

CURRICULUM VITAE

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ASHRAF M. MOHIELDIN

EDUCATION

- **Post-Doctoral Fellow**, February 2016 to present, School of Pharmacy, Chapman University, CA, USA.
- **Ph.D. Degree in Medicinal and Biological Chemistry**, August 2015, School of Pharmacy, The University of Toledo, OH, USA
- **B.S. Degree in Pharmaceutical science**, May 2011, College of Pharmacy, University of Toledo, 3000 Arlington Ave, Toledo, OH

RESEARCH EXPERIENCE

- **Research Assistant, University of Toledo, Medical center, Toledo, OH – Surya M. Nauli, PhD, May 2011 to August 2011.**
- **Departmental Honor Thesis (Pharmacology), University of Toledo, Medical center, Toledo, OH - Surya M. Nauli, PhD, January 2010 to May 2011.**
- **Research Assistant, University of Toledo, Medical center, Toledo, OH - John J. Bellizzi, PhD, January 2009 to May 2009.**
- **Research Assistant, University Of Massachusetts Boston, Boston, MA – Kenneth Campbell, PhD, May 2008 to August 2008.**
- **Lab Assistant, University of Toledo, Toledo, OH – Julie Mosher, Chemical Supervisor, August 2007 to May 2008.**
- **Lab Assistant, Bunker Hill College, Cambridge, MA – John Steeper, PhD, May 2005 to May 2007.**

PHRAMACY PRACTICE EXPERIENCE

- **Community pharmacy, Rite Aid Pharmacy, Toledo, OH – Elizabeth Miller, pharmacist, January 2015 to December 2015.**
- **Clinical shadowing P1 year- University of Toledo, Medical center, Toledo, OH – Michelle Schroeder, PharmD, March 2015.**

RESEARCH WORK

- Designed new approach to mechanically induced the ciliary protein composition by using a sensitive multidimensional protein identification technology (MudPIT) for analysis, Chapman University, CA, USA.
- Designed work on combining the high-pressure freezing (HPF) and freeze-fracture transmission electron microscopy (FFTEM) technique to develop an optimal high-resolution imaging approach that preserves cilia structures in their best natural form without alteration of cilia morphology by chemical fixation interference, Chapman University, CA, USA.
- Investigated the primary cilia membrane swellings (bulbs) and demonstrated for the first time their unique ultrastructure, motility under shear stress and identified key ciliary proteins localized on them, The University of Toledo, OH, USA.
- Worked on an integrated single-cell imaging technique project and demonstrated for the first time that calcium signaling triggered by fluid-shear stress initiates in the primary cilium and can be distinguished from the subsequent cytosolic calcium response through the ryanodine receptor, The University of Toledo, OH, USA.
- Participated in a clinical study in PKD patients where our crossover, multicenter, double-blind and placebo-controlled clinical study further indicated that cilia-targeting therapy showed an overall reduction in mean arterial pressure in PKD patients, The University of Toledo, OH, USA.
- Investigated the dynamic function of primary cilia in normal condition and under shear stress, along with the function and the contents of ciliary bulb with and without Nocodazole drug, The University of Toledo, OH, USA.
- Designed new approach to study primary cilia from the side by using flexible substratum, The University of Toledo, OH, USA.
- Studied many proteins that involved in regulating the circadian rhythms, The University of Toledo, OH, USA.
- Worked on optimizing DNA Detection Sensitivity by lowering the detection limit to femtomolar by constructing newly build Spectrofluorometer instrument, University of Boston Massachusetts, MA, USA.

PROFESSIONAL AWARDS

- NIH F31 fellowship award, University of Toledo, Medical center, Toledo, OH, 2012-2015
- Departmental Honor Thesis, University of Toledo, Medical center, Toledo, OH, May 2011
- Dean's list, University of Toledo, Medical center, Toledo, OH, spring 2011
- Dean's list, University of Toledo, Medical center, Toledo, OH, spring 2009
- Dean's list, University of Toledo, Medical center, Toledo, OH, Fall 2008
- Dean's list, University of Toledo, Medical center, Toledo, OH, spring 2009

PROFESSIONAL MEETINGS AND POSTERS

- **Mohieldin, A.M. et al.** Proteomic Analysis Induced ciliary Protein composition [abstract]. FASEB conference on Polycystic Kidney Disease: challenges, differing viewpoints and ways forward, Big Sky, Montana (2017).

- **Mohieldin, A.M. et al.** Chemical-Free Technique to Study the Ultrastructure of Primary Cilium [abstract]. EMBO conference on Cilia2016, Royal Tropical Institute, Amsterdam, The Netherlands (2016).
- **Mohieldin, A.M. et al.** Dynamics structures of ciliary length and bulbs are mechanically regulated [abstract]. Keystone symposia on molecular and cellular biology conference, Cilia development and human diseases, Tahoe, California (2013).
- **Mohieldin, A.M. et al.** Protein composition and movements of membrane swellings associated with primary cilia [abstract]. Gordon research conference. Cilia, Mucus & Mucociliary Interactions, Galveston TX (2015).

BOOK CHAPTER PUBLICATIONS

- **Mohieldin, A.M. et al.** Autosomal Dominant Polycystic Kidney Disease: Pathophysiology and Treatment. Nova Publishers. c2013 [ISBN: 978-1-62808-760-4]

SLECTED PUBLICATIONS

- Doerr N, **Mohieldin AMM**, et al. Regulation of polycystin-1 function by Calmodulin Binding, PLoS One, 2016 Aug 25. [PMID: 27560828]
- **Mohieldin, A.M. et al.** Chemical-Free Technique to Study the Ultrastructure of Primary Cilium, Nature, Scientific Reports, (2015), [PMID: 26521680]
- **Mohieldin, A.M. et al.** Protein composition and movements of membrane swellings associated with primary cilia. *Cell Mol Life Sci* (2015). [PMID: 25650235]
- Jin X, **Mohieldin AM**, Muntean BS, Green JA, Shah JV, Mykytyn K, Nauli SM. Cilioplasm is a cellular compartment for calcium signaling in response to mechanical and chemical stimuli. *Cell Mol Life Sci*. (2013). [PMID: 24104765]
- Kathem SH, **Mohieldin AM**, Nauli SM. The Roles of Primary cilia in Polycystic Kidney Disease. *AIMS Molecular Science*. Volume 1, 2013, 27-46. [PMID: 25599087]
- Kathem SH, **Mohieldin AM**, Abdul-Majeed S, Ismail SH, Altaei QH, Alshimmari IK, Alsaidi MM, Khammas H, Nauli AM, Joe B, Nauli SM. Ciliotherapy: a novel intervention in polycystic kidney disease. *J Geriatr Cardiol*. 2014; 11: 63-73. [PMID: 24748884]
- **Mohieldin, A.M. et al.** Vascular endothelial cilia, mechanosensation and hypertension, *Current Hypertension Reviews*. (2015). [PMID: 26122329]

TEACHING EXPERINCE

- Advised and guided two master students in fulfilling their master thesis in Biomedical and Pharmaceutical Sciences, Chapman University, school of Pharmacy, Department of Biomedical and Pharmaceutical Sciences, CA, USA.
- Assisted in teaching Biochemistry, at the undergraduate level, University of Toledo, Medical center, OH, USA.

- Assisted in teaching Biochemical Techniques, at the graduate level, University of Toledo, Medical center, OH, USA.
- Trained and helped design projects on pharmacological studies in primary cilia and non-primary cilia for two students in fulfilling their master thesis in pharmacology titled, “ The Effect of Ethanol on Three types of Ependymal Cilia in The Brain Lateral Ventricle” and “Localization and Distribution of Primary cilia in the Adult Mouse Heart”, University of Toledo, Medical center, OH, USA.
- Trained and helped design projects on pharmacological studies in primary cilia for tow students in fulfilling their practicum requirement in pharmacology, University of Toledo, Medical center, OH, USA.
- Trained and supervised work-study students on maintaining chemistry and biology laboratories for CHM-1, CHM-2, Organic chemistry-1, Organic chemistry-2, BIO-1 and BIO-2, Bunker Hill College, MA, USA.

LICENSES

- Pharmacy intern, January 2015 to December 2015, ID 06013196, Ohio State Board of Pharmacy, OH, USA.
- Healthcare Provider (CPR and AED) program, issue date 09-18-2014, TC ID OH-03276, American Heart Association, USA.

RESEARCH SUPPORT

Funding: NIH/NIDDK 06/2012-06/2015
Project Number: 5F31DK096870-02
Awardee Organization: UNIVERSITY OF TOLEDO HEALTH SCI CAMPUS
Role: Principal Investigator
Title: CELLULAR FUNCTION AND STRUCTURE OF PRIMARY CILIA

The goal of the project is to examine the functional and structural roles of primary cilia in endothelial cells and endothelial dysfunction in PKD. The productivity on this grant is evidenced by our publications, including *Cellular and molecular life sciences and Nature Scientific Report*.

MEMBERSHIPS

- American Pharmacists Association (APhA-ASP), USA.
- American Heart Association

REFERENCES

Avalibale upon request