

# S. Hessam Moosavi Mehr

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## Objectives

- Academic work on supramolecular control of structure and reactivity and its application to the development of more sustainable chemistry.
- Contributing to the field of chemistry in other areas such as open scholarly communication, chemical education, software, and commercialization.

## Areas of research interest

Supramolecular chemistry, structural chemistry, organic reaction development, scientific computation, chemical education

## Education

**Doctor of Philosophy** Chemistry, *University of British Columbia*, Vancouver, Canada 2011–  
**Bachelor of Science** Electrical Engineering, *Sharif University of Tech.*, Tehran, Iran (GPA: 16.5/20) 2005–2009

## Publications

- Mehr, S. H. M.; Fukuyama, K.; Bishop, S.; Lelj, F.; MacLachlan, M. J. "Deuteration of Aromatic Rings Under Very Mild Conditions Through Keto-Enamine Tautomeric Amplification" *J. Org. Chem.*, **2015**<sup>1</sup>
- Mehr, S. H. M.; Giese, M.; Qi, H.; Shopsowitz, K.; Hamad, W. Y.; MacLachlan, M. J. "Novel PPV/Mesoporous Organosilica Composites: Influence of the Host Chirality on a Conjugated Polymer Guest" *Langmuir*, **2013**, 29 (40), 12579–12584
- Frischmann, P.D.; Mehr, S. H. M.; Patrick, B. O.; Lelj, F.; MacLachlan, M. J. "Role of Entropy and Autosolvation in Dimerization and Complexation of C<sub>60</sub> by Zn<sub>7</sub> Metallocavitands" *Inorganic Chemistry*, **2012**, 51 (6), 3443–3453
- S. H. M. Mehr, S. Khorasani; Influence of asymmetry on the band structure of photonic crystals, *Proceedings of SPIE Photonics West 2010*, San Francisco, USA
- Shahshahani, S. M. "Calculus" (in Persian)<sup>2</sup>, **2008**, Fatemi Publications, Tehran, Iran
- Mehr, S. H. M.; Bahraini, M.] "eXAM: An Distributed Online Examination System" *Proceedings of the 18<sup>th</sup> International Conference on Chemical Education*, **2004**, Turkey

## Prior work

### Summer 2010

Sina Khorasani

IPM + Sharif University of Technology

Parallel FDTD applied to scattering by metal-patterned dielectric slabs.

### Summer, Fall 2009

Khashayar Mehrany

Dept. of Electrical Eng., Sharif Univ. of Tech.

(BSc. Thesis) Time-domain study of beam scattering by finite-sized photonic crystals.

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<sup>1</sup>In press

<sup>2</sup>(As mathematical illustrator) ISBN: 978-964-318456-8

**Spring, Summer 2008**

Institute of Biochemistry & Biophysics (IBB)  
Monte Carlo study of DNA damage by gamma rays.

University of Tehran

**Summer 2007**

Department of Electrical Engineering  
Application of signal processing methods to the prediction of epileptic seizure onset.

Sharif University of Technology

## Talks and poster presentations

**Kinetics by NMR: A Live Demonstration** 8th Annual VIVA NMR Symposium, August, 2014, Vancouver

**Using tautomers for gentle deuteration of benzene rings** 97th Canadian Chemistry Conference and Exhibition, June, 2014, Vancouver

**Macrocycles as Functional Materials** Canada-Japan Joint Symposium on Supramolecular Nanomaterials Science, May, 2012, Whistler

## Service

**Vice president** Chemistry Graduate Student Society (CGSS), UBC, 2013–2014

**Presenter/facilitator** *Alumni Weekend* chemistry outreach event, 2012–2014

**Presenter/facilitator** *Chemistry Field Trip* for high school students, 2012–2014

**Presenter/facilitator** *Chemistry Beyond the Magic* open house, UBC, 2011–2014

## Teaching experience

**Shared Instrument Facility (TA)** University of British Columbia, 2012–

**Chem121/123 (TA)** University of British Columbia, 2011–2012

**Organic Chemistry** Farzangan High School, 2005–2010

**Digital Signal Processing Lab (TA)** Sharif Univ. Tech., 2009–2010

**Chemistry for the IChO** Allameh Helli High School, 2009–2010, 2004–2006

**Electromagnetics (TA)** Spring 2009, Sharif Univ. Tech.

## Mentoring

**Marcus Farnfield** Salicyclideneamines as linker units 2013–2014 (BSc)

**Stephanie Bishop** Facile H/D exchange in salicylideneamine derivatives 2013–2014 (BSc)

**Mahboobeh Maghami** Tautomerism in schiff base macrocycles 2014–2015 (PhD)

## Computer skills

**Computational chemistry** Gaussian, Psi4

**Programming** Python, C, Go, HTML/CSS/Javascript

**Numerical/symbolic computing** MATLAB, SciPy, Mathematica

## Languages

**Farsi** Native

**English** Near native

**French, Italian** Fair

**Japanese** Basic