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BIOGRAPHICAL SKETCH

JOHN W. KELLER

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a. Professional Preparation

Undergraduate:	The Ohio State University	Chemistry	B.S. 1968
Graduate:	University of Wisconsin-Madison	Chemistry	Ph.D. 1976
Post-Doctoral:	University of Wisconsin-Madison	Chemistry	1976-79

b. Appointments

2012-present	Professor Emeritus of Chemistry
2007-2010	Chair, Department of Chemistry and Biochemistry
1991-2012	Professor, University of Alaska Fairbanks
1986-1991	Associate Professor, University of Alaska Fairbanks
1979-1986	Assistant Professor, University of Alaska Fairbanks

c. Selected Publications (graduate student; **undergraduate student**)

(i) Five Relevant Publications

1. J.W. Keller, T.I. Ayudhya, and N.N. Dingra, "Carbon monoxide formation from trimethylamine-boranecarboxylate: DFTstudies of S_Ni and chelotropic mechanisms", *RSC Advances*, **10**, 16038-16044 (2020). https://doi.org/10.1039/d0ra01572e
2. J.W. Keller, "Sulfur Dioxide–Pyridine Dimer. FTIR and Theoretical Evidence for a Low-Symmetry Structure." *J. Phys. Chem. A* **119**, 10390-10398 (2015). https://doi.org/10.1021/acs.jpca.5b06122
3. J.W. Keller, **Bronwyn L. Harrod,** and **Sifat A. Chowdhury**, "Theoretical Study of Formic Acid-Sulfur Dioxide Dimers" *J. Phys. Chem. A* **114**, 13182-13188 (2010). https://doi.org/10.1021/jp1076214
4. J.W. Keller, "The Formic Acid-Trifluoroacetic Acid Bimolecule. Gas-Phase Infrared Spectrum and Computational Studies," *J. Phys. Chem. A* **108**, 4610-18 (2004). https://doi.org/10.1021/jp049883x
5. J.W. Keller, "Lewis Acid Catalyzed Diels-Alder Reaction of Carvone with Isoprene. Using 2-Dimensional NMR and Molecular Modeling to Solve a Stereo- and Regiochemical Puzzle," *The Chemical Educator* **11**, 262-6 (2006). http://www.chemeducator.org/papers/0011004/1140262jk.pdf

(ii) Five Significant Publications

1. E.J. Fogle, See-Tarn Woon, J.W. Keller, and M.D. Toney, "Role of Q52 in Catalysis of Decarboxylation and Transamination in Dialkylglycine Decarboxylase", *Biochemistry* **44**, 16392-16404 (2005). https://doi.org/10.1021/bi051475b
2. M.D. Toney, E. Hohenester, J.W. Keller, J.N. Jansonius, "Structural and Mechanistic Analysis of Two Crystal Structures of the Pyridoxal Phosphate-Dependent Dialkylglycine Decarboxylase", *J. Mol. Biol.* **245**, 151-79 (1995). https://doi.org/10.1006/jmbi.1994.0014
3. M.D. Toney, J.W. Keller, R.A. Paupit, J. Jaeger, **M.K. Wise**, U. Sauder, and J.N. Jansonius, "Crystallization and Preliminary X-ray Diffraction Studies of Dialkylglycine Decarboxylase. A Decarboxylating Transaminase", *J. Mol. Biol.* **222**, 873-875 (1991). https://doi.org/10.1016/0022-2836(91)90580-Y

4. J.W. Keller, K.B. Baurick, G.C. Rutt, M.V . O' Mall ey , **N.B. Sonafranck, R.A. Reynolds, L.O.E. Ebbesson, and F.F. Vajdos,** "*Pseudomonas cepacia* 2,2-Dialkylglycine Decarboxylase. Cloning and Sequencing of Structural and Repressor Genes." *J. Biol. Chem.* **265**, 5531-5539 (1990). http://www.jbc.org/cgi/reprint/265/10/5531

5. J.W. Keller and B. J. Hamilton, "Enzymatic Resolution of 2-Trifluoromethylalanine" *Tet. Letters*, **27**, 1249-1250 (1986). https://doi.org/10.1016/S0040-4039(00)84229-X

d. Synergistic Activities

- System Administrator and consultant for Univ. of Alaska Computational Chemistry and WebMO site. 2009-present. https://chem2.uaf.edu/facilities/WebMO/
- Organized and chaired session on "Computational Chemistry" at American Chemical Society NORM2017 meeting, Anchorage, AK.
- Outstanding Teaching Award, UAF College of Natural Sciences & Mathematics, Spring 2007
- Organized workshops on molecular modeling for college and high school teachers. Anchorage and Fairbanks, AK 2004-2017.
- Panelist for NSF/DUE Course, Curriculum, and Laboratory Improvement program. 2002-2006.
- PI on "Persistent Organic Pollutants in Alaska. New GC-MS Experiments and Experiences for College and Pre-College Students", National Science Foundation/ DUE. 2008-2010.
- Alaska Statewide High School Science Symposium. Special Recognition Award For Excellence in Mentoring. 2006
- PI on "Enhancing Chemistry Curricula Through Molecular Modeling: A Multi-Campus Consortium Approach" NSF/DUE-CCLI. 2000-2004. Consultation and collaboration on research and teaching applications of molecular modeling with students and professors across Alaska.
- U.S. Patents "A Repressor Gene for Regulating Expression of Polypeptides and its Use in the Preparation of 2,2-Dialkylglycine Decarboxylase of Pseudomonas cepacia," 5,210,025. May 11, 1993. " Repressor Protein and Operon for Regulating Expression of Polypeptides and its Use In the Preparation of 2,2-Dialkylglycine Decarboxylase of Pseudomonas cepacia. 5,356,796. Oct. 18, 1994.

e. Collaborators and other affiliations:

(i) Collaborators
Thep Ayudhya, University of Texas Permian Basin
Nin Dingra, University of Texas Permian Basin
Thomas Green, University of Alaska Fairbanks

(ii) Advisors
Graduate: (The late) Charles Heidelberger, UW-Madison, McArdle Laboratory for Cancer Research; (The late) Howard Whitlock, Department of Chemistry, University of Wisconsin-Madison
Post-doctoral: Marion H. O'Leary, Univ. of Wisconsin-Madison, Cal State Sacramento (Emeritus).

(iii) Thesis Advisees (since 1998)
See-Tarn Woon, Ph.D. 1998, University of Auckland, NZ
Honghong Sun, Ph.D., 2000 University of Pennsylvania Perelman School of Medicine, Philadelphia, PA
Julie LaRocca-Brigham M.S. 2003, Molecular Profiling Institute, Phoenix, AZ
Jeff Bickmeier, M.S.,2004, Metabolix, Inc., Boston, MA