

# Prapassorn Numkiatsakul

1304 W Green St, Urbana, IL 61801  
phn4@illinois.edu

## EDUCATION

University of Illinois at Urbana-Champaign, Champaign, IL Present  
*Doctor of Philosophy in Material Science and Engineering*

The Pennsylvania State University, University Park, PA Graduated May 2020  
*Bachelor of Science in Material Science and Engineering*

- Cumulative GPA: 3.70 (Dean's List)

## AWARDS

- John and Elizabeth Holmes Teas Scholarship from the College of Earth and Mineral Science August 2017-2020
- George H. and Madeleine Hager Todd from Materials Science Department August 2019-2020
- Penn State Metallurgy Alumni Scholarship from Materials Science Department August 2017-2018

## EXPERIENCES

**Professor Waltraud Kriven's Group, University of Illinois at Urbana-Champaign** Urbana, IL  
*Graduate Research Assistant* August 2020-Now

- Fabricate high-temperature-resistant ceramic hot surface probe in aircraft compression ignition engines

**Professor Susan Trolier-McKinstry's Group, The Pennsylvania State University** University Park, PA  
*Undergraduate Researcher* January 2019-2020

- Study electrical properties of composites near percolation threshold.
- Fabricate ceramic-metal and polymer-metal composites through Cold Sintering Process (CSP).

**Thailand National Metal and Materials Technology Center, Thailand** Bangkok, Thailand  
*Undergraduate Researcher* May 2017 – August 2017

- Synthesized fly-ash-based geopolymer and crystalline aluminosilicates (Zeolite) from local sediment through hydrothermal method.
- Extracted both materials' absorption of dye colors (Methylene blue, Methyl Orange and Congo Red).

**Department of Statistics – STAT401** University Park, PA  
*Undergraduate Teaching Assistant* January 2018 – Now

- Evaluate the accuracy of students' assignments and exams about statistical methods, graphics for analysis and presentation of data encountered in engineering discipline.
- Provide feedback and guidance to 100+ students weekly.

**IES Aboard: Language & Area Studies** Barcelona, Spain  
*Study Abroad* May 2018 – July 2018

- Gained familiarity with a new culture and value-system, and learn to accept the differences.
- Demonstrated willingness to take risks through enrollment in Spanish-speaking curriculum.

## PUBLICATIONS

- Kang, S.-G., J. I. Ryu, A. Motily, P. Numkiatsakul, T. Lee, W. Kriven, K. Kim, C.B. Kweon, Thermo-Mechanical Characterization of a Hot Surface Ignition Device using a Phenomenological Heat Flux Model, *AIAA Journal of Propulsion and Power*, accepted (2022)
- Shetty, S., Numkiatsakul, P., Wickline, K., Incarnato, R., Wang, H., Kunkel, H., ... & Trolier-McKinstry, S. (2022). Development of polymer-ceramic-metal graded acoustic matching layers via cold sintering. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 69(4), 1413-1427.

## CONFERENCES

---

### **The 7th World Materials Research Institutes Forum Symposium and General Assembly**

*Assistant Event Planner, Attendant*

Bangkok, Thailand

*June 19-22, 2018*

- Discussed Materials for innovation in agriculture, water and environmental Management.

### **Global Engagement and Leadership Experience (GELE)**

*Attendant*

Bald Eagle, PA

*October 23-25, 2017*

- Contributed to the intensive discussion about aspects of global leadership.

## LEADERSHIP AND ACTIVITIES

---

### **The Global Student Leadership Forum**

*Initiative Member*

University Park, PA

*August 2017- May 2019*

- Collaborated with leaders from international organizations to promote diversity in Penn State and be a voice of international students to the university.
- Collaboratively worked on starting the first international career fair at Penn State.

### **Thai Student Association (ThSA)**

*Director of Operations and Events, Director of External Relations*

University Park, PA

*August 2017- May 2019*

- Planned and organized internal and external club events and represented ThSA in various international events.
- Performed a traditional play in the annual Thai Night to spread Thai culture to over 200 audiences (main character).

### **Global Brigades – Medical Program**

*Volunteer*

Central Region, Ghana

*May 2018*

- Provided care to those in need at a mobile clinic and assisted medical professionals.
- Educated community members about personal hygiene, health insurance and disease prevention.

### **Global Brigades - Water and Engineering Program**

*Volunteer*

Choluteca, Honduras

*March 2017*

- Brainstormed with water experts to design large-scale water systems for communities in need.
- Implemented water projects and coordinated with local community members to complete the project.
- Translated between Spanish and English.

### **Thailand Gifted and Talented Foundation**

*Volunteer*

Chiang Rai, Thailand

*October 2013- Now*

- Biannually, give a talk to 200+ Thai high school students about life experience as a scholar and international student aboard.
- Organized summer programs workshops on human development for high school and middle school students across Thailand.

## SKILLS

---

- **Engineering Software:** MATLAB, R
- **Languages:** Thai (native), English (fluent), Spanish (intermediate), Chinese (beginner)
- **Ceramic Processing Techniques:** Powder processing, Cold Sintering Process, Tape Casting, Electrical Measurements
- **Instruments:** XRD, XRF, FE-SEM, Brunauer-Emmett-Teller Analysis, and UV-Vis spectroscopy, SEM, TEM, Magnetron Sputtering, Resistance Measurement, Dynamic Light Scattering, Cold Isostatic Press, Isostatic Laminator, Tape Casting Machine.