Kateryna Shevchuk

ks3382@drexel.edu
www.linkedin.com/in/kateryna-shevchuk-1a2465b4/

EDUCATION

Drexel University, Philadelphia, PA - BS in Chemical Engineering, Minor in Business Analytics
September 2015 - June 2020
GPA: 3.63/4.00

Odessa Specialized School No.35, Odessa, Ukraine - Gold Medalist
September 2004 - May 2015
GPA: 4.00/4.00

Circleville High School, Circleville, OH - Study Abroad
August 2013 - June 2014
GPA: 4.00/4.00

EXPERIENCE

FMC, Philadelphia, PA – *Formulations Engineering Co-op*
March 2019 – September 2019

- Developed a database of the company's global formulation capabilities by analyzing data on over 5000 finished goods
- Provided technical support to 170 employees using enterprise project management software
- Presented to the senior staff regarding options for improved document control and information management
- Created an alternative reporting system for project-related information and metrics in SharePoint to reduce the costs and improve operating efficiency
- Developed a report to monitor, track and manage spend for non-manufacturing projects with $20M budget in Excel
- Assisted in generating the 2020 and 5-Year budget reports
- Supported improvement engineers in assessing cost reduction projects, working with site sources and the SAP platform
- Generated global monthly forecast reports, addressing system failures and resolving user errors

National NanoFabrication Center, Daejeon, South Korea - *Researcher*

April 2018 - September 2018

- Completed three projects pertaining to the gas sensing properties of semiconductive and conductive 2-D materials (MXenes) with VOCs
- Worked with large amounts of highly hazardous materials, i.e. 50% hydrofluoric acid and nitrogen dioxide gas
- Optimized deposition methods of MXenes onto the sensors, testing over 50 samples and referring to published literature
- Adjusted synthesis methods of three different materials for the equipment and chemicals present in the NanoFabrication Center
- Individually coordinated the planning of research projects between two local laboratory groups and a U.S.-based team over a 5-month period
- Used Excel, OriginLab and PowerPoint to develop a demonstration of acquired data and presented it during the monthly group seminar

INOLEX, Philadelphia, PA - *Engineer*

March 2017 - September 2017

Project Engineering:

- Led design activities of new air compressors, i.e. identified air usage requirement, analyzed existing and future electric power systems, evaluated locations
- Managed the project on the removal and renovation of 140-foot old boiler stacks to ensure site safety
- Led the installation of a second loading dock to handle hazardous shipment volumes
- Supported conversion of Fuel Oil #6 to Fuel Oil #2 to reduce environmental impact and adhere to safety codes
- Contributed to the decision-making evaluation of developing a $15MM new specialty plant versus acquiring a new plant
- Updated and revised PFD’s and P&ID’s to comply with the OSHA 29 CFR 1910.119 standard for EHS reports via field verification

Process Engineering:

- Analyzed the compatibility of products with packaging materials construction to solve product contamination problems through literature review and laboratory examination
- Updated a database of products and raw materials, creating analytical graphs and pressure-temperature profiles
- Participated in the process of PLC programming and equipment start-up for a new tank
- Analyzed 100+ batch records to develop pressure-temperature profiles for 35 products and identified opportunities for time-cycle reductions in the order of over $200K annually

Drexel Nanomaterials Institute, Philadelphia, PA - *Researcher*

March 2016 - Present

Synthesis

- Synthesized Ti3C2 MXene dispersions using different etching techniques
- Fabricated Molybdenum-based MXenes (Mo_2C, Mo_2TiC_2) for the gas sensing tests

Electrochemical Storage

- Performed electrochemical testing using EC-Lab
- Interpreted data for energy storage applications
- Prepared colloidal solution of MXene and fabricated free-standing films

Gas Sensors

- Deposited MXenes of the wafers using spray coating
- Tested the samples with Ethanol and Acetone gases, optimizing the new gas sensing set up

Textile Fabrication

- Used water-soluble polyurethane (PU) and polyvinyl alcohol (PVA) to spin MXene-polymer hybrid fibers using wet spinning technique
- Prepared MXene-PVA solutions and wet-spun them in various solvents
- Learned different types of wet-spinning set-ups including vertical, rotational, and horizontal

SERS

- Studied the surface-enhanced Raman spectroscopy effects of various dye deposited onto MXene spray-coated wafers

Impact HUB Odessa (Odessa, Ukraine) - *HR Manager, Project Coordinator*

September 2015 – August 2015

- Facilitated recruitment of volunteers and interview processes for an organization with 600 members
- Coordinated and advertised events for 13 local nonprofit organizations
- Managed the schedule of the four largest youth and entrepreneurial conferences in Ukraine
- Organized speaker recruitment for conferences and workshops

ACHIEVEMENT AND AWARDS

Materials Research Society Best Undergraduate Poster	November 2018
Materials Research Society Best Undergraduate Presentation	November 2018
Drexel Performance Scholarship	June 2016
Drexel Global Scholar, Drexel University	June 2015
Valedictorian, Gold Medalist, Odessa School #35, Ukraine	May 2015

LEADERSHIP AND COMMUNITY SERVICE

Leadership Council Member, Drexel Global Scholar
September 2016 – May 2020

Mentorship Coordinator, Drexel Global Scholars
July 2016 – March 2018

Treasurer, American Institute of Chemical Engineers
April 2017 - April 2018

Class Representative, American Institute of Chemical Engineers
October 2016 – May 2019

Event coordinator, Engineers Without Borders
September 2016 – March 2018

Member, Society of Women Engineers
March 2016 – May 2020

Floor representative, Engineering Learning Community
September 2015 - June 2015

Dornsife center, Community and K-12 Outreach
January 2016 - March 2016

Solar energy association. Solar car racing: K-12 outreach, science fairs, annual competition
April 2017 – Present

City Representative, American Councils for International Education
September 2014 - September 2015

SKILLS

Software: COMSOL, ASPEN, Creo, AutoCAD, MATLAB, PowerSteering, Microsoft Word, Excel, PowerPoint, Visio, Access, SharePoint, OriginLab

Languages: Ukrainian and Russian (fluent/native); German (limited working proficiency), Spanish (beginner)

Laboratory: gas sensing equipment, spin/spray/dip coating, centrifugation, etching, delamination, E-beam deposition, glove box, UV-vis, SEM, AFM, XPS, electrochemical testing (EC-Lab), wet-spinning, Raman spectroscopy