

MARVIN GLEN WARNER

Pacific Northwest National Laboratory
Chemical and Biological Signature Science Group
National Security Directorate
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Professional Experience

02/2009-present	Pacific Northwest National Laboratory, Senior Research Scientist and Team Lead for Trace Organic Analysis Team in Chemical and Biological Signature Sciences Group – National Security Directorate
06/2004-01/2009	Pacific Northwest National Laboratory, Senior Research Scientist – Fundamental and Computational Science Directorate
06/2003-06/2004	Pacific Northwest National Laboratory, Post-doctoral Research Fellow
1998-06/2003	University of Oregon, Graduate Research/Teaching Assistant
2001-2003	University of Oregon, NMR technician

Education

2003	Ph.D., Chemistry and Materials Science, University of Oregon
2000	M.S., Chemistry, University of Oregon
1998	B.S., Chemistry, University of Kentucky

Patents

1. Yantasee, W.; Warner, M.G.; Warner, C.L.; Toloczko, M.B.; Addleman, R.S.; Timchalk, C.A.; Fryxell, G.E. Functionalized magnetic nanoparticle analyte sensor. Patent Pending, **2008**.
2. Hutchison, J. E.; Woehrle, G. H.; Warner, M. G.; Brown, L. O. Nanoparticles and method to control nanoparticle spacing. WO 2006/127675 A2, 30.11.2006, **2006**.

Professional Organization Affiliations

2004-present	Member of the American Association for the Advancement of Science (AAAS)
2004-present	Member of the Materials Research Society (MRS)
1998-present	Member of the American Chemical Society (ACS)

Honors and Awards

- 2010** – Science and Technical Achievement Recognition Award, PNNL
- 2009** – Invitation (1 of 88 scientists and engineers chosen) to attend National Academy of Engineering, U.S. Frontiers of Engineering Symposium in Irvine, CA, September 10-12, 2009
- 2005** – Chet L. Cooper Mentor of the Year Award, PNNL Fundamental Science Directorate
- 2004, 2005, 2007, 2009** – PNNL Outstanding Performance Awards (OPA)
- 2002** – National Science Foundation (NSF) scholarship to attend the *6th Green Chemistry and Engineering Conference*, Washington, D.C.
- 2000, 2003** – Department of Education GAANN (Graduate Assistance in Areas of National Need) Fellowship

Selected Publications

1. Warner, M.G.; Grate, J.W.; Ozanich, R.M.; Miller, K.D.; Tyler, A.J.; Lou, J.; Marks, J.D.; Bruckner-Lea, C.J. “Quantum Dot Immunoassays in Renewable Surface Column and 96-well Plate Formats for the Fluorescence Detection of Botulinum Neurotoxin Using High-Affinity Antibodies.” *Biosens. Bioelectron.*, **2009**, *25*, 179-184. DOI: 10.1016/j.bios.2009.06.031

2. Ozanich, R.M.; Grate, J.W.; Warner, M.G.; Antolick, K.; Miller, K.D.; Lou, J.; Marks, J.D.; Bruckner-Lea, C.J. "Enhanced Immunoassay for Botulinum Neurotoxin Using a Microbead Trap/Flow-Cell with Multiplexed Flow Cytometry Detection." *Anal. Chem.*, **2009**, 81(14), 5783-5793. DOI: 10.1021/ac9006914
3. Yantasee W.; Warner, C.L.; Choi, D.; Toloczko, M.B.; Warner, M.G.; Fryxell, G.E.; Addleman, R.S.; Timchalk, C. "Direct Detection of Pb in Urine and Natural Waters using Electrochemical Sensors Immobilized with DMSA Functionalized Magnetic Nanoparticles." *Analyst*, **2008**, 133, 348-355.
4. Yantasee, W.; Warner, C.L.; Sangvanich, T.; Addleman, R.S.; Carter, T.G.; Wiacek, R.J.; Fryxell, G.E.; Timchalk, C.; Warner, M.G. "Removal of Heavy Metals from Aqueous Systems with Thiol Functionalized Superparamagnetic Nanoparticles." *Environ. Sci. Tech.* **2007**, 41(14), 5114-5119.
5. Warner, M.G.; Hutchison, J.E. "Linear assemblies of nanoparticles electrostatically organized on DNA scaffolds." *Nature Mater.* **2003**, 2, 272.

Selected Book Chapters and Proceedings

1. Johnson, D.; Fontenot, S.; Fryxell, G.E.; Addleman, R.S.; Warner, M.G.; Yantasee, W. **2010** "Nanostructured Materials for the Selective Collection of Trace-Level Analytes from Aqueous Systems." In Trace Analysis with Nanomaterials; Pierce D.T. Ed.: Wiley-VCH: Weinheim, In Press. (**invited**)
2. Bruckner-Lea, C.J., Warner, M.G., Feldhaus, M.; Dockendorff, B.P.; Anheier, Jr., N.C.; Marks, J.D.; Grate, J.W. **2004**. "Rapid, Sensitive Detection of Botulinum Toxin on a Flexible Microfluidics Platform." In Chemical Sensors VI: Chemical and Biological Sensors and Analytical Methods, vol. 2004-08, ed. C. Bruckner-Lea, et al., pp. 376-380. The Electrochemical Society, Philadelphia, PA.
3. Warner, M.G.; Hutchison, J.E. "Synthetic methods for the functionalization of gold nanoparticles." In *Functionalization and Surface Treatment of Nanoparticles*; Baraton, M.-I. Ed.:American Scientific Publishers: San Francisco, **2002**, 67. (**invited**)

Selected Public Presentations

1. Warner, M.G.; Warner, C.L.; Addleman, R.S.; Droubay, T.; Engelhard, M.H.; Davidson, J.D.; Cinson, A.D.; Nash, M.A.; Yantasee, W. "Synthesis Of Functionalized Superparamagnetic Iron Oxide Nanoparticles From A Common Precursor And Their Application As Heavy Metal And Actinide Sorbents." Abstr. Pap. - Am. Chem. Soc., Mar. **2009**, 237th American Chemical Society National Meeting COLL-401.
2. Warner, M.G. "Functionalization of Nanoporous and Nanoparticulate Materials for Removal and Detection of Biological and Chemical Contaminants." Washington State University, Pullman WA; Department of Chemical Engineering **2008** (**invited**).
3. Bruckner-Lea C.J.; Warner, M.G.; Grate, J.W.; Anheier, Jr, N.C.; Antolick, K.C.; Batishko, C.R.; Bottenus, D.R.; Dockendorff, B.P.; Edberg, H.C.; Lind, M.A.; Miller, K.D.; Morgen, G.P.; Ozanich, R.M.; Marks, J.D. "Pathogen and Toxin Detection System for the Analysis of Food Samples." DHS Instrumentation and Detection PI Meeting August **2006** (**invited**).
4. Warner M.G.; Anheier, Jr, N.C.; Batishko, C.R.; Dockendorff, B.P.; Dunham, G.C.; Edberg, H.C.; Grate, J.W.; Ozanich, R.M.; Stewart, T.L.; Bruckner-Lea, C.J. "Sensor Systems for the Rapid, Sensitive Detection of Pathogens and Toxins." Homeland Security Research Conference: Working Together: Research & Development (R&D) Partnerships in Homeland Security April **2005** (**invited**).
5. Grate J.W.; Nelson, D.A.; Skaggs, R.L.; Warner, M.G., Dunham, G.C. "Advanced Materials for Chemical Sensors." Homeland Security Research Conference: Working Together: Research & Development (R&D) Partnerships in Homeland Security April **2005** (**invited**).