

# Annaliese Marks

marksan3@msu.edu

## Education

- **Michigan State University**; East Lansing, MI Expected May 2022
  - Bachelor of Science, Biosystems Engineering, Ecosystems & Bioenergy concentrations
  - Minor in Women's & Gender Studies, Minor in Environmental & Sustainability Studies
  - Honors College member; 3.98/4.0 GPA; Dean's List

## Accreditations

- LEED® Green Associate™ Jul 2020 – present

## Research and Work Experience

- **Student Trainee (Engineering Technician)**; Department of the Army Ground Vehicle Systems Center (GVSC) (Supervisors Ben Thomas and Bob Shalewitz) May 2021– Aug 2021
  - Performed mass balance and economic analysis of wastewater treatment experiment
  - Designed and modelled components of treatment system
- **Intern**; Sustainable Living Guide Sep 2020 – Dec 2020  
Remote internship, Eco-Conscious Music Alliance (EMA) (Supervisor Lisa Pavati)
- **Research Assistant**; Professorial Assistantship Program Jun 2018 – May 2019  
Michigan State University (Dr. Wei Liao and Dr. Yan Liu) Aug 2019 – present
  - Trained team members on algae and wastewater testing procedures
  - Modeled 3-D project designs (Autodesk Inventor, self-taught)
  - Test nutrients and properties of daily algae samples
  - Run and analyze carbon dioxide absorption experiments
- **Research Intern**; EnSURE Research Program May 2019 – Jul 2019  
Michigan State University (Dr. Yan Liu and Dr. Wei Liao)
  - Monitored algal growth and metagenomic analysis evaluating culture conditions
  - Created/presented a research paper and poster at MSU Mid-SURE

## Leadership and Volunteer Experience

- **The Smithsonian Institution.** *Digital volunteer, transcribe and edit historical resources* 2020-present
- **ASABE Michigan Section.** *Pre-Professional Member* 2020-present
- **Mortar Board Senior Honor Society.** *Treasurer of Sphinx Chapter, Member* 2020-present
- **Tau Beta Pi Engineering Honor Society.** *Member of Michigan Alpha Chapter* 2020-present
- **University Lutheran Church.** *Church Council Student Representative* 2019-present
- **MSU One Community campus ministry.** *Student Associate, Member* 2018-present
- **MSU Biosystems Engineering Club.** *Acting President, Vice President, Industry Board Rep.* 2018-present
- **Make-A-Wish Foundation.** *Raised money through the Wish-A-Mile cycling event* 2018-present
- **MSU Concert Orchestra.** *Member, trombone* 2019-20
- **MSU Tower Guard.** *Member, volunteer 4 h/wk, Resource Center for Persons with Disabilities* 2019-20
- **MSU Women in Engineering Peer Connect Program.** *Mentee* 2018-19

## Skills

- Autodesk Inventor
- Basic R statistical analysis
- Basic MATLAB
- Basic PowerGeopak (similar to AutoCAD)
- Basic-Intermediate Spanish language
- Zoom
- Microsoft Office 365 (Word, PowerPoint, Excel, Teams)

## Honors/Awards

- MSU Biosystems Eng. A.W. Farrall Award Spring 2021
- ASABE Jimmy Butts Memorial Scholarship Spring 2021
- Spartan Volunteer Service Award (volunteered 100 hours in 2020) 2020
- MSU Biosystems Eng. Deboer Family Scholarship Spring 2020
- MSU Biosystems Eng. Freshman Scholarship Summer 2018
- MSU Honors College STATE Scholarship (8 semesters) Spring 2018
- MSU College of Eng. Anibal Memorial Scholarship Spring 2018

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## Publications and Presentations

- **Marks, A.**, Uludag-Demirer, S., Liu, Y., Liao, W.. Effects of Biochar on Microbial Community Dynamics and Anaerobic Digestion of Corn Stover Biooil. April 2021. Poster presented at UURAF, Michigan State University.
- Cutshaw, A., Daiek, C., Zheng, Y., Frost, H., **Marks, A.**, Clements, D., Uludag-Demirer, S., Verhanovitz, N., Clary, W., Pavlik, D., Liu, Y., Liao, W.. A long-term pilot-scale algal cultivation on power plant flue gas – Cultivation stability and biomass accumulation. *Algal Research*. Accepted October 18, 2020.
- **Marks, A.**, Daiek, C., Liu, Y., Liao, W.. A Robust Algal Assemblage to Capture CO<sub>2</sub> in Flue Gases and Air. July 2019. Poster presented at Mid-SURE, Michigan State University.