

## David T. Eddington

[dte@uic.edu](mailto:dte@uic.edu)

<http://www.uic.edu/labs/bml/>

### a) Professional Preparation

University of Illinois at Urbana Champaign	Materials Science and Engineering	BS 1996-2000
University of Wisconsin-Madison	Biomedical Engineering	PhD 2000-2004
Massachusetts Institute of Technology	Tissue Engineering	PostDoc 2004-2006

### b) Appointments

2011 - present Associate Professor, Department of Bioengineering, University of Illinois at Chicago  
2006 - 2011 Assistant Professor, Department of Bioengineering, University of Illinois at Chicago  
2006 - present Adjunct Assistant Professor, Department of Biopharmaceutical Sciences, University of Illinois at Chicago

### c) Products

#### *Publications Related to Work*

1. M.D. Brennan, M.L. Rexius-Hall, D.T. Eddington (2015) "A 3D-Printed Oxygen Control Insert for a 24-Well Plate", *PLoS ONE*, 10(9): e0137631. doi:10.1371/journal.pone.037631
2. M.L. Rexius-Hall, G. Mauleon, A.B. Malik, J. Rehman, and D.T. Eddington (2014) "Microfluidic platform generates oxygen landscapes for localized hypoxic activation" *Lab on a Chip*, 14(24): 4688-4695
3. M-E. Brett, R. DeFloria, D. Stone, and D.T. Eddington (2012) "Directed Chemotropism in *S.cerevisiae* via Microfluidic Controlled Gradients" *Lab on a Chip*, 12(17), 3127-3134
4. G. Mauleon, C.P. Fall, and D.T. Eddington (2012) "Precise Spatial and Temporal Control of Oxygen within in vitro Brain Slices via Microfluidic Gas Channels", *PLoS ONE*, 7(8):e43309
5. E. Sinkala, J.E. McCutcheon, E. Schmidt, M.Shuck, M.F. Roitman, and D.T. Eddington (2012)"Electrode Calibration with a Microfluidic Flow Cell for Fast-scan Cyclic Voltammetry" *Lab on a Chip*, 12(13), 2403-2408

#### *Other Significant Publications*

1. J.Lo, Y. Wong, A. Blake, G. Yu, T. Harvat, H. Jeon, J. Oberholzer, and D.T. Eddington (2012) "Islet preconditioning via multimodal microfluidic modulation of intermittent hypoxia", *Analytical Chemistry*, 84(4):1987-1933
2. J.F. Lo, E. Sinkala, and D.T. Eddington (2010) "Oxygen Gradients for Open Well Cellular Cultures via Microfluidic Substrates" *Lab on a Chip*, 10(18): 2366-2373
3. J.M. Higgins, D.T. Eddington, S. N. Bhatia, L. Mahadeven, (2007) "Collective Hydrodynamics and Kinetics of Sickle Cell Vaso-Occlusion and Rescue in a Microfluidic Device", *PNAS*, 104(51): 20496-20500.
4. J.M. Higgins, D.T. Eddington, S.N. Bhatia, L. Mahadevan (2009) "Statistical Dynamics of Flowing Red Blood Cells by Morphological Image Processing." *PLoS Comput Biol* 5(2): e1000288. doi:10.1371/journal.pcbi.1000288
5. J.S. Mohammed, Y. Wang, T.A. Halvert, J. Oberholzer, and D.T. Eddington (2009) "Microfluidic device for multimodal characterization of pancreatic islets." *Lab on a Chip* 9 (1): 97-106.

### d) Synergistic Activities

1. Co-Chair, 2014 Society of Laboratory Automation and Screening (SLAS) Conference
2. Organizer of *Hands on Healing*, a day long workshop for the Girl Scouts of Chicago to expose them to the creative aspects of science and engineering via interactive laboratory demos
3. Co-editor of a special issue of *Lab on a Chip* focusing on Neuroengineering

### **e) Collaborators & Other Affiliations**

#### *Collaborators and Co-Editors*

David Baum, UW-Madison  
Louisa DiPietro, UIC  
Seungpyo Hong, UW-Madison  
Salman Khetani, UIC  
Asrar Malik, UIC  
Steve Miller, UMBC  
Jose Oberholzer, UIC  
Jalees Rehman, UIC  
David Stone, UIC

#### *Graduate Advisor and Postgraduate Sponsor*

David Beebe, University of Wisconsin-Madison, PhD advisor  
Sangeeta Bhatia, MIT, Postgraduate sponsor

#### *Thesis Advisor and Postgraduate Sponsor*

Maheshwar Iyer, PhD Thesis Advisor, 2016-  
Theodore Christoforidids, PhD Thesis Advisor, 2014-  
Martain Brennan, PhD Thesis Advisor, 2011-  
Megan Rexius-Hall, PhD Thesis Advisor, 2011-

Gerardo Mauleon, PhD Thesis Advisor, graduated 2016  
Cari Launier, Currently Chemical Engineer at Argonne National Lab, PhD Thesis Advisor, graduated 2012  
Marie-Elena Brett, Currently postdoc at UMN, PhD Thesis Advisor, graduated 2012  
Elly Sinkala, Currently Associate at Exponent Failure Analysis, PhD Thesis Advisor, graduated 2012  
Shawn Opegard, Currently Engineer at Baxter, PhD Thesis Advisor, graduated 2010  
Kihwan Nam, Currently Senior Scientist at Korea Basic Science Institute, PhD Thesis Advisor, graduated 2010  
  
Jo F. Lo, Currently Assistant Professor at University of Michigan-Dearborn, Postgraduate sponsor, 2013  
Javeed Mohammed, Currently Associate Professor at UniSZA- Postgraduate sponsor, 2009