## BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
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| NAME | POSITION TITLE |
|---|---|
| Eggers, Daryl K. | Associate Professor<br>Department of Chemistry |
| eRA COMMONS USER NAME<br>eggers | |

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

| INSTITUTION AND LOCATION | DEGREE *(if applicable)* | YEAR(s) | FIELD OF STUDY |
|---|---|---|---|
| Rose-Hulman Inst. Technol., Terre Haute, IN | B.S. | 1977 - 81 | Chemical Engineering |
| University of California, Berkeley, CA | M.S. | 1984 - 87 | Chemical Engineering |
| University of California, San Francisco, CA | Ph.D. | 1990 - 97 | Pharmacology |
| University of California, Los Angeles, CA | Postdoc | 1997 - 02 | Biochemistry |

### A. Positions and Honors

Positions and Employment

1981 - 84 Associate Engineer, M.W. Kellogg Company, Houston, TX
1987 - 90 Chemist II, Syntex Research, Palo Alto, CA
1997 - 02 Postdoctoral Research Fellow, UCLA
1998 - 99 Summer Lecturer, Biochemistry, UCLA
2002 - 08 Assistant Professor, Department of Chemistry, San Jose State University
2008 - Associate Professor, Department of Chemistry, San Jose State University

Professional Memberships

1990 - Member, American Chemical Society
1996 - Member, AAAS
1999 - Member, Biophysical Society
2004 - Member, The Protein Society
2010 - Member, Society for Biomaterials

Honors

1999 - 02 Fellow of the American Cancer Society
2000 Award of Excellence, Chem & Biochem Advances in Research Forum, UCLA
2008 Early Career Investigator Award, SJSU Research Foundation

### B. Selected Peer-reviewed Publications (in chronological order)


1. Eggers, D.K., W.J. Welch, and W.J. Hansen: Complexes between nascent polypeptides and their molecular chaperones in the cytosol of mammalian cells. *Mol. Biol. Cell* 8:1559-1573 (1997).

2. Eggers, D.K., and J.S. Valentine: Molecular confinement influences protein structure and enhances thermal protein stability. *Protein Science* 10:250-261 (2001). DOI: 10.1110/ps.36201

3. Eggers, D.K., and J.S. Valentine: Crowding and hydration effects on protein conformation: a study with sol-gel encapsulated proteins. *J. Mol. Biol*. 314:911-922 (2001). DOI: 10.1006/jmbi.2001.5166

4. Rodriguez, J.A., J.S. Valentine, D.K. Eggers, J.A. Roe, A. Tiwari, R.H. Brown, L.J. Hayward: Familial ALS-associated mutations decrease the thermal stability of distinctly metallated species of human copper/zinc superoxide dismutase. *J. Biol. Chem*. 277:15932-37 (2002). DOI: 10.1074/jbc.M112088200

5. Rodriguez, J.A., B.F. Shaw, A. Durazo, S.H. Sohn, P. Doucette, A.M. Nersissian, K.F. Faull, D.K. Eggers, A. Tiwari, L.J. Hayward, J.S. Valentine: Destabilization of apoprotein is insufficient to explain Cu,Zn-superoxide dismutase-linked ALS pathogenesis. *Proc. Nat. Acad. Sci.* 102:10516-21 (2005). DOI: 10.1073/pnas.0502515102

6. Rocha, V.A., and D.K. Eggers: Hydrophobic, organically-modified silica gels enhance the structure of encapsulated apomyoglobin. *ChemComm*, 1266-1268 (2007). DOI: 10.1039/B617078A

7. Menaa, B., Herrero, M., Rives, V., Lavrenko, M., and D.K. Eggers: Favourable influence of hydrophobic surfaces on protein structure in porous organically-modified silica glasses. *Biomaterials 29*, 2710-2718 (2008). DOI: 10.1016/j.biomaterials.2008.02.026

8. Menaa, B., Torres, C., Herrero, M., Rives, V., Gilbert, A.R.W., and D.K. Eggers: Protein adsorption onto organically-modified silica glass leads to a different structure than sol-gel encapsulation. *Biophysical J. 95*, L51-L53 (2008). DOI: 10.1529/biophysj.108.142182

9. Eggers, D.K.: A bulk water-dependent desolvation energy model for analyzing the effects of secondary solutes on biological equilibria. *Biochemistry 50*, 2004-2012 (2011). DOI: 10.1021/bi1017717

10. Payumo, A.Y., Huijon, R.M., Mansfield, D.D., Belk, L.M., Bui, A.K., Knight, A.E., and D.K. Eggers: Changes in apparent molar water volume and DKP solubility yield insights on the Hofmeister effect. *J. Phys. Chem. B 115*, 14784-14788 (2011). DOI: 10.1021/jp206486z

**C. Research Support**

Ongoing Research Support

SC3 GM089591, Eggers (PI) 01/01/10 - 12/31/13
NIH, NIGMS
*A New Interpretation of Solute Effects on Biological Equilibria*

DMR-1005442, Eggers (PI) 07/15/10 - 06/30/13
NSF, Division of Materials Research, Biomaterials Program
*RUI: Silica-Based Materials with Improved Biocompatibility*

Completed Research Support

CHE-0723278, Eggers (PI) 08/01/07 - 07/31/10
Co-PI's: Collins (SJSU), Gassner (SFSU), Subramaniam (Santa Clara), Whiles-Lillig (Sonoma St.)
NSF, Division of Chemistry
*MRI: Acquisition of an Isothermal Titration Calorimeter and a Differential Scanning Calorimeter*

S06 GM008192, Eggers (subproject PI) 01/01/06 - 12/31/09
NIH, NIGMS
*Intermediate States of Aggregation-prone Polypeptides*