# CELINE TESVARA

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## EDUCATION

**PhD** University of California, Los Angeles April 2019 - current
Bachelor of Science in Chemical Engineering
Minored in Germanic and Slavic Language, Environmental Engineering

**BS** The Pennsylvania State University, University Park 2014-2018
Bachelor of Science in Chemical Engineering
Minored in Germanic and Slavic Language, Environmental Engineering

## RESEARCH INTEREST

I am interested in modelling the stability of metal oxide surfaces, in particular for Fe and Ti systems through the utilization of Density Functional Theory (DFT+U).

## RESEARCH EXPERIENCE

**University of South Carolina**, Columbia, SC May to July 2018
Advisor: Dr. Andreas Heyden

- Developed a bimetallic Pt-Sn catalyst model using DFT and *constrained equilibrium thermodynamics* approach
- Performed Gibbs Free energies calculation of solid and gasses, including generating the chemical potential for gas molecules using rotational, vibrational, translational and pressure partition function
- Surface model built will be used to further study dehydrogenation of Succinic Acid under meaningful reaction temperature and pressure conditions

**Penn State University**, University Park, PA May 2016 to present
Advisor: Michael J. Janik, Scott Milner

- Modeled electronic hopping mechanism in uniform, undisturbed conjugated polymers with a goal to improve its efficiency as the active materials in semiconductor
- Modeled charge transport mechanism in polymeric semiconductors with different ring combination and molecular disturbances.
- Utilized Gromacs and Gaussian for HOMO LUMO visualization of molecules

## TEACHING EXPERIENCE

**Penn State University**, University Park January to May 2018
**Dr. Stephanie Velegol**, Department of Chemical Engineering

- Material and Mass balance, an undergraduate course averaging 120 students per semester, covering the steady state process principle, unsteady state process and recycle processes in chemical plants.
- Developed quizzes, exams, and homework
- Revised the syllabus to meet accreditation standards
- Coordinated grading a team of 3 teaching assistants

## HONORS AND AWARDS

**Chevron's Exceptional Educational Scholarship** 2014
Won a full ride undergraduate scholarship after competing with students selected nationwide.

**College of Engineering Researcher Fellowship (CERI), Penn State** 2016
Fellowship awarded to young undergraduate researcher from the college of engineering

**PPG Undergraduate Researcher Fellowship** 2016
Sponsored by PPG to conduct a summer research on novel materials

**UAS7 (German Universities of Applied Sciences) Scholarship** 2017
Scholarship awarded to visiting scientist at 7 research universities in Germany

## PROFESSIONAL TRAINING

**Materials Characterization Lab Workshop series**
Materials Research Institute, University Park, July 2016
Participated in weekly series of materials characterizations and imaging equipment workshop such as XRD and FTIR, sponsored by PPG Industries and Materials Research Institute at Penn State

**Ambassador Network: Public Speaking in Engineering Workshop**
Engineering Ambassador Conference, August 2016
Participated in a three-day training on how to efficiently convey scientific themes and concepts to general audiences.

## COMPUTER SKILLS

**Programming Language**: Python (includes Numpy and Matplotlib), C++, Unix

**Applications**: VASP, Gaussian, Gromacs, Materials Studio, Vesta, Avogadro, Gnuplot, Mathematica, Matlab

## ACTIVITIES

**Member of American Chemical Engineering Honor Society (ΩXE)**, Penn State Chapter
**Vice President of Indonesian Student Association**, Penn State Chapter
**Member of Amercan Institute of Chemical Engineers (AICHE),** Penn State Chapter

**Member of Society of Women Engineers (SWE),** Penn State College of Engineering

## LANGUAGES

**English**: Native Language
**Indonesian**: Native Language
**German**: Advanced Listener, Reading and Writing
**French**: Novice Listener, Reading and Writing

## REFERENCE

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