

## **ACADEMICIAN**

**TIGRAN V. CHALIKIAN**



## **CURRICULUM VITAE**

### **CURRENT ADDRESS:**

Department of Pharmaceutical Sciences, Leslie Dan Faculty of Pharmacy, University of Toronto, 144 College Street, Toronto, Ontario, Canada M5S 3M2

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**Date of Birth** November 18, 1963

**Citizenship** Canadian

### **EDUCATION**

1990: Ph. D. in biophysics, Institute of Biological Physics of the Academy of Sciences of the USSR, Pushchino, Russia (USSR)

1985: M.S., Department of Radiotechnics, Yerevan Polytechnic Institute, Yerevan, Armenia

### **PROFESSIONAL EXPERIENCE**

2007–present: Professor; Faculty of Pharmacy, University of Toronto, Toronto, Canada

2002–2007: Associate Professor; Faculty of Pharmacy, University of Toronto, Toronto, Canada

1997–2002: Assistant Professor; Faculty of Pharmacy, University of Toronto, Toronto, Canada

1996–1997: Research Assistant, Professor; Department of Chemistry, Rutgers, The State University of New Jersey, Piscataway, NJ, USA

- 1995–1996: Research Associate; Department of Chemistry, Rutgers, The State University of New Jersey, Piscataway, NJ, USA
- 1992–1995: Postdoctoral Fellow; Department of Chemistry, Rutgers, The State University of New Jersey, Piscataway, NJ, USA

## PROFESSIONAL ASSOCIATIONS AND ACTIVITIES

**Member:** Foreign Member of the National Academy of Sciences of the Republic of Armenia;  
American Chemical Society;  
The Biophysical Society;  
The Protein Society

**Editorial Board** *Biophysical Chemistry*

**Organizer:** *Volumetric Properties of Biological Objects*, An International Symposium, 9 to 11 August 1999, Toronto.

*Hydration and Thermodynamics of Molecular Recognition*, An International Symposium, 1 to 5 March 2005, Tsakhkadzor (Armenia).

*Solvation and Ionic Effects in Biomolecules: Theory to Experiment*, An International Symposium, 17 to 21 May 2010, Tsakhkadzor (Armenia).

## INVITED LECTURES (LAST FIVE YEARS)

- 3/2011 6<sup>th</sup> International Meeting on Biomolecules under Pressure: New Horizons in Pressure Bioscience, 21 to 25 March 2011, Otsu City, Japan
- 8/2010 6th International Conference on high Pressure Bioscience and Biotechnology (HPBB2010), 28 August to 1 September 2010, Munich, Germany
- 12/2009 33rd Annual Conference of the Australian Society for Biophysics, Ballarat, Victoria, Australia
- 5/2009 157th Meeting of the Acoustical Society of America, 18 to 22 May 2009, Portland, Oregon, USA
- 7/2008 Invited Lecture at the Department of Molecular Physics, Yerevan State University, Armenia
- 1/2008 Third International Workshop on Proteins under Pressure, Santa Fe, New Mexico, USA.
- 11/2007 International Conference "Solution chemistry: from solvation to biomolecules", Kyoto, Japan

- 11/2007 Joint Conference of Japanese Molecular Liquids Group (JMLG) and European Molecular Liquids Group (EMLG) and 30th Symposium on Solution Chemistry of Japan, Fukuoka, Japan
- 10/2007 Invited Lecture at the Department of Pharmaceutical Sciences, School of Pharmacy, University of Colorado Health Sciences Center, Declined
- 9/2006 International Conference on High Pressure Bioscience and Biotechnology, Tsukuba, Japan.
- 8/2006 International High Pressure Consortium, Montpellier, France
- 8/2006 Invited Lecture at the National Institutes of Health, Washington, DC, USA

## PUBLICATIONS (LAST FIVE YEARS)

1. Son, I., Shek, Y. L., Dubins, D. N., and Chalikian, T. V. (2012) Volumetric characterization of tri-N-acetylglucosamine binding to lysozyme. *Biochemistry*, submitted.
2. Patel, N., Dubins, D. N., Pomès, R., and Chalikian, T. V. (2012) Size dependence of cavity volume: A molecular dynamics study. *Biophys. Chem.* **161**, 46-49.
3. Shek, Y. L. and Chalikian, T. V. (2011) Volumetric Characterization of Interactions of Glycine Betaine with Protein Groups. *J. Phys. Chem. B* **115**, 11481-11489.
4. Patel, N., Dubins, D. N., Pomès, R., and Chalikian, T. V. (2011) Parsing partial molar volumes of small molecules: A molecular dynamics study. *J. Phys. Chem. B* **115**, 4856-4862.
5. Chalikian, T. V. (2011) Volumetric measurements in binary solvents: Theory to experiment. *Biophys. Chem.* **156**, 3-12.
6. Fan, H. Y., Shek, Y. L., Amiri, A., Dubins, D. N., Heerklotz, H., Macgregor, R. B., Jr., and Chalikian, T. V. (2011) Volumetric characterization of sodium-induced G-quadruplex formation. *J. Am. Chem. Soc.* **133**, 4518-4526.
7. Lee, S., Shek, Y. L., and Chalikian, T. V. (2010) Urea Interactions with protein groups: A volumetric study. *Biopolymers* **93**, 866-879.
8. Lee, S., Heerklotz, H., and Chalikian, T. V. (2010) Effects of buffer bonization in protein transition volumes. *Biophys. Chem.* **148**, 144-147.
9. Chalikian, T. V., and Macgregor, R. B., Jr. (2009) Origins of pressure-induced protein transitions. *J. Mol. Biol.* **394**, 834-842.
10. Lee, S. and Chalikian, T. V. (2009) Volumetric properties of solutes in solvent-cosolvent mixtures. *J. Phys. Chem. B* **113**, 2443-2450.
11. Korzhnev, D. M., Bezsonova, I., Lee, S., Chalikian, T. V., and Kay, L. E. (2009) Alternate binding modes for a ubiquitin/SH3 domain interaction studied by NMR spectroscopy. *J. Mol. Biol.* **386**, 391-405.
12. Taulier, N. and Chalikian, T. V. (2008)  $\gamma$ -cyclodextrin forms a highly compressible complex with adamantane. *J. Phys. Chem. B* **112**, 9546-9549.
13. Lee, S., Tikhomirova, A., Shalvardjian, N., and Chalikian, T. V. (2008) Partial molar volumes and adiabatic compressibilities of unfolded protein states. *Biophys. Chem.* **134**, 185-199.
14. Chalikian, T. V. (2008) On the molecular origins of volumetric data. *J. Phys. Chem. B* **112**, 911-917.
15. Chalikian, T. V. and Völker, J. (2008) Hydration of Nucleic Acids, in *Wiley Encyclopedia of Chemical Biology* (Begley, T. P., ed.), Wiley & Sons, Inc.
16. Chalikian, T. V. and Macgregor, R. B., Jr. (2007) Nucleic acid hydration: A Volumetric Perspective. *Phys. Life Rev.* **4**, 91-115.