Name: Christopher B. Jacobs **Position Title:** Postdoctoral Research Associate

Center for Nanophase Materials Sciences
Oak Ridge National Laboratory
1 Bethel Valley Rd., Oak Ridge, TN 37831

(865) 576-7661
(865) 574-1753 FAX
jacobscb@ornl.gov

Education:

Binghamton University B.S. – 2004 – Biology;
Binghamton University M.A. – 2009 – Materials Chemistry
Binghamton University New York State Certificate – 2009 – Teaching College Chemistry
University of Virginia - Ph.D. 2012 – Analytical Chemistry

Graduate and Postdoctoral Advisors:

Postdoc Advisor:	Dr. Ilia N. Ivanov – Center for Nanophase Materials Science, Oak Ridge National Laboratory
PhD Advisor:	Dr. Jill B. Venton – University of Virginia
M.A. Advisor:	Dr. M. Stanley Whittingham – Binghamton University

Professional Experience:

2014 – Present	Postdoc Research associate – Functional Hybrid Nanostructures Group, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2013 – 2014	Research Associate – Venton Lab, University of Virginia Department of Chemistry
2010 – 2014	Intellectual Property Licensing Intern – University of Virginia Patent Foundation
2007 – 2009	Teaching Assistant – University of Virginia
2004 – 2007	Teaching Assistant – Binghamton University

Professional Activities, Honors, Awards:

- Chemistry LEAD Program – Treasurer, Classroom Leader & Website Design 2010-2013
- STEM Outreach Initiative – University of Virginia – 2011-2012
- Graduate School of Arts & Sciences Student Council – University of Virginia – Department of Chemistry Representative 2009-2011
- Society for Electrochemistry Travel Award - 2013
- Curry School of Education Summer Enrichment Program – Classroom teacher "It's a Small World After All – An Introduction to Nanotechnology" 2012
- Robert J. Huskey Travel Fellowship - 2012
- Electrochemistry Gordon Research Seminar Travel Scholarship - 2012
- 2011 Biotechnology Training Program Poster Award – 2011
- 11th Annual Robert J. Huskey Graduate Research Exhibition Poster Award - 2011

Professional Memberships:

American Chemical Society;

Selected Peer-Reviewed Publications:

- C.B. Jacobs, A.V. Ievlev, E.S. Muckley, P.C. Joshi, I.N. Ivanov. "Spatially resolved resistance of NiO nanostructures under humid environment." 2016 SPIE OPTO: Oxide Based Materials & Devices
- E.S. Muckley, A.J. Nelson, C.B. Jacobs, I.N. Ivanov. "Effect of UV irradiation on the dynamics of oxygen and water interaction with carbon nanotubes." 2016. SPIE OPTO
- C. Yang, CB. Jacobs, M.D. Nguyen, M. Ganesana, A.G. Zestos, I.N. Ivanov, A.A. Puretzky, C.M. Rouleau, D.B. Geohegan, B.J. Venton. "Carbon Nanotubes Grown on Metal Microelectrodes for the Detection of Dopamine." *Analytical Chemistry,* 2015, DOI: 10.1021/acs.analchem.5b01257

- P.G. Datskos, P.C. Joshi, F.A. List III, C.E. Duty, B.L. Armstrong, I.N. Ivanov, C.B. Jacobs, D.E. Graham, J.W. Moon "Manufacturing Demonstration Facility: Roll-to-Roll Processing," Oak Ridge National Laboratory (ORNL); Center for Nanophase Materials Sciences (CNMS); ORNL/TM-2015/270
- G.G. Jang, C.B. Jacobs, I.N. Ivanov, P.C. Joshi, H.M. Meyer, M. Kidder, B.L. Armstrong, P.G. Datskos, D.E. Graham, J.W. Moon. "In situ capping for size control of monochalcogenide (ZnS, CdS and SnS) nanocrystals produced by anaerobic metal-reducing bacteria." *Nanotechnology*, 2015, 26, 32, 325602-325607
- A.G. Zestos, C. Yang, C.B. Jacobs, D. Hensley, B.J. Venton. "Carbon nanospikes grown on metal wires as microelectrode sensors for dopamine," *Analyst*. 2015, 140, 21, 7283 – 7292
- G.G. Jang, C.B. Jacobs, R.G. Gresback, I.N. Ivanov, H.M. Meyer III, M. Kidder, P.C. Joshi, G.E. Jellison, T.J. Phelps, D.E. Graham, J.W. Moon. "Size tunable elemental copper nanoparticles: extracellular synthesis by thermoanaerobic bacteria and capping molecules," *Journal of Materials Chemistry C*, 2015, 3, 3, 644–650
- C.B. Jacobs, I.N. Ivanov, M.D. Nguyen, A.G. Zestos, B.J. Venton. "High temporal resolution measurements of dopamine with carbon nanotube yarn microelectrodes," *Analytical Chemistry.* 2014, 86, 12, 5721–5727
- A.G. Zestos, C.B. Jacobs, E. Trikantzopoulos, B.J. Venton. "Polyethylenimine Carbon Nanotube Fiber Electrodes for Enhanced Detection of Neurotransmitters," *Analytical Chemistry, 2014,* 86, 17, 8568–8575
- A.G. Zestos, M. Nguyen, C.B. Jacobs, B.J. Venton. "Epoxy insulated carbon fiber and carbon nanotube fiber microelectrodes," *Sensors and Actuators B,* 2013, 182 652–658.
- C.B. Jacobs, T.K. Vickrey, B.J. Venton. "Functional groups modulate the sensitivity and electron transfer kinetics of neurochemicals at carbon nanotube modified microelectrodes," *Analyst,* 2011, 136 (17) 3557–3565.
- C.B. Jacobs, M.J. Peairs, B.J. Venton. "Review: Carbon nanotube based electrochemical sensors for biomolecules," *Anal.Chem.Acta,* 2010, 662, 2, 105–127
- C.B. Jacobs; T.L. Vickrey, B.J. Venton. "Neurotransmission: Measuring Chemical Events." *Wiley Encyclopedia of Chemical Biology*, 2008. Wiley & Sons, inc. 1-12
- M. Roppolo, C.B. Jacobs, S. Upreti, N.A. Chernova, M.S. Whittingham. "Synthesis and characterization of layered and scrolled amine-templated vanadium oxides," *Journal of Material* Science, 2008, 43, 14, 4742–4748
- C.B. Jacobs, M. Roppolo, K. Butterworth, C. Ban, N.A. Chernova, M.S. Whittingham. "Magnetic Properties of Vanadium Oxide Nanotubes, Nanourchins, and Nanorods," *Materials Research Bulletin Proceedings,* 2006, 0988-QQ, 03–19.