

# Muhammad Boota

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## EDUCATION

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**2014- Present**

**PhD Student in Materials Science & Engineering**

(Graduate Research Assistantship)

*Advisor: Professor Yury Gogotsi*

*Email: [yg36@drexel.edu](mailto:yg36@drexel.edu)*

A.J. Drexel Nanomaterials Institute,  
College of Engineering,  
Drexel University, Philadelphia

**2011-2013**

**Master in Materials for Energy Storage & Conversion**

(*Erasmus Mundus Fellowship*)

*Degree jointly awarded by 7 universities*

University of Toulouse (France)

Warsaw University of Technology (Poland)

University of Picardie Jules Verne (France)

University of Cordoba (Spain)

Drexel University (USA)

University of Aix-Marseille (France)

Xiamen University (China)

**2009-2010**

**Master in Physical Organic Chemistry**

(*Swedish Research Council Fellowship*)

Department of Photochemistry & Molecular Science

Uppsala University, Uppsala, Sweden

**2010-2011**

**Master in Physical Organic Chemistry**

(*Erasmus Mundus Fellowship*)

Department of Chemistry

University College London (UCL), London, England

London Centre for Nanotechnology  
A joint venture of UCL & Imperial College, London, UK

2005-2009

**Bachelor of Science in Industrial Chemistry**

*(First class Honors)*

Department of Chemistry  
GC University, Pakistan

**SELECTED AWARDS & HONOURS**

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2014-

**Graduate Research Assistantship**

*Advisor: Professor Yury Gogotsi*  
A.J. Drexel Nanomaterials Institute

2013

**Marie Curie Fellowship**

**Funding Awarded: ~\$200,000** ***(Declined)***  
*Nanoelectronics based on 2D materials.*  
(EU grant agreement No. 317451)

*Highly competitive and Prestigious European Fellowship*  
*Selected among >300 applicants from all over the world*

2013

**Erasmus Mundus Fellowship**

**Funding Awarded: ~\$150,000** ***(Declined)***  
*Joint European Doctoral Program (German, French, Italian and British Universities) on Sustainable Industrial Chemistry. Erasmus Mundus Consortium: 2013-0037*

*Highly competitive and Prestigious European Fellowship*  
*Selected among >1300 applicants from all over the world*

2013

**Marie Curie Fellowship**

**Funding Awarded: ~\$200,000** ***(Declined)***  
*Design, Assembly and Dynamics of Novel Soft Nanoparticles for Novel Industrial Applications.*  
(EU grant agreement No. 290251)

*Highly competitive and Prestigious European Fellowship*  
*Selected among >1000 applicants from all over the world*

**2011-2013**

**Erasmus Mundus Fellowship**

*Highly competitive and Prestigious European Fellowship  
For 2 year research based programme, "Materials for  
Energy storage and conversion (M. E. S. C.)".*

**2010**

**European Union Fellowship**

*For University College London (UCL), London, England*

**2009-2010**

**Swedish Research Council Scholarship**

*Uppsala University, Sweden*

**2006-08**

**Government of Pakistan scholarship**

*For Undergraduate studies*

**SCIENTIFIC PUBLICATIONS**

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- 1) M. Boota, K. B. Hatzell, M. Beidaghi, E. C. Kumbur & Y. Gogotsi, **Immobilization of redox active molecules on carbon substrate to prepare high energy density pseudocapacitive flowable electrodes for capacitive energy storage.** 2014, (*In preparation*)
- 2) K. B. Hatzell, K. M. Cook, M. Boota, G. Housel, A. McBride, E. C. Kumbur, Y. Gogotsi, **Enhanced rheological properties for a high-mass loaded flowable electrode for desalination and grid energy storage,** *Energy & Environmental Science*, 2014 (*Submitted*)
- 3) M. Boota, K. B. Hatzell, M. Beidaghi, C. R. Dennison, E. C. Kumbur, Y. Gogotsi, **Activated Carbon Spheres as a Flowable Electrode in Electrochemical Flow Capacitors,** *Journal of Electrochemical Society*, 2014 (*Accepted*)
- 4) C. Zhang, K. B. Hatzell<sup>§</sup>, M. Boota<sup>§</sup>, B. Dyatkin, M. Beidaghi, D. Long, W. Qiao, E. C. Kumbur, Y. Gogotsi, **Highly Porous Carbon Spheres for Electrochemical Capacitors and Capacitive Flowable Suspension Electrodes,** *Carbon*, 2014. (*Accepted, §equal contribution*)
- 5) K. B. Hatzell, L. Fan, M. Beidaghi, M. Boota, E. Pomerantseva, E.C. Kumbur, and Y. Gogotsi, **Composite manganese oxide percolating networks as a suspension electrode for an asymmetric flow capacitor,** *Applied Materials & Interfaces*, 2014 (*Accepted*)
- 6) K.B. Hatzell, M. Boota, M. Beidaghi, C.R. Dennison, E.C. Kumbur, and Y. Gogotsi, **Methods for enhancing the flowable electrode capacitance in the electrochemical flow capacitor".** 224th Meeting of the Electrochemical Society, 2013

**Detailed CV & References**

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(Available upon request)