

Nayeon Kang

nkang10@jhu.edu

(+1) 667 212 6709

EDUCATION

- The Johns Hopkins University, US** Sep 2022 – Present
Ph.D. Chemical and Biomolecular Engineering
Co-advised by Prof. M. Tsapatsis & Prof. B. Bukowski
- Friedrich-Alexander University Erlangen-Nuremberg, Germany** Oct 2019 – Jun 2022
M.Sc. Advanced Materials and Processes (MAP)
Focal subjects: Advanced Processes & Computational Material Science and Process simulation
- The University of Edinburgh, UK** Sep 2016 – Jul 2019
BEng (Hons) Chemical Engineering

RESEARCH EXPERIENCE

- Membrane-Catalyst Co-Design for sustainable ammonia production** Jan 2023 – Present
Johns Hopkins University, Prof. Tsapatsis & Prof. Bukowski, DOE project
- Synthesized nanosized zeolites for high pressure adsorption test and catalytic impregnation and further reaction setups.
 - Modeled the expected performance of combined setup of reaction and separation using MATLAB.
- High pressure adsorption behavior of supercritical fluids in various pore sizes** Dec 2021 – Jun 2022
Friedrich-Alexander University, Prof. Thommes, Master Thesis
- Conducted high pressure gravimetric measurements of supercritical ethylene and analyzed the isotherm for different adsorbents.
 - Computed absolute isotherms via RASPA (Monte Carlo) simulations.
- Surfactant Adsorption in nonpolar medium** Sep 2020 – Feb 2021
Friedrich-Alexander University, Prof. Thommes, Mini Research Project
- Performed conductivity measurements to investigate adsorption pattern of surfactant in nonpolar solvents
- Water Adsorption on SAPO-34 via ZLC technique** Jun 2018 – Aug 2018
University of Edinburgh, Prof. Brandani, Summer Research Scholarship Program
- With zero-length-column (ZLC) setup, water adsorption isotherms of SAPO-34 adsorbents were measured.

WORK EXPERIENCE

- Intern in Technology Management** Mar 2021 – Oct 2021
Hydrogenious LOHC Technologies GmbH, Erlangen, Germany
- Designed the sensitivity analysis tool for calculating LCOH (levelized cost of hydrogen) at the end of the process by varying parameters of dehydrogenation reaction - including catalyst lifetime, deactivation, cost of energy sources. Closely collaborated with R&D team.
 - Conducted critical technologies screening and patent research
 - Improved my German from daily-fluent to business-proficient

AWARDS & EXTRACURRICULAR ACTIVITIES

WSE Women Mentoring Program	Nov 2022 – Jun 2023
<i>Johns Hopkins University, Whiting School of Engineering</i>	
<ul style="list-style-type: none">Mentored a female undergraduate student in similar academic/ cultural backgrounds	
Best Student Award	Feb 2021
<i>Friedrich-Alexander University, MAP Master program</i>	
Class Representative of Master Program Class of 2019/20	Oct. 2019 – Aug 2021
<i>Friedrich-Alexander University, MAP Master program</i>	
<ul style="list-style-type: none">Facilitated open discussion between students and lecturers during Covid time	
Voluntary helper in Refugee Kinderprogram	Feb 2020- May 2022
<i>Erlangen, Germany, led by local church members</i>	
<ul style="list-style-type: none">Taught German to kids from refugee family, helped them with math homework and remote lecture material during Covid	
Competition Team leader/member	Sep 2016 – Jun 2019
<i>Edinburgh University Modern Dance Society (EUMDS), UK</i>	
<ul style="list-style-type: none">Choreographed for the hiphop team, competed in various nationwide dance competitions	

SKILLS & LANGUAGES

MS Excel, Origin, LaTeX	Data analysis & visualization
MATLAB, Python	Computational modeling
VASP, RASPA, UniSim, Aspen	Atomistic simulation, Process simulation
Korean (Native), English (Fluent: IELTS 7.5, TOEFL 109), German (Business-fluent, C1)	