Ammar Riad Abdo, Ph.D.
Assistant Professor

EDUCATION:

- **Ph.D., Biomedical Engineering,** New Jersey Institute of Technology & The University of Medicine and Dentistry of NJ, USA, May 2013
- **M.S., Biomedical Engineering,** New Jersey Institute of Technology, USA, May 2007
- **B.S., Biomedical Engineering,** The Hashemite University, Jordan, June 2004

EMPLOYMENT HISTORY:

- Aug 2022-Present, **Assistant Professor, West Chester University**, West Chester, PA
- Dec 2015-Aug 2022, **Lecturer, Binghamton University**, Binghamton, NY
- Aug 2014-Dec 2015, **Visiting Assistant Professor, Widener University**, Chester, PA
- June 2013-May 2014, **Postdoctoral Scholar, University of California at Davis**, Davis, CA
- Jan 2006-May 2013, **Research Assistant, New Jersey Institute of Tech.**, Newark, NJ
- Jan 2005-June 2005, **Intern Field Service Engineer, SIEMENS**, Amman, Jordan

PATENTS:

- Mesut Sahin, Selim Unlu, David S Freedman, and Ammar R. Abdo. **System and Method for Neural Stimulation via Optically Activated Floating Micro-Devices**. US 20130338731 A1

AWARDS:

- **Outstanding Faculty Award**. West Chester University, 2023
- **Watson College Recognition Award for Distinguished Educator**. Binghamton University, 2021

PUBLICATIONS:

PEER-REVIEWED JOURNALS:

- Ersen, A , **Abdo, A**, and Sahin, M, Temperature Elevation Profile Inside the Rat Brain Induced by a Laser Beam, Journal of Biomedical Optics, 2014, 19(1)
- **Abdo, A**, Ersen, A, and Sahin, M, Near-Infrared Light Penetration Profile in Rodent Brain, Journal of Biomedical Optics, 2013, 18(7)
- **Abdo, A**., et al., Floating light-activated microelectrical stimulators tested in the rat spinal cord, Journal of Neural Engineering, 2011, 8(5)
- **Abdo, A**. and M. Sahin, Feasibility of neural stimulation with floating-light-activated microelectrical stimulators. IEEE. Transactions on Biomedical Circuits and Systems, 2011, 5(2)

PEER-REVIEWED FULL-LENGTH CONFERENCE PAPERS:

- **Abdo A**, Parikh U, Ersen A, Sahin M, NIR Light Penetration Profile into the Rat Brain Gray Matter. Proceedings of the IFESS Conference, 2012, Alberta, Canada
- **Abdo, A**., A. Ersen, and M. Sahin. Temperature elevation inside neural tissue illuminated by NIR laser. Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2011, Boston, MA
- **Abdo, A**., et al. Intraspinal stimulation with light activated micro-stimulators. 5th International IEEE/EMBS Conference on Neural Engineering, 2011, Cancun, Mexico
- **Abdo, A**., et al. In vitro testing of floating light activated micro-electrical stimulators. Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2009, Minneapolis, MN
- **Abdo, A**. and M. Sahin. NIR light penetration depth in the rat peripheral nerve and brain cortex. Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2007, Lyon, France

ABSTRACTS:

- **Abdo, A**, Implementing Biomedical Circuit Design in Biomedical Instrumentation Course. ASEE Annual Conference & Exposition, 2023

COURSES TAUGHT:

- Biomedical Instrumentation, Biomedical Instrumentation Laboratory, Biostatistics for Engineers, Bioprocess Engineering, Introduction to Biomedical Engineering, General Physics II (Laboratory), General Physics I (Laboratory), Introduction to Computer Aided Design (CAD), Biomedical Engineering Design, Advanced Bioinformatics, Multivariate Statistics, Biomedical Transport Phenomena, Biomolecular Engineering, Biostatistics and Bioinformatics, Biosignals, Statics, Biomaterials, Electrical Fundamentals of Biomedical Engineering.

PRESENTATIONS:

- School of Medicine and Health Sciences, George Washington University, 2014. “Wireless Neural Stimulation.”
- Center for Neuroscience, UC Davis, 2013. “Feasibility of Floating Light Activated Micro Electrical Stimulators.”
- NJTC Regional Commercialization Conference, 2012. “Floating Light Activated Micro Electrical Stimulators.”

PROFESSIONAL SERVICE:

Department Committees:

- Chair of BME Award Committee, West Chester University
- Chair of BME Commencement Committee, Binghamton University
- Watson College Commencement Committee, Binghamton University
- Watson College Online Education Committee, Binghamton University

Thesis Committees:

- Mechanism Study: Signaling Pathways for Promoting Self-renewal of Induced Pluripotent Stem Cells Cultured on Porous Membrane. By Nan Hai. Binghamton University, NY
- Characterization of Cell Vaccine Candidate Strains for Cancer Vaccine Development. By Zhechao Shen. Binghamton University, NY
- Development of Collagen-based Scaffold for Differentiation of Induced Pluripotent Stem Cells. By Siteng Fang. Binghamton University, NY

Reviewer Responsibilities:

- IEEE Engineering in Medicine and Biology Society (EMBS)

Mentorship:

- **Capstone Projects:**
  - Mentoring various senior design projects. Binghamton University & West Chester University
- **Master Projects:**
  - A Current Review of the Field of Retinal Prostheses. Binghamton University
  - A Current Review of the Field of Deep Brain Stimulation. Binghamton University

PROFESSIONAL MEMBERSHIPS:

- American Society for Engineering Education (ASEE)
- Institute of Electrical & Electronics Engineers (IEEE)
- IEEE Engineering in Medicine and Biology Society (IEEE EMBS)
- Biomedical Engineering Society (BMES)

CREDENTIALS:

- West Chester University: Distance Education Training Certificate (2024)
- Binghamton University: Teaching Online Certification Program (2019)
- Everest Leadership Group: Time Management (2010)
- Rutgers University: Surgery in Rodents (2007)
- Rutgers University: Laser Safety (2006)
- Arab Engineering & Management Academy: Troubleshooting Industrial Electronic Control Circuits (2004)