

Reza Nekovei
EECS Professor, Ph.D. Program Coordinator
Frank H. Dotterweich College of Engineering
Texas A&M University-Kingsville

a. Education

The University of Maine	B.S.E.E. (<i>magna cum laude</i>)	Orono Maine 1985
The University of Maine	M.S.E.E.	Orono, Maine 1987
The University of Rhode Island	Ph.D. Electrical Engineering	Kingston, Rhode Island 1994

b. Teaching Interests

- **Undergraduate**
 - Digital Systems Engineering
 - Introduction to VLSI Circuit Design
 - Robotics II
- **Master**
 - Principles of VLSI Circuit Design
 - Rapid Prototyping and ASIC Design
 - Embedded System Design
 - Advanced Digital Integrated Circuits
- **Doctoral**
 - Nanofabrication and Nanoscale Devices
 - Solar Power

c. Awards and Honors

- Dotterweich College of Engineering Professor of the year award, 2018
- Institute of Electrical and Electronics Engineers, IEEE Senior Member, 2018
- Albert Nelson Marquis Lifetime Achievement Award, 2017
- Dotterweich College of Engineering Dean's Research Award, 2014
- Dotterweich College of Engineering Dean's Teaching Award, 2012
- Fulbright Senior Scholar, Bucharest Politehnica Universitate, Romania, 2009
- Distinguished Teaching Award, Javelina Alumni Association, 2008
- Life member of Eta Kappa Nu national electrical engineering honor society

d. Recent Inventions

- Patent: "Heterojunction Schottky Gate Bipolar Transistor," United States Patent and Trademark Office, No. 9,793,430, Issued: October 17, 2017
 - Patent: "Method For Fabricating a Heterojunction Schottky Gate Bipolar Transistor," United States Patent and Trademark Office, No. 9,911,889, Issued: March 6, 2018
 - Patent: "Photodetector Cell and Solar Panel With Dual Metal Contacts and Related Methods," United States Patent and Trademark Office, No. 9,997,656, Issued: June 12, 2018
 - Patent pending: "Fabrication Method for Dual-metal Nanowire Optoelectronic Devices," Application: 15/978382, Filing Date: May 14, 2018
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e. Selected Publications

“Gunn-Hilsum Effect in Mechanically Strained Silicon Nanowires: Tunable Negative Differential Resistivity,” Daryoush Shiri, Amit Verma, Reza Nekovei, Andreas Isacsson, C. R. Selvakumar, and M. P. Anantram, *Nature Scientific Reports*, Volume 8, Article 6273, 2018

“High-efficiency c-Si based interdigitated point contact back heterojunction solar cells,” R. Jeyakumar, T. K. Maiti, Mahmoud M. Khader, A. Verma, Reza Nekovei, J. Kumar, Nagarajan Balaji, Junsin Yi, *Springer Journal of Materials Science: Materials in Electronics*, Volume 28, Issue 13, pp 9697–9703, 2017

“CO₂ Reduction to Renewable Hydrocarbon Fuel—Mimicking Natural Photosynthesis,” Sherin Alfalah*; Walid Hassan*; Nessreen Al-Hashimi; Amit Verma; M.P. Anantram; Mahmoud Khader; Reza Nekovei, *Journal of MRS Advances: Energy Storage and Conversion*, Volume 2, Issue 55, pp. 3383-3388, 2017

“Photoresponse of silicon with asymmetric area contacts,” M. Golam Rabbani, Jency P. Sundarajan, A. Verma, Reza Nekovei, Mahmoud M. Khader, R. B. Darling, Sunil R. Patil, *Semiconductor Science and Technology*, vol. 32, p. 015001, 2017

“Zero-bias photocurrents in highly-disordered networks of Ge and Si nanowires,” Rabbani, Md; Patil, Sunil; Verma, Amit; Villarreal, Julian; Korgel, Brian; Nekovei, Reza; Khader, Mahmoud; Darling, Robert; Anantram, M P, *Nanotechnology*, Institute of Physics (IOP) Publishing Ltd, Volume 27, Number 4, 2016

“Tailoring Optical Absorption in Silicon Nanostructures from UV to Visible Light: A TDDFT Study,” W.M.I. Hassan, M.P. Anantram, R. Nekovei, M.M. Khader, A. Verma, *Elsevier Journal of Solar Energy*, pp. 44-52, 2016

“c-Si solar cell formed from spin-on phosphoric acid boric acid,” Akash Yadav, Gajendra Singh, Reza Nekovei, R. Jeyakumar, *Elsevier Journal of Renewable Energy*, Vol. 80, p. 80-84, 2015

“Simulation of dual-metal Schottky contacts based silicon micro and nanowire solar cells,” M. Golam Rabbani, Amit Verma, Michael M. Adachi, Jency P. Sundararajan, Mahmoud M. Khader, Reza Nekovei and M. P. Anantram, *Elsevier Journal of Solar Energy Materials and Solar Cells*, Volume 130, Pages 456–465, November 2014

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“Design-Oriented Enhanced Robotics Curriculum,” M. Yilmaz, S. Ozcelik, N. Yilmazer, R. Nekovei, IEEE Transaction on Education: Special Issue on Robotics Education, 56 (1), pp. 137-144, February 2013

