

## Curriculum Vitae

## Jeffrey E. Dick, Ph.D

jedick@email.unc.edu; [www.nanoelectrochemistry.com](http://www.nanoelectrochemistry.com)**Professional Appointments**

Assistant Professor of Chemistry, The University of North Carolina at Chapel Hill	July 2018
Adjunct Assistant Professor, The University of North Carolina at Chapel Hill	Sept. 2017

**Education and Training**

The University of Texas at Austin	NIH CORE Postdoctoral Fellow	June 2017 – May 2018
The University of Texas at Austin	Ph.D., Chemistry	July 2013 – May 2017
<i>Adviser: Prof. Allen J. Bard</i>		
Ball State University	B. S., Chemistry, Summa Cum Laude	Aug. 2010 – May 2013

**Doctoral Thesis**

Dick, J. E. Studies in the Electrochemistry of Single Atoms, Molecules, and Nanoparticles, Dissertation at The University of Texas at Austin, 2017

**Publications and Invited Lectures***Publications*

- Percival, S. J.; **Dick, J. E.**; Bard, A. J. Cathodically Dissolved Platinum Resulting from the O<sub>2</sub> and H<sub>2</sub>O<sub>2</sub> Reduction Reactions on Platinum Ultramicroelectrodes, *Anal. Chem.*, 2017, 89, 3087. [Link](#)
- Kim, J.; **Dick, J. E.**; Bard, A. J. Studying Nascent Catalysts on Ultramicroelectrodes from Atom by Atom to Nanometer by Nanometer, *Acc. Chem. Res.*, 2016, 49, 2587. [Link](#)
- Dick, J. E.\***; Electrochemical Detection of Single Cancer and Healthy Cell Collisions on a Microelectrode, *Chem. Commun.*, 2016, 52, 10906. [Link](#)
- Dick, J. E.**; Bard, A. J. Toward the Digital Electrochemical Recognition of Cobalt, Iridium, Nickel, and Iron Ion Collisions by Catalytic Amplification, Accepted, *J. Am. Chem. Soc.*, 2016, 138, 8446. [Link](#)
- Deng, H.<sup>S</sup>; **Dick, J. E.**<sup>S</sup>; Kummer, S.; Kragl, U.; Strauss, S. H.; Bard, A. J. Probing Ion Transfer across Liquid-Liquid Interfaces by Monitoring Collisions of Attoliter Oil Droplets, *Anal. Chem.*, 2016, 88, 7754. [<sup>S</sup>Co-first Author] [Link](#)
- Dick, J. E.**; Lebegue, E.; Strawsine, L. M.; Bard, A. J. Millisecond Coulometry Using Zeptoliter Droplet Collisions on Ultramicroelectrodes, *Electroanalysis*, 2016, DOI: 10.1002/elan.201600182. [Link](#)
- Dick, J. E.**; Hilterbrand, A. T.; Strawsine, L. M.; Upton, J. W.; Bard, A. J. Enzymatically Enhanced Collisions on Ultramicroelectrodes for Detecting Individual Viruses, *Proc. Nat'l Acad. Sci. USA*, 2016, 113, 6403. [Link](#)
- Edwards, M.; German, S.; **Dick, J. E.**; Bard, A. J.; White, H. S. A High-speed Multi-pass Coulter Counter with Ultra-fast Resolution, *ACS Nano*, 2015, 9, 12274. [Link](#)
- Dick, J. E.**; Bard, A. J. Recognizing Single Collisions of PtCl<sub>6</sub><sup>2-</sup> at Femtomolar Concentrations on Ultramicroelectrodes by Nucleating Electrocatalytic Clusters, *J. Am. Chem. Soc.*, 2015, 137(43), 13752. [Link](#)
- Lebegue, E.; Anderson, C. M.; **Dick, J. E.**; Webb, L.; Bard, A. J. Electrochemical Detection of Single Phospholipid Vesicle Collisions at a Pt Ultramicroelectrode, *Langmuir*, 2015, 31(42), 11734. [Link](#)
- Li, Y.; Deng, H.; **Dick, J. E.**; Bard, A. J. Analyzing Benzene and Cyclohexane Emulsion Droplet Collisions on Ultramicroelectrodes, *Anal. Chem.*, 2015, 87(21), 11013. [Link](#)
- Dick, J. E.**; Poirel, A.; Ziessel, R.; Bard, A. J. Electrochemistry, Electrogenated Chemiluminescence, and Electropolymerization of Oligothiényl-BODIPY Derivatives, *Electrochim. Acta*, 2015, 178, 234. [Link](#)
- Dick, J. E.**; Renault, C.; Bard, A. J. Observation of Single Protein and DNA Macromolecule Collisions on Ultramicroelectrodes. *J. Am. Chem. Soc.*, 2015, 137(26), 8376. [Link](#)
- Dick, J. E.**; Hilterbrand, A. T.; Boika, A.; Upton, J. W.; Bard, A. J. Electrochemical Detection of a Single Cytomegalovirus at an Ultramicroelectrode and its Antibody Anchoring, *Proc. Natl. Acad. Sci.*, 2015, 112(17), 5303. [Link](#)
- Arroyo-Curras, N.; Hall, J.; **Dick, J.E.**; Bard, A.J. An Alkaline Flow Battery Based on the Coordination Chemistry of Iron and Cobalt. *J. Electrochem. Soc.*, 2014, 162(3), A378. [Link](#)
- Dick, J. E.**; Renault, C.; Kim, B. K.; Bard, A. J.; Electrogenated Chemiluminescence of Common Organic Luminophores in Water Using an Emulsion System, *J. Am. Chem. Soc.*, 2014, 136, 13546. [Link](#)
- Dick, J. E.**; Renault, C.; Kim, B. K.; Bard, A. J. Simultaneous Detection of Single Attoliter Droplet Collisions by Electrochemical and Electrogenated Chemiluminescent Responses *Angew. Chem. Int. Ed.*, 2014, 53, 11859. [Link](#)
- Kim, B.; Boika, A.; Kim, J.; **Dick, J.E.**; Bard, A.J. Characterizing Emulsions by Observation of Single Droplet Collisions – Attoliter Electrochemical Reactors. *J. Am. Chem. Soc.*, 2014, 136, 4849. [Link](#)
- Dick, J.E.**; Chong, D. Indispensable Applications of Electrochemical Techniques to Organic Synthetic Reactions: Enhancing Versatility and Sustainability. *Organic Chem. Curr. Res.*, 2012. [Link](#)

20. Chong, D.; **Dick, J.E.**; Shin, W. C-C and C-O Coupling Reactions of Terminal Alkynes by a Water Soluble Organoiridium Electron-transfer Mediator in Thin Layer of Water on Gold Electrode. *Organic Chem. Curr. Res.*, 2012. [Link](#)

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*Invited Lectures:*

- **Dick, J. E.** Stochastic Electrochemical Processes, October 2017, University of Puerto Rico, San Juan, Puerto Rico.
- **Dick, J. E.** Achieving the Ultimate Sensitivity in Chemical Analysis, October 2016, [Zhejiang Institute of Science and Technology](#), Hangzhou, China.
- **Dick, J. E.** Single Molecule and Nanoparticle Chemistry, September 2016 Skolkovo Institute of Science at Technology, Moscow, Russia.
- **Dick, J. E.** Electrochemistry of Single Molecules and Nanoparticles, June 2016, [Ball State University](#), Muncie, IN.
- **Dick, J. E.** Toward Digital ELISA Immunosensors, March 2016, [Pittsburgh National Conference](#), Atlanta, GA.
- **Dick, J. E.**; Hilterbrand, A. T. Introduction to Electrovirology. November 2015, Dept. [Molecular Biosciences](#), UT Austin.
- **Dick, J. E.** Electrochemical Detection of Stochastic Collisions on Ultramicroelectrodes. March 2015, [Dept. of Physics, Atomic, Molecular, and Optics Division](#), The University of Texas at Austin, Austin, TX.
- **Dick, J. E.** How Nanoparticle Tracking Analysis is used in Electrochemical Detection of Viruses. March 2015, [Malvern Workshop](#), The University of Texas at Austin, Austin, TX.
- **Dick, J. E.** From Microspheres to Molecules: Electrochemical Detection of Soft Particles on Ultramicroelectrodes. March 2015, [Pittsburgh National Conference](#), New Orleans, LA.

**Service**

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Referee for: <i>J. Am. Chem. Soc.</i> ; <i>Angewandte Chemie</i> , <i>Electrochimica Acta</i> , <i>Anal. Chem.</i> ; <i>Electroanalysis</i> , <i>Langmuir</i>	August 2015 – Present
Student Editor, Society for Electroanalytical Chemistry	March 2015 – July 2017
Committee to Implement a Longitudinal Graduate Student Survey	Oct. 2014 – May 2017
Chair Search Committee (Chemistry at UT Austin)	Sept. 2014 – Aug. 2015

**Fellowships, Scholarships, Certificates, Honors, and Awards**

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• NIH CORE Postdoctoral Fellowship	June 2017
• Medical Technology's 30 Under 30 Young Innovators	July 2016
• Certificate to Teach Interdisciplinary Subjects, UT Austin	March 2016
• SEAC Travel Grant and UT Austin Student Travel Grant (\$1,000 combined)	March 2016
• NIH Director's Early Independence Award UT Nominee	Nov. 2015
• Representative; US Delegation to Lindau Meeting for Nobel Laureates (\$15,000)	July 2015
• Society for Electroanalytical Chemistry Travel Grant (\$500)	Jan. 2015
• National Science Foundation Graduate Research Fellowship (\$140,000)	April 2014
• Graduate Dean's Prestigious Fellowship Award (\$2,100/year)	June 2014
• National Defense Science and Engineering Graduate Research Fellowship (\$128,000)	April 2014
• US Fulbright Scholarship Recipient (\$40,000)	Jan. 2013
• NASA Fellowship – Ames Research Center (\$8,000)	May 2013
• Mikal Sousa Memorial Scholarship: Ball State University (\$1,000)	Oct. 2012
• Ball State University Rhodes and Marshall Scholarship Nominee	Sept. 2012
• ACS Division of Inorganic Chemistry Undergraduate Award in Inorganic Chemistry	Aug. 2012
• Member, Dean's Advisory Council, Ball State University 2013	Aug. 2012 – June 2013
• Nominated by faculty to represent Department of Chemistry	
• Presidential Scholarship: Ball State University; one-half tuition 2013	Aug. 2010 – May 2013

**Work Experience**

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National Science Foundation Graduate Research Fellow // UT Austin Graduate Research Asst.	June 2014 – May 2017
Science Columnist, <i>The Herald Bulletin</i> , Anderson, Indiana	April 2015 – Jan. 2017
University of Texas at Austin Graduate Research Assistant	Aug. 2013 – May 2014
University of Texas at Austin Research Scientist/Technician	July 2013 – Aug. 2013
Ball State University Research Staff	May 2013 – July 2013
Ball State University Research Assistant	Summers 2011 – 2012

**Teaching Experience**

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Assisting Instructor, ChE 384T Graduate Electrochemistry	Jan. 2016 – May 2016
University of Texas at Austin Teaching Assistant	

## Jeffrey E. Dick

- CH 376K Advanced Analytical Laboratory
- Originality in the Arts and Sciences

Ball State University Teaching Assistant

- General Chemistry Laboratories (CHEM 111 and CHEM 112)
- Analytical Chemistry Laboratories (CHEM 225 and CHEM 325 and Grad CHEM 626)

## Curriculum Vitae

Jan. 2016 – Dec. 2016

Aug. 2015 – Dec. 2016

Oct. 2010 – Jan. 2013

Jan. 2013 – May 2013