# **Eron Saxon**

# eronsaxon@gmail.com | eronsaxon.com | Brookfield, WI

## **EDUCATION**

B.S. in Chemistry cum laude

University of Wisconsin - Milwaukee

Ph.D. in Chemistry Sept. 2019 – May 2024

University of Wisconsin – Milwaukee Milwaukee, WI

Dissertation: "Boron-based theranostics and prodrugs: design, synthesis, mechanism and biological investigation"

\_\_\_\_

## **EMPLOYMENT EXPERIENCE**

# **Quality Control Lab Technician**

MetalTek International

Jan. 2018 - April 2019

Sept. 2015 – Dec. 2018

Milwaukee, WI

Waukesha, WI

- Operated analytical instruments, including LECO carbon/sulfur and nitrogen/oxygen instruments, x-ray, and arc optical emission spectrometers
- Maintained and standardized instruments following Nadcap (National Aerospace and Defense Contractors Accreditation Program) approved protocols
- Performed routine analysis of heterogeneous metals for determination of elemental composition

## **Research & Teaching Assistant**

University of Wisconsin - Milwaukee, Advisor: Dr. Peng

Sept. 2019 – May 2024

Milwaukee, WI

- Designed novel theranostic and prodrug nitrogen mustards as anticancer small molecules
- Performed multi-step synthetic routes (>13 steps) of oxygen-, water-, light-sensitive reaction conditions

- Isolated and purified compounds by column chromatography, distillation, precipitation, recrystallization, and trituration resulting in 4 novel theranostics
- Characterized compounds by utilizing TLC, NMR, LCMS, HRMS Q-TOF, UV/VIS, fluorescence, and fluorescence confocal microscope instruments
- Evaluated theranostics and prodrugs using cytotoxicity and fluorescence colocalization assays in vitro with TNBC MDA-MB-468 cell line
- Synthesized oligonucleotides by automated solid-phase synthesis with ABI 394, purification and <sup>32</sup>P radiolabeling of oligo for DNA interstrand cross-linking assays
- Determined safety and anticancer efficacy of compounds in *in vivo* CD1 and xenograft athymic mice study following IACUC approved guidelines
- Determined physiochemical properties of small molecules (solubility and permeability)
- Determined photophysical properties of fluorescent dyes
- Determined prodrug activation mechanism in vitro and in vivo through deuterium isotope-labeled mustard prodrugs

 Trained and supervised undergraduate students in research and teaching laboratories or classrooms

**Research Volunteer** 

June 2024 – Current

University of Wisconsin – Milwaukee, Advisor: Dr. Peng

Milwaukee, WI

- Investigation of novel small molecule prodrugs and theranostics as selective anticancer and/or fluorogenic agents

### **SKILLS**

- Synthetic organic chemistry, laboratory techniques and instrumentation
- Click CuAAC and boron chemistry
- Knowledge of the anticancer drug development process
- Microsoft Office, ChemDraw, ChemSketch, SciFinder, Reaxys, Shimadzu LabSolutions,
  Bruker TopSpin, ImageJ, Zeiss Zen, QuPath and GraphPad Prism

#### **AWARDS**

- UWM Chancellor's Award (2019 2022)
- UWM Graduate School Distinguished Dissertation Fellowship (DDF) Award (2023 2024)

#### **PATENT**

 Peng, X.; Saxon, E., Hydrogen Peroxide Responsive Theranostics. Patent Application 2024, US provisional patent No. 020871-0017-US01

## **PUBLICATIONS**

- Fan, H.; Zaman, M. A. U.; Chen, W.; Ali, T.; Campbell, A.; Zhang, Q.; Setu, N. I.; Saxon, E.; Zahn, N. M.; Benko, A. M.; Arnold, L. A.; Peng, X., Assessment of Phenylboronic Acid Nitrogen Mustards as Potent and Selective Drug Candidates for Triple-Negative Breast Cancer. ACS Pharmacol. Transl. Sci. 2021, 4 (2), 687-702.
- Saxon, E.; Peng, X. (2021), Recent Advances in Hydrogen Peroxide Responsive Organoborons for Biological and Biomedical Applications. *ChemBioChem*. 2021, https://doi.org/10.1002/cbic.202100366
- Saxon, E.; Ali, T.; Peng, X. (2024), Hydrogen Peroxide Responsive Theranostics for Cancer-Selective Activation of DNA Alkylators and Real-Time Fluorescence Monitoring in Living Cells. (under review, Eur. J. Med. Chem)

#### **PRESENTATIONS**

- Saxon E., Peng X., DNA Sequencing: Modern Techniques and Application (2020). UWM Graduate Seminar, Milwaukee WI.
- Saxon E., Peng X., Synthesis of a Novel Phenyl Boronic Ester Nitrogen Mustard Analog (2021). Poster at the UWM Spring Symposium, Milwaukee WI.
- Saxon, E., Peng, X. Biological Application of a Novel DNA-Alkylating Theranostic Agent (2022). Poster at the ACS Fall 2022 Conference, Chicago IL.
- Saxon E., Peng X., Synthesis and Application of a Novel DNA Alkylating Theranostic Agent. (2022). Seminar at the UWM Milwaukee Institute for Drug Discovery Symposium, Milwaukee WI.