VITA

Date: January 29, 2015
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EDUCATION:

B.S., 1977, Sichuan University, China
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RESEARCH AREA AND INTERESTS:

Synthesis, structure, chemical and physical properties of solid state materials. Currently our research focuses on superconducting, magnetic and catalytic rare earth chalcogenides.

PROFESSIONAL EXPERIENCE:

Graduate Research Assistant, Chemistry, Cornell University, 1982 - 1985.
Postdoctoral Research Associate, Chemistry, Stanford University, 1985 - 1987.
Research Associate, Chemistry, University of Houston, 1987 - 1989.
Visiting Assistant Professor, Chemistry, University of Houston, 1989 - 1990.
Assistant Professor, Chemistry, Northern Illinois University, 1990 - 1995.
Associate Professor, Chemistry, Northern Illinois University, 1995 - 2000.
Professor, Chemistry, Northern Illinois University, 2000 - present.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

American Chemical Society
American Physical Society
American Association for the Advancement of Science

AWARDS & GRANTS:

Northern Illinois University Research and Artistry Grant - "Computer Simulations of Proton Transfer Reactions inside Bacterial Photosynthetic Reaction Center", 1991, $4,500.

Li Foundation - "Theoretical Study of the Mechanisms of Solid State Reactions", 1992, $7,000

ACS-PRF Type G - "Studies of Thermodynamic Properties of Solid State Materials", 1992-1995, $21,000.

National Research Council (jointly with Prof. Vanderkooi): "Visiting Scientist from Russia", 1993-1994, $11,100.

NSF : "Mechanism of Solid State Reactions", 1991-1996, $153,000.

NSF : "Experimental and Theoretical Study of Electron-Deficient Intermetallic Solids", 1997-2002, $679,531, jointly with Professor B. Dabrowski in the Physics Department.

NSF: "Purchase of a Powder X-Ray Diffractometer", 1999, $60,770, jointly with Profs. J. Erman, C.T. Lin, N. Hosmane and Q. Yao in the Department of Chemistry and Biochemistry.

Colgate-Palmolive Company: “Crystal Growth and Structure Characterization of Main Group and Transition Metal Oxy, Hydroxy and Amino Clusters”, $25,000, July 1, 2012 to June 30, 2013.

Colgate-Palmolive Company: “Crystal Growth and Structure Characterization of Main Group and Transition Metal Oxy, Hydroxy and Amino Clusters”, $10,000, July 1, 2014 to June 30, 2015.

PUBLICATIONS (refereed):

1. Hoffmann, R. and Zheng, C. "Making and Breaking Bonds in the Solid State: The $ThCr_2Si_2$ Structure", *J.Phys.Chem.*, **1985**, *89*, 4175-4181.
2. Hoffmann, R.; Zheng, C. "Moving from discrete molecules to extended structures: a chemical and theoretical approach to the solid state" *NATO ASI Series, Series C: Mathematical and Physical Sciences* **1986**, *176*, 425-443.
3. Zheng; C.; Hoffmann, R.; Nesper, R. and von Schnering, H.-G. "Site Preference and Bond Length Differences in $CaAl_2Si_2$-Type Zintl Compounds", *J.Am.Chem.Soc.*, **1986**, *108*, 1876-1884.
4. Zheng, C. and Hoffmann, R. "Donor-Acceptor Layer Formation and Lattice Site Preference in the Solid State: The $CaBe_2Ge_2$ Structure", *J.Am.Chem.Soc.*, **1986,** *108* , 3078-3088.
5. Zheng, C. and Hoffmann, R. "An Unusual Electron Count and Electron-Deficient Multi-Center Bonding in One Class of Intermetallics: The $BaAl_4$, $CaAl_2Zn_2$, $CeMg_2Si_2$ and FCC Al Structures", *Z.Naturf.*, **1986**, *B41*, 292-320.
6. Zheng, C.; Apeloig, Y. and Hoffmann, R. "Bonding and Coupling of C_1 Fragments on Metal Surfaces", *J.Am.Chem.Soc.*, **1988**, *110*, 749-774.
7. Zheng, C. and Hoffmann, R. "Complementary Local and Extended Views of Bonding in the $ThCr_2Si_2$ and $CaAl_2Si_2$ structures", *J.Solid State Chem.*, **1988**, *72*, 58-71.
8. Zheng, C.; Wong, C.F.; McCammon, J.A. and Wolynes, P.G. "Quantum Simulation of Ferrocytochrome c", *Nature*, **1988**, *334*, 726-728.
9. Heben, M.J.; Kumar, A.; Zheng, C. and Lewis, N.S. "Efficient Photovoltaic Devices for InP Semiconductor/Liquid Junctions", *Nature*, **1989**, *340*, 621-623.
10. Zheng, C.; Wong; C.F.; McCammon, J.A. and Wolynes, P.G. "Classical and Quantum Aspects of Ferrocytochrome c", *Chemica Scripta*, **1989**, *29A*, 171-179.
11. Zheng, C. and R. Hoffmann, R. "Conjugation in the 3-Connected Net: The AlB_2, the $ThSi_2$ and the $SrSi_2$ structures and their Transition Metal Derivatives", *Inorg. Chem.*, **1989**, *28*, 1074-1080.
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13. Wong; C.F.; Shen, J.; Subramaniam, S.; Zheng, C. and J.A. McCammon, J.A. "Molecular Dynamics Simulation of Protein Hydration: Studies on Tuna Ferrocytochrome-c and Bovine Erythrocyte Superoxide Dismutase", *J. Mol. Liq.*, **1989**, 41,193-206.
14. Zheng, C.; McCammon, J.A. and Wolynes, P.G. "Quantum Simulation of Nuclear Rearrangement in Electron Transfer Reactions", *Proc. Natl. Acad. Sci. USA*, **1989**, *86*, 6441-6444.
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23. Long, X.Y. and Zheng, C. "Electronic Structure of Titanium Silicides", *Trans. Non. Ferr. Met. Soc.*, **1994**, *4*, 25-29.
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