

Biocomplexity Faculty Search Committee,
c / o Prof. Rob de Ruyter van Steveninck,
Department of Physics,
Indiana University,
Swain Hall West 117, Bloomington IN, 47405-7105

November 22 2004

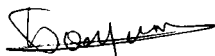
Dear Prof. de Ruyter van Steveninck:

I'm interested in applying for a tenure-track faculty position at the assistant professor level that is available at the Biocomplexity Institute of your university.

I graduated from the Institute for Condensed Matter Physics, National Academy of Sciences of Ukraine with a Ph.D. in theoretical physics in December 1999. Ever since I have been working as a postdoctoral researcher.

My research interests are in computational approaches to chemically and physically oriented problems in biology. Over the past four years I have been focusing on protein folding and aggregation. I enclose my curriculum vitae, research proposal, teaching statement and the names of three references. I expect my recommendation letters to be sent in shortly. Please let me know if there is any other information I can send you.

Sincerely,



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Education

- Ph. D. **Theoretical Physics**, Institute for Condensed Matter Physics, National Academy of Sciences of Ukraine, Lviv, 2000.
Advisers – Z. Gurskii and Ya. Chushak
- M.S. **Physics**, Lviv State University, Lviv, Ukraine, 1995.
Adviser – Ya. Chushak

Employment and Affiliations

- Postdoctoral researcher **University of California Santa Barbara**, August 2002-present.
Adviser – J.-E. Shea
- Postdoctoral researcher **Kanazawa University, Kanazawa, Japan**, January 2000-March 2002.
Adviser – Y. Hiwatari
- Junior researcher **Institute for Condensed Matter Physics, NAS of Ukraine**, December 1999-present

Honors

- Awards **“Diploma cum Laude”** from Lviv State University, Ukraine, 1995
G. Soros Graduate Student, Ukraine, 1997
- Fellowships University of Jyväskylä, Finland, 1999
International Center for Theoretical Physics (ICTP), Trieste, Italy, 2000
- Research Grants **NSF- High Performance Computing and TeraGrid** allocation. PI – J.-E. Shea, grant # MCB040044
- Other Marquis **Who’s Who in Science and Engineering** Biographee, 2004

Professional Services

- Referee Physical Reviews Letters, Physical Reviews E
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Publication list

S. L. Bernstein, T. Wyttenbach, A. Baumketner, J.-E. Shea, G. Bitan, D. B. Teplow and M. T. Bowers 'Amyloid beta-protein: Monomer structure and early aggregation states of Ab42 and its Pro19 alloform' **JACS**, at press (2004)

A. Jewett, A. Baumketner and J.-E. Shea, 'Accelerated folding in the weak hydrophobic environment of a chaperonin cavity: Creation of an alternate fast folding pathway', **PNAS**, 101, 13192 (2004)

N. Anento, L. E. Gonzalez, D. J. Gonzalez, Y. Chushak and A. Baumketner 'Viscoelastic model for the dynamic structure factors of binary systems', **Phys. Rev. E**, 70, 041201, (2004)

A. Baumketner and J.-E. Shea 'Effects of frustration on the kinetics of helix formation in alanine polypeptides', **Condens. Matter Physics**, 7, 421, (2004)

A. Baumketner, J.-E. Shea and Y. Hiwatari 'Improved theoretical description of protein folding kinetics from rotations in the phase space of relevant order parameters', **J. Chem. Phys.**, 121, 1114, (2004)

A. Baumketner and J.-E. Shea, 'Kinetics of the coil to helix transition on a rough energy landscape', **Phys. Rev. E**, 68, 051901, (2003)

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A. Baumketner, J.-E. Shea and Y. Hiwatari, 'Glass transition in an off-lattice protein model studied by molecular dynamics simulations', **Phys. Rev. E**, 67, 011912, (2003)

A. Baumketner and Y. Hiwatari, 'Molecular Dynamics Study of Protein Folding: Potentials and Mechanisms', Vol. 661 of AIP Conference Proceedings 'Modeling of complex systems', New York (2003)

A. Baumketner and Y. Hiwatari, 'Diffusive dynamics of protein folding studied by molecular dynamics simulations of an off-lattice model', **Phys. Rev. E**, 66, 011905, (2002)

A. Baumketner and Y. Hiwatari, 'Influence of the hydrodynamic interaction on kinetics and thermodynamics of minimal protein models', **J. Phys. Soc. Jpn.**, 71, 3069, (2002)

A. Baumketner and Y. Hiwatari, 'Running multicanonical simulations on deformed energy surface: Application to a model protein', **J. Phys. Soc. Jpn.**, 71, 1001, (2002)

A. Baumketner, H. Shimizu, M. Isobe and Y. Hiwatari, 'Stochastic tunneling minimization by molecular dynamics: An application to heteropolymer models', **Physica A** 310, 139, (2002)

A. Baumketner, H. Shimizu and Y. Hiwatari, 'Structural organization of a chain molecule with specific charge distribution: A molecular dynamics study', **Mol. Sim.**, 28, 359, (2002)

- A. Baumketner, H. Shimizu, M. Isobe and Y. Hiwatari, 'Helix transition in di-block polyampholyte', **J. Phys: Cond. Matt.**, 13, 10279, (2001)
- A. Baumketner and Y. Hiwatari, 'Finite-size dependence of the bridge function extracted from molecular dynamics simulations', **Phys. Rev. E**, 63, 061201, (2001)
- A. Baumketner, Ya. Chushak and Y. Hiwatari, 'A comparative study of the diffusion processes in liquid binary alloys with tendency towards aggregation and segregation', *Def. Diff. Metals*, TTP Inc., **143**, (2001)
- A. Baumketner and Ya. Chushak, 'A molecular dynamics study of the diffusion processes in liquid Na-K alloys', **J. Phys: Condens. Matter**, 11, 1397, (1999)
- Ya. Chushak and A. Baumketner, 'Theoretical and computer simulation study of density fluctuations in liquid binary alloys', **Eur. Phys. J. B**, 7, 129, (1999)
- A. Baumketner and Ya. Chushak, 'Finite-size correction in molecular dynamics simulation of liquid alloys', **J. Non-Cryst. Solids**, 250, 354, (1999)
- A. Baumketner and Ya. Chushak, 'Bridge function for liquid Na', **Condens. Matter Physics**, 2, 81, (1999)
- A. Baumketner, T. Bryk and Ya. Chushak 'Theoretical investigation of the dynamical properties of binary mixtures', **Ukr. fiz. journal**, 42, 241, (1997)
- Ya. Chushak, T. Bryk, A. Baumketner, G. Kahl and J. Hafner, 'Dynamical Properties of Liquid Binary Alloys: a Memory Function Study', **Phys. Chem. Liquids**, 32, 87, (1996)
- Ya. Chushak, T. Bryk and A. Baumketner, 'Dynamical Properties of Liquid Alloys', **Metallofizika**, 18, 3, (1996)
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REFERENCES

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