

## DANIEL A. GRAVE

### OFFICE ADDRESS

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### EDUCATION

B.S. in Materials Science and Engineering, Johns Hopkins University, May 2009

PhD in Materials Science and Engineering, The Pennsylvania State University, December 2014

PhD thesis: "Process-Structure-Property Relationships of Micron Thick Gd<sub>2</sub>O<sub>3</sub> Films Deposited by Reactive Electron Beam Physical Vapor Deposition for use in Neutron Detection", advised by Prof. Douglas Wolfe.

### APPOINTMENTS

01/2020 – To date	Senior Lecturer, Department of Materials Engineering, Ben Gurion University of the Negev, Israel
10/2017 – 12/2019	Senior Researcher, Department of Materials Science and Engineering, Technion, Israel
10/2015 – 9/2017	Marie Sklodowska-Curie Postdoctoral Fellow. Department of Materials Science and Engineering, Technion, Israel.
10/2014 – 9/2015	Postdoctoral Fellow. Department of Materials Science and Engineering, Technion, Israel.
8/2009 – 9/2014	Graduate Research assistant, Department of Materials Science and Engineering, The Pennsylvania State University
5/2007 – 5/2009	Undergraduate Research Assistant, Department of Materials Science and Engineering, Johns Hopkins University

### RESEARCH INTERESTS

Devices for solar to fuel conversion, photoelectrochemical water splitting, physical vapor deposition, heteroepitaxial thin film growth and characterization, semiconducting metal-oxides, semiconductor bulk and surface properties, semiconductor/co-catalyst/electrolyte junctions, *operando* photoelectrochemical characterization

### AWARDS AND HONOURS

2009: Robert B. Pond Senior Achievement Award, Johns Hopkins University, Materials Science and Engineering Department

2009-2014: ARL Walker Graduate Assistantship, Applied Research Laboratory, The Pennsylvania State University

2015-2017: Marie Sklodowska-Curie Individual Fellowship, European Commission

### TEACHING EXPERIENCE

Materials Chemistry – Spring Semester 2019-2020

Materials Processing I – Fall Semester 2020-2021

### PROFESSIONAL MEMBERSHIPS AND SERVICE

Member of the Materials Research Society and American Chemical Society

Reviewer for Journal of Electroceramics, Journal of the American Chemical Society, ChemSusChem, Journal of Materials Chemistry A, Sustainable Energy and Fuels, and ACS Applied Energy Materials

**SELECTED TALKS:**

- 1) **Grave, D.A.** Materials Research Society (MRS) Spring meeting, *April 2021, Seattle, Washington, USA (Upcoming – Invited)*
- 2) **Grave, D. A.** Extraction of the Photogeneration Yield in Thin Film Photoelectrodes. F2CPI2, International Conference on Electroceramics. *July 2019, Lausanne, Switzerland – (Invited)*
- 3) **Grave, D. A.** The “Rust” Challenge: Hematite photoanodes for Solar Water Splitting. American Chemical Society (ACS) Spring National Meeting *April 2019, Orlando, Florida, USA - (Invited)*
- 4) **Grave, D. A.** Hematite photoanodes for Solar Water Splitting, *Departmental Seminar, November 2018, Regional Centre of Advanced Technologies and Materials. Palacky University. Olomouc, Czech Republic*
- 5) **Grave, D. A.;** Ellis D.S.; Piekner Y.; Dotan H.; and Rothschild A. Mobile Carrier Generation vs. Localized Excitations in Ultrathin Film Hematite Photoanodes. *69<sup>th</sup> annual meeting of the International Society of Electrochemistry, September 2018, Bologna, Italy.*
- 6) **Grave, D. A.;** and Rothschild A. Hematite photoanodes for Solar Water Splitting, *CSU-JECR Board Workshop on Advanced Electronic Materials, February 2018, Changsha, China - (Invited)*
- 7) **Grave, D. A.;** Klotz D.; Kay A., et al. Anisotropy investigation of Sn-doped Hematite Thin Film Photoanodes Using Substrate Controlled Heteroepitaxial Growth, *MRS Fall Meeting, December 2016, Boston, Massachusetts*
- 8) **Grave, D. A.** Hematite Photoanodes for Solar Water Splitting, *3<sup>rd</sup> Solar Fuels I-CORE Workshop, September 2016, Nahsholim, Israel*
- 9) **Grave, D. A.;** Dotan H.; Levy Y.; et al. Heteroepitaxial Hematite Photoanodes as a Model System for Solar Water Splitting. *MRS Spring Meeting, March 2016, Phoenix, Arizona*
- 10) **Grave, D. A.;** and Rothschild A.; Heteroepitaxial Hematite Photoanodes for Solar Water Splitting. *International Conference on Electroceramics, May 2015, State College, Pennsylvania*
- 11) **Grave, D. A.;** Hughes Z.R.; Robinson J.A.; Wolfe, D.E. Radiation effects in thick Gd<sub>2</sub>O<sub>3</sub> Films. *37<sup>th</sup> International Conference and Exposition on Advanced Ceramics and Composites, January 2013 Daytona Beach, Florida.*