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## ANDREW POHORILLE - NASA AMES RESEARCH CENTER

Mail Stop 239-4, Moffett Field, CA 94035-1000

Phone: 650-604-5759 Fax: 650-604-1088 Email: Andrew.Pohorille@nasa.gov

### Related Experience Summary

My main interests have been centered on and investigating the origin of life, simulating the structure and function of biomolecular and cellular systems, computational modeling of genetic and regulatory networks. My other research activities are devoted to statistical mechanics of condensed phases and the development of novel computational methods for parallel and distributed computing. I co-authored over 90 peer-reviewed publications in these and related areas. I participated in formulating the first and the current version of the Astrobiology.

### Employment History

1999-Present Director, the NASA Center for Computational Astrobiology and Fundamental Biology, NASA-Ames Research Center  
1996-Present Head, Biomolecular and Cellular Modeling Program, Exobiology Branch, NASA Ames Research Center  
1992-Present Professor, Dept. of Pharmaceutical Chemistry, Univ. of California, San Francisco  
1986-1992 Associate Research Professor, Dept. of Chemistry, Univ. of California at Berkeley  
1984-1986 Assistant Research Professor, Dept. of Chemistry, Univ. of California at Berkeley  
1982-1984 Visiting Assistant Research Professor, Dept. of Chemistry, Univ. of California at Berkeley  
1981-1982 Staff Scientist, Molecular Research Institute  
1980-1983 Assistant Professor, Dept. of Biophysics, Institute of Experimental Physics, University of Warsaw (on leave of absence since Nov. 1980)

### Education

1974-1979 University of Warsaw, Ph.D., Cum Laude, (Prof. W. Kolos) Biophysics  
1979 Institut de Biologie Physico-Chimique, Postdoc, Biophysics, CNRS, Paris, France  
1968-1973 University of Warsaw, M. Sci., Cum Laude, Physics

### Awards and Honors

2005 Distinguished Lecturer, Centre for Mathematical Modelling and National Centre for Space Research, Leicester, U.K.  
2002 NASA Exceptional Scientific Achievement Medal  
2000 NASA Group Award for the Astrobiology Team  
1994 NASA Ames Space Science Division Recognition Award  
1979 Award of the President of University of Warsaw for Ph.D. Thesis  
1970-73 Scientific Scholarship for Distinguished Students

### Selected Relevant Publications

Pohorille, A., Protocells as Universal Ancestors of Living Systems. In Protocells: Bridging Nonliving and Living Matter, S. Rasmussen, M. Bedau, L. Chen, D. Deamer, D. Krakauer, N. Packard, and P. Shuster, Eds.. MIT Press, Cambridge, MA., 2008.  
Chipot, C. and Pohorille, A. (2007) Free Energy Calculations. Theory and Applications to Chemistry and Biology, Springer Verlag, Berlin.  
Pohorille, A., Schweighofer, K. and Wilson, M. A. (2005 ) The origin and early evolution of membrane channels, *Astrobiology*, 5: 1-17.  
Henin, J., Pohorille, A. and Chipot, C. (2005) Insights into the recognition and association of transmembrane  $\alpha$ -helices. The free energy of  $\alpha$ -helix dimerization in glycophorin A, *J. Am. Chem. Soc.*, 127: 8478-84.  
Pohorille, A., Wilson, M. A. and Chipot, C. (2003) Membrane peptides and their role in protobiological evolution, *Orig. Life Evol. Biosphere*, 33: 173-197.  
Pohorille A. and Deamer, D. (2002) Artificial cells: Prospects for biotechnology, *Trends Biotechnol.*, 20:123-128.

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