

# ÖZGENÇ EBİL, PhD

Izmir Institute of Technology  
Department of Chemical Engineering  
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## SUMMARY

More than 15 years of experience and proven track record of project management, creating & leading technical teams, intellectual property generation. Strong technical skills and experience in product development, chemical process simulation and development, chemical vapor deposition systems, organic and inorganic thin-film devices, functional polymer thin-films, Photovoltaics (silicon and CIGS), energy storage & conversion technologies (NiZn, Zinc-air, Li-ion), fuel cells, chemical and biological sensors, and optical, electrical and structural characterization techniques.

## EDUCATION

- Ph.D. Materials Science and Engineering**, University of Delaware, USA  
Thesis Title: "Deposition and Characterization of Silicon Thin-Films by Aluminum-Induced Crystallization for Solar Cells"
- M.Sc. Materials Science and Engineering**, Izmir Institute of Technology, Turkey  
Thesis Title: "Preparation and characterization of polymer-zeolite composite membranes"
- B.Sc. Chemical Engineering**, Hacettepe University, Turkey

## PROFESSIONAL EXPERIENCE

- Assoc. Professor** **Izmir Institute of Technology**, Turkey  
Faculty in the Department of Chemical Engineering  
Affiliated with Departments of Materials Science & Engineering, Energy Systems Engineering, Photonics.
- Senior Scientist** **EM Photonics, Inc.**, Newark, DE, USA
- Staff Scientist** **NanoSelect, Inc.**, Newark, DE, USA
- Postdoctoral Associate** **Massachusetts Institute of Technology (MIT)**, Cambridge, MA, USA  
Department of Chemical Engineering  
Institute for Soldier Nanotechnologies (**ISN**)
- Research Assistant** **Institute of Energy Conversion (IEC)**, Newark, DE, USA  
University of Delaware
- Research Assistant** **Izmir Institute of Technology**, Turkey  
Materials Science & Engineering

## PROFESSIONAL ASSOCIATIONS

- American Institute of Chemical Engineers (AIChE)
- Materials Research Society (MRS)
- American Chemical Society (ACS)

## **SELECTED PUBLICATIONS**

- Ozpirin Merve, EBIL OZGENC (2018). Transparent block copolymer thin films for protection of optical elements via chemical vapor deposition. *Thin Solid Films*, 2018 (660), 391-398.
- Payer Gizem, EBIL OZGENC (2016). Zinc Electrode Morphology Evolution in High Energy Density Nickel-Zinc Batteries. *Journal of Nanomaterials*, 2016, 1-9.
- Zablocki Mathew, Sharkawy Ahmed, EBIL OZGENC, Prather Dennis (2011). Nanomembrane transfer process for intricate photonic device applications. *Optics Letters*, 36(1), 58
- Zablocki Mathew, Sharkawy Ahmed, EBIL OZGENC, Shi Shouyuan, Prather Dennis (2010). Electro- optically switched compact coupled photonic crystal waveguide directional coupler. *Applied Physics Letters*, 96(8), 81110
- EBIL OZGENC, Aparicio Roger, Birkmire Robert (2010). Aluminum-induced crystallization of amorphous silicon films deposited by hot wire chemical vapor deposition on glass substrates. *Thin Solid Films*, 519(1), 178-183.
- EBIL OZGENC, Aparicio Roger, Hazra Sukti, Birkmire Robert, Sutter Eli (2003). Deposition and structural characterization of poly-Si thin films on Al-coated glass substrates using hot-wire chemical vapor deposition. *Thin Solid Films*, 430(1-2), 120-124.
- Hall I W, EBIL OZGENC, Guden Mustafa, Yu CY (2001). Quasi-static and dynamic crushing of empty and foam-filled tubes. *Journal of Materials Science*, 36(24), 5853-5860.

## **SELECTED CONFERENCE PROCEEDINGS**

- Cihanoglu Gizem, EBIL OZGENC (2019). Hydrophobic-O<sub>2</sub> Selective Membrane for Gas Diffusion Electrodes in Metal-Air Batteries. E-MRS Fall Meeting
- Ozpirin, Merve, EBIL OZGENC (2019). Functionalization of CVD Compatible Polymer Films for Sensing Applications. E-MRS Fall Meeting
- Cihanoglu Gizem, EBIL OZGENC (2017). Binder effect on electrochemical performance of zinc electrodes for nickel-zinc batteries. Porous and Powder Materials Conference (PPM 2017)
- Ozpirin Merve, EBIL OZGENC (2016). Development of Protective Coatings for Electro-Optical Systems. Science and Applications of Thin Films, Conference & Exhibition (SATF 2016)
- Ates Selcan, EBIL OZGENC (2014). Modeling of Initiated Chemical Vapor Deposition (iCVD) for Large Area and High-Throughput Polymeric Thin-Film Fabrication. MRS Fall Meeting
- Payer Gizem, EBIL OZGENC (2014). Shape Stabilized Composite Zinc Electrode for Secondary Batteries. American Chemical Society National Meeting
- EBIL OZGENC (2013). Current Trends on Secondary Battery Research. Advanced Materials World Congress
- EBIL OZGENC, Sharkawy A, Zablocki M, Prather D (2012). Nanophotonic Devices Based on Nanomembranes. AIP Proc. 6th Nanoscience and Nanotechnology Conference (NANOTR6)
- EBIL OZGENC, Payer Gizem (2012). Nano- and Microscale Fabrication Process Using Nanomembrane Technology. MRS Fall Meeting & Exhibit
- Sharkawy A, EBIL OZGENC, Yao P, Zablocki M, Prather D (2010). Organically enabled silicon-based photonic/RF-photonic applications. SPIE Photonics West, Doi: 10.1117/12.840643
- EBIL OZGENC, Sharkawy A, Zablocki M, Prather D (2010). Chemical and biological sensors based on nanomembrane technology. Photonics West 2010, Doi: 10.1117/12.852435
- Zablocki M, Sharkawy A, EBIL OZGENC, Prather D (2010). Nanomembrane enabled nanophotonic devices. Photonics West 2010, Doi: 10.1117/12.842670
- Sharkawy A, EBIL OZGENC, Shi S, Zablocki M, Prather D (2010). Chip-scale photonic interconnects for reconfigurable computing. SPIE Photonics West, Doi: 10.1117/12.842468
- Dutta N, Yao P, Shi S, Sharkawy A, EBIL OZGENC, Kelmelis E, Prather D (2009). Fabrication of Large Area “Woodpile” Photonic Crystal Structures for Near IR. Advances in Optical Sciences Congress, Doi: 10.1364/IPNRA.2009.IWD3
- EBIL OZGENC, Hegedus Steve, Lu Meijun, Birkmire Robert (2005). Pathways to thin film polycrystalline silicon using amorphous silicon precursors. DOE Solar Program Review Conference
- EBIL OZGENC, Aparicio Roger, Birkmire Robert (2004). In-situ aluminum induced crystallization of Si thin-films on glass substrates above eutectic temperatures using HW-CVD. MRS Fall Meeting & Exhibit
- EBIL OZGENC, Aparicio Roger, Hegedus Steve, Birkmire Robert (2003). Growth and characterization of HW-CVD Si films on Al coated glass substrates. NCPV and Solar Review Meeting
- Hall R, EBIL OZGENC (1999). Dynamic crushing of Aluminum foams and composites. The Minerals, Metals & Materials Society Proceedings