Semion Censor

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Education

University of California, Irvine | Irvine, CA, USA
Ph.D. of Engineering in Materials and Manufacturing Technology *Sep 2024 - Present*

- Principal Investigator: Prof. Alon Gorodetsky

Ben Gurion University of the Negev | Be'er Sheva, Israel
Master of Science in Materials Science and Engineering *Sep 2020 - Oct 2022*

- M.Sc. studies were conducted in parallel to the B.Sc. degree under the 'Meitar' fast track program for excellent undergraduate students

Bachelor of Science in Materials Science and Engineering *(Cum Laude)* *Oct 2017- Jul 2021*

- Electronic materials track

The Open University of Israel
Transfer Program to Ben Gurion University of the Negev *Oct 2014 – Jun 2017*

- Transfer program to the Engineering faculty in Ben Gurion University of the Negev. The program, conducted online, consisted of core engineering courses in the subjects of calculus, physics, and chemistry

Research Experience

Proton Transport in Cyclic Peptide Nanofibers: Structural and Environmental Effects (M.Sc. Thesis) *Aug 2020 – Oct 2022*

- The research investigated the effects induced by the peptides' hydrophilicity, structure, self-assembly, and the nature of molecules absorbed from the environment on the proton conductivity of short cyclic peptide fibers. Employed a multidisciplinary approach, combining structural, chemical, electrical, and absorption characterizations to comprehensively analyze the proton conduction mechanisms in the studied peptide based materials
- Thesis supervisor: Prof. Nurit Ashkenasy
- Research paper submitted

Detection of Volatile Organic Compounds (VOCs) Using Peptide Fibril Networks (B.Sc. Research Project) *Aug 2020 – Aug 2021*

- The research explored the feasibility of utilizing self-assembled short cyclic peptide nanofibers as volatile organic compound gas sensors. The peptides' proton conducting properties were exploited as the transduction method in the sensing device. The work screened several cyclic peptide electrical responses to the introduction of protic and aprotic molecules, such as ethanol, isopropanol, and acetone.
- Project supervisor: Prof. Nurit Ashkenasy
- Findings were presented as posters in two conferences

Teaching Experience

Teaching Instructor | Ben Gurion University of the Negev *Oct 2021 – Oct 2022*

Instructed undergraduate student labs in the department of materials engineering on the topics of optoelectronics, piezoelectricity, radiography, and metal castings. The position included laboratory instruction, holding office hours, quiz writing, and lab report grading

B.Sc. Final Project Mentor | Ben Gurion University of the Negev *Oct 2021 – Oct 2022*

Overseen undergraduate students at the Bioelectronics and Biosensors research lab for B.Sc. final projects. Projects include development of peptide modified proton exchange membranes for fuel cell applications and biodegradability of peptide films

Publications

- **Censor, S.***, Martín, J.V.*, Silberbush, O.*, Reddy, S.M.M., Zalk, R., Friedlander, L., Trabada, D.G., Mendieta, J., Le Saux, G., Mendieta-Moreno, J.I., Zotti, L.A., Ortega, J. & Ashkenasy, N. (2024) Long-Range Proton Channels Constructed via Hierarchical Peptide Self-Assembly. **Manuscript Submitted** (* - *equal contributor*)

Conference Presentations

Light Day | Be'er Sheva, Israel. Ben Gurion University of the Negev *May 2022*
Poster Presentation

- Poster title: "Effects of Protic Solvents on Proton Conduction in Peptide Fibril Networks"
- Academic excellence award received for best poster presentation, issued by KLA Tencor

Bioderived Electronics 2022 | Ein Gedi, Israel. Israel Science Foundation *May 2022*
Poster Presentation

- Poster title: "Effects of Protic Solvents on Proton Conduction in Peptide Fibril Networks"

Work Experience

Lumus | Ness Ziona, Israel *Apr 2023 – Jul 2024*
Materials and Process Development Engineer

Research and development of processes for leading projects in the reflective waveguide and augmented reality (AR) sectors. The role involves development of manufacturing processes from conception to final product, work with complex optical systems, high refractive index glasses and optical adhesives, surface metrology, and high precision pneumatics

Intel | Kiryat Gat, Israel *Feb 2019 – Oct 2020*
Process Engineer, Test Wafer Department, Student Position

Part-time student process engineer in the test wafer group within the wet etch department. Responsible for distributing test wafers to various departments within the fabrication plant, ensuring timely availability for process testing and analysis. Conducted regular sampling and data analysis of test wafers to assess process quality and control parameters

Skills

Laboratory skills: electrochemistry (EIS, CV), microscopy (AFM, SEM, optical), chemical (XPS), structural (PM-IRRAS) and adsorption characterization (QCM), viscometry, sensor characterization, data analysis

Programming: MATLAB, Python, MySQL, JavaScript

Computer Skills: Linux, KLayout, Adobe Suite, SolidWorks, Autodesk Maya, MS Office

Languages: English (full professional proficiency), Russian (limited proficiency), Hebrew (native)