Eron Saxon

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

EDUCATION

B.S. in Chemistry *cum laude* **Sept. 2015 – Dec. 2018**
University of Wisconsin – Milwaukee Milwaukee, WI

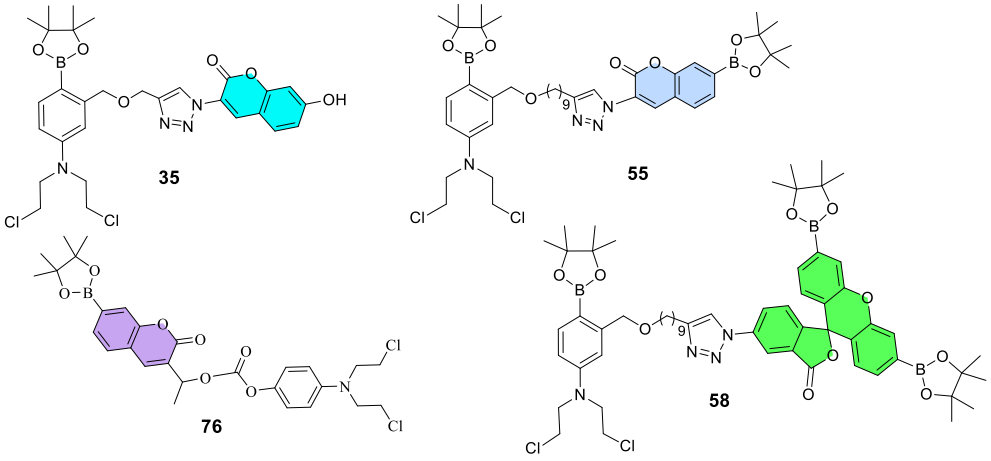
Ph.D. in Chemistry **Sept. 2019 – May 2024**
University of Wisconsin – Milwaukee Milwaukee, WI
Dissertation: "Boron-based theranostics and prodrugs: design, synthesis, mechanism and biological investigation"

EMPLOYMENT EXPERIENCE

Quality Control Lab Technician **Jan. 2018 – April 2019**
MetalTek International Waukesha, WI

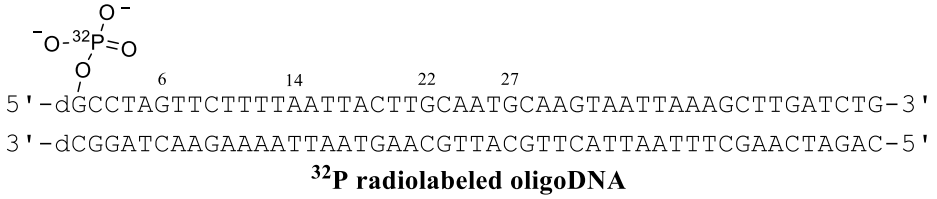
- Operated analytical instruments, including LECO carbon/sulfur and nitrogen/oxygen instruments, x-ray, and arc optical emission spectrometers
- Maintained and standardized instruments following Nadcap (National Aerospace and Defense Contractors Accreditation Program) approved protocols
- Performed routine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

Research & Teaching Assistant **Sept. 2019 – May 2024**
University of Wisconsin – Milwaukee, Advisor: Dr. Peng Milwaukee, WI



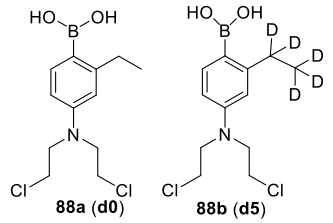
- Designed novel theranostic and prodrug nitrogen mustards as anticancer small molecules

- 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 ^{32}P radiolabeling of oligo for DNA interstrand cross-linking assays



^{32}P radiolabeled oligoDNA

- 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

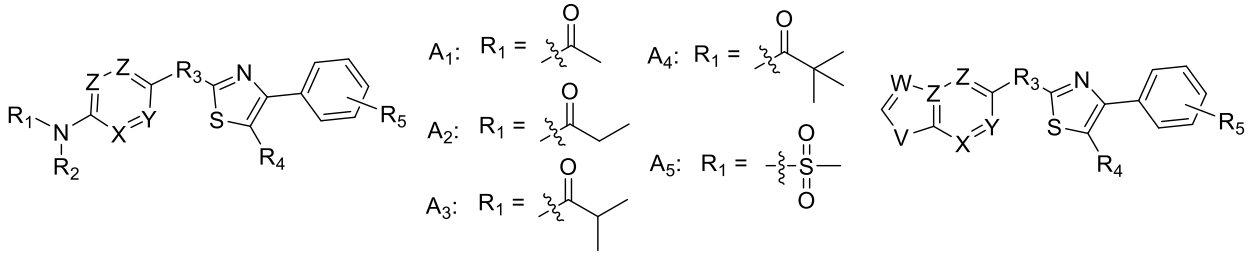
Research Volunteer **June 2024 – Aug. 2024**
University of Wisconsin – Milwaukee, Advisor: Dr. Peng Milwaukee, WI

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

Postdoctoral Fellow **July 2024 – Current**
Concordia University Wisconsin, Advisor: Dr. Cunningham Mequon, WI

- Designed, synthesized and characterized novel sterol carrier protein-2 (SCP-2) inhibitors as endocannabinoid/cannabinoid system modulators for treatment of anxiety and stress

- Hit-to-lead discovery, SAR synthesis and optimization of small organic molecules for targeting proteins
- Maintained lab notebook records of experimental procedures, data, and observations
- Utilized synthetic organic chemistry techniques, including multi-step synthesis, purification, and characterization (NMR, purity score, MS and melting point)
- Routine upkeep of research equipment, including Varian 500 MHz NMR, Thermo Dionex 3000 HPLC-DAD, Sciex 4000 triple quad LC/MS and Biotage flash chromatography
- Collaborated with an interdisciplinary team to interpret the results of structure-activity



SKILLS

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

AUXILIARY SKILLS

- Ability to maintain lab safety, lab cleanliness, lab notebook and meet deadlines
- Ability to rationally design and synthesize molecules
- Self-motivated and detail-oriented

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., 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., Hydrogen Peroxide Responsive Theranostics for Cancer-Selective Activation of DNA Alkylators and Real-Time Fluorescence Monitoring in Living Cells. (2024, under review, *Eur. J. Med. Chem*)
- **Saxon, E.**; Stambekova D., Clark J.R., Peng, X. Metabolism of H_2O_2-Activated Phenylboronic Nitrogen Mustard Prodrug in Triple Negative Breast Cancer Cell and Tumor-Bearing Mice. (in preparation)

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 Institute for Drug Discovery Symposium, Milwaukee WI.

REFERENCES

Xiaohua Peng, PhD
Associate Professor
UWM Chemistry and Biochemistry
Chemistry Bldg, 144, 3210 N Cramer St
Milwaukee, WI 53211
Email: pengx@uwm.edu

Alexander Arnold, PhD
Professor and Director of the MIDD
UWM Chemistry and Biochemistry
Chemistry Bldg, 144, 3210 N Cramer St
Milwaukee, WI 53211
Email: arnold2@uwm.edu

Shama Mirza, PhD
Associate Professor and Director of the Shimadzu Laboratory
UWM Chemistry and Biochemistry
3135 N Maryland Ave
Milwaukee, WI 53211

Email: mirza@uwm.edu