

Amy K. Schmid, Ph.D.

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EDUCATION

- 1996 International foreign exchange, Eberhard-Karls University, Tübingen, Germany (German language and literature).
- 1997 B.S., Marquette University, Milwaukee, Wisconsin, with honors and Magna cum laude (Biology and German literature).
- 1998 Fulbright Fellow, Eberhard-Karls University and Max Planck Institute, Tübingen, Germany, with Professor Thomas Meyer (German language and literature, molecular biology). "Differential regulation of host signaling pathways in response to *Neisseria* infection".
- 2004 Ph.D., University of Washington, Seattle, Washington (Molecular and Cellular Biology), Professor Mary E. Lidstrom. "Characterization of stress response in the radioresistant bacterium *Deinococcus radiodurans*."

POSTGRADUATE TRAINING

- 2004-present Institute for Systems Biology, Seattle, Washington, Professor Nitin S. Baliga. "Systems analysis of the transcriptional and translational response to oxygen changes in halophilic archaea."

OTHER RESEARCH EXPERIENCE

- Spring 1997 Undergraduate research, Department of Biology, Marquette University, Milwaukee, Wisconsin, Dr. Dale Noel. "Molecular mechanisms of mutualistic symbiosis between legumes and soil bacteria".
- Summer 1999 Molecular and Cellular Biology Biotech Externship Fellow, Corixa Corporation, Department of Immunology, Seattle, Washington, Dr. Greg Spies. "Development of viral vectors for cancer vaccine delivery".

HONORS and FELLOWSHIPS

- 1993-1997 Marquette University Honors Program.
- 1993-1997 Marquette University Ignatius Scholarship for Academic Excellence.

1997-present	Phi Beta Kappa academic honors fraternity.
1997-1998	J. William Fulbright Fellowship, Tübingen, Germany.
1999-2002	NIH NRSA Molecular and Cellular Biology Graduate Training Grant, University of Washington, (NIH, T32 GM07270).
2006-2008	NIH Ruth L. Kirschstein National Research Service Award (NRSA) for Individual Postdoctoral Fellows, Institute for Systems Biology, (NIH F32GM078980).

PUBLICATIONS

1. **Schmid, A.K.** and Lidstrom, M.E., 2002. Involvement of two putative alternative sigma factors in stress response of the radioresistant bacterium *Deinococcus radiodurans*. *J. Bacteriol.* 184(22):6182-6189.
2. **Schmid, A.K.**, Lipton, M.S., Mottaz, H., Monroe, M.E., Smith, R.D., and Lidstrom, M.E. 2005. Global whole-cell FTICR mass spectrometric proteomics analysis of the heat shock response in the radioresistant bacterium *Deinococcus radiodurans*. *J. Proteome Res.* 4(3):709-718.
3. **Schmid, A.K.**, Howell, H.H., Battista, J.R., Peterson, S.N., and Lidstrom, M.E. 2005. Global transcriptional and proteomic analysis of the Sig1 heat shock regulon of *Deinococcus radiodurans*. *J Bacteriol* 187(10):3339-3351.
4. **Schmid, A.K.**, Howell, H.H., Battista, J.R., Peterson, S.N., and Lidstrom, M.E. 2005. HspR is a global negative regulator of heat shock gene expression in *Deinococcus radiodurans*. *Mol Microbiol* 55(5):1579-1590.
5. **Schmid, A.K.** and Baliga, N.S. 2006. Prokaryotic Systems Biology, p395-423. *In* M. Al-Rubeai and M. Fussenegger (ed.), *Cell Engineering Vol. 5: Systems Biology*. Springer Press, New York, NY.
6. Rothfuss, H.M., Lara, J.C., **Schmid, A.K.**, and Lidstrom, M.E. 2006. Involvement of the S-layer proteins Hpi and SlpA in the maintenance of cell envelope integrity in *Deinococcus radiodurans* R1. *Microbiology.* 152(9): 2779-2787.
7. Bare, C.J., Shannon, P.T., **Schmid, A.K.**, Baliga, N.S. 2007. The Firegoose: two-way integration of diverse data from different bioinformatics web resources with desktop applications. *BMC Bioinformatics.* 8:456.
8. Bonneau, R., Facciotti, M.T., Reiss, D.J., **Schmid, A.K.**, Pan, M., Kaur, A., Thorsson, V., Shannon, P., Johnson, M., Bare, C.J., Longabaugh, W., Vuthoori, M., Whitehead, K., DiRuggiero, J., Johnson, C., Hood L., and Baliga, N.S. 2007.

A predictive model for transcriptional control of *Halobacterium salinarum* NRC-1 physiology. *Cell*. In press (cover article).

9. Van, P.T., **Schmid, A.K.**, King, N., Kaur, A., Pan, M., Whitehead, K., Koide, T., Facciotti, M., Reiss, D.J., and Baliga, N.S. 2007. The *Halobacterium salinarum* NRC-1 peptide atlas: identification of strategies for improved peptide detection. Under review at Molecular and Cellular Proteomics.

10. **Schmid, A.K.**, Reiss, D.J., Kaur, A., Pan, M., King, N., Van, P., Hohmann, L., Martin, D.B., and Baliga, N.S. 2007. Anatomy of microbial cell state transitions in response to oxygen. *Genome Research*. 17(10):1399-413.

TEACHING EXPERIENCE

Workshops

Co-organized and team taught Systems Biology Course at the Institute for Systems Biology. November 6-9, 2006

Mentoring Undergraduate and High School Research Assistants.

Spring 2003

- Hands-on teaching of concepts of recombinant DNA technology, bacterial growth and survival experiments in a one-on-one situation.
- Supervised experiments and assisted in evaluation of experimental results.

Summer 2005, 2006

- Supervised two high school research assistants
- Created and tested laboratory kits and problem-based curriculum materials for Bellevue High School District, Washington.

Spring 2006-present

- Supervised two undergraduate research assistants:
- Phu Van - Supervised and mentored the construction of the first microbial proteomics peptide atlas and the writing of the publication.
- Jamie Mazon - Supervised the construction of GFP-promoter fusion clones in *Halobacterium salinarum* NRC-1 for the purpose of optimizing microfluidics platforms.

Teaching Assistantships

Spring 1999

BIOL 401, Molecular and Cellular Biology Science Writing,
Teaching assistantship, University of Washington, Seattle, WA.

Summer 2000

MICROM 302, General Microbiology Laboratory, Teaching assistantship,
BRIDGE program, University of Washington, Seattle, WA.

INVITED CONFERENCE AND SYMPOSIA ORAL PRESENTATIONS

West Coast Bacterial Physiologists' Annual Meeting, Asilomar Conference Center, Pacific Grove, California, December, 2001. "Regulation of the heat shock response in the radioresistant bacterium *Deinococcus radiodurans*."

Microbial Stress Response Gordon Research Conference, South Hadley, Massachusetts, July, 2006. "Systems-level analysis of the oxygen response in the halophilic archaeon *Halobacterium salinarum* NRC-1".

Symposium on Biological Networks: from Measurements to Modeling, Fred Hutchinson Cancer Research Center, Seattle, Washington, September, 2007. "A predictive systems model of cellular responses to environmental perturbations".

Center for Systems Biology Collaborative Meeting, Virginia State University, Petersburg, Virginia, October, 2007. "Systems biology: goals, research, and results".

Association for Women in Science Network Meeting, Institute for Systems Biology, Seattle, Washington, January, 2008. "Systems-level analysis of the oxygen response in the halophilic archaeon *Halobacterium salinarum* NRC-1".

CONFERENCE AND SYMPOSIA POSTER PRESENTATIONS

Microbial Stress Response Gordon Research Conference, July, 2000, Newport, Rhode Island. Amy K. Schmid and Mary E. Lidstrom. "Characterization of stress responses in the extremely radioresistant bacterium *Deinococcus radiodurans*."

Microbial Stress Response Gordon Research Conference, July, 2002, Newport, Rhode Island. Amy K. Schmid and Mary E. Lidstrom. "Involvement of two alternative sigma factors in the stress response of *Deinococcus radiodurans*."

103rd General Meeting of the American Society for Microbiology, May, 2003, Washington, D.C. Amy K. Schmid and Mary E. Lidstrom. "Involvement of the alternative sigma factor Sig1 in the stress response of *Deinococcus radiodurans*."

3rd International Conference on Pathways, Networks, and Systems: Theory and Experiments, October, 2005, Rhodes, Greece. Amy K. Schmid, M. Facciotti, A. Kaur, M. Pan, M. Vuthoori, P. Shannon, L. Hohmann, and N.S. Baliga. "Systems-level analysis of the oxygen response in the halophilic archaeon *Halobacterium* sp. NRC-1 indicates bimodal metabolism."

Microbial Stress Response Gordon Research Conference, July, 2006, South Hadley, Massachusetts. Amy K. Schmid. "Systems-level analysis of the oxygen response in the halophilic archaeon *Halobacterium NRC-1*".

Keystone Symposium on Systems Biology and Regulatory Networks, March, 2007, Steamboat Springs, Colorado. Amy K Schmid, D. Reiss, A. Kaur, M. Pan, P.T. Van, N. King, L. Hohmann, and N.S. Baliga. "The anatomy of microbial cell state transitions in response to oxygen."

7th International Symposium on Systems Biology: Systems Biology and the Environment, April, 2007, Institute for Systems Biology, Seattle, Washington. Amy K Schmid, D. Reiss, A. Kaur, M. Pan, P. T. Van, N. King, L. Hohmann, and N.S. Baliga. "The anatomy of microbial cell state transitions in response to oxygen."

COMMUNITY AND DEPARTMENTAL SERVICE

1993-1997 Marquette Action Program member (participated in spring break trips to rural areas to help maintain and rebuild homes).

1993-1997 Marquette Student Ministry Volunteer

2000, 2002 Student leader for the University of Washington Molecular and Cellular Biology Program new student recruitment weekend.

Winter 2003 Student panel spokesperson, HHMI undergraduate course.

2005-present St. Catherine of Siena Marriage Preparation Team member and facilitator, Seattle, Washington.

2004-2006 Institute for Systems Biology Employee Advisory Committee member. Spearheaded the Employee Bicycle Program, providing bikes for employees to bike to work and use at lunchtime.