Eron Saxon, Ph.D.

eronsaxon@gmail.com | eronsaxon.com | Rockford, IL

EDUCATION

Ph.D. in Chemistry — **May 2024**
University of Wisconsin – Milwaukee — Milwaukee, WI

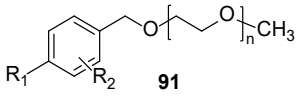
- Dissertation: "Boron-based theranostics and prodrugs: design, synthesis, mechanism and biological investigation"

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

EMPLOYMENT EXPERIENCE

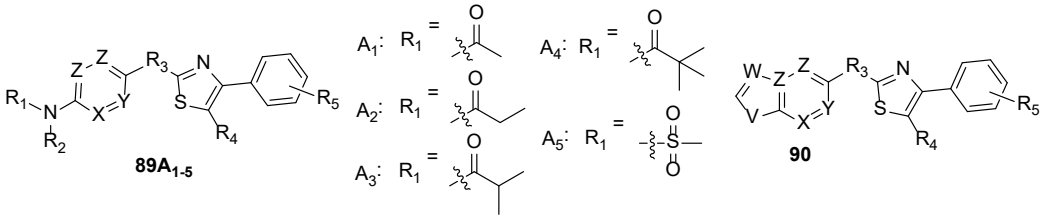
R&D Scientist Level III — **Oct. 2024 – Current**
Thermo Fisher Scientific, Manager: Dr. Webb — Rockford, IL

- Manage multiple concurrent projects as a Research and Development (R&D) organic synthetic chemist for the development of products related to protein cell analysis
- Synthesis of novel green detergents (**91** and **92**), photoactivatable small molecules for stain-free detection of proteins in gel, and cleavable biotin-PEG
- Maintain lab notebook records of experimental procedures, data and observations
- Utilize synthetic organic chemistry techniques, including kilogram multi-step synthesis, purification (column chromatography, extraction and recrystallization), and characterization (TLC, NMR, LC-MS, FTIR, QNMR, HPLC-PDA)
- Analyze molecules for physical and functional properties, including stability, purity, melting point, Krafft point, CMC and western blot applications

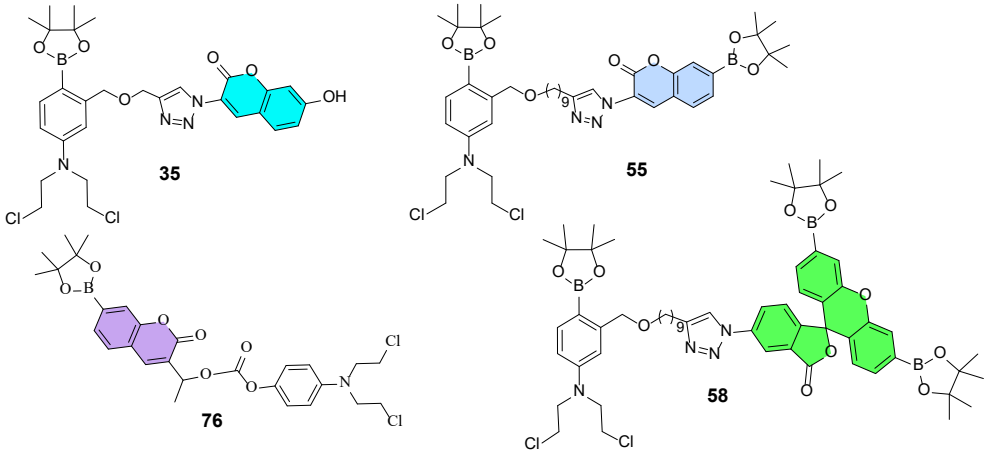


Postdoctoral Fellow — **July 2024 – Oct. 2024**
Concordia University Wisconsin, Advisor: Dr. Cunningham — Mequon, WI

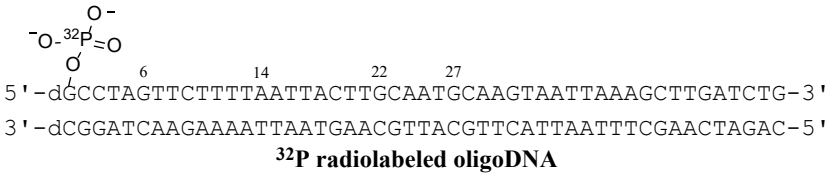
- Designed, synthesized and characterized novel sterol carrier protein-2 (SCP-2) inhibitors as endocannabinoid/cannabinoid system modulators for treatment of anxiety and stress
- Hit-to-lead discovery, SAR synthesis and optimization of small organic molecules for targeting membrane-bound proteins
- Maintained lab notebook records of experimental procedures, data and observations
- Utilized synthetic organic chemistry techniques, including multi-step synthesis, purification (column chromatography, extraction and recrystallization), and characterization (TLC, 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



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

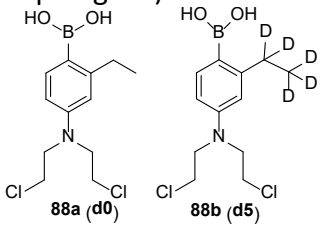


- Designed novel theranostic and prodrug nitrogen mustards as anticancer molecules
- Performed multi-step synthesis (>13 steps) of oxygen-, water-, light-sensitive reactions
- Isolated and purified compounds by column chromatography, distillation, precipitation, recrystallization, and trituration resulting in 4 novel theranostics and 2 prodrugs
- Characterized molecules utilizing TLC, NMR (Bruker), HPLC-MS (Shimadzu), HPLC (Thermo Dionex and Vanquish), HRMS Q-TOF (Shimadzu), UV/VIS, fluorescence (Perkin Elmer LS 55)
- Evaluated theranostics and prodrugs by cytotoxicity and fluorescence colocalization assays *in vitro* with TNBC MDA-MB-468 cell line (confocal microscopes EVOS FL and Zeiss 710)
- Synthesized oligonucleotides by automated solid-phase synthesis (ABI 394), purification, characterization (MALDI-TOF and UV/VIS), ^{32}P radiolabeling of oligo and DNA-drug interaction study



^{32}P radiolabeled oligoDNA

- Determined safety and anticancer efficacy of therapeutic formulations 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 (isotopologues)



- Trained and supervised undergraduate students in research and teaching laboratories

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 metals for determination of elemental composition

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, MestReNova, ELN LabGuru, Sigma CMC and VarioSkan LUX microplate reader

AUXILIARY SKILLS

- Ability to maintain lab safety, lab cleanliness, lab notebook and meet deadlines
- Ability to rationally design and synthesize molecules
- Adherence to QMS and Regulatory Compliance Standards (ISO 9001 and GLP)

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 2025, US provisional patent WO2025165931A1

PUBLICATIONS

- **Saxon, E.**; Stambekova D., Clark J.R., Peng, X. H_2O_2-Responsive Anticancer Prodrug: Synthesis, Precision Deuteration in Search of *in vivo* Metabolites, and Activation Pathway. *J. Med. Chem*. (2025) doi.org/*10.1021/acs.jmedchem.5c01975*
- **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. *Eur. J. Med. Chem*. (2024) doi.org/10.1016/j.ejmech.2024.116695
- **Saxon, E.**; Peng, X., Recent Advances in Hydrogen Peroxide Responsive Organoborons for Biological and Biomedical Applications*. ChemBioChem*. (2021) doi.org/10.1002/cbic.202100366
- 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) *doi.org/10.1021/acsptsci.0c00092*

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, Milwaukee WI.

REFERENCES

Xiaohua Peng, PhD
Professor
UWM Chemistry and Biochemistry
Chemistry Bldg, 2050 E Kenwood Blvd
Milwaukee, WI 53211
pengx@uwm.edu

Alexander Arnold, PhD
Professor and Director of the MIDD
UWM Chemistry and Biochemistry
Chemistry Bldg, 2050 E Kenwood Blvd
Milwaukee, WI 53211
arnold2@uwm.edu

Brian Webb, PhD
R&D Director, Protein Biology
Thermo Fisher Scientific
3747 N Meridian Rd
Rockford, IL 61101
brian.webb@thermofisher.com