Madeline Masi

235 Ingalside Road, Greenville, NY 12083

(347) 524-3426 masim@clarkson.edu

Objective

Combining the skillsets I have developed through the Chemistry Department and Communication & Media Department to pursue a professional career in academia.

Technical Skills

Biochemistry / Biotechnology Lab Techniques

Developing electrode modification techniques to load molecules to the surface to then be released via electrochemical stimulation.

Using the molecules released from the modified electrode surface to trigger Biocomputing logic systems.

Electrochemical Analysis Techniques

Proficient use of a potentiostat to collect and interpret electrochemical analytical data through methods of cyclic voltammetry, differential pulse voltammetry, Faradaic impedance, etc.

Spectroscopic Techniques

In order of experience: fluorescence, infrared, nuclear magnetic resonance (proton and carbon-13), ultraviolet/visible molecular absorption spectrometry, and others.

Film Editing

Use of Adobe Premiere to edit film for awareness and programming campaigns.

Web Design

Developing websites for personal or professional use using HTML, CSS, and JavaScript.

Education

Bachelor of Science Degree in Chemistry and Communication & Media August 2013 – Present

Clarkson University, Potsdam, NY

The Clarkson School August 2013 – May 2014

Early entrance program for high school students desiring academic challenges

Clarkson University, Potsdam, NY

Selected Research Experience

Undergraduate Research

Clarkson University

Laboratory of Bioelectronics & Biotechnology

Professor Evgeny Katz, Research Advisor

Potsdam, NY

May 2015 - Present

Research emphasized on using electrodes for triggered molecule release. Based on the properties of the electrodes and the molecules that are going to be released, there are modifications to the electrode surface that must be performed. The modifications vary and must be optimized for the highest concentration of molecule release with a high reproducibility factor. These modifications are focused on the use of polyelectrolyte polymers responsive to pH dependent systems.

Teaching Experience

Freshman Chemistry Recitation Instructor

Clarkson University

August 2016 – Present

Meeting once a week to reinforce lecture material in a more focused, classroom style teaching.

Freshman Chemistry Laboratory Instructor

Clarkson University

August 2016 – Present

Providing hands-on experience with fundamental laboratory techniques.

Course material covered: Solution Chemistry, Thermochemistry, Electrochemistry, Elemental Properties, Chemical Bonding, Molecular Shapes and Theories, Gases, and Intermolecular Forces.

Internship Experience

Communications Intern

Clarkson University

Title IX Working Group

Professor Jen Ball, Internship Advisor

Potsdam, NY

May 2016 – Present

Striving to educate the campus about diversity and inclusion, videos and passive programming are produced to publish and distribute. By increasing awareness for diversity and inclusion, there are hopes that incidents on and off campus will decrease. Additionally, by making students more aware of their rights regarding gender-based discrimination, it will make a safer campus environment.

PUBLICATIONS

Madeline Masi, Maria Gamella, Nataliia Guz, Evgeny Katz **Electrochemically Triggered DNA Release from a Mixed-brush Polymer-modified Electrode.** *Electroanalysis.,* **2016**, 28, 2613 – 2625. DOI: 10.1002/elan/201600275

Maria Gamella, Andrey Zakharchenko, Nataliia Guz, **Madeline Masi**, Sergiy Minko, Dmitry M. Kolpashchikov, Heiko Iken, Arshak Poghossian, Michael J. Schöning, Evgeny Katz **DNA Computing Systems Activated by Electrochemically-triggered DNA Release from a Polymer-brush-modified Electrode Array.** *Electroanalysis.,* DOI: 10.1002/elan.201600389

SELECTED PRESENTATIONS AND CONFERENCE ATTENDANCE

Symposium on Undergraduate Research (SURE) July 2016

Poster – *Polymer Brush Systems for Electrochemically Simulated DNA Release*

Symposium on Undergraduate Research (SURE) July 2016

Oral Presentation – *DNA Computing Systems Activated by Electrochemically-Triggered DNA Release from a Polymer-Brush-Modified Electrode Array*

Symposium on Undergraduate Research (SURE) April 2016

Oral Presentation - *Electrochemically Triggered DNA Release from a Mixed-Brush Polymer Modified Electrode*

7th ACS Annual Undergraduate and Graduate Chemistry Research Symposium March 2016

Oral Presentation - *Electrochemically Triggered DNA Release from a Mixed-Brush Polymer Modified Electrode*

Symposium on Undergraduate Research (SURE) July 2015

Poster - *Electrochemically Triggered DNA Release from a Mixed-Brush Polymer Modified Electrode*

AWARDS

Best Poster in Chemistry and Nanotechnology July 2016

Presented at Clarkson University's SURE Conference

Best Oral Presentation in Chemistry July 2016

Presented at Clarkson University's SURE Conference

David A. Walsh Fellowship April 2016

Presented to an undergraduate student to support his or her needs for development in the laboratory setting.

Best Oral Presentation in Material Sciences April 2016

Presented at Clarkson University's SURE Conference

American Chemical Society Northern New York Award April 2016

Presented to an undergraduate student in the NNY Section of ACS for distinguishing himself or herself by outstanding achievement in chemistry or biochemistry.

Best Poster in Electrochemistry July 2015

Presented at Clarkson University's SURE Conference

Additional Enriching Experiences

Mentor/Teacher for High School Students

Peru Central High School
Adirondack PTECH Program
Peru, NY
September 2016 – Present

Utilizing the skills developed through professional, personal, and classroom experiences at Clarkson to demonstrate things for the students in the PTECH program, exposing them to technologies they won't otherwise discover in the traditional classroom.

Adirondack PTECH is a 6-year program to help underrepresented students by fast-tracking them through an advantageous program in which they will complete high school and earn an Associate Degree in a technology-based field.

Clarkson University
Mytholympics
Potsdam, NY
November 2015 – August 2016

Serving as a mentor for local high school students tasked with challenging STEM problems and competitions. During the summer program, serving as a camp counselor to ensure the safety of the students while also making sure the intellectual challenges from the day were as enriching as possible.

Mytholympics is an outreach program that is targeted to engage local high school students in STEM fields. This program is funded by Alcoa and conducted through Clarkson University.