82*, 2263-2267.
108. Chang, W.-C.; Guo, Y.; Wang, C.; Butch, S. E.; Rosenzweig, A. C.; Boal, A. K.; Krebs, C.; Bollinger, J. M., Jr. Mechanism of the C5 stereoinversion reaction in the biosynthesis of carbapenam antibiotics. *Science* **2014**, *343*, 1140-1144.
107. Makhlynets, O.; Boal, A. K.; DeLacy, V. R.; Kitten, T.; Rosenzweig, A. C.; Stubbe, J. *Streptococcus sanguinis* class Ib ribonucleotide reductase: high activity with both iron and manganese cofactors and structural insights. *Biochemistry* **2014**, *289*, 6259-6272.
106. Zielazinski, E. L.; González-Guerrero, M.; Subramanian, P.; Stemmler, T. L.; Argüello, J. M.; Rosenzweig, A. C. *Sinorhizobium meliloti* Nia is a P_{1B-5}-ATPase expressed in the nodule during plant symbiosis and is involved in Ni and Fe transport. *Metallomics* **2013**, *5*, 1614-1623.
105. Dassama, L. M. K.; Krebs, C.; Bollinger, Jr., J. M.; Rosenzweig, A. C.; Boal, A. K. Structural basis for assembly of the Mn/Fe cofactor in the class Ic ribonucleotide reductase from *Chlamydia trachomatis*. *Biochemistry* **2013**, *52*, 6424-6436.
104. Lawton, T. J.; Bowen, K. E.; Sayavedra-Soto, L. A.; Arp, D. J.; Rosenzweig, A. C. Characterization of a nitrite reductase involved in nitrifier denitrification. *J. Biol. Chem.* **2013**, *288*, 25575-25583.
103. Rosenzweig, A. C. Put a ring on it. *Nat. Chem. Biol.* **2013**, *9*, 220-221.
102. Kenney, G. E.; Rosenzweig, A. C. Genome mining for methanobactins. *BMC Biol.* **2013**, *11*, 17.
101. Smith, S. M.; Rosenzweig, A. C. Particulate methane monooxygenase. In *Encyclopedia of Metalloproteins* (V.N. Uversky, R.H. Kretsinger, E.A. Permyakov, eds.), **2013**, Springer, Heidelberg, Germany,1663-1669.
100. Boal, A. K.; Rosenzweig, A. C. A radical route for nitrogenase carbide insertion. *Science* **2012**, *337*, 1617-1618.
99. Zielazinski, E. L.; Cutsail, G. E., III; Hoffman, B. M.; Stemmler, T. L.; Rosenzweig, A. C. Characterization of a cobalt-specific P_{1B}-ATPase, *Biochemistry*, **2012**, *51*, 7891-7900.
98. Rosenzweig, A. C.; Argüello, J. M. Toward a molecular understanding of metal transport by P_{1B}-type ATPases. *Curr. Top. Membr.* **2012**, *69*, 113-136.
97. Culpepper, M. A.; Rosenzweig, A. C. Architecture and active site of particulate methane monooxygenase. *Crit. Rev. Biochem. Mol. Biol.* **2012**, *47*, 483-492.
96. Culpepper, M. A.; Cutsail, G. E., III; Hoffman, B. M.; Rosenzweig, A. C. Evidence for oxygen binding at the active site of particulate methane monooxygenase. *J. Am. Chem. Soc.* **2012**, *134*, 7640-7643.
95. Boal, A. K.; Cotruvo, J. A., Jr.; Stubbe, J.; Rosenzweig, A. C. The dimanganese(II) site of *Bacillus subtilis* class Ib ribonucleotide reductase. *Biochemistry* **2012**, *51*, 3861-3871.
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INVITED PRESENTATIONS

Conferences

2nd International Conference onf RiPPs (RiPPs2024), Seoul, Korea, October 7-9, 2024

13th International Copper Meeting (Copper 2024 Sorrento), September 15-20, 2024

Power hour leader, Molecular Basis for Microbial One Carbon Metabolism Gordon Research Conference, Waterville Valley, NH, August 11-16, 2024

4th International Conference on Hydrogen Atom Transfer, June 9-13, 2024, Rome, Italy

Bader Award Symposium in honor of Chris Chang, American Chemistry Society Spring 2024 Meeting, New Orleans, LA, March 17-21, 2024

Award Symposium for Research at an Undergraduate Institution in honor of Rachel Austin, American Chemistry Society Spring 2024 Meeting, New Orleans, LA, March 17-21, 2024

Gas Fermentation Conference, February 21-24, 2024, Heron Island, Queensland, Australia

Metals in Biology Gordon Research Conference, Ventura, CA, January 21-26, 2024

Metals in Structural Biology Workshop, SSRL/LCLS Users Meeting, Stanford, CA, September 29, 2023

Keynote Address, 13th Annual Southeast Enzyme Conference (SEC), Atlanta, GA, April 22, 2023

Annual Institute for Sustainability and Energy (ISEN) Symposium, Northwestern University, December 1-2, 2022

Molecular Basis for Microbial One-Carbon Metabolism Gordon Research Conference, Southbridge, MA, August 7-12, 2022

Metallocofactors Gordon Research Conference, Newport, RI, June 5-10, 2022

Plenary Lecture, 19th International Symposium on Relations between Homogeneous and Heterogeneous Catalysis (ISHHC19), Oslo, Norway, June 26-29, 2022

Bollum Symposium on Metals in Biology in honor of John Lipscomb, Department of Biochemistry, Molecular Biology, and Biophysics, University of Minnesota, May 4, 2022

American Chemical Society William H. Nichols Distinguished Symposium honoring Alison Butler, White Plains, NY, April 8, 2022

Dioxygen Activation Chemistry of Metalloenzymes and Models Symposium, Pacifichem 2021, Honolulu, HI, December 16-21, 2021

Cell Biology of Metals Gordon Research Conference, West Dover, VT, October 17-21, 2021
Hans Neurath Award Lecture, Protein Society Meeting, July 9, 2021
Bader Award Lecture, American Chemical Society Spring 2021 Meeting, April 9, 2021
45th Lorne Conference on Protein Structure and Function, Cumberland, Lorne, Australia, February 9-13, 2020
Research and Education on Chemistry in the US: State of the Art and Future Perspectives, University of Málaga, Málaga, Spain, January 13-17, 2020
Keynote Lecture, 19th International Conference on Biological Inorganic Chemistry (ICBIC19), Interlaken, Switzerland, August 11-16, 2019
American Society for Microbiology (ASM Microbe) 2019, San Francisco, CA, Jun 20-24, 2019
Metals in Biology Gordon Research Conference, Ventura, CA, January 27-February 1, 2019
26th Enzyme Mechanisms Conference, New Orleans, LA, January 6-9, 2019
1987 Plenary Lecture, AsCA2018/Crystal 32, Auckland, New Zealand, December 2-5, 2018
Plenary Lecture, 11th International Copper Meeting, Sorrento, Italy, September 23-28, 2018
Plenary Lecture, 14th European Biological Inorganic Chemistry Conference EuroBIC-14, Birmingham, UK, August 26-30, 2018
Plenary Lecture, Frontiers in Metallobiochemistry Summer Symposium in Molecular Biology, The Pennsylvania State University, University Park, PA, June 5-8, 2018
Keynote Lecture, Copper Bioinorganic Chemistry Symposium (CuBICS 2018), Marseille, France, May 21-24, 2018
Symposium on Nitrogen Un-fixation: Mechanisms and Models in Nitrification and Denitrification American Chemistry Society Spring 2018 Meeting, New Orleans, LA, March 18-22, 2018
Bader Award Symposium in honor of Alison Butler, American Chemistry Society Spring 2018 Meeting, New Orleans, LA, March 18-22, 2018
Symposium on the Many Colors of Copper, American Chemical Society Fall 2017 Meeting, Washington, D. C., August 20-24, 2017
Keynote Lecture, 18th International Conference on Biological Inorganic Chemistry, Florianopólis, Brazil, July 31-August 4, 2017
Department of Energy Basic Research Needs Workshop on Catalysis Science to Transform Energy Technologies, Gaithersburg, MD, May 7-10, 2017
Metal Homeostasis Symposium, 2017 ASBMB Meeting, Chicago, IL, April 22-27, 2017
Symposium in honor of William B. Tolman, American Chemical Society Spring 2017 Meeting, San Francisco, CA, April 2-7, 2017
Symposium on C1 Catalysis, American Chemical Society Spring 2017 Meeting, San Francisco, CA, April 2-7, 2017
Latin American Meeting on Bioinorganic Chemistry, Queretaro, Mexico, October 18-22, 2016
Plenary Lecture, 10th International Copper Meeting, Sorrento, Italy, September 25-30, 2016
6th International Conference on Metals in Genetics, Chemical Biology and Therapeutics, ICMG-2016, Bangalore, India, February 17-20, 2016
Dioxygen Activation Chemistry of Metalloenzymes and Models Symposium, Pacifichem 2015, Honolulu, HI, December 15-20, 2015
UniCat 2015/CCSS Joint Scientific Meeting, Northwestern University, August 24-25, 2015
Cell Biology of Metals Gordon Research Conference, West Dover, VT, July 26-31, 2015
Metals in Biology in Wako Conference, Tokyo, Japan, June 16-18, 2015
19th International Conference on Cytochrome P450, Tokyo, Japan, June 12-15, 2015
5th Georgian Bay International Conference on Bioinorganic Chemistry (CanBIC-5), Parry Sound, Canada, May 19-23, 2015
Frontiers in Membrane Protein Structural Dynamics Conference, Chicago, IL, April 29-May 1, 2015
2015 Benjamin Franklin Medal Symposium in Honor of Stephen Lippard, Newark, DE, April 23, 2015
Inorganic Reaction Mechanisms Gordon Research Conference, Galveston, TX, March 1-6, 2015
9th International Copper Meeting, Vico Equense, Italy, October 5-10, 2014

Enzymes, Coenzymes, and Metabolic Pathways Gordon Research Conference, Waterville Valley, NH, July 13-18, 2014
Iron-Sulfur Enzymes Gordon Research Conference, Easton, MA, June 15-20, 2014
Plenary Lecture, Swedish Chemical Society Symposium, Lund, Sweden, May 22, 2014
Baker Symposium, Department of Chemistry and Chemical Biology, Cornell University, May 3, 2014
Priestley Award Symposium, 247th National Meeting of the American Chemical Society, Dallas, TX, March 16-20, 2014
Panel, Survival Skills for Female Graduate Students and Junior Faculty, Northwestern University Women's Center, February 5, 2014
Symposium in Honor of Professor David M. Dooley, Montana State University, Bozeman, MT, October 11-12, 2013
Sixteenth International Conference in Bioinorganic Chemistry (ICBIC16), Grenoble, France, July 14-19, 2013
C-H Activation Symposium, 245th National Meeting of the American Chemical Society, New Orleans, LA, April 7-11, 2013
UniCat biocatalysis workshop, Free University of Berlin, Berlin, Germany, March 17-19, 2013
Suddath Symposium, The Inorganic Face of Life: From Metalloproteins to Cells and Whole Organisms, Georgia Institute of Technology, Atlanta, GA, February 21-22, 2013
ARPA-E Workshop: Bio-technologies for methane to liquids conversion, Washington, DC, December 5, 2012
Plenary Lecture, International Symposium on Activation of Oxygen and Homogeneous Catalytic Oxidation, Jerusalem, Israel, September 2-7, 2012
Molecular Basis of Microbial One-carbon Metabolism Gordon Research Conference, Lewiston, ME, August 5-10, 2012
Protein Cofactors, Radicals, and Quinones Gordon Research Conference, South Hadley, MA, July 29-August 3, 2012
Keynote Lecture, 16th Annual Conference of the Swedish Structural Biology Network (SBNet), Tällberg, Sweden, June 15-18, 2012
Plenary Lecture, International Symposium on Relations between Homogeneous and Heterogeneous Catalysis, Berlin, Germany, September 11-16, 2011
Structure, Mechanism and Regulation in Enzyme Catalysis Symposium, 2011 ASBMB Meeting, Washington, D. C., April 9-13, 2011
Dioxygen Activation Chemistry of Metalloenzymes and Models Symposium, Pacifichem 2010, Honolulu, HI, December 15-20, 2010
Plenary Lecture, UniCat biocatalysis workshop, Technical University of Berlin, Berlin, Germany, November 17-19, 2010
7th International Copper Meeting, Alghero, Sardinia, October 16-20, 2010
Goodman Award Symposium, American Chemical Society Fall 2010 Meeting, Boston, MA, August 22-26, 2010
Bioinorganic Chemistry Symposium, American Chemical Society Fall 2010 Meeting, Boston, MA, August 22-26, 2010
Molecular Basis of Microbial One-carbon Metabolism Gordon Research Conference, Lewiston, ME, August 1-6, 2010
FASEB Summer Research Conference on Trace Element Micronutrients: Basic and Applied Research, Snowmass, CO, June 13-18, 2010
Frontiers in Metallobiochemistry Summer Symposium in Molecular Biology, The Pennsylvania State University, University Park, PA, June 2-5, 2010
Metals in Biology Gordon Research Conference, Ventura, CA, January 30-February 5, 2010
Fourteenth International Conference in Bioinorganic Chemistry (ICBIC14), Nagoya, Japan, July 25-30, 2009
Panel, The Future of Science Education in the Liberal Arts, Amherst College, Amherst, MA, October 25, 2008
6th International Copper Meeting, Alghero, Sardinia, October 11-15, 2008

Biochemical Society Focused Meeting: Transition Metals in Biochemistry, University of East Anglia, UK, June 24-26, 2008
Pre-ICBIC14 Special Symposium: Dioxygen Activation by Metalloenzymes and Models, Nagoya University, Nagoya, Japan, March 20-21, 2008
Mini-Symposium on Metals in Biological Systems, Duquesne University, Pittsburgh, PA, December 7, 2007
Plenary Lecture, Thirteenth International Conference in Bioinorganic Chemistry (ICBIC13), Vienna, Austria, July 15-20, 2007
Molecular Basis of Microbial One-carbon Metabolism Gordon Research Conference, Oxford, UK, August 6-11, 2006
Enzymes, Coenzymes, and Metabolic Pathways Gordon Research Conference, Biddeford, ME, July 16-21, 2006
Environmental Bioinorganic Chemistry Gordon Research Conference, Andover, NH, June 18-23, 2006
Frontiers in Metallobiochemistry Summer Symposium in Molecular Biology, The Pennsylvania State University, University Park, PA, June 7-10, 2006
Plenary Lecture, Advanced Photon Source Users Meeting, May 3, 2006
Thursday night talk, Metals in Biology Gordon Research Conference, Ventura, CA, January 30-February 3, 2006
Dioxygen Activation Chemistry of Metalloenzymes and Models Symposium, Pacifichem 2005, Honolulu, HI, December 15-20, 2005
Keynote Speaker, Royal Society of Chemistry Dalton Discussion Meeting, Nottingham, UK, September 7-9, 2005
Twelfth International Conference in Bioinorganic Chemistry (ICBIC12), Ann Arbor, MI, July 31-August 5, 2005
Fourth International Meeting on Copper Homeostasis and its Disorders: Molecular and Cellular Aspects, Ischia, Italy, October 23-28, 2004
Environmental Bioinorganic Chemistry Gordon Research Conference, Lewiston, ME, June 20-25, 2004
Metals in Biology Symposium in Honor of Jenny P. Glusker, Fox Chase Cancer Institute, Philadelphia, PA, December 12, 2003
International Symposium on Copper in Biology: From Novel Structures to New Cellular Functions, Konstanz, Germany, September 21-24, 2003
Metalloenzyme Symposium, 226th National Meeting of the American Chemical Society, New York, NY, September 7-11, 2003
The Impact of Genomics on Chemical Biology: a PRF Supported Summer School Program, Cornell University, Ithaca, NY, July 5-11, 2003
Bioinorganic Chemistry Symposium, 58th Northwest Regional Section Meeting of the American Chemical Society, Bozeman, MT, June 12-14, 2003
Washington College Women in Science-Sigma XI Symposium in Bioinorganic Chemistry, Chestertown, MD, April 8, 2003
Graduate Research Seminar in Metals in Biology, Ventura, CA, February 6-9, 2003
Enzyme Mechanisms Conference XVIII, Galveston Island, TX, January 4-7, 2003
Third International Meeting on Copper Homeostasis and its Disorders: Molecular and Cellular Aspects, Ischia, Italy, October 6-8, 2002
Coordination Chemistry of Metal Metabolism Symposium, 224th National Meeting of the American Chemical Society, Boston, MA, August 18-22, 2002
American Society for Microbiology, 102nd General Meeting, Salt Lake City, UT, May 19-23, 2002
Midwest Metals Meeting, Chicago, IL, May 11-12, 2002
Tenth International Conference in Bioinorganic Chemistry (ICBIC10), Florence, Italy, August 26-31, 2001
ALS Association Workshop for Young Investigators, Philadelphia, PA, October 26-27, 2000
Lippard 2000: Inorganic Chemistry at the Beginning of the New Millennium, Cambridge, MA,

October 6-8, 2000
Annual Meeting of the Packard Fellows, Monterey, CA, September 6-9, 2000
Metals in Biology Gordon Research Conference, Ventura, CA, January 23-28, 2000
Ninth International Conference in Bioinorganic Chemistry (ICBIC9), Minneapolis, MN, July 11-16, 1999
Quinone and Redox Active Amino Acid Cofactors Gordon Research Conference, Meriden, NH, June 13-18, 1999
Chemical Crystallographic Analysis Symposium, Massachusetts Institute of Technology, Cambridge, MA, January 9, 1999
Biological Electron Transfer Symposium, Northeast Regional Section Meeting of the American Chemical Society, Rochester, NY, October 22-25, 1995
Eighth International Symposium on Microbial Growth on C1 Compounds, San Diego, CA, August 27-September 1, 1995
Metal Carboxylates and Synthetic Models Symposium, 209th National Meeting of the American Chemical Society, Anaheim, CA, April 2-5, 1995
Alkane Functionalization in Natural and Unnatural Systems Symposium, 207th National Meeting of the American Chemical Society, San Diego, CA, March 13-18, 1994

Seminars

Department of Chemistry, Princeton University, April 15, 2025
Department of Chemistry, University of Wisconsin, Madison, April 8, 2025
Riley O. Schaeffer Endowed Lecture, Department of Chemistry and Chemical Biology, University of New Mexico, November 15, 2024
Department of Chemistry, Mount Holyoke College, November 7, 2024
University of North Texas BioDiscovery Institute, October 24-25, 2024
Dale and Susan Poulter Lectureship in Biochemistry, Department of Chemistry, University of Utah, September 26, 2024
Distinguished Women in Science Seminar, Department of Chemistry, Stanford University, May 13, 2024
Student-Invited Inorganic Seminar, Department of Chemistry, University of California, Berkeley, April 19, 2024
Gomberg Lecture, Department of Chemistry, University of Michigan, April 15, 2024
Friends of Larry Taylor Lecture, Department of Chemistry, Virginia Tech, April 5, 2024
Department of Chemistry, Truman State University, February 9, 2024
Department of Chemistry, Texas A&M University, March 6, 2023
Department of Chemistry, University of California, Davis, February 28, 2023
Department of Chemistry and Biochemistry, The Ohio State University, December 5, 2022
got robot? FIRST Tech Challenge (FTC) Robotics Team, November 29, 2022
Department of Chemistry, Dartmouth College, April 28, 2022
Department of Chemistry, Yale University, April 25, 2022
Department of Biochemistry and Molecular Biology, University of Georgia, February 25, 2022
Hong Kong University Science Distinguished Lecture, March 1, 2021
Department of Chemistry Colloquium, North Carolina State University, February 26, 2021
Department of Chemistry, Pomona College, February 16, 2021
R. Gaurth Hansen Lecturer, Department of Chemistry and Biochemistry, Utah State University, Logan, UT, December 2, 2020
Chemistry-Biology Interface Training Program Seminar, University of Illinois, Urbana-Champaign, IL, February 27, 2020
Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, December 11, 2019
Class of 1960 Scholar Seminar, Biochemistry and Molecular Biology Program, Williams College, Williamstown, MA, September 20, 2019
2019 Edgar Fahs Smith Lecturer, Department of Chemistry, University of Pennsylvania, Philadelphia, PA,

March 21, 2019
Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, March 6, 2019
Bioengineering Lecture Series, California Institute of Technology, Pasadena, CA, February 4, 2019
Intrexon Corporation, South San Francisco, CA, September 17, 2018
Department of Biological Chemistry, University of Michigan, Ann Arbor, MI, September 11, 2018
Structural, Chemical, and Quantitative Biology Seminar, Departments of Chemistry and Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, April 9, 2018
Department of Chemistry and Biochemistry, Swarthmore College, Swarthmore, PA, March 8, 2018
Department of Chemistry, Stanford University, Stanford, CA, March 2, 2018
Department of Chemistry, San Jose State University, San Jose, CA, March 1, 2018
Department of Chemistry, Colorado State University, Fort Collins, CO, February 20, 2018
Advanced Photon Source Colloquium Series, Argonne National Laboratory, Argonne, IL, December 6, 2017
Shanghai Institute of Materia Medica, Shanghai, China, October 21, 2017
Department of Chemistry, Nanjing University, Nanjing, China, October 19, 2017
Department of Chemical Biology, Peking University, Beijing, China, October 16, 2017
Environmental and Molecular Mechanisms of Health and Disease Seminar, Departments of Pharmacology, Molecular Biosicences, and Neuroscience, University of Texas, Austin, September 14, 2017
Department of Chemistry, Kalamazoo College, Kalamazoo, MI, February 16, 2017
Department of Chemistry, Johns Hopkins University, Baltimore, MD, April 26, 2016
ExxonMobil Research and Engineering, Clinton, NJ, March 7, 2016
Indian Association for the Cultivation of Sciences, Kolkata, India, February 15, 2016
Divison of Biology Colloquium, Illinois Institute of Technology, April 27, 2015
Royal Society of Chemistry Joseph Chatt Award Lecture and Inorganic Biochemistry Discussion Group, University of York, York, UK, April 9, 2015
Royal Society of Chemistry Joseph Chatt Award Lecture, Kings College, London, UK, April 8, 2015
Royal Society of Chemistry Joseph Chatt Award Lecture, University of East Anglia, Norwich, UK, April 7, 2015
Science Salon & Humanities Hour, Lectures at Lunch for Staff, Northwestern University, February 26, 2015
Molecular Discovery Seminar, National Cancer Institute, December 4, 2014
Department of Structural Biology, University of Buffalo, and Hauptmann Woodward Institute, April 24, 2014
Department of Chemistry and Biochemistry, University of Notre Dame, December 6, 2013
Department of Chemistry, University of Akron, Akron, OH, October 22, 2013
Department of Chemistry and Biochemistry, Worcester Polytechnic Institute, December 12, 2012
Department of Chemistry, California Institute of Technology, April 23, 2012
Department of Chemistry and Biochemistry, University of California, San Diego, April 20, 2012
Department of Chemistry, University of California, Irvine, April 19, 2012
Department of Pharmacology, Case Western Reserve University, Cleveland, OH, October 17, 2011
Department of Chemistry, Duke University, Durham, NC, April 26, 2011
Department of Biochemistry, Molecular Biology, and Biophysics, University of Minnesota, Minneapolis, MN, March 23, 2011
Pollard Memorial Lecture, Department of Biochemistry and Molecular Biology, The Pennsylvania State University, University Park, PA, March 14, 2011
UOP/Honeywell Invitational Lecturer, UOP LLC, Des Plaines, IL, February 17, 2011
Vanderbilt Institute of Chemical Biology, Vanderbilt University, Nashville, TN, December 1, 2010
Biomolecular Student Seminar, Department of Chemistry, Emory University, Atlanta, GA, April 26, 2010
Biophysics Colloquium, Cornell University, Ithaca, NY, April 7, 2010
Department of Chemistry and Biochemistry, University of South Carolina, Columbia, SC, October 2, 2009
Department of Biochemistry, The University of Texas Health Science Center, San Antonio, TX, August 28, 2009
Department of Chemistry, Texas A&M University, College Station, TX, May 14, 2009
Department of Chemistry, Yale University, New Haven, CT, April 22, 2009
Departments of Molecular and Cell Biology and of Chemistry, University of California, Berkeley,

November 3, 2008
Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, September 30, 2008
Molecular Biophysics Program, University of Colorado, Boulder, CO, April 23, 2008
Department of Chemistry, University of Chicago, Chicago, IL, October 15, 2007
Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, June 6, 2007
Department of Biochemistry and Molecular Biophysics, University of Arizona, Tucson, AZ, March 23, 2007
Department of Chemistry, Oberlin College, Oberlin, OH, November 15, 2006
Department of Biochemistry, University of Nebraska, Lincoln, NE, September 19, 2006
Department of Molecular Sciences, University of Kansas, Lawrence, KS, April 24, 2006
Membrane Protein Interest Groups (MPIG), National Institutes of Health, Bethesda, MD, April 12, 2006
Department of Chemistry and Biochemistry, Miami University of Ohio, Oxford, OH, December 1, 2005
Department of Chemistry, SUNY Buffalo, Buffalo, NY, October 14, 2005
Hauptmann-Woodward Medical Research Institute, Buffalo, NY, October 13, 2005
Biosciences Division, Argonne National Laboratory, September 29, 2005
Department of Chemistry, Williams College, Williamstown, MA, April 8, 2005
Keynote Address, Northwestern University Center for Talent Development Award Ceremony, June 5, 2004
Department of Chemistry, Inaugural Dow Lecturer, Amherst College, Amherst, MA, February 20, 2004
Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI, October 23, 2003
Center for Biochemical and Biophysical Studies, Northern Illinois University, DeKalb, IL, October 17, 2003
Department of Biochemistry, Medical College of Wisconsin, Milwaukee, WS, May 21, 2003
Departments of Biochemistry and Biology, Brandeis University, Waltham, MA, April 30, 2003
Department of Chemistry, University of Notre Dame, South Bend, IN, March 27, 2003
Department of Biological Sciences, Purdue University, West Lafayette, IN, September 18, 2002
Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, April 24, 2002
Department of Chemistry, University of Minnesota, Minneapolis, MN, March 11, 2002
Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, February 25, 2002
Department of Chemistry, Stanford University, Stanford, CA, February 12, 2002
Department of Chemistry, Massachusetts Institute of Technology, Cambridge MA, June 5, 2001
Department of Chemistry, Indiana University, Bloomington, IN, April 27, 2001
Department of Biochemistry and Molecular Biology, Wayne State University School of Medicine, Detroit, MI, April 24, 2001
Protein Engineering Centre of Excellence, Department of Biochemistry and Structural Biology, University of Toronto, Toronto, Canada, March 15, 2001
Department of Chemistry, University of Michigan, Ann Arbor, MI, March 9, 2001
Department of Biochemistry and Molecular Biology, Mayo Clinic and Foundation, Rochester, MN, February 13, 2001
Department of Biological Sciences, University of Illinois at Chicago, Chicago, IL, April 18, 2000
Department of Chemistry and Biochemistry, Utah State University, Logan, UT, February 9, 2000
Department of Biochemistry, University of Utah Health Sciences Center, Salt Lake City, UT, February 7, 2000
Department of Biochemistry, University of Wisconsin, Madison, Madison, WI, December 13, 1999
Department of Biochemistry and Molecular Biology, Finch University of Health Sciences/The Chicago Medical School, North Chicago, IL, December 2, 1999
Department of Molecular Biology, The Scripps Research Institute, La Jolla, CA, November 4, 1999
Department of Biological and Chemical Sciences, Illinois Institute of Technology, Chicago, IL, April 19, 1999
Department of Chemistry, Loyola University, Chicago, IL, October 15, 1998

Department of Chemistry, Amherst College, Amherst, MA, April 17, 1995
Department of Chemistry, University of Rochester, Rochester, NY, April 7, 1995
Department of Biology, Brookhaven National Laboratory, Upton, NY, March 16, 1995

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