

Mohammad Alaul Azim, PhD

Postdoctoral Researcher

Herr Lab,

Department of Bioengineering
342 Stanley Hall
University of California, Berkeley
CA 94720
Cell: 510-282-9105
Email: mazim@berkeley.edu

Education

PhD in Analytical Chemistry

Dept. of Chemistry, University of Alberta, Canada
Supervisor: Professor D. Jed Harrison

September 2016

MSc in Separation and Analytical Science

School of Chemical Engineering and Analytical Science
University of Manchester, Manchester, United Kingdom

September 2010

Master of Science

Dept. of Applied Chemistry & Chemical Technology, University of Dhaka
Bangladesh

June 2001

Bachelor of Science

Dept. of Applied Chemistry & Chemical Technology, University of Dhaka
Bangladesh

June 2000

Research & Professional Experience

Postdoctoral Researcher (Advisor: Professor Amy E. Herr)

California Institute of Quantitative Biosciences
Department of Bioengineering
University of California, Berkeley

December 2016- to present

Project: Absolute quantification of proteins in single cell and improvement of separation performances of protein for single cell western blotting

Graduate Research Assistant (Advisor: Professor Jed Harrison)

Research Group
Department of Chemistry, University of Alberta

January 2011 – September 2016

Project: Developing microfluidics based lab on chip technology for protein separation

Graduate Teaching Assistant

Dept. of Chemistry, University of Alberta, Canada

January 2011 – September 2016

Taught CHEM 211 & 213 (Analytical Chemistry), CHEM 305 (Environmental Chemistry), CHEM 101 and 103 (General Chemistry) laboratory classes and helped to solve lab related problems

Graduate Research Assistant (Advisor: Professor Peter Fielden) *September 2009 - September 2010*

University of Manchester, UK

Project: Isotachophoresis in trace metal analysis

Lecturer

September 2006 – September 2009

Department of Applied Chemistry & Chemical Technology/Engineering

University of Dhaka, Dhaka, Bangladesh

Lecturer

April 2005 - August 2006

Department of Arts and Sciences,

Ahsanullah University of Science &Technology,

Dhaka, Bangladesh

Research and Development Head

July 2001 to March 2005

Science Division (Chemistry)

Panjeree Publications Bangladesh

Publications (Journal and Conferences)

1. **Mohammad Azim**, Abebaw B. Jemere and D. Jed Harrison, "Fabrication of highly stabilized colloidal self-assembled nanoparticle bed in narrow micro-channels for high performance size based protein separation" (*Manuscript prepared for Lab on Chip submission*)
2. **Mohammad Azim**, Abebaw B. Jemere and D. Jed Harrison, "Evaluation of separation performances of stable colloidal self-assembled nanoparticle bed in narrow micro-channels" (*Manuscript in preparation*)
3. **Mohammad Azim**, Ali Malekpourkoupaei, Wenmin Ye, Abebaw B. Jemere and D. Jed Harrison, "Evaluation of Protein Separation Mechanism and Pore Size Distribution in Colloidal Self-Assembled Nanoparticle Sieves for On-Chip Protein Sizing." *Electrophoresis* 2017, 38(2), 342-349
4. **Mohammad Azim**, Abebaw B. Jemere and D. Jed Harrison, "Highly Stabilized Colloidal Self Assembled Nanoparticle bed in Micro-channels for High Performance Size Based Protein Separation" The 19th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), **2015**, Gyeongju, Korea, 1981-1983.
5. **Mohammad Azim**, Abebaw B. Jemere and D. Jed Harrison, "Colloidal self-assembled nanoparticles sieves with orthosilicate cross linking for protein separation in microchips and retardation coefficient for on chip protein sizing", 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS) **2014**, San Antonio, Texas, USA, 2387-2389.
6. Mohammad Zakarul Islam, Ansara Noori, Rafiqul Islam, **Mohammad Alaul Azim**, Shamshed B Quraishi; Assessment of the contamination of trace metal in Balu River water, Bangladesh; *Journal of Environmental Chemistry and Ecotoxicology*; **2012**, 4(14), 242-249.
7. Md. Nazrul Islam Bhuiyan, Md. Nurul Huda Bhuiyan, Jasim Uddin Chowdhury, Sohail Shamsuzzaman and **Mohammad Alaul Azim***; Constituents of the leaf and rhizome essential oil

- of *Alpinia zerumbet* (Pers.) B.L. Burtt & R.M. Smith from Bangladesh; *The Dhaka University Journal of Biological Science*, **2009**, 18(1), 59-63.
8. **Mohammad Alaul Azim**, Shamshad Begum Quraishi, Rafiqul Islam; Impact of unplanned dumping of untreated waste water on Water Quality of the River Buriganga, Dhaka City, Bangladesh; *The Dhaka University Journal of Science*; **2009**, 57(1), 101-106.
 9. Muhammad Zakarul Islam, **Mohammad Alaul Azim**, Rafiqul Islam, Shamshad Begum Quraishi; Seasonal variation of heavy metals in water sample from the sitalakhya river, *Journal of Bangladesh Academy of Science*; **2009**, 32(1), 13-22.
 10. M. Kamal Hossen, **Mohammad Alaul Azim**, A. M. Sarwaruddin Chowdhury*, N.C. Dafader, M.E. Haque, F. Akter; Characterization of Poly (Vinyl Alcohol) and Poly (Vinyl Pyrrolidone) Co-Polymer Blend Hydrogel prepared by Application of Gamma radiation, *J. Polymer-Plastic Technology and Eng.* **2008**, 47(7), 662-665.

Presentations (Talk & Poster)

1. **Mohammad Azim**; *High Performance Size based Protein Separation in Microchip* (Talk), Department of Applied Chemistry and Chemical Engineering, University of Dhaka, **2016**; Dhaka, Bangladesh
2. **Mohammad Azim**, Abebaw B. Jemere and D. Jed Harrison; *Highly Stabilized Colloidal Self Assembled Nanoparticle bed in Micro-channels for High Performance Size Based Protein Separation* (Poster). *MicroTAS -2015*, Gyeongju, Korea.
3. **D.J. Harrison**, N. Shabani, **Mohammad Azim**, L. Zhang; *Nano-porous media in Microfluidic System* (Talk), 98th Canadian Chemistry Conference and Exhibition, **2015**, Ottawa, Canada.
4. **Mohammad Azim**, Abebaw B. Jemere and D. Jed Harrison; *Effect of Narrow bore Capillary on Colloidal Self Assembled Nanoparticle bed in Micro-channels for Size Based Protein separation* (Talk), 98th Canadian Chemistry Conference and Exhibition, **2015**, Ottawa, Canada.
5. **Mohammad Azim**, Abebaw B. Jemere and D. Jed Harrison; *Colloidal Self Assembled Nanoparticles Sieves with Orthosilicate Cross Linking for Protein Separation in Microchips and Retardation Coefficient for on Chip Protein Sizing* (poster) *MicroTAS -2014*, San Antonio, Texas.
6. **Mohammad Azim** and D.J. Harrison, *Sub- μ m Plate Heights Using Collidal Self-Assembled Nanoparticles in Microchannels* (talk), 96th Canadian Chemistry Conference and Exhibition, **2013**, Quebec, Canada
7. Muhammad Ali, Md. Ghyes Kamal, **Mohammad Azim**, **Rafiqul Islam**; X-Ray Analytical Studies of Groundwater Arsenic Contamination of The Meghna Basin, Comilla: Its Environmental Effects & Mitigation Options (Talk); First UK-Israeli Workshop and Research Event on the Application of Membrane Technology in Water Treatment and Desalination & 2nd Oxford Water and Membranes Research Event, **2008**, UK

8. **Mohammad Azim**, Shamshad Begum Quraishi, Rafiqul Islam; Seasonal Variation of different Water quality Parameters in Buriganga and Turag River (Talk), Bangladesh Chemical Congress-2006, Dhaka, Bangladesh.

Scholarship and Awards

1. J Gordin Kaplan Graduate Student Award - 2015 from Faculty of Graduate Studies and Research, University of Alberta
2. Graduate Student Teaching Award - 2015 from Faculty of Graduate Studies and Research, University of Alberta
3. Graduate Students Association travel grants - 2013, 2014
4. The Chemical and Biological Microsystems Society (CBMS) travel grant for attending MicroTAS - 2014
5. Provost Doctoral Entrance Award - 2011 & 2012 from Faculty of Graduate Studies and Research, University of Alberta
6. Merit and Equity Scholarship - 2009 from University of Manchester and Alumni Association of University of Manchester
7. Sushikkha Barsho - 2003 Gold Medal from **the Honorable Prime Minister of The Peoples Republic of Bangladesh** for outstanding result in Bachelor of Science (B.Sc.) examination.
8. Prestigious Nurul Haque Bhuyan scholarship - 2000, for outstanding results on Bachelor of Science (B.Sc.), University of Dhaka, Bangladesh

Leadership and Volunteering Experience

President May 2014 - August 2015
Michener Park Residents' Association of University of Alberta, Canada

President January 2013 – June 2013
Bangladeshi Student Association at University of Alberta

Professional Organization Membership

- Canadian Society for Chemistry (Student member)
- Bangladesh Chemical Society (Life member)

References

Professor Amy E. Herr

Lester John & Lynne Dewar Lloyd Distinguished Professor
Department of Bioengineering
University of California, Berkeley
308B Stanley Hall, Berkeley, CA 94720
Email: aeh@berkeley.edu

Professor D. Jed Harrison

Dept. of Chemistry, University of Alberta
Edmonton, Canada
Phone: 1-780-492-2790
Email: jed.harrison@ualberta.ca

Professor Charles Lucy

3M National Teaching Fellow
Dept. of Chemistry, University of Alberta
Edmonton, Canada
Phone: 1-780-492-0315
Email: charles.lucy@ualberta.ca

Dr. Abebaw Jemere

Project Leader, Senior Research Officer
National Institute for Nanotechnology
Edmonton, Canada
Phone: 1-780-641-1712
E-mail: Abebaw.Jemere@nrc-cnrc.gc.ca