

EVA COSOROABA, PhD

CURRICULUM VITAE

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TEACHING AND RESEARCH INTERESTS

- Foster critical and creative thinking in students through active learning methods
- Leverage the social aspects of learning and students' intrinsic curiosity to boost student feelings of connection to the material and their peers
- Model lifelong learning and personal growth to students by example

EDUCATION

PhD in Electrical Engineering, The University of Texas at Dallas *December 2017*

Dissertation: "Multiphysics Simulation, Analysis and Design of a Permanent Magnet Excited Liquid Metal Magnetohydrodynamic Power Generator"

Advisor: Dr. Babak Fahimi

Bachelor of Engineering, Polytechnical University of Timisoara, Romania *June 2013*

Thesis: "The Double Stator Switched Reluctance Machine: Electromagnetic Studies and Controlled Dynamics"

Advisor: Dr. Ion Boldea

PROFESSIONAL EXPERIENCE

Senior Lecturer, The University of Vermont *August 2024 – present*

Electrical and Computer Engineering Undergraduate Program Coordinator *August 2024 - present*

Program Advisor, UVM *January – August 2024*

Faculty Associate at the Center for Teaching and Learning, UVM *2020 – 2022*

Lecturer, UVM *2018 – 2023*

Teaching and Research Assistant, The University of Texas at Dallas *2013 – 2017*

COURSES TAUGHT/DEVELOPED

Electric Energy Systems *Spring 2022*

Low Carbon Electric Power (Developed, Online & In-Person)	<i>Summer 2020, Fall 2022</i>
HCOL: Sustainable Energy Resources (Developed)	<i>Fall 2020</i>
Electrical Circuits & Sensors and Associated Labs (Developed)	<i>Spring 2020, 2025</i>
Electromagnetic Field Theory (Developed)	<i>Fall 2019 – 2022</i>
Electronics 2	<i>Spring 2019</i>
Electrical Engineering Concepts and Associated Lab (Developed)	<i>Fall 2018, 2024</i>
Power Electronics (Developed)	<i>Fall 2018 - 2022</i>
Sustainable Energy Resources (Online, Developed)	<i>Summer 2018</i>
Linear Circuits 1 and 2	<i>Spring 2018 – 2022, 2025</i>
Linear Circuit Laboratory 1 and 2	<i>Spring 2018 – 2022, 2025</i>
EE Principles and Design (Developed)	<i>Spring 2018 – 2022, 2025</i>

PROFESSIONAL DEVELOPMENT

HHMI Neuroinclusive Learning Community	<i>Fall 2024-Spring 2025</i>
CEMS Annual Pedagogy Workshop (Active Learning/PBL)	<i>January 2021</i>
2020 ASEE Virtual Annual Conference & Exposition	<i>June 2020</i>
Anti-Racism in Engineering Education, ASEE	<i>June 2020</i>
Level 1 & 2 Safe Zone Ally Training, ASEE	<i>April 2020</i>
National Effective Teaching Institute (NETI 1), Philadelphia	<i>July 2019</i>
Teaching Effectively Online, UVM	<i>May 2018</i>
25+ Workshops at the UVM Center for Teaching and Learning	<i>2018 – 2022</i>

PROFESSIONAL SERVICE

CEMS Faculty Council Chair	<i>Fall 2024 – present</i>
Circuits Workshop at Discover Engineering	<i>February 2025</i>
Teen Science Cafe, through 4H	<i>November 2024</i>
EBE representative at Women Can Do, Outreach Event	<i>October 2024</i>

HONORS AND AWARD

2022 Kroepsch-Maurice Excellence in Teaching Award – Nominee

2021 IEEE Faculty of the Year Award

2021 Kroepsch-Maurice Excellence in Teaching Award – Nominee

2019 Kroepsch-Maurice Excellence in Teaching Award – Nominee

PERSONAL DEVELOPMENT & SERVICE

Volunteer, Brownell Public Library

October 2023 -present

Block Printing Class, Shelburne Craft School

January 2025

JOURNAL AND MAGAZINE PUBLICATIONS

[1] L. Maharjan, E. Bostanci, S. Wang, E. Cosoroaba, et al., “Comprehensive report on design and development of a 100-kW DSSRM,” IEEE Transactions on Transportation Electrification, vol. 4, issue 4, 2018

[2] Y. Li, L. Maharjan, E. Cosoroaba, and B. Fahimi, “Comparative study of a new coil design with traditional shielded figure-of-eight coil for transcranial magnetic stimulation,” IEEE Transactions on Magnetism, vol. 54, issue 3, 2018

[3] M. Wu, J. Pacheco, E. Cosoroaba, and B. Fahimi, “Multiphysics simulation of pulsed cold plasma arc rotation for enhanced hydrogen harvesting,” International Journal of Hydrogen Energy, vol. 42, issue 49, December 2017

[4] E. Cosoroaba, E. Bostanci, Y. Li, and B. Fahimi, “Comparison of Winding Configurations on Double Stator Switched Reluctance Machines,” IET Electric Power Applications, vol. 11, issue 8, 2017

[5] W. Cai, F. Yi, E. Cosoroaba, and B. Fahimi, “Stability optimization method based on virtual resistor and nonunity voltage feedback loop for cascaded DC–DC converters,” IEEE Transactions on Industry Applications, vol. 51, issue 6, December 2015

[6] E. Cosoroaba, “Five reasons why you should attend conferences as a student,” IEEE Potentials, vol. 34, issue 3, June 2015

[7] W. Wang, M. Luo, E. Cosoroaba, B. Fahimi, and M. Kiani, “Rotor shape investigation and optimization of double stator switched reluctance machine,” IEEE Transactions on Magnetism, vol. 51, issue 3, March 2015

CONFERENCE PUBLICATIONS

[8] E. Cosoroaba, “Helping Students Write it Right: Instilling Good Report Writing in a Linear Circuits Lab Course”, ASEE Annual Conference & Exposition, Virtual (originally Montreal), June 2020

- [9] J. Liang, A. Parsapour, E. Cosoroaba, M. Wu, I. Boldea and B. Fahimi, "A High Torque Density Outer Rotor Claw Pole Stator Permanent Magnet Synchronous Motor", ITEC, Long Beach, June 2018
- [10] C. Caicedo-Narvaez, Y. Li, L. Maharjan, E. Cosoroaba, B. Fahimi, M. Kiani and M. Moallem, "Thermal signature analysis of an 8/6 switched reluctance motor under inter-turn short circuit fault," IEEE International Conference on Industrial Technology, France, February 2018
- [11] Y. Li, E. Cosoroaba, and B. Fahimi, "Comparative study of a new coil design with traditional shielded figure-of-eight coil for transcranial magnetic stimulation," Compumag, Daejeon, Korea, June 2017
- [12] S. Jayasankar, L. Maharjan, E. Cosoroaba, E. Bostanci, and B. Fahimi, "On the proximity effects of high-energy magnets on M-19 magnetic steel core," IEEE International Electric Machines & Drives Conference, IEMDC, Miami, May 2017
- [13] E. Cosoroaba and B. Fahimi, "Magnetohydrodynamics in thermal to electric energy conversion," The 17th Biennial Conference on Electromagnetic Field Computation, IEEE CEFC, Miami, November 2016
- [14] E. Bostanci, L. Gu, E. Cosoroaba, M. Moallem, and B. Fahimi, "Performance improvement and comparison of concentrated winding segmental rotor and double stator switched reluctance machines," The 17th Biennial Conference on Electromagnetic Field Computation, IEEE CEFC, Miami, November 2016
- [15] E. Cosoroaba and B. Fahimi, "Temperature dependence of efficiency in renewable magnetohydrodynamic power generation systems," IEEE Energy Conversion Congress & Expo, ECCE, Milwaukee, September 2016
- [16] E. Cosoroaba and M. Wu, "Magnetohydrodynamic power generation – a renewable, emission free energy solution," MMM-Intermag Joint Conference, San Diego, January 2016
- [17] M. Wu and E. Cosoroaba, "Electromagnetic valves via volumetric energy conversion," MMM Intermag Joint Conference, San Diego, January 2016
- [18] L. Gu, D. Patil, and E. Cosoroaba, "Core loss estimation of SPMSM based on field reconstruction method," 18th International Conference on Electrical Machines and Systems, ICEMS, Thailand, October 2015
- [19] E. Cosoroaba and B. Fahimi, "Efficiency oriented design guidelines for a magnetohydrodynamic generator system," IEEE International Electric Machines & Drives Conference, IEMDC, Coeur d'Alene, May 2015
- [20] W. Cai, F. Yi, E. Cosoroaba, and B. Fahimi, "Stability analysis and voltage control method based on virtual resistor and proportional voltage feedback loop for cascaded DC-DC converters," IEEE Energy Conversion Congress & Expo, ECCE, Pittsburgh, September 2014
- [21] E. Cosoroaba, W. Wang, and B. Fahimi, "Comparative study of two winding configurations for a double stator switched reluctance machine," 21st International Conference on Electrical Machines, ICEM, Germany, September 2014