**Jeanette M. Sperhac**
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Scientific Programmer – Center for Computational Research (www.ccr.buffalo.edu)
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## A. Professional Preparation

| | | | |
|---|---|---|---|
| University of Chicago | Chemistry | B.S. | 1992 |
| University of Colorado | Chemistry | M.S. | 1995 |
| State University of New York at Buffalo | Computer Science | M.S. | 2007 |

## B. Appointments

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|---|---|
| 2012 – pres. | Scientific Programmer, Center for Computational Research, SUNY-Buffalo |
| 2007 – 2012 | Software Engineer, Lockheed Martin, Niagara Falls, NY |
| 2006 – 2007 | Graduate Research Assistant, Buffalo Center for Biomedical Computing, Buffalo, NY |
| 2004 – 2006 | Network Programming Intern, CIT, SUNY-Buffalo, Buffalo, NY |
| 2003 – 2004 | Software Engineer, Computer Task Group, Amherst, NY |
| 2000 – 2003 | Programmer/Analyst, Citibank, New York, NY |
| 1998 – 2000 | Programmer/Analyst, WebMD/Medical Manager R&D, Gainesville, FL |
| 1996 – 1998 | Database Administrator, Acxiom/May & Speh, Downers Grove, IL |

## C. Products

C.1. *Products Most Closely Related to Proposed Research*

Palmer JT, Gallo SM, Furlani TR, Jones MD, DeLeon RL, White JP, Simakov N, Patra AK, **Sperhac JM**, Yearke T, Rathsam R, Innus M, Cornelius CD, Browne JC, Barth WL, Evans RT, "Open XDMoD: A Tool for the Comprehensive Management of High Performance Computing Resources", accepted by *Computing in Science and Engineering* (2015).

Gallo SM, White JP, DeLeon RL, Furlani TR, Patra AK, Jones MD, Palmer JT, Simakov N, **Sperhac JM**, Innus M, Yearke T, Rathsam R, "Analysis of XDMoD/SUPReMM Data Using Machine Learning Techniques", submitted to 2nd Workshop on Monitoring and Analysis for High Performance Computing Systems Plus Applications, 2015.

C.2. *Other Significant Products*

1. Miles J. Weida, **Jeanette M. Sperhac**, David J. Nesbitt, "Sublimation dynamics of $CO_2$ thin films: A high-resolution diode laser study of quantum state-resolved sticking coefficients", Journal of Chemical Physics **105**, 749-766 (1996).
2. **Jeanette M. Sperhac**, Miles J. Weida, David J. Nesbitt, "IR spectroscopy of $Ar_2CO_2$ trimer: Vibrationally averaged structures, solvent shifts, and three-body effects", Journal of Chemical Physics **104**, 2202-2213 (1996).
3. Miles J. Weida, **Jeanette M. Sperhac**, David J. Nesbitt, "High-resolution IR diode laser spectroscopy of $(CO_2)_3$: Vibrationally averaged structures, resonant dipole vibrational shifts and tests of $CO_2$-$CO_2$ pair potentials", Journal of Chemical Physics **103**, 7685-7699 (1995).

4. Miles J. Weida, **Jeanette M. Sperhac**, David J. Nesbitt, and Jeremy M. Hutson, "Signatures of large amplitude motion in a weakly bound complex: High resolution IR spectroscopy and quantum calculations for $HeCO_2$", Journal of Chemical Physics **101**, 8351 (1994).

**D. Synergistic Activities**

1. ***Collaborative Virtual Organization Building***: Provide support for web-based and HPC tools to facilitate the building of virtual organizations spanning multiple scientific disciplines. These tools support the development of scientific models, teaching and research in data analytics, and sharing of data amongst groups of collaborators. They provide a vehicle for the sharing and execution of scientific codes. Includes VIDIA: Virtual Infrastructure for Data Intensive Analysis (vidia.ccr.buffalo.edu); HPC2: the New York State High Performance Computing Consortium (www.hpc2.org) and VHub: Collaborative Volcano Research and Risk Mitigation (www.vhub.org).
2. ***Database Design and Maintenance***: Provide support for the analysis and manipulation of large datasets from scientific disciplines, including the social and life sciences, the health professions, and management. Perform data analysis utilizing technologies such as relational databases, machine learning, and data analytics techniques.
3. ***Web Portal Development***: Develop and maintain web application portals for scientific domains, including the library sciences (aahsl.ccr.buffalo.edu), high performance computing (xdmod.ccr.buffalo.edu), and the SUNY-Buffalo school of nursing.

**E. Collaborators and Other Affiliations**

*Collaborators (Past 48 Months):* S. Bae (SUNY-Buffalo), G. D. Byrd (SUNY-Buffalo), S. Squires (University of North Carolina), W. Wilkerson (SUNY-Oneonta), B. Lowe (SUNY-Oneonta), G. Fulkerson (SUNY-Oneonta), B. Heindl (SUNY-Oneonta), A. Koeddermann (SUNY-Oneonta), R. Shen (SUNY-Brockport), T. R. Furlani (SUNY-Buffalo), M. D. Jones (SUNY-Buffalo), R.L. DeLeon (SUNY-Buffalo), J.P. White (SUNY-Buffalo), N. Simakov (SUNY-Buffalo), A.K. Patra (SUNY-Buffalo), W. Barth (UT—Austin), J. C. Browne (UT—Austin).

*Graduate and Post-Doctoral Advisors:* Aidong Zhang, Department of Computer Science and Engineering, SUNY-Buffalo; David J. Nesbitt, Department of Chemical Physics, University of Colorado—Boulder.

*Graduate and Post-Doctoral Advisees: 0*