

# Christopher P. Jaroniec

# Curriculum Vitae

Department of Chemistry and Biochemistry  
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## Education

Ph.D. Physical Chemistry, Massachusetts Institute of Technology 2003  
B.S. Chemistry, summa cum laude, Kent State University 1997

## Professional Experience

Professor, Department of Chemistry and Biochemistry, The Ohio State University 2014–  
Director, CCIC Solid-State NMR Center, The Ohio State University 2013–  
Evans Scholar, Department of Chemistry and Biochemistry, The Ohio State University 2013–  
Associate Professor, Department of Chemistry and Biochemistry, The Ohio State University 2011–14  
Assistant Professor, Department of Chemistry and Biochemistry, The Ohio State University 2006–11  
Damon Runyon Cancer Research Foundation Postdoctoral Fellow, National Institutes of Health 2003–06

## Professional Activities and Affiliations

Associate Editor, Biomolecular NMR Assignments 2015–  
Editorial Board, Journal of Biological Chemistry 2013–  
Editorial Board, Solid State Nuclear Magnetic Resonance 2013–  
Member, NSF Computational Molecular Biophysics Review Panel 2014  
Member, NIH Biological Chemistry and Macromolecular Biophysics Conflicts Review Panel 2014  
Member, NIH NIAID Program Project Review Panel 2014  
Ad hoc Member, NIH Enabling Bioanalytical & Imaging Technologies Study Section 2012  
Ad hoc Member, NIH Molecular Structure and Function B Study Section 2009  
Grant Reviewer, NIH, NSF, DOE, US-Israel Binational Science Foundation, 2006–  
Ohio Supercomputer Center, Ohio State Materials Research Seed Grant Program  
Reviewer, Acc. Chem. Res., Angew. Chem. Int. Ed., Biochemistry, Biophys. J., ChemBioChem, 2003–  
ChemPhysChem, Concepts Magn. Reson., Curr. Opin. Biotechnol., J. Am. Chem. Soc.,  
J. Biol. Chem., J. Biomol. NMR, J. Chem. Phys., J. Mol. Biol., J. Phys. Chem., J. Phys. Chem. Lett.,  
Magn. Reson. Chem., Membrane Mol. Biol., Molecular BioSystems, Nat. Methods,  
Nat. Struct. Mol. Biol., Phys. Chem. Chem. Phys., PLoS ONE, Prion, Proc. Natl. Acad. Sci. USA,  
Protein Eng. Des. Sel., Protein Sci.  
Member, Executive Committee, Experimental NMR Conference 2015–  
Member, Scientific Program Committee, Alpine Conference on Solid-State NMR 2015–  
Member, Scientific Committee, Rocky Mountain Conference on Magnetic Resonance 2011–  
Member, International Review Panel for EU Infrastructure for NMR, EM, and X-ray 2015–  
Crystallography for Translational Research (iNEXT)  
Member, International Advisory Board, UK High-Field Solid-State NMR Facility 2012–15  
Member, International Evaluation Panel for the European Commission Integrated 2010–14  
Infrastructure Initiative on Bio-NMR  
Member, The Nation Advisory Committee for the Biotechnology Resources for NMR 2010–  
Molecular Imaging of Proteins, University of California San Diego  
Invited Panelist, NIH Career Symposium, Bethesda, MD 2010  
Member, American Society for Biochemistry and Molecular Biology 2013–  
Member, American Association for the Advancement of Science 2009–  
Member, American Chemical Society 2002–

## Honors and Awards

American Association for the Advancement of Science Fellow 2015  
ACS Physical Division Early-Career Award in Experimental Physical Chemistry 2015

Founders' Medal, International Council on Magnetic Resonance in Biological Systems	2014
Evans Scholar, Department of Chemistry and Biochemistry, The Ohio State University	2013
Camille Dreyfus Teacher-Scholar Award	2012
Eli Lilly Young Investigator Award in Analytical Chemistry	2008
National Science Foundation CAREER Award	2008
Alzheimer's Association New Investigator Research Grant Award	2007
Regitze R. Vold Memorial Lecture Prize, 5 <sup>th</sup> Alpine Conference on Solid-State NMR	2007
The Royal Society North America Incoming Short Visit Award	2006
Damon Runyon Cancer Research Foundation Postdoctoral Fellowship	2003
Jane Coffin Childs Memorial Fund for Medical Research Postdoctoral Fellowship (declined)	2003
Graduate Teaching Award, Massachusetts Institute of Technology	1998
National Science Foundation Graduate Research Fellowship	1997
Phi Beta Kappa	1997
American Chemical Society Undergraduate Award in Analytical Chemistry	1996
Merck Award, Department of Chemistry, Kent State University	1994
CRC Press Freshman Award, Department of Chemistry, Kent State University	1994

### Research Funding as Principal Investigator

9. National Science Foundation, MCB-1243461, Structural studies of proteins by paramagnetic solid-state NMR spectroscopy, 03/01/13 – 02/29/16. Total amount: \$630,064.
8. National Institutes of Health, Office of the Director, High-End Instrumentation Program, S100D012303, 800 MHz solid-state NMR spectrometer for biomacromolecular structure and dynamics, 07/01/12 – 06/30/15. Total amount: \$2,000,000.
7. The Camille and Henry Dreyfus Foundation, Camille Dreyfus Teacher-Scholar Award, Atomic resolution studies of biomacromolecular assemblies by solid-state nuclear magnetic resonance spectroscopy, 05/07/12 – 05/06/17. Total amount: \$75,000.
6. National Institutes of Health, NIGMS, R01GM094357, Molecular mechanisms of prion and amyloid propagation, 06/01/11 – 05/31/16. Total amount: \$1,448,750.
5. American Heart Association, Postdoctoral Research Fellowship (Fellow: S. Mukherjee), 09POST2220178, High resolution NMR studies of transthyretin amyloid fibrils and prefibrillar intermediates, 07/01/09 – 06/30/11. Total amount: \$88,000.
4. Eli Lilly and Company, Young Investigator Award in Analytical Chemistry, 02/01/09. Total amount: \$100,000.
3. American Heart Association, Beginning Grant-in-Aid, 0865410D, Molecular structure and assembly mechanism of immunoglobulin light chain amyloid fibrils by NMR spectroscopy, 07/01/08 – 06/30/10. Total amount: \$121,000.
2. National Science Foundation, MCB-0745754, CAREER: High-resolution structural studies of paramagnetic proteins by multidimensional solid-state NMR spectroscopy, 03/15/08 – 02/28/14. Total amount: \$698,194.
1. Alzheimer's Association, New Investigator Research Grant, NIRG-07-56564, High resolution NMR studies of A $\beta$ -Congo Red interaction, 08/01/07 – 07/31/09. Total amount: \$100,000.

### Research Funding as Co-Investigator

3. Center for Emergent Materials (NSF DMR-0820414), Co-PIs: M.G. Poirier, C.P. Jaroniec, P.C. Hammel, Proto-Interdisciplinary Research Group Seed Grant, Magnetic resonance studies of chromatin structure and dynamics, 09/01/10 – 08/31/12. Total amount: \$299,770.
2. National Institutes of Health, NINDS, R01NS044158, PI: W.K. Surewicz, Sub-contract PI: C.P. Jaroniec, Conformational conversions of prion protein, 02/15/09 – 01/31/14. Total sub-contract amount: \$119,225.
1. The Royal Society, North America Short Visit Award, Co-PIs: C.E. MacPhee, C.P. Jaroniec, Interaction between amyloid-type fibrils and small molecules, 08/14/06. Total amount: \$3,136.

## Publications [>3,900 citations; >350 citations in 2014; h-index: 31 (Google Scholar)]

59. L.A. Baldwin, J.W. Crowe, M.D. Shannon, **C.P. Jaroniec**, P.L. McGrier, "2D covalent organic frameworks with alternating triangular and hexagonal pores", *Chem. Mater.* **2015**, *27*, 6169-6172.
58. M. Gao, S. Paul, C.D. Schwieters, Z-Q. You, H. Shao, J.M. Herbert, J.R. Parquette, **C.P. Jaroniec**, "A structural model for a self-assembled nanotube provides insight into its exciton dynamics", *J. Phys. Chem. C* **2015**, *119*, 13948-13956.
57. **C.P. Jaroniec**, "Structural studies of proteins by paramagnetic solid-state NMR spectroscopy", *J. Magn. Reson.* **2015**, *253*, 50-59.
56. T.F. Cunningham, M.D. Shannon, M.R. Putterman, R.J. Arachchige, I. Sengupta, M. Gao, **C.P. Jaroniec**, S. Saxena, "Cysteine specific Cu<sup>2+</sup> chelating tags used as paramagnetic probes in double electron electron resonance", *J. Phys. Chem. B* **2015**, *119*, 2839-2843.
55. I. Sengupta, M. Gao, R.J. Arachchige, P.S. Nadaud, T.F. Cunningham, S. Saxena, C.D. Schwieters, **C.P. Jaroniec**, "Protein structural studies by paramagnetic solid-state NMR spectroscopy aided by a compact cyclen-type Cu(II) binding tag", *J. Biomol. NMR* **2015**, *61*, 1-6.
54. G.T. Debelouchina, M.J. Bayro, A.W. Fitzpatrick, V. Ladizhansky, M.T. Colvin, M.A. Caporini, **C.P. Jaroniec**, V.S. Bajaj, M. Rosay, C.E. MacPhee, M. Vendruscolo, W.E. Maas, C.M. Dobson, R.G. Griffin, "Higher order amyloid fibril structure by MAS NMR and DNP spectroscopy", *J. Am. Chem. Soc.* **2013**, *135*, 19237-19247.
53. M. Gao, P.S. Nadaud, M.W. Bernier, J.A. North, P.C. Hammel, M.G. Poirier, **C.P. Jaroniec**, "Histone H3 and H4 N-terminal tails in nucleosome arrays at cellular concentrations probed by magic angle spinning NMR spectroscopy", *J. Am. Chem. Soc.* **2013**, *135*, 15278-15281.
52. I. Sengupta, P.S. Nadaud, **C.P. Jaroniec**, "Protein structure determination with paramagnetic solid-state NMR spectroscopy", *Acc. Chem. Res.* **2013**, *46*, 2117-2126.
51. J.J. Helmus, **C.P. Jaroniec**, "Nmrglue: an open source Python package for the analysis of multidimensional NMR data", *J. Biomol. NMR* **2013**, *55*, 355-367.
50. A.W.P. Fitzpatrick, G.T. Debelouchina, M.J. Bayro, D.K. Clare, M.A. Caporini, V.S. Bajaj, **C.P. Jaroniec**, L. Wang, V. Ladizhansky, S.A. Muller, C.E. MacPhee, C.A. Waudby, H.R. Mott, A. De Simone, T.P.J. Knowles, H.R. Saibil, M. Vendruscolo, E.V. Orlova, R.G. Griffin, C.M. Dobson, "Atomic structure and hierarchical assembly of a cross- $\beta$  amyloid fibril", *Proc. Natl. Acad. Sci. USA* **2013**, *110*, 5468-5473.
49. T.F. Cunningham, M.S. McGoff, I. Sengupta, **C.P. Jaroniec**, W.S. Horne, S. Saxena, "High-resolution structure of a protein spin-label in a solvent-exposed  $\beta$ -sheet and comparison with DEER spectroscopy", *Biochemistry* **2012**, *51*, 6350-6359.
48. **C.P. Jaroniec**, "Solid-state nuclear magnetic resonance structural studies of proteins using paramagnetic probes", *Solid State Nucl. Magn. Reson.* **2012**, *43-44*, 1-13.
47. I. Sengupta, P.S. Nadaud, J.J. Helmus, C.D. Schwieters, **C.P. Jaroniec**, "Protein fold determined by paramagnetic magic-angle spinning solid-state NMR spectroscopy", *Nat. Chem.* **2012**, *4*, 410-417.
46. E.M. Jones, B. Wu, K. Surewicz, P.S. Nadaud, J.J. Helmus, S. Chen, **C.P. Jaroniec**, and W.K. Surewicz, "Structural polymorphism in amyloids: New insights from studies with Y145Stop prion protein fibrils", *J. Biol. Chem.* **2011**, *286*, 42777-42784.
45. H. Shao, M. Gao, S.H. Kim, **C.P. Jaroniec**, J.R. Parquette, "Aqueous self-assembly of L-lysine based amphiphiles into 1D n-type nanotubes", *Chem. Eur. J.* **2011**, *17*, 12882-12885.
44. J.J. Helmus, K. Surewicz, M.I. Apostol, W.K. Surewicz, **C.P. Jaroniec**, "Intermolecular alignment in Y145Stop human prion protein amyloid fibrils probed by solid-state NMR spectroscopy", *J. Am. Chem. Soc.* **2011**, *133*, 13934-13937.
43. P.S. Nadaud, I. Sengupta, J.J. Helmus, **C.P. Jaroniec**, "Evaluation of the influence of intermolecular electron-nucleus couplings and intrinsic metal binding sites on the measurement of <sup>15</sup>N longitudinal paramagnetic relaxation enhancements in proteins by solid-state NMR", *J. Biomol. NMR* **2011**, *51*, 293-302.
42. S. Mukherjee, S.P. Pondaven, **C.P. Jaroniec**, "Conformational flexibility of a human immunoglobulin light chain variable domain by relaxation dispersion nuclear magnetic resonance spectroscopy: Implications for protein misfolding and amyloid assembly", *Biochemistry* **2011**, *50*, 5845-5857.
41. H. Shao, J. Seifert, N.C. Romano, M. Gao, J.J. Helmus, **C.P. Jaroniec**, D.A. Modarelli, J.R. Parquette, "Amphiphilic self-assembly of an n-type nanotube", *Angew. Chem. Int. Ed.* **2010**, *49*, 7688-7691.
40. P.S. Nadaud, J.J. Helmus, I. Sengupta, **C.P. Jaroniec**, "Rapid acquisition of multidimensional solid-state NMR spectra of proteins facilitated by covalently bound paramagnetic tags", *J. Am. Chem. Soc.* **2010**, *132*, 9561-9563.

39. J.J. Helmus, K. Surewicz, W.K. Surewicz, **C.P. Jaroniec**, "Conformational flexibility of Y145Stop human prion protein amyloid fibrils probed by solid-state nuclear magnetic resonance spectroscopy", *J. Am. Chem. Soc.* **2010**, *132*, 2393-2403.
38. I. Jedidi, F. Zhang, H. Qiu, S.J. Stahl, I. Palmer, J.D. Kaufman, P.S. Nadaud, S. Mukherjee, P.T. Wingfield, **C.P. Jaroniec**, A.G. Hinnebusch, "Activator Gcn4 employs multiple segments of Med15/Gal11, including the KIX domain, to recruit Mediator to target genes in vivo", *J. Biol. Chem.* **2010**, *285*, 2438-2455.
37. P.S. Nadaud, M. Sarkar, B. Wu, C.E. MacPhee, T.J. Magliery, **C.P. Jaroniec**, "Expression and purification of a recombinant amyloidogenic peptide from transthyretin for solid-state NMR spectroscopy", *Protein Expr. Purif.* **2010**, *70*, 101-108.
36. S. Mukherjee, S.P. Pondaven, N. Höfer, **C.P. Jaroniec**, "Backbone and sidechain  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{15}\text{N}$  resonance assignments of LEN, a human immunoglobulin  $\kappa\text{IV}$  light-chain variable domain", *Biomol. NMR Assign.* **2009**, *3*, 255-259.
35. **C.P. Jaroniec**, "Dipolar recoupling: Heteronuclear", In *Encyclopedia of Magnetic Resonance*, R.K. Harris and R.E. Wasylishen, Eds., Wiley, Chichester, **2009**. doi: 10.1002/9780470034590.emrstm1011.
34. P.S. Nadaud, J.J. Helmus, S.L. Kall, **C.P. Jaroniec**, "Paramagnetic ions enable tuning of nuclear relaxation rates and provide long-range structural restraints in solid-state NMR of proteins", *J. Am. Chem. Soc.* **2009**, *131*, 8108-8120.
33. V. Cherezov, N. Höfer, D.M.E. Szebenyi, O. Kolaj, J.G. Wall, R. Gillilan, V. Srinivasan, **C.P. Jaroniec**, M. Caffrey, "Insights into the mode of action of a putative zinc transporter CzcB in *Thermus thermophilus*", *Structure* **2008**, *16*, 1378-1388.
32. J.J. Helmus, K. Surewicz, P.S. Nadaud, W.K. Surewicz, **C.P. Jaroniec**, "Molecular conformation and dynamics of the Y145Stop variant of human prion protein in amyloid fibrils", *Proc. Natl. Acad. Sci. USA* **2008**, *105*, 6284-6289.
31. J.J. Helmus, P.S. Nadaud, N. Höfer, **C.P. Jaroniec**, "Determination of methyl  $^{13}\text{C}$ - $^{15}\text{N}$  dipolar couplings in peptides and proteins by three-dimensional and four-dimensional magic-angle spinning solid-state NMR spectroscopy", *J. Chem. Phys.* **2008**, *128*, 052314:1-16.
30. P.S. Nadaud, J.J. Helmus, **C.P. Jaroniec**, " $^{13}\text{C}$  and  $^{15}\text{N}$  chemical shift assignments and secondary structure of the B3 immunoglobulin-binding domain of Streptococcal protein G by magic-angle spinning solid-state NMR spectroscopy", *Biomol. NMR Assign.* **2007**, *1*, 117-120.
29. P.S. Nadaud, J.J. Helmus, N. Höfer, **C.P. Jaroniec**, "Long-range structural restraints in spin-labeled proteins probed by solid-state nuclear magnetic resonance spectroscopy", *J. Am. Chem. Soc.* **2007**, *129*, 7502-7503.
28. **C.P. Jaroniec**, J.D. Kaufman, S.J. Stahl, M. Viard, R. Blumenthal, P.T. Wingfield, A. Bax, "Structure and dynamics of micelle-associated human immunodeficiency virus gp41 fusion domain", *Biochemistry* **2005**, *44*, 16167-16180.
27. **C.P. Jaroniec**, J. Boisbouvier, I. Tworowska, E. P. Nikonowicz, A. Bax, "Accurate measurement of  $^{15}\text{N}$ - $^{13}\text{C}$  residual dipolar couplings in nucleic acids", *J. Biomol. NMR* **2005**, *31*, 231-241.
26. **C.P. Jaroniec**, T.S. Ulmer, A. Bax, "Quantitative J correlation methods for the accurate measurement of  $^{13}\text{C}$ - $^{13}\text{C}$  dipolar couplings in proteins", *J. Biomol. NMR* **2004**, *30*, 181-194.
25. **C.P. Jaroniec**, C.E. MacPhee, V.S. Bajaj, M.T. McMahon, C.M. Dobson, R.G. Griffin, "High resolution molecular structure of a peptide in an amyloid fibril determined by magic angle spinning NMR spectroscopy", *Proc. Natl. Acad. Sci. USA* **2004**, *101*, 711-716.
24. V. Ladizhansky, **C.P. Jaroniec**, A. Diehl, H. Oschkinat, R.G. Griffin, "Measurement of multiple  $\psi$  torsion angles in U- $^{13}\text{C}$ ,  $^{15}\text{N}$  labeled  $\alpha$ -spectrin SH3 domain using 3D  $^{15}\text{N}$ - $^{13}\text{C}$ - $^{13}\text{C}$ - $^{15}\text{N}$  MAS dipolar-chemical shift correlation spectroscopy", *J. Am. Chem. Soc.* **2003**, *125*, 6827-6833.
23. **C.P. Jaroniec**, C.E. MacPhee, N.S. Astrof, C.M. Dobson, R.G. Griffin, "Molecular conformation of a peptide fragment of transthyretin in an amyloid fibril", *Proc. Natl. Acad. Sci. USA* **2002**, *99*, 16748-16753.
22. C.M. Rienstra, M. Hohwy, L.J. Mueller, **C.P. Jaroniec**, B. Reif, R.G. Griffin, "Determination of multiple torsion-angle constraints in U- $^{13}\text{C}$ ,  $^{15}\text{N}$ -labeled peptides: 3D  $^1\text{H}$ - $^{15}\text{N}$ - $^{13}\text{C}$ - $^1\text{H}$  dipolar-chemical shift NMR spectroscopy in rotating solids", *J. Am. Chem. Soc.* **2002**, *124*, 11908-11922.
21. **C.P. Jaroniec**, C. Filip, R.G. Griffin, "3D TEDOR NMR experiments for the simultaneous measurement of multiple carbon-nitrogen distances in uniformly  $^{13}\text{C}$ ,  $^{15}\text{N}$  labeled solids", *J. Am. Chem. Soc.* **2002**, *124*, 10728-10742.

20. C.M. Rienstra, L. Tucker-Kellogg, **C.P. Jaroniec**, M. Hohwy, B. Reif, M.T. McMahon, B. Tidor, T. Lozano-Perez, R.G. Griffin, "De novo determination of peptide structure with solid-state magic-angle spinning NMR spectroscopy", *Proc. Natl. Acad. Sci. USA* **2002**, *99*, 10260-10265.
19. A.T. Petkova, M. Hatanaka, **C.P. Jaroniec**, J.G. Hu, M. Belenky, M. Verhoeven, J. Lugtenburg, R.G. Griffin, J. Herzfeld, "Tryptophan interactions in bacteriorhodopsin: A heteronuclear solid-state NMR study", *Biochemistry* **2002**, *41*, 2429-2437.
18. J.C. Lansing, M. Hohwy, **C.P. Jaroniec**, A.F.L. Creemers, J. Lugtenburg, J. Herzfeld, R.G. Griffin, "Chromophore distortions in the bacteriorhodopsin photocycle: Evolution of the H-C14-C15-H dihedral angle measured by solid-state NMR", *Biochemistry* **2002**, *41*, 431-438.
17. J.C. Lansing, M. Hohwy, **C.P. Jaroniec**, A.F.L. Creemers, J. Lugtenburg, J. Herzfeld, R.G. Griffin, "Determination of torsion angles in membrane proteins", In "Perspectives on Solid State NMR in Biology", S. Kiihne, H.J.M. de Groot (Eds.), Kluwer, Dordrecht, **2001**, 185-190.
16. **C.P. Jaroniec**, B.A. Tounge, J. Herzfeld, R.G. Griffin, "Accurate  $^{13}\text{C}$ - $^{15}\text{N}$  distance measurements in uniformly  $^{13}\text{C}$ , $^{15}\text{N}$ -labeled peptides", In "Perspectives on Solid State NMR in Biology", S. Kiihne, H.J.M. de Groot (Eds.), Kluwer, Dordrecht, **2001**, 15-21.
15. **C.P. Jaroniec**, J.C. Lansing, B.A. Tounge, M. Belenky, J. Herzfeld, R.G. Griffin, "Measurement of dipolar couplings in a uniformly  $^{13}\text{C}$ , $^{15}\text{N}$  labeled membrane protein: Distances between the Schiff base and aspartic acids in the active site of bacteriorhodopsin", *J. Am. Chem. Soc.* **2001**, *123*, 12929-12930.
14. B. Reif, **C.P. Jaroniec**, C.M. Rienstra, M. Hohwy, R.G. Griffin, " $^1\text{H}$ - $^1\text{H}$  MAS correlation spectroscopy and distance measurements in a deuterated peptide", *J. Magn. Reson.* **2001**, *151*, 320-327.
13. **C.P. Jaroniec**, B.A. Tounge, J. Herzfeld, R.G. Griffin, "Frequency selective heteronuclear dipolar recoupling in rotating solids: Accurate  $^{13}\text{C}$ - $^{15}\text{N}$  distance measurements in uniformly  $^{13}\text{C}$ , $^{15}\text{N}$ -labeled peptides", *J. Am. Chem. Soc.* **2001**, *123*, 3507-3519.
12. **C.P. Jaroniec**, B.A. Tounge, C.M. Rienstra, J. Herzfeld, R.G. Griffin, "Recoupling of heteronuclear dipolar interactions with rotational-echo double-resonance at high magic-angle spinning frequencies", *J. Magn. Reson.* **2000**, *146*, 132-139.
11. B. Reif, M. Hohwy, **C.P. Jaroniec**, C.M. Rienstra, R.G. Griffin, "NH-NH vector correlation in peptides by solid-state NMR", *J. Magn. Reson.* **2000**, *145*, 132-141.
10. M. Hohwy, **C.P. Jaroniec**, B. Reif, C.M. Rienstra, R.G. Griffin, "Local structure and relaxation in solid-state NMR: Accurate measurement of amide N-H bond lengths and H-N-H bond angles", *J. Am. Chem. Soc.* **2000**, *122*, 3218-3219.
9. **C.P. Jaroniec**, B.A. Tounge, C.M. Rienstra, J. Herzfeld, R.G. Griffin, "Measurement of  $^{13}\text{C}$ - $^{15}\text{N}$  distances in uniformly  $^{13}\text{C}$  labeled biomolecules: J-decoupled REDOR", *J. Am. Chem. Soc.* **1999**, *121*, 10237-10238.
8. M. Hohwy, C.M. Rienstra, **C.P. Jaroniec**, R.G. Griffin, "Fivefold symmetric homonuclear dipolar recoupling in rotating solids: Application to double quantum spectroscopy", *J. Chem. Phys.* **1999**, *110*, 7983-7992.
7. M. Jaroniec, **C.P. Jaroniec**, M. Kruk, R. Ryoo, "Adsorption and thermogravimetric methods for monitoring surface and structural changes in ordered mesoporous silicas induced by their chemical modification", *Adsorption* **1999**, *5*, 313-317.
6. M. Jaroniec, M. Kruk, **C.P. Jaroniec**, A. Sayari, "Modification of surface and structural properties of ordered mesoporous silicates", *Adsorption* **1999**, *5*, 39-45.
5. **C.P. Jaroniec**, M. Kruk, M. Jaroniec, A. Sayari, "Tailoring surface and structural properties of MCM-41 silicas by bonding organosilanes", *J. Phys. Chem. B* **1998**, *102*, 5503-5510.
4. Y.D. Glinka, **C.P. Jaroniec**, M. Jaroniec, "Studies of surface properties of disperse silica and alumina by luminescence measurements and nitrogen adsorption", *J. Colloid Interface Sci.* **1998**, *201*, 210-219.
3. **C.P. Jaroniec**, R.K. Gilpin, M. Jaroniec, "Comparative studies of chromatographic properties of silica-based amide bonded phases under hydro-organic conditions", *J. Chromatogr. A* **1998**, *797*, 103-110.
2. **C.P. Jaroniec**, M. Jaroniec, M. Kruk, "Comparative studies of structural and surface properties of porous inorganic oxides used in liquid chromatography", *J. Chromatogr. A* **1998**, *797*, 93-102.
1. **C.P. Jaroniec**, R.K. Gilpin, M. Jaroniec, "Adsorption and thermogravimetric studies of silica-based amide bonded phases", *J. Phys. Chem. B* **1997**, *101*, 6861-6866.

### Invited Lectures at Professional Meetings (2006-Present)

41. "Structural studies of Y145Stop prion protein amyloids", 251<sup>st</sup> American Chemical Society National Meeting & Exposition, San Diego, CA, March 13-17, 2016.

40. "Structural studies of paramagnetic proteins by solid-state NMR spectroscopy", 4<sup>th</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 10-15, 2016.
39. "Heteronuclear dipolar recoupling in solid-state NMR: Application to distance and torsion angle measurements in peptides and proteins", 4<sup>th</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 10-15, 2016.
38. "Solid-state NMR structural studies of proteins using paramagnetic probes", ACS Physical Division Early-Career Award Lecture, 250<sup>th</sup> American Chemical Society National Meeting & Exposition, Boston, MA, August 16-20, 2015.
37. "Structural studies of Y145Stop prion protein amyloids", 56<sup>th</sup> Experimental Nuclear Magnetic Resonance Conference, Asilomar, CA, April 19-24, 2015.
36. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", Eastern Analytical Symposium, Somerset, NJ, November 17-19, 2014.
35. "Solid-state NMR structural studies of proteins using paramagnetic probes", ICMRBS Founders' Medal Award Lecture, XXVI International Conference on Magnetic Resonance in Biological Systems (ICMRBS), Dallas, TX, August 24-29, 2014.
34. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", 10<sup>th</sup> European Magnetic Resonance Conference (EUROMAR 2014), Zurich, Switzerland, June 29-July 3, 2014.
33. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", EMBO Workshop on Magnetic Resonance for Cellular Structural Biology, Grosseto, Italy, June 1-6, 2014.
32. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", Keystone Symposium on Frontiers of Structural Biology, Snowbird, UT, March 30-April 4, 2014.
31. "Solid-state NMR structural studies of proteins using paramagnetic probes", 2<sup>nd</sup> Zing Conference on Protein and RNA Structure Prediction, Xcaret, Mexico, December 1-5, 2013.
30. "Solid-state NMR structural studies of proteins using paramagnetic probes", Keynote Lecture, Chicago Area NMR Meeting, Argonne National Laboratory, Lemont, IL, November 9, 2013.
29. "Solid-state NMR spectroscopy of large protein assemblies", National High Field Magnetic Laboratory NMR/MRI Workshop, Gainesville, FL, October 17, 2013.
28. "Solid-state NMR structural studies of proteins using paramagnetic probes", 18<sup>th</sup> International Society of Magnetic Resonance Meeting, Rio de Janeiro, Brazil, May 19-24, 2013.
27. "Solid-state NMR structural studies of proteins using paramagnetic probes", Workshop on Modern Topics in Magnetic Resonance in Biology, São Paulo, Brazil, May 16-17, 2013.
26. "Solid-state NMR structural studies of proteins using paramagnetic probes", 54<sup>th</sup> Experimental Nuclear Magnetic Resonance Conference, Asilomar, CA, April 14-19, 2013.
25. "Solid-state NMR structural studies of proteins using paramagnetic probes", UK 850 MHz Solid-State NMR Facility Annual Symposium, University of Warwick, Coventry, UK, April 11, 2013.
24. "Structural studies of paramagnetic proteins by solid-state NMR spectroscopy", 3<sup>rd</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 7-11, 2013.
23. "Heteronuclear dipolar recoupling in solid-state NMR: Application to distance and torsion angle measurements in peptides and proteins", 3<sup>rd</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 7-11, 2013.
22. "Protein fold determined by paramagnetic magic-angle spinning solid-state NMR spectroscopy", 8<sup>th</sup> European Magnetic Resonance Conference (EUROMAR 2012), Dublin, Ireland, July 1-5, 2012.
21. "Molecular conformation, dynamics and polymorphism of Y145Stop prion protein amyloid fibrils", 41<sup>st</sup> Annual Meeting of Brazilian Society for Biochemistry and Molecular Biology, Foz do Iguaçu, Brazil, May 19-22, 2012.
20. "Protein fold determined by paramagnetic magic-angle spinning solid-state NMR spectroscopy", The Pittsburgh Conference (Pittcon 2012), Orlando, FL, March 11-15, 2012.
19. "Protein fold determined by paramagnetic magic-angle spinning solid-state NMR spectroscopy", 46<sup>th</sup> Midwest/39<sup>th</sup> Great Lakes Joint Regional ACS Meeting, St. Louis, MO, October 19-22, 2011.
18. "Magic angle spinning solid-state NMR structural studies of proteins modified with paramagnetic tags", The Pittsburgh Conference (Pittcon 2011), Atlanta, GA, March 13-18, 2011.
17. "Structural studies of paramagnetic proteins by solid-state NMR spectroscopy", Keystone Symposium on Frontiers of NMR in Biology, Big Sky, MT, January 8-13, 2011.

16. "Magic angle spinning solid-state NMR studies of paramagnetic proteins", 52<sup>nd</sup> Rocky Mountain Conference on Analytical Chemistry, Snowmass, CO, August 1-5, 2010.
15. "Structural studies of paramagnetic proteins by solid-state NMR spectroscopy", 21<sup>st</sup> Solid-State NMR Workshop, Snowmass, CO, August 1, 2010.
14. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Meeting of the NMR Spectroscopy Group of the North Jersey Section of the American Chemical Society, Iselin, NJ, June 16, 2010.
13. "Structural studies of paramagnetic proteins by magic-angle spinning solid-state NMR", 2<sup>nd</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 25-29, 2010.
12. "Distance and torsion angle measurements in peptides and proteins by solid-state NMR", 2<sup>nd</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 25-29, 2010.
11. "Heteronuclear decoupling and recoupling in solid-state NMR", 2<sup>nd</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 25-29, 2010.
10. "Atomic resolution structural studies of mammalian prion amyloids by solid-state NMR spectroscopy", Symposium on Challenges in NMR Spectroscopy, Leibniz-Institut fuer Molekulare Pharmakologie, Berlin, Germany, October 22-23, 2009.
9. "Atomic resolution structural studies of mammalian prion amyloids by solid-state NMR spectroscopy", Gordon Research Conference on Magnetic Resonance, Biddeford, ME, June 14-19, 2009.
8. "Magic-angle spinning NMR studies of paramagnetic proteins", International Workshop on High Field Solution and Solid-State Biomolecular NMR, Les Houches, France, June 1-5, 2009.
7. "Solid-state NMR studies of prion amyloid fibrils and paramagnetic proteins", 50<sup>th</sup> Rocky Mountain Conference on Analytical Chemistry, Breckenridge, CO, July 27-31, 2008.
6. "Magic-angle spinning NMR studies of paramagnetic proteins", 19<sup>th</sup> Solid-State NMR Workshop, Breckenridge, CO, July 27, 2008.
5. "High-resolution solid-state NMR studies of prion amyloid fibrils and paramagnetic proteins", 49<sup>th</sup> Experimental Nuclear Magnetic Resonance Conference, Asilomar, CA, March 9-14, 2008.
4. "Long range distance restraints in paramagnetic proteins probed by solid-state NMR spectroscopy", 1<sup>st</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 20-25, 2008.
3. "Heteronuclear decoupling and recoupling in solid-state NMR", 1<sup>st</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT, January 20-25, 2008.
2. "New solid-state NMR methods for structural studies of proteins", Eastern Analytical Symposium, Somerset, NJ, November 12-15, 2007.
1. "Long range structural restraints in spin labeled proteins probed by solid-state NMR spectroscopy", Regitze R. Vold Memorial Lecture Prize, 5<sup>th</sup> Alpine Conference on Solid-State NMR, Chamonix, France, September 9-13, 2007.

### **Invited Seminars and Colloquia (2006-Present)**

39. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", University of Louisville, Department of Chemistry, Louisville, KY, April 29, 2016.
38. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", University of California Berkeley, Interdepartmental Structural & Quantitative Biology Seminar Series, Berkeley, CA, September 22, 2014.
37. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", University of Georgia, Complex Carbohydrate Research Center, Athens, GA, September 3, 2014.
36. "Structural and dynamic studies of protein assemblies by solid-state NMR spectroscopy", Massachusetts Institute of Technology, Francis Bitter Magnet Laboratory, Cambridge, MA, June 12, 2014.
35. "Solid-state NMR spectroscopy of protein assemblies", University of Cincinnati, Department of Molecular Genetics, Biochemistry and Microbiology, Cincinnati, OH, November 12, 2013.
34. "Probing protein structure and dynamics with solid-state NMR spectroscopy", The Ohio State University, Department of Chemistry and Biochemistry, Columbus, OH, September 30, 2013.
33. "Solid-state NMR spectroscopy of protein assemblies", University of Florida, Department of Chemistry, Gainesville, FL, November 6, 2012.
32. "Solid-state NMR spectroscopy of protein assemblies", University of Central Florida, Department of Chemistry, Orlando, FL, November 5, 2012.

31. "Solid-state NMR spectroscopy of protein assemblies", Georgia Institute of Technology, Department of Chemistry and Biochemistry, Atlanta, GA, October 29, 2012.
30. "Solid-state NMR spectroscopy of protein assemblies", University of Ottawa, Department of Chemistry, Ottawa, ON, Canada, October 10, 2012.
29. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Universidade Federal do Rio de Janeiro, Instituto de Bioquímica Médica, Rio de Janeiro, Brazil, May 18, 2012.
28. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", National Cancer Institute, Structural Biophysics Laboratory, Frederick, MD, April 11, 2012.
27. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Michigan State University, Department of Chemistry, East Lansing, MI, February 21, 2012.
26. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Georgia Institute of Technology, Department of Chemistry and Biochemistry, Atlanta, GA, March 14, 2011.
25. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", University of Illinois at Urbana-Champaign, Department of Chemistry, Urbana, IL, November 3, 2010.
24. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", The Ohio State University, Department of Chemistry, Columbus, OH, October 4, 2010.
23. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", University of Delaware, Department of Chemistry and Biochemistry, Newark, DE, September 17, 2010.
22. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", University of Pennsylvania, Department of Chemistry, Philadelphia, PA, September 16, 2010.
21. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Massachusetts Institute of Technology, Department of Chemistry, Cambridge, MA, September 15, 2010.
20. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", New York University, Department of Chemistry, New York, NY, September 14, 2010.
19. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Columbia University, Department of Chemistry, New York, NY, September 10, 2010.
18. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Johns Hopkins University, Department of Chemistry, Baltimore, MD, September 8, 2010.
17. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", University of Maryland, Department of Chemistry and Biochemistry, College Park, MD, September 7, 2010.
16. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", National Institutes of Health, NIDDK, Laboratory of Chemical Physics, Bethesda, MD, September 1, 2010.
15. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Kent State University, Department of Chemistry, Kent, OH, April 8, 2010.
14. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", University of Michigan, Department of Biophysics, Ann Arbor, MI, March 12, 2010.
13. "Structural studies of paramagnetic proteins by magic-angle spinning solid-state NMR spectroscopy", University of Michigan, Department of Biophysics, Ann Arbor, MI, March 12, 2010.
12. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", The Ohio State University, Department of Chemistry, Columbus, OH, January 11, 2010.
11. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", University of Pittsburgh, Department of Chemistry, Pittsburgh, PA, October 29, 2009.
10. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Eli Lilly and Company, Indianapolis, IN, July 23, 2009.
9. "Atomic resolution structural studies of mammalian prion amyloids by solid-state NMR spectroscopy", Massachusetts Institute of Technology, Francis Bitter Magnet Laboratory, Cambridge, MA, June 19, 2009.



8. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Institut Pasteur, Department of Structural Biology and Chemistry, Paris, France, June 9, 2009.
7. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Wright State University, Department of Chemistry, Dayton, OH, May 8, 2009.
6. "Atomic-resolution studies of protein structure and dynamics by magic-angle spinning solid-state NMR spectroscopy", Washington University in St. Louis, Department of Chemistry, St. Louis, MO, February 26, 2009.
5. "High-resolution solid-state NMR spectroscopy of proteins: New methods and applications to prion amyloid fibrils", Evans Faculty Lecture, The Ohio State University, Department of Chemistry, Columbus, OH, October 2, 2008.
4. "High-resolution solid-state NMR spectroscopy of proteins: New methods and applications to prion amyloid fibrils", Miami University, Department of Chemistry and Biochemistry, Oxford, OH, April 24, 2008.
3. "Structural studies of amyloid fibrils using solid-state NMR spectroscopy", The Ohio State University, Center for Molecular Neurobiology, Columbus, OH, May 16, 2007.
2. "New solid-state NMR methods for structural studies of proteins", University of Guelph, Department of Physics, Guelph, ON, Canada, March 13, 2007.
1. "Solid-state NMR studies of peptide and protein structure", The Ohio State University, Department of Biochemistry, Columbus, OH, March 9, 2007.

### Teaching Activities

- General Chemistry I (CHEM 121): WI10
- Physical Chemistry and Biochemistry I (CHEM 4200/BIOCHEM 5721): AU12, AU13, AU14, AU15
- Physical Chemistry and Biochemistry II (CHEM 4210/BIOCHEM 5722): SP13
- Physical Chemistry II (CHEM 521): SP10, SP11, SP12
- Physical Chemistry Laboratory (CHEM 541): WI07, SP08, SP09, AU09
- Advanced Analytical Chemistry (CHEM 721): AU06, AU07, AU08
- Nuclear Magnetic Resonance Spectroscopy (CHEM 824): SP06, WI08
- Quantum Mechanics I (CHEM 861): AU10
- Invited lecturer, 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> U.S.-Canada Winter School on Biomolecular Solid-State NMR, Stowe, VT: January 20-25, 2008, January 25-29, 2010, January 7-11, 2013 & January 10-15, 2016

### Current Research Group

- 2 Postdoctoral researchers (Philippe Nadaud, Darryl Aucoin)
- 8 Ph.D. students (Rajith Arachchige, Zhe Qi, Theint Theint, Yongjie Xia, Matthew Shannon, Dwaipayana Mukhopadhyay, Daniel Conroy, Mohamadsadegh Zandian)
- 3 Undergraduate students (Adam Bercz, Guneet Janda, Annelise Jongekrijg)

### Former Research Group Members

- 3 Postdoctoral researchers (Sujoy Mukherjee, 2008-2011; Subhradip Paul, 2011-2013; Swagata Chakraborty, 2012-2013)
- 6 Ph.D. students (Philippe Nadaud, Ph.D. 2010; Jonathan Helmus, Ph.D. 2011; Simon Pondaven, Ph.D. 2012; Ishita Sengupta, Ph.D. 2012; Bo Wu, Ph.D. 2013; Min Gao, Ph.D. 2013)
- 2 M.S. students (Chitrak Gupta, M.S. 2013; Rajith Arachchige, M.S. 2013)
- 1 Visiting scholar (Nicole Höfer, 2006-2008)
- 15 Undergraduate students (Ross Batchelder, 2015; Mingqing Chen, 2014-2015; Brian King, 2014; Jeong Min Han, 2013-2014; Christopher Brue, 2013; Jenna Greve, 2013; Catherine Paul, 2012; Marisol Martinez, 2011-2012; Patrick Murmann, 2010; Lucas Hassink, 2010; Bahir Desta, 2009; Derek Clay, 2009; Bindiya Sameem, 2009-2010; Stefanie Kall, 2008-2010; Daniel Yoon, 2006-2007)
- 6 High-school students (Brian King, 2014; Peter Canepa, 2013-2014; Jinseok Yang, 2012-2013; Gordon Hewes, 2012-2013; Manjari Randeria, 2010; Brandon Lee, 2007)