

Bruce E. Wilson

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RESEARCH AND APPLICATIONS EXPERIENCE

My current work focuses on using information technology to facilitate science, particularly in making Earth System Science data as Findable, Accessible, Interoperable, and Reusable as practical. I have published works in informatics, phenology, formulations, polymer composites, photophysics, computational chemistry, and statistics.

EDUCATIONAL HISTORY

Ph.D. (Analytical Chemistry) University of Washington, Seattle (Advisor: Bruce Kowalski)
B.S. with High Honors (Chemistry and Mathematics) Michigan State University

PROFESSIONAL EXPERIENCE

Oak Ridge National Laboratory: 2006-present (Oak Ridge, TN):

Group Leader and ORNL DAAC Manager (2018-present): Line manager for Remote Sensing and Environmental Informatics Group. Manager and Principal Investigator for the ORNL Distributed Active Archive Center.

Enterprise Architect (2012-2018): Lead technologist for enterprise information technology, particularly identity and credential management, authentication, authorization, cloud, analytics, mobile device management, and remote access.

Group Leader, Client and Collaboration Technologies (2010-2012): Manager for 45-person group responsible for 20,000 unclassified endpoints, Active Directory, patching, and systems engineering supporting \$500M/year of R&D projects.

Group Leader and ORNL DAAC Manager (2008–2010): Line manager for Environmental Data Science and Systems Group. Manager and principal investigator for the ORNL DAAC.

Environmental Informatics Leader (2006-2008): Systems architect and computing technical leader for the ORNL DAAC.

University of Tennessee, Knoxville: 2007-present (Knoxville, TN):

DataONE Project (2007-2016): Leadership Team member for the Data Observation Network for Earth (DataONE) co-leader for cyberinfrastructure development.

The Dow Chemical Company: 2/01-6/06 (Midland MI):

Technical Leader, High Throughput Research Informatics Program: Technical lead for a 45-person team informatics team supporting high throughput research (HTR)

Dow Corning Company: 2/00-2/01 (Midland MI):

Senior Chemometrics Specialist: Lead developer and data analyst for a program to instrument sealant pilot plants and drive product improvement.

Eastman Chemical Company: 10/88-12/99 (Kingsport TN):

Multiple roles, including computational chemistry team lead, chemistry librarian, polymer chemist, and process analytical chemist.

PROFESSIONAL ACTIVITIES

Co-Chair and Lead for Mining and Automation Sub-Committee NASA Independent Review Board for the Planetary Data Ecosystem (10/2020-4/2021)

Co-Chair, NASA Distributed Active Archive Center Managers Council (6/2020-present)

Chair, Efficiency and Effectiveness Review Panel for the NASA Distributed Active Archive Centers (2016)

Chair, Cyberinfrastructure Review Panel for the US National Science Foundation Long Term Ecological Research Network (2010)

Informatics Advisor, European Union Biodiversity Observation Network (2016-18)

Board of Advisors, USA National Phenology Network (2007-16)
 DOE Multifactor Authentication Technical Advisory Working Group (2015-17)
 Summer Fellowship Mentor, CODE2040 (2020-present)
 Mentor, Collaborative Analysis Liaison Librarians Program (CALL; 2019-present)
 DOE Summer Undergraduate Laboratory Internship (SULI) Mentor (2008-10,2015,2019)
 Topic Editor, Journal of Open Source Software (2019-2021)
 Session Convener, American Geophysical Union Fall Conference (2019)
 Session Convener, DOE Information Technology Conference (2012, 2016-17)
 Member: American Geophysical Union (2006-present); Association for Computing Machinery (2001-present); Association for the Advancement of Science (2010-present)

AWARDS AND HONORS

Senior Member, Association for Computing Machinery (2020)
 Oak Ridge National Laboratory Significant Event Awards (2008, 2011, 2012, 2016)
 Department of Energy Outstanding Mentor Award (2008)
 National Science Foundation Graduate Fellow (1985-88)

SELECTED REFEREED PUBLICATIONS

PE Thornton, R Shrestha, M Thornton, SC Kao, Y Wei, BE Wilson "Gridded Daily Weather Data for North America with Comprehensive Uncertainty Quantification" *Scientific Data* (2021) [doi:10.1038/s41597-021-00973-0](https://doi.org/10.1038/s41597-021-00973-0)
 S Vannan, RR Downs, W Meier, BE Wilson, IV Gerasimov "Data sets are foundational to research. Why don't we cite them?" *Eos* 101 (2020) [doi:10.1029/2020EO151665](https://doi.org/10.1029/2020EO151665)
 A Rosemartin, E Denny, J Weltzin, L Marsh, BE Wilson, H Mehdipoor, R Zurita-Milla, M Schwartz "Lilac and Honeysuckle Phenology Data 1956–2014" *Scientific Data* vol 2 (2015) [doi:10.1038/sdata.2015.38](https://doi.org/10.1038/sdata.2015.38)
 D Wang, WM Post, BE Wilson "Climate Change Modeling: Computational Opportunities and Challenges" *Computing in Science and Engineering* vol 13, 36-42 (2011) [doi:10.1109/MCSE.2010.147](https://doi.org/10.1109/MCSE.2010.147)
 JT Morisette *et al* "Tracking the rhythm of the seasons in the face of global change: phenological research in the 21st century" *Frontiers in Ecology and the Environment* 7#5 (2009) 253-260 [doi:10.1890/070217](https://doi.org/10.1890/070217)
 KP Peil, DR Neithamer, DW Patrick, BE Wilson, CJ Tucker "Applications of High Throughput Research at The Dow Chemical Company" *Macromolecular Rapid Communications* (2004) 25(1), 119–126 [doi:10.1002/marc.200300160](https://doi.org/10.1002/marc.200300160)
 LS Ramos *et al* "Chemometrics" *Analytical Chemistry* (1986) 58(5) 294R-315R [doi:10.1021/ac00296a020](https://doi.org/10.1021/ac00296a020)

SELECTED DATASETS AND OTHER PUBLICATIONS

MM Thornton, R Shrestha, Y Wei, PE Thornton, SC Kao, BE Wilson (2021) *Daymet Version 4 Monthly Latency: Daily Surface Weather Data* ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1904>;
 A Monteil *et al* "Nine Best Practices for Research Software Registries and Repositories: A Concise Guide" Report of the FORCE11 Task force on best practices for software repositories. <https://arxiv.org/abs/2012.13117>
 BE Wilson "Who am I; Who are You; and What Data are We Talking About?" (invited) DOE Conference on Data Analysis (CoDA), Sante Fe, NM (March 15, 2018)

PATENTS

Co-inventor on 4 US Patents: #6,277,909 (2001); #6,265,618 (2001); #6,051,644 (1999); #5,850,623 (1994)