

Curriculum Vitae

Xavier Siebert

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Personal Information

Date of Birth January 5, 1976
Place of Birth Brussels, Belgium
Citizenship Belgian
Marital Status Married, one child

Degrees

1998 – 2005 Ph.D. in Biophysics and Biophysical Chemistry,
 Johns Hopkins School of Medicine, Baltimore, MD, USA
 Advisor : L. Mario Amzel
1993 – 1998 B.S./M.S. in Physics Engineering
 Université Libre de Bruxelles, Brussels, Belgium
 in collaboration with the Institut des Sciences Nucléaires
 and the Institut National Polytechnique, Grenoble, France.
 (Socrates/Erasmus European Community program)
 Advisors : D. Baye (Brussels) and B. Silvestre-Brac (Grenoble)
High School Latin and Mathematics, Athénée Léon Lepage, Brussels, Belgium

Professional Experience

2000 – present Teaching Assistant (Biophysics, Computer Modeling),
 Department of Biophysics and Biophysical Chemistry,
 Johns Hopkins School of Medicine, Baltimore, MD, USA
July – Sep 2000 Research Internship in the Laboratory of Chemical Physics,
 NIDDK division, National Institute of Health, Bethesda, MD, USA
June – Aug 1999 Summer Student in the Theoretical Biology and Biophysics group,
 Los Alamos National Laboratory, Los Alamos, NM, USA
1996 – 1998 Mathematics Teacher at PreExPo, Université Libre de Bruxelles,
 Brussels, Belgium
July – Aug 1995 Programmer at Zetes (<http://www.zetes.com>), Brussels, Belgium

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Honors and awards

- 1998 Erasmus/Socrates European Community fellowship
1999 – 2000 Belgian American Education Foundation fellowship

Professional societies

- 2003 - present Biophysical Society
2004 - present American Crystallographic Association

Research Interests

My background is mostly in theoretical biophysics and in experimental X-ray crystallography. During the first part of my Ph.D. studies, I worked on the development of theoretical and computational methods to study different aspects of ligand binding to proteins [1-3]. During the second part of my Ph.D. studies, I performed structural studies of a redox protein called PHM (peptidylglycine hydroxylating monooxygenase), which catalyzes the first step of the oxidative amidation of many bioactive peptides. My efforts were concentrated on the understanding of the electron-transfer mechanism using a combination of mutagenesis, X-ray crystallography, calorimetry and quantum calculations [4,5]. My current research interests derive from this background and aim at developing new methodologies for structural biophysics. In particular, I am interested in extending the structural information gained from a classical X-ray crystallography experiment, either by combining it with other methods such as electron microscopy, or by improving the X-ray experiment itself.

Publications

- [5] Siebert X., Prigge S.T. and Amzel L.M. “Electron Transfer Pathway in Peptidylglycine Hydroxylating Monooxygenase”, *submitted* (Jun 2005)
- [4] Siebert X., Eipper B.A., Mains R.E., Prigge S.T., Blackburn N.J. and Amzel L.M. “The catalytic copper of Peptidylglycine alpha-Hydroxylating Monooxygenase also plays a critical structural role.”, *submitted* (Dec 2004)
- [3] Amzel L.M., Armstrong A.A., Pabon G. and Siebert X. “Thermodynamic Calculations in Biological Systems.”, *Biophysical Chemistry* (in Press).
- [2] Siebert X. and Amzel L.M. “Loss of translational entropy in molecular associations”, *Proteins* (2004),54(1):104-15.
- [1] Siebert X. and Hummer G. “Hydrophobicity maps of the N-peptide coiled coil of HIV-1 gp41”, *Biochemistry* (2002), 41(9):2956-61

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Siebert, X. "Structural probes into the mechanism of PAM, a peptide-amidating enzyme", *Ph.D. thesis* (2005), Johns Hopkins School of Medicine, Baltimore, MD, USA

Siebert, X. *Master thesis* (1998), Université Libre de Bruxelles, Brussels, Belgium

Presentations and Posters

Siebert X et al. "Structural probes into the mechanism of PHM, a peptide-amidating enzyme.", *Biophys. J.* (2004) 86(1):493A

L. M. Amzel et al. "Molecular Mechanics/Dynamics Calculations of Biochemical Processes.", *International Biophysics Conference* (2004), Zaragoza, Spain.

Siebert X. and Amzel, L. M. "Loss of translational entropy in molecular associations.", *International Biophysics Congress*, Buenos Aires, Argentina (2002).

Hummer G. and Siebert X. (2001) "Mapping protein surfaces: Results for the coiled coil of HIV-1 gp41", *Absr. Pap. Am. Chem. Soc.*, 221:155.

Toptygin D., Siebert X., Stites W.E., et al. (2001) "An initial rise in the time-resolved fluorescence anisotropy of the single tryptophan residue of the PHS/V66D mutant of Staphylococcal Nuclease", *Biophys. J.*, 80(1):1510.

References

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Gerhard Hummer

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