

Charles Dow

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EDUCATION

University of New Haven, West Haven, CT. May 2018.
Bachelor of Science, Chemical Engineering, GPA: 3.36/4.00

RELATED EXPERIENCE

Integrative Materials Discovery November 2016 – Present
Undergraduate Researcher – Catalysis Design Branford, CT

- Researched titanium dioxide and sulfur doped titanium dioxide as a catalysis for biofuel production and removal of organic compounds from air (current project)
- Synthesized titanium dioxide and sulfur doped titanium dioxide and performed various experimental skills such as; running reflux reactions, vacuum filtration, distillation, and use of a rotary evaporator
- Used X-Ray Diffraction for the characterization of catalysts synthesized by myself and other group members along with post reaction solids
- Used Nuclear Magnetic Resonance to characterize unknown post reaction liquids
- Assisting in the organization and planning of Integrative Materials Discovery meetings and presentations

Common Ground High School September 2016 – May 2017
Robotics Club Advisor New Haven, CT

- Taught students about coding and its applications, circuits, robotics and its applications, and lab safety through presentations
- Taught students how to solder basic to intermediate circuits and robot hardware assembly through the following projects; crystal radio, speaker with siren, mood light, Bluetooth rover, Lego Mindstorms quad and cable crawler, and sumo robots
- Preparation of materials and projects to teach students and aid in their understanding of topics

Amistad America Inc. March 2014 – June 2014
Amistad Science, Community, and Cultural Intern New Haven, CT

- Collected water samples from several local rivers and water bodies in the Dominican Republic for pollution analysis for a Yale research study
- Interviewed students and founders of La Escuela Basica Milagro De Amor in Spanish for a website about stateless-ness and its impact on those who live in the Dominican Republic

The Nature Conservancy July 2013 – August 2013
Leader in Environmental Action for the Future Intern Presque Isle, Maine

- Surveyed culverts in the Aroostook watershed to create individual reports on each culvert describing their physical characteristics and environment around culvert for the state of Maine
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SKILLS

X-Ray Diffraction, Nuclear Magnetic Resonance, catalyst synthesis, metal oxide calcination, reflux reaction, vacuum filtration, distillation, rotary evaporation

Microsoft Word, PowerPoint, Excel with VBA programming, Project, Outlook

ChemCAD, Igor Pro

Certification

SACHE Certifications: Process Safety 101, Process Safety Lessons Taught From Experience, Basics of Laboratory Safety, Chemical Reactivity Hazards, Risk Assessments, Inherently Safer Design

CITI Program Modules: Plagiarism, Authorship, Environmental and Social Dimensions of Engineering Research, Conflicts of Interest, Data Management, Research Misconduct

University of New Haven Radiation Safety and XRD Training

RELATED COURSEWORK

Chemical Process Safety

Polymer Science

Materials in Engineering
Systems

Reaction Kinetics and
Reactor Design

Process Dynamics and
Control

Project Management and
Engineering Economics

PROFESSIONAL MEMBERSHIPS

Student Member, American Institute of Chemical Engineering

CONFERENCES

2017 University of New Haven SURF Program Research Symposium

September 14th, 2017

Charles Dow and Dr. Dequan Xiao, "Converting Cellulosic Biomass to Liquid Fuels using Sulfur Doped Titanium Dioxide Photocatalyst in Aqueous Solutions"

AWARDS AND HONORS

University of New Haven Summer Undergraduate Research Fellowship, 2017

OTHER EXPERIENCE

Amazon.com Inc.

June 2016 – August 2016

Seasonal Fulfilment Associate

Wallingford, CT

- Sorted and scanned boxes on to pallets, along with unloading pallets from trucks and preparing pallets for shipping

Kumon math and Reading Center

May 2015 – November 2015

Tutor and General Aide

Milford, CT

- Tutored 20 to 30 kids a shift from kindergarten to early high school in a variety of English and Mathematics topics including; basic arithmetic, calculus, creating sentences, and SAT vocabulary
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