

CURRICULUM VITAE

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Education

PhD (Dr. techn.) Biophysics, Austrian Academy of Sciences and Graz University of Technology, Austria, 2005

MSc (Dipl.-Ing.) Biochemistry and Biotechnology, Graz University of Technology, Austria, 1999

Professional Research Experience

- 2010-present Scientific Research Associate, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN.
- 2007-2010 Postdoctoral Research Associate, Environmental Sciences Division, Oak Ridge National Laboratory and Oak Ridge Associated Universities, Oak Ridge, TN.
- 2005-2006 Postdoctoral Research Associate, Institute of Biophysics and Nanosystems Research, Austrian Academy of Sciences, Graz, Austria.
- 2000-2005 Graduate Research Associate, Institute of Biophysics and Nanosystems Research, Austrian Academy of Sciences, Graz, Austria
- 2002 Higher European Research Course for Users of Large Experimental Systems, (HERCULES), CNRS, Université Joseph Fourier, CEA, ILL, ESRF, Grenoble, France

Professional Activities, Affiliations and Honors

Co-organizer of special session "Mechanisms of microbial mercury methylation and resistance", 10th International Conference on Mercury as a Global Pollutant, Halifax, Canada, 2011

Organizer of session "Molecular Structure and Dynamics in Biogeochemistry", Goldschmidt Conference, Knoxville, TN, 2010

Lecture on neutron reflectometry, Graduate Course on Neutrons in Biology, ORNL and NC State University, 2009

Member: Biophysical Society, American Chemical Society (ACS), the American Crystallographic Association (ACA), the Geochemical Society (GS), the Austrian Chemical Society (GÖCH) and the Austrian Society for Biotechnology (ÖGBT)

Honors: Paper of the Week, The Journal of Biological Chemistry 281(28):19732-9, 2006.

Graduation with Honors, Ph.D., Graz University of Technology, Austria, 2005.

Award for Best Scientific Presentation, 8th International Summer School on Biophysics, Rovinij, Croatia, 2003.

Recent Publications

Parks, J.M., A. Johs, M. Podar, R. Bridou, R. A. Hurt, S.D. Smith, S.J. Tomanicek, Y. Qian, S.D. Brown, C.C. Brandt, A.V. Palumbo, J.C. Smith, J.D. Wall, D.A. Elias, L. Liang. 2013, The Genetic Basis for Bacterial Mercury Methylation. *Science. In press*

Tomanicek, S., Johs A., Sawhney M., Shi L., Liang L. "Crystallization and preliminary X-ray crystallographic studies of the outer membrane cytochrome OmcA of *Shewanella oneidensis* MR-1", *Acta Cryst. F* 68:53-55 (2012)

Johs A., Harwood I., Parks J.M., Liang L., Smith J.C., Miller S.M. "Structural characterization of intramolecular Hg²⁺ transfer between flexibly-linked domains of mercuric ion reductase", *J. Mol. Biol.* 413(3): 639-656 (2011)

Guo, H. B., Parks, J. M., Johs, A., Smith, J. C. Mercury detoxification by bacteria: Simulations of transcription activation and mercury-carbon bond cleavage. In *Modeling of Molecular Properties*, Ed.: Peter Comba, Wiley-VCH (2011)

Johs A., Shi L., Droubay T., Ankner J.F., Liang L., "Characterization of the Decaheme *c*-Type Cytochrome OmcA in Solution and on Hematite Surfaces by Small Angle X-Ray Scattering and Neutron Reflectometry", *Biophys. J.* 98(2)12: 3035-3043 (2010)

Guo H.-B., Johs A., Parks J. M., Summers A. O., Miller S. M., Liang L., Smith J. C., "Structure and Conformational Dynamics of the Metalloregulator MerR upon Binding of Hg(II)", *J. Mol. Biol.* 398(4): 555-568 (2010)

Wang W., Liang L., Johs A., Gu B., "Thin films of uniform hematite nanoparticles: control of surface hydrophobicity and self-assembly", *J. Mater. Chem.*, 18(47) 2008, 5770-75 (2008)

Johs A., Liang L., Gu B., Ankner J.F., Wang W. "Application of neutron reflectometry for studies of biomolecular structures and functions at interfaces", book chapter in "Neutron Application in Earth, Energy, and Environmental Sciences, Liang, Rinaldi, Schober (Eds), Springer, 2008.

Johs, A., Hammel, M., Waldner I., May R.P., Laggner P., Prassl R., "Modular Structure of Solubilised Human Apolipoprotein B-100: Low Resolution Model Revealed by Small Angle Neutron Scattering", *J. Biol. Chem.* 281(28):19732-9 (2006).

Gamsjäger R., Johs A., Gries A., Gruber H.J., Romanin C., Prassl R., Hinterdorfer P., "Membrane binding of β 2-glycoprotein I can be described by a two-state reaction model - an atomic force microscopy and surface plasmon resonance study." *Biochem. J.* 389:665-73 (2005).

Patents

U.S. Patent application: "Lignin-Based Active Anode Materials Synthesized from Low-Cost Renewable Resources", O. Rios, W. E. Tenhaeff, C. Daniel, N. J. Dudney, A. Johs, G. A. Nunnery, F. S. Baker, August 2012

Collaborators and Co-Editors

Anne O. Summers, University of Georgia, Athens; Susan M. Miller, University of California, San Francisco; Judy D. Wall, University of Missouri; Jeremy Smith, Center for Molecular Biophysics, ORNL; Orlando Rios, Material Sciences Division, ORNL; Jerry M. Parks, Biological Sciences Division, ORNL; Hao-Bo Guo, University of Tennessee, Knoxville; Melissa Sharp, European Spallation Source, Sweden; David Richardson, University of East Anglia; John F. Ankner, Spallation Neutron Source, ORNL; Liang Shi, Biological Sciences Division, Pacific Northwest National Laboratory; Michal Hammel, Advanced Light Source, Lawrence Berkeley National Laboratory