Stephen J. Tomanicek

Environmental Sciences Division
Oak Ridge National Laboratory
P. O. Box 2008 MS 6038
Oak Ridge, TN 37831-6038

Postdoctoral Research Associate
Phone: (419) 344-0361
Fax: (865) 576-8646
E-mail: tomaniceksj@ornl.gov

EDUCATION

2005 University of Toledo, Toledo, Ohio	Ph.D. Macromolecular Crystallography
1999 Heidelberg University, Tiffin, Ohio	B.S. Chemistry

PROFESSIONAL POSITIONS

2010 – Present Postdoctoral Research Associate, Environmental Sciences Division, ORNL.
2008 – 2010 Postdoctoral Research Associate, Neutron Scattering Sciences Division, ORNL.
2005 – 2008 Postdoctoral Research Associate, University of Toledo, Department of Chemistry.

PROFESSIONAL SERVICE, AFFILIATIONS, AND HONORS

Member: Young Evolving Scientists Seminar Series (YESSS!) Group at ORNL; American Crystallographic Association

Honors: American Crystallographic Association, Annual Meeting Travel Grant Award, 2006.
American Heart Association Ohio Valley Affiliate Predoctoral Fellowship recipient (#AHA0315774B). Crystallographic Studies of the Crenarchaeal *Aeropyrum pernix* Flap Endonuclease-1 (FEN-1), Funded 2003-2005.
American Institute of Chemists Award, Heidelberg University, 1999.
First Team All-Academic Ohio Athletic Conference (OAC) Football Team, Heidelberg University, 1997 and 1998.

PUBLICATIONS

Parks, J.M., Johs, A., Podar, M., Bridou, R., Hurt, R.A., Smith, S.D., Tomanicek, S.J., Qian, Y., Brown, S.D., Brandt, C.C., Palumbo, A.V., Smith, J.C., Wall, J.D., Elias, D.A., and Liang, L. (2013). The genetic basis for bacterial mercury methylation. *Science In Press*

Tomanicek, S.J., Standaert, R., Weiss, K.L., Ostermann, A., Schrader, T., Ng, J.D., Coates, L. (2012). Neutron and X-ray crystal structures of a perdeuterated enzyme inhibitor complex reveal the catalytic proton network of the Toho-1 β-lactamase for the acylation reaction. *J Biol Chem. In Press* doi: 10.1074/jbc.M112.436238

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

Tomanicek, S. J., Weiss, K.L., Wang, K.K., Blakeley, M.P., Cooper, J., Chen, Y., Coates, L. (2011). The active site protonation states of perdeuterated Toho-1 β-lactamase determined by neutron diffraction support a role for Glu166 as the general base in acylation. *FEBS Lett*. 585, 364-368.

Shah, B.N., Chinte, U., Tomanicek, S. J., Hanson, B.L., Schall, C.A. (2011). Flash cooling protein crystals: Estimate of cryoprotectant concentration using thermal properties. *Cryst. Growth Des*., 11(5), 1493-1501.

Tomanicek, S. J., Hughes, R. C., Ng, J. D., and Coates, L. (2010). X-ray crystal structure of the endonuclease IV homologue from *Thermotoga maritima* in the presence of active site divalent metal ions. *Acta Crystallogr F* 66, 1003-1012.

Tomanicek, S. J., Blakeley, M.P., Cooper, J., Chen, Y., Afonine, P.V., Coates, L. (2010). Neutron diffraction studies of a class A β-lactamase Toho-1 E166A/R274N/R276N triple mutant. *J. Mol. Biol.* 396, 1070-1080.

Blum, M-M., Tomanicek, S. J., John, H., Hanson, B. L., Rüterjans, H., Schoenborn, B. P., Langan, P., and Chen, J. C.-H. (2010). X-ray structure of perdeuterated diisopropyl fluorophosphatase (DFPase): perdeuteration of proteins for neutron diffraction. *Acta Crystallogr F* 66, 379-385.

Hughes, R. C., Tomanicek, S. J., Ng, J. D., and Coates, L. (2009). Purification, crystallization and preliminary crystallographic analysis of a thermostable endonuclease IV from *Thermotoga maritima*. *Acta Crystallogr F* 65, 1317-1319.

Coates, L., Tuan, H. H., Tomanicek, S. J., Kovalevsky, A., Mustyakimov, M., Erskine, P. T., Cooper, J. (2008). The catalytic mechanism of an aspartic proteinase explored with neutron and X-ray diffraction. *JACS* 130, 7235–7237.

Devos, J. M., Tomanicek, S. J., Jones, C. E., Nossal, N. G., and Mueser, T. C. (2007). Crystal structure of bacteriophage T4 5' nuclease in complex with a branched DNA reveals how flap endonuclease-1 family nucleases bind their substrates. *J Biol Chem.* 282 (43), 31713-24.

Collins, B. K., Tomanicek, S. J., Lyamicheva, N., Kaiser, M. W., and Mueser, T. C. (2004). A preliminary solubility screen used to improve crystallization trials: crystallization and preliminary X-ray structure determination of *Aeropyrum pernix* flap endonuclease-1. *Acta Crystallogr D* 60, 1674-1678.

COLLABORATORS

Anne O. Summers, University of Georgia, Athens; Susan M. Miller, University of California, San Francisco; Graham George, University of Saskatchewan, Canada; Julien Cotelesage, University of Saskatchewan, Canada; David Richardson, University of East Anglia, UK; Kevin Weiss, Center for Structural Molecular Biology, ORNL; Leighton Coates, Biology & Soft Matter Division, ORNL; Joseph D. Ng, University of Alabama in Huntsville, Huntsville; Timothy Mueser, University of Toledo, Toledo; Leif Hanson, University of Toledo, Toledo.