Curriculum vitae

Last name, first name	Rösgen, Jörg
Academic degree	Dr. rer. nat. (PhD)
Date of birth	14th April 1970
Place of birth	Rheda-Wiedenbrück
Nationality	german
Marital status	unmarried
Number of children	none

Professional address	Institute for Human Biological Chemistry and Genetics Sealy Center for Structural Biology 5.154 Medical Research Building University of Texas Medical Branch 301 University Blvd Galveston, TX 77555-1052 Tel.: 409-772-0968 Fax.: 409-747-4751 e-mail: jorosgen@utmb.edu
Private address	100 Market Street #15 Galveston, TX 77550 Tel.: 409-765-5652 e-mail: rosgen@mac.com

Education

Grammar School A-level (Abitur)	Albertus-Magnus Gymnasium Beckum, 1989
Bachelor in Music (Zwischenprüfung)	Universität Gesamthochschule Paderborn, 1991
Bachelor in Biology (Vordiplom)	Westfälische Wilhelms-Universität Münster, 1993
Master in Biology (Diplom)	Westfälische Wilhelms-Universität Münster, 1996 Prof. Dr. Engelbert Weis Grade: *with distinction*
PhD in Physical Chemistry (Dr. rer. nat.)	Westfälische Wilhelms-Universität Münster, 2001 Prof. Dr. Hans-Jürgen Hinz (Statistical thermodynamic analysis und quantification of protein transitions) Grade: *summa cum laude*

Professional Experience

1995	Student Research and Teaching Associate, Institut für Botanik, WWU Münster Research Group Prof. Dr. Engelbert Weis Fields of activity: 1) Investigation of the electron transport kinetics in spinach chloroplasts, 2) Teaching
1996 to 1999	Stipend within DFG Graduate Student Resarch Grant (Graduiertenkolleg) GRK 234/1-96 „Membranproteine: Signalerkennung, Signaltransfer und Stofftransport“, WWU Münster Research Group Prof. Dr. Hans-Jürgen Hinz, Fields of activity: 1) Experimental and theoretical investigation of complex protein equilibria, ligand binding, 2) Teaching
1999 to 2001	Scientific Coworker, Institut für Physikalische Chemie, WWU Münster Research Group Prof. Dr. Hans-Jürgen Hinz Fields of activity: 1) Development of calorimetric techniques, theory of calorimetry of biomolecules, 2) Teaching
2002 to 2004	Keck Fellow, Training fellowship from the W.M. Keck Foundation to the Gulf Coast Consortia through the Keck Center of Computational and Structural Biology Research Groups Prof. Dr. David Wayne Bolen (UTMB Galveston) and Prof. Dr. Bernard Montgomery Pettitt (University of Houston) Fields of activity: 1) Experimental determination of start- and control-parameters for molecular dynamics simulations, 2) Development of a statistical mechanic theory of non-ideal solutions
since 01/2002	Postdoctoral Fellow, Institute of Human Biological Chemistry and Genetics, University of Texas Medical Branch at Galveston Research Group Prof. Dr. David Wayne Bolen Fields of activity: 1) Kinetic and thermodynamic investigation of the effects of ubiquitous osmolytes on proteins, construction of appropriate instrumentation, 2) Teaching
since 07/2004	Postdoctoral Fellow, Institute for Molecular Design, University of Houston Research Group Prof. Dr. Bernard Montgomery Pettitt Fields of activity: Structural and thermodynamic analysis of solution non-ideality in simulation and experiment

Honours

1996	Diplom (Master) in Biology: *with distinction*
2001	Promotion (PhD) in Physical Chemistry: *summa cum laude*
1996 - 1999	Scholarship within Graduiertenkolleg "Membranproteine: Signalerkennung, Signaltransfer und Stofftransport" at the University of Münster awarded by the state of Nordrhein-Westfalen and the DFG
2002 - 2004	Postdoctoral Keck Fellowship awarded by the W.M Keck Foundation
2003	Poster Award at the 8th Annual Structural Biology Symposium in Galveston for the poster "Activity coefficients of aggregating systems"

Teaching

1995	Lab course, Plant Physiology, WWU Münster
1997 to 2001	Lab course, Biophysics, WWU Münster
1999 to 2001	Lab course, Physical Chemistry, WWU Münster
2000 to 2001	Theoretical course, Mathematics for Chemists (Analysis), WWU Münster
Winter 2000/2001	Substitute lecturer for lecture, Mathematics for Chemists, WWU Münster
Summer 2002	Invited lecturer for lecture, Transient State Kinetics, UTMB Galveston
2004	Organize and deliver informal two-credit course, Biological Applications in Statistical Physics, UTMB Galveston

Memberships

Biophysical Society
Protein Society

Fields of Research Interest

Biophysical Chemistry:

- Crowding: Energetics and structure of highly concentrated solutions of proteins and other biologically relevant molecules under conditions resembling the cytoplasm
- Protein stability; Protein folding kinetics; Ligand binding
- Biochemical reaction networks
- Calorimetry

Grant Support

1996 - 1999

Scholarship within DFG Graduate Student Resarch Grant (Graduiertenkolleg) GRK 234/1-96 „Membranproteine: Signalerkennung, Signaltransfer und Stofftransport“, WWU Münster
Provided a stipend and research funds plus travel and discretionary funds for books, software, etc.

2002 – 2004

Postdoctoral fellowship from the W.M. Keck Foundation through the Keck Center of Computational and Structural Biology
Provides a stipend plus travel and discretionary funds for books, software, etc.

Publications

Invited talks and talks on research conferences

1. “Osmolyte action on biochemical equilibria”,
   Talk to be given at the Gordon Research Conference on Cellular Osmoregulation, Aug. 2005, Newport, RI
2. “Osmolyte dependence of biochemical reactions quantified by the phase diagram method”, Talk to be given at the 49th Biophysical Society Meeting, Feb. 2005, Long Beach, CA
3. “Statistical Thermodynamics of Activity Coefficients: A structural perspective”
   Talk given at the 18th annual Gibbs Conference on Biothermodynamics, Oct. 2004, Carbondale, IL
4. “Steps towards quantification of the cytoplasm: Reaction networks and molecular crowding”
   Invited talk given September 2004, University of Aberdeen, UK
5. “Statistical Thermodynamics of Activity Coefficients”
   Talk given at the 59th Calorimetry Conference, June 2004, Santa Fe, NM
6. “Molecular Crowding: The behavior of biomolecules in the cytoplasm.”
   Invited talk given March 2004, University of Potsdam, Germany
7. “Activity coefficients of aggregating systems: A statistical thermodynamic theory of solution”
   Invited talk given at the 17th annual Gibbs Conference on Biothermodynamics, Oct. 2003, Carbondale, IL
8. “Mechano-thermal properties of proteins”
   Talk given in the symposium “Volumetric properties of biological objects”, University of Toronto, 1999

Papers and Book Chapter

1. **Rösgen J**, Pettitt BM, Bolen DW (2004)
   Uncovering the Basis for Nonideal Behavior of Biological Molecules.
   Biochemistry, 43(45): 14472-14484
2. **Rösgen J**, Pettitt BM, Perkyns J, Bolen DW (2004)
   Statistical thermodynamic approach to the chemical activities in two-component solutions
   Journal of Physical Chemistry B 108, 2048-2055
3. Fernando H, Chin C, **Rösgen J**, Rajarathnam K (2004)
   Dimer Dissociation is Essential for Interleukin-8 (IL-8) Binding to CXCR1 Receptor.
   Journal of Biological Chemistry, 279(35): 36175-36178
   Reviewed in Science STKE, Vol. 2004, Issue 248, pp. tw307
4. **Rösgen J**, Hinz HJ (2003)
   Phase diagrams: A graphical representation of linkage relations
   Journal of Molecular Biology, 328(1): 255-271
5. Russo AT, **Rösgen J**, Bolen DW (2003)
   Osmolyte effects on kinetics of FKBP12 C22A folding coupled with prolyl isomerization.
   Journal of Molecular Biology 330, 851-866
6. Kirchhoff H, Hinz HJ, **Rösgen J** (2003)
   Aggregation and fluorescence quenching of chlorophyll a of the light harvesting complex II from spinach in vitro.
   Biochimica et Biophysica Acta 1606, 105-116
7. **Rösgen J**, Hinz HJ (2002)
   The heat capacity paradox of ligand binding proteins: reconciling the microscopic and macroscopic world
   Biophysical Chemistry, 96(2-3): 109-116
8. **Rösgen J**, Hinz HJ (2001)
   Folding energetics of ligand binding proteins. I. Theoretical model
   Journal of Molecular Biology, 306(4): 809-824
9. Rosengarth A, **Rösgen J**, Hinz HJ, Gerke V (2001)
   Folding energetics of ligand binding proteins. II. Cooperative binding of Ca^{2+} to annexin I.
   Journal of Molecular Biology, 306(4): 825-835
10. **Rösgen J**, Hinz HJ (2000)
    Response functions of proteins
    Biophysical Chemistry, 83(1): 61-71
11. **Rösgen J**, Hinz HJ (1999)
    Statistical thermodynamic treatment of conformational transitions of monomeric and oligomeric proteins.
    Physical Chemistry Chemical Physics, 1(9): 2327-2333
12. Rosengarth A, **Rösgen J**, Hinz HJ, Gerke V (1999)
    A comparison of the energetics of annexin I and annexin V.
    Journal of Molecular Biology, 288(5): 1013-1025

13. Rosengarth A, **Rösgen J**, Hinz HJ (1999)
Slow unfolding and refolding kinetics of the mesophilic rop wild-type protein in the transition range.
European Journal of Biochemistry, 264(3): 989-995
14. **Rösgen J**, Hinz HJ (1999)
Theory and practice of DSC measurements on proteins.
In: Handbook of Thermal Analysis and Calorimetry, Vol 4: From Macromolecules to Man, edited by Kemp RB, Elsevier
15. **Rösgen J**, Hallerbach B, Hinz HJ (1998)
The ‚Janus' nature of proteins: systems at the verge of the microscopic and macroscopic world.
Biophysical Chemistry, 74(2): 153-161

Galveston, 12/13/2004

(Jörg Rösgen)