

Luc H. Le

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EDUCATION

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| Georgia Institute of Technology , Atlanta, GA | August 2015-Present |
| ◆ Ph.D Chemical and Biomolecular Engineering | |
| University of Texas at Austin | August 2012-May 2015 |
| ◆ BS. Chemical Engineering with Honors | |
| ◆ BS. Chemistry with Honors | |
| San Antonio Community College | August 2010- May 2012 |
| ◆ AS Degrees in Chemistry and Math with Highest Honors | |

RESEARCH EXPERIENCE

- Nanocellulose-Based Bio-nanocomposite** with Dr. **Karl Jacob** November 2015-Present
- Extracted the cellulose nanofiber by acid treatment
 - Applied the nano-reinforced reactive molding technique to polymerize nanofiber with furfuryl alcohol
- Hybrid Molecular/Materials Approach to Semiconductor Catalysis** with Dr. **Michael Rose** December 2013- July 2015
- Researched and designed the hybrid molecular/materials interfaces of semiconductor in solution
 - Fabricated different functional conducting nanowire on the silicon wafer
 - Prepared Al₂O₃, TiO₂ and Pt atomic layer deposition as passivation on the methylated silicon wafer
 - Tested the power efficiency of the wafer with respect to the thickness of the atomic layer

PUBLICATION

1. H.J.Kim, K.Kearney, **L.Le**, R.T.Pekarek, M.J.Rose*. Electron Transfer, Surface Passivation and Platinum Catalysis Support on Si(111)-CH₃ Photoelectrodes Protected with Thin Film Aluminium Oxide (Al₂O₃). *ACS Appl. Mater. Interfaces*, 2015, 7 (16), pp 8572–8584
2. H.J.Kim, **L.Le**, M.J.Rose. Ultra-Thin Film Amorphous and Crystalline TiO₂ on n-Si(111) Photoelectrodes: Effect of Thickness and Platinum on Electron Transfer with a Non-Aqueous Redox Couple. (Submitted)

WORK EXPERIENCE

- Undergraduate Teaching Assistant, Mathematic Department, UT Austin** August 2012-May 2014
- Provided assistants for professor to lecture calculus class and lead students tutorial study group
 - Graded papers and organized the grading report in accordance with established deadline
- Undergraduate Teaching Assistant, Chemical Engineer Department, UT Austin** August 2014-May 2015
- Set up the unit operational lab (distillation, CSTR, pump and heat exchange)
 - Supervised the junior student perform the lab experiment
- Team leader senior design project: "Sour water stripping process"**
- Designed and simulated two distillation columns operation to reduce concentration of H₂S and NH₃ below 10 ppm
 - Modeled and calculated the parameter specification of the shell and tube heat exchanger to recover the heat loss
 - Performed engineering economic analysis and at risk to have overall IRR of 10% on fix capital investment of 20 million

VOLUNTEER WORK

- The H₂ from H₂O Outreach Project, UT Austin**
- Introduced highschool student to renewable energy and promoted student's interest in STEM field
 - Performed the experiment using polycrystalline solar panel to create the energy for electrostation kits to electrolyze water
- Student Leadership Institute, San Antonio Community College**
- Presented at Young Leaders Conference information about applying college and scholarships for highschool student

HONORS AND AWARDS

- Recipient of Natural Sciences 21st Century Endowed Presidential Scholarship, 2014-2015
- Recipient of Undergraduate Research Fellowship, 2014-2015
- Recipient of Dow Chemistry Alumni Centennial Endowed Scholarship, 2013-2014
- University Distinguished Scholar, 2013-2015
- Presidential Honor Scholar, 2010-2012

SKILLS

- Skilled in analytical techniques: GC, HPLC, UV-Vis, Mass spectrometry, Electrochemical analysis
- Substantial experience in research techniques for surface chemistry: ALD, XRD, SEM, XPS
- Designed the statistical experimental analysis
- Proficient with Microsoft Office applications, MATLAB, ASPEN, AUTOCAD, Polymath programs
- Fluent in English and Vietnamese

