

Clayton Dahlman

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EDUCATION

UNIVERSITY OF TEXAS, AUSTIN Austin, TX
McKetta Department of Chemical Engineering 2014-present
▪ Doctor of Philosophy*, Chemical Engineering

UNIVERSITY OF CALIFORNIA, BERKELEY Berkeley, CA
Department of Chemical and Biomolecular Engineering 2012-2014
▪ Master of Science*, Chemical Engineering

* Transferred to University of Texas, Austin with advisor Prof. Delia Milliron to complete PhD studies at start of 3rd year.

COLUMBIA UNIVERSITY New York, NY
Fu Foundation School of Engineering and Applied Science 2007-2011
▪ Magna Cum Laude
▪ Bachelor of Science, Chemical Engineering
▪ Minor in Materials Science

RESEARCH

UT AUSTIN/UC BERKELEY/LAWRENCE BERKELEY NATIONAL LABORATORY Berkeley, CA
PhD Candidate: Advised by Prof. Delia Milliron and
▪ Studying properties of nanoscale materials, particularly metal oxide nanocrystals, with Austin, TX
applications in energy conversion, optics and electrochromic devices. 2012-present
▪ Co-Advised by Prof. Jeffrey Reimer while at UC Berkeley.

COLUMBIA UNIVERSITY DEPARTMENT OF MATERIALS SCIENCE New York, NY
Undergraduate Researcher: Advised by Prof. Irving Herman 2008-2012
▪ Studied the surface chemistry of ligated nanoparticles and self-assembly of nanostructures into ordered superlattices.

COLUMBIA UNIVERSITY ARPA-E COLLABORATION New York, NY
Undergraduate Researcher: Advised by Prof. Scott Banta and Michael Hill 2011
▪ Process design for regenerative bio-fuel cell producing isobutanol from ammonia, CO₂ - and electric current with nitrogen-fixing bacteria.

AWARDS & HONORS

- National Science Foundation Graduate Research Fellowship 2012-2015
- Cockrell School of Engineering Fellowship, *UT Austin* 2014-current
- Graduate Dean's Prestigious Fellowship Supplement, *UT Austin* 2015
- CU Scholars Summer Enhancement Fellow, *Columbia University* 2010
- C.P. Davis Engineering Scholar, *Columbia University* 2007-2011
- Academic All-Ivy Athlete, *Columbia University Varsity Squash* 2011
- K.W. Davis Projects for Peace award, 'Piece it Together' (*ELiTE, Inc.*) 2009
- Columbia University Earth Institute Earth Clinic award, *ELiTE, Inc.* 2010
- US Environmental Protection Agency P3 Phase-I award, *CU-EWB* 2010

WORK & TEACHING

UNIVERSITY OF TEXAS, AUSTIN

Fall 2014

Teaching Assistant, CHE350: Chemical Engineering Materials, Prof. Delia Milliron.

- Teaching assistant for upper-level undergrad materials science survey course.
- Assisted with curriculum development, exam preparation, homework design, lectures, discussion sections and other activities.

EMERGING LEADERS IN TECHNOLOGY AND ENGINEERING, INC.

2009-present

Co-founder and Executive Vice-President

- 501(c)3 non-profit that encourages the growth of socially responsible scientists and engineers in developing communities in New York and abroad.
- Experience with teaching, entrepreneurial management, fund-raising, marketing, educational assessment, curriculum design and tech development.

COLUMBIA CENTER FOR INTEGRATED SCIENCE AND ENGINEERING

2011-2012

Assistant Supervisor of CISE Clean Room

- Supervision and maintenance of equipment, safety protocol and user training.

PUBLICATIONS & PRESENTATIONS

PUBLICATIONS

- C. J. Dahlman, Y. Tan, M. A. Marcus, D. J. Milliron. "Spectroelectrochemical Signatures of Capacitive Charging and Ion Insertion in Doped Anatase Titania Nanocrystals", *Submitted 2015*.
- C. Lu, A. J. Akey, C. J. Dahlman, D. Zhang, and I. P. Herman. "Resolving the Growth of 3D Colloidal Nanoparticle Superlattices by Real-Time Small-Angle X-ray Scattering", *J. Am. Chem. Society* **2012** 134 (45), 18732-18738.

PRESENTATIONS

- C. J. Dahlman, Y. Tan and D. J. Milliron. "Dual-Mode Electrochromism in Doped Anatase TiO₂ Nanocrystals", *Gordon Research Conference (GRC): Materials for Applications in Energy Technology*, **21-27 February 2015**, Poster. Ventura, CA
- C. J. Dahlman and D. J. Milliron. "Tunable Dual Mode Electrochromic Switching in Doped TiO₂ Nanocrystals", *MRS Spring Meeting*, Session F10.12, **25 April 2014**, Presentation. San Francisco, CA
- CU-EWB. "Source-Separating Latrine for Sustainable Waste Management in Rural Ghana" *EPA P3 National Sustainable Design Expo*, **16-17 April 2011**. Washington, D.C.
- C. J. Dahlman and C. W. Roebuck. "Education for System and Idea Transfer" *EWB - Northeast Regional Workshop*. Columbia University, **19 Nov 2011**. New York, NY

ACTIVITIES

ENGINEERS WITHOUT BORDERS

New York, NY

- Program Manager of Columbia Chapter's Ghana Program (2010), supervised design and implementation of composting latrines in Obodan, a rural town in Ghana

Ghana
2007-2011

COLUMBIA UNIVERSITY VARSITY SQUASH TEAM

New York, NY

- Team Captain (2010, 2011)
- Columbia Dodge Fitness Center Associate in Physical Education, *Squash Instructor*

2011-2012