E. N. STUDENT

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- MOTIVATED IN RESEARCH AND DEVELOPMENT OF CATALYST AND CATALYTIC PROCESSES -

SUMMARY

I plan to graduate by June 2014 after completing my Ph.D. work in the field of Chemical Engineering at the University of Virginia. My expertise includes reaction engineering, process design, catalyst engineering, and catalyst characterization, which when coupled with my expert leadership, creativity, and communication skills make me a highly qualified candidate in developing renewable and biorenewable resources and technologies. In addition, my multicultural and multidisciplinary background allow to solve projects in a unique and insightful way.

SELECTED RESEARCH SKILLS

Lab-Scale Reactor and Process Design. High and Low Pressure Fixed-Bed Reactor Design. Gas Chromatography. Scanning Electron Microscopy (SEM). Transmission Electron Microscopy (TEM). Atomic Force Microscopy (AFM). Energy Dispersive Spectroscopy (EDS). X-Ray Diffraction (XRD). Thermogravimetric Analysis (TGA). Chemisorption. Physisorption.

EDUCATION

Ph.D. University of Virginia, Chemical Engineering Department. Charlottesville, VA **May 2014**
Dissertation: "xxxx"
GPA: 4.00
Graduate Certificate in Biorenewable Chemistry
GPA: 4.00

M.S Bucknell University. Chemical Engineering Department. Lewisburg, PA **April 2009**
Thesis: "xxx"

B.S. & M.S. Universitat Rovira i Virgili, Chemical Engineering Department. Tarragona, Spain **June 2007**

SELECTED LEADERSHIP AND SERVICE EXPERIENCE

Research mentor. University of Virginia, Department of Chemical Engineering. **Summer 2011 to present**

Guided a graduate student and two undergraduate student through their research assignments. Prepared case studies and assignments for both students to teach critical thinking in experimental research.

Seminar facilitator and speaker. University of Virginia **Fall 2010 to present**

Address problems related to the graduate student life for senior and new graduate students such as teaching, balancing life and research, publishing, advisor selection, etc.

Chair of the Graduate Advisory Board of the University of Virginia. **2012 to 2013**

Identify and address problems related to the graduate student community such as generating a grant data base for graduate students, organizing dissertation groups, maternity leave for graduate students.

Safety Inspector. University of Virginia, Department of Chemical Engineering. **2012 to 2013**

Perform health and safety inspection of research laboratories, notify graduate advisors and students of any violations, and coach on how to solve them.

Co-chair of the Graduate Affairs chapter of the University Student Council. **Spring 2012 to fall 2013**

Work with a multidisciplinary group of graduate students to find the best approach to build a sense of community and collaboration among the different graduate student schools.

President of the Graduate Engineering Council, GESC. **2011 to 2012**

Acted as a liaison between graduate students, graduate councils, and deans. Organized multiple social and professional development events, and hosted, participated, and facilitated several seminars.

Chair of the graduate board of the Department of Chemical Engineering. **Fall 2009 to present**

Interview faculty candidates and bring to the department issues involving the graduate student body.

PUBLICATIONS

1. Student, E.N. and R.J. Davis. Decarboxylation of Heptanoic Acid over Carbon-Supported Platinum Nanoparticles. Green Chemistry. 2013. *Accepted*.
2. Student, E.N. H. N. Pham, R.J. Davis, and A. K. Datye. Design of Stable Carbon Nanocoated Pd Nanoparticles for the Decarbonylation of Heptanoic Acid towards the Formation of α-Olefin over Pd Catalysts. 2014. *In submission.*
3. Student, E.N., B.T. Horlor, M. Neurock, and R.J. Davis. Mechanistic Studies of the Decarboxylation Reaction of Carboxylic Acids over Pd Catalysts. 2014. *In submission.*
4. Student, E.N. and R.J. Davis. Decarbonylation of Heptanoic Acid over Carbon supported Palladium Nanoparticles. 2014. *In progress.*
5. Student, E.N., H. N. Pham, H. Xiong, A. K. Datye and R.J. Davis. Design of Stable Silica-Supported Bimetallic Catalysts for the Decarbonylation of Carboxylic Acids. 2015. *In Progress.*

RELATED AWARDS

Kokes Award. 23rd North American Catalysis Society Meeting 2013. Louisville, KY **June 2013**

Graduate Teaching Award. University of Virginia, Teaching Resource Center. Charlottesville, VA **2012-2013**

Nominated by the Chemical Engineering Department for the teaching excellence award granted by the Teaching Resource Center for my works as a graduate teaching assistant.

Student-Led Research Grant. Iowa State University. Ames, IO **Spring 2013**

"Carbon Nanocoated Oxides for α-Olefin Production" and "Determining the different reaction engineering factors that affect the economic feasibility of the production of alpha olefins from carboxylic acids through techno-economic analysis".

2nd place award in 100th AIChE Conference for Environmental studies research. Philadelphia, PA **2008**

"Comparing Morphologic and Hygroscopic Properties of Single-Component and Multi-Component Organic Aerosols Using AFM and CCN"

SELECTED PRESENTATIONS

Presentation. 2013 AIChE Annual Meeting. San Francisco, CA **November 2013**

Title: Decarboxylation of Heptanoic Acid over Supported Pt and Pd Catalysts

Presentation. University of New Mexico. Albuquerque, NM **August 2013**

Title: Decarbonylation of Carboxylic Acids over Supported Transition Metals towards the Formation of α-Olefins

Presentation/Webinar. Iowa State University. Ames, IO **August 2013**

Title: Effect of Catalyst Deactivation during the Decarbonylation of Heptanoic Acid over Pt and Pd Nanoparticles

Presentation/Webinar. Iowa State University. Ames, IO **July 2013**

Title: Design of Carbon Nanocoated Oxide Supports without Mass Transfer Limitations for Production of α-Olefins from Carboxylic Acid

Presentation. 23rd North American Catalysis Society Meeting 2013. Louisville, KY **June 2013**

Title: Effect of Support on the Decarboxylation/Decarbonylation Reactions of Heptanoic Acid toward the Formation of α-Olefin

Poster/Presentation. Iowa State University. Ames, IO **May 2013**

Title: Deactivation of Supported Platinum and Palladium Nanoparticles during the Decarboxylation/ Decarbonylation Reaction of Heptanoic Acid

REFERENCES