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Bertan Bakkaloglu	School of Electrical, Computer and Energy Engineering
Katharine Batten	School of Sustainability
Hanna Durata	
Hanna Breetz	School of Sustainability
Ron Calhoun	School for Engineering of Matter, Transport and Energy
Candace Chan	School for Engineering of Matter, Transport and Energy
Netra Chhetri	School for the Future of Innovation in Society
John Cirucci	ASU Center for Negative Carbon Emissions
Ivan Ermanoski	School of Sustainability
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Ahmed Ewaisha	School of Electrical, Computer and Energy Engineering
Danae Hernandez Cortes	School for the Future of Innovation in Society
Zach Holman	School of Electrical, Computer and Energy Engineering
Kirk Jalbert	School for the Future of Innovation in Society
Lauren Keeler	School for the Future of Innovation in Society

Beomjin Kwon	School for Engineering of Matter, Transport and Energy
Klaus Lackner	School of Sustainable Engineering and the Built Environment
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Clark Miller	School for the Future of Innovation in Society
Anamitra Pal	School of Electrical, Computer and Energy Engineering
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Kristen Parrish	School of Sustainable Engineering and the Built Environment
Patrick Phelan	School for Engineering of Matter, Transport and Energy
Ellen Stechel	Global Institute of Sustainability and Innovation
Govindasamy Tamizhmani	School of Electrical, Computer and Energy Engineering
Sayfe Kiaei	School of Electrical, Computer and Energy Engineering
Qin Lei	School of Electrical, Computer and Energy Engineering
Mike Ranjram	School of Electrical, Computer and Energy Engineering

Harvey Bryan

Justin Flory

Architecture, The Design School

LightWorks, Center for Negative Carbon Emissions (CNCE)

## **Areas of Research**

Integrated Power Management Circuits, RF, Mixed-Signal IC

policy practitioner; climate-change policy and international development

energy policy, Evs / alternative energy, renewable energy, climate change

wind energy, lidar

Energy Efficiency & Energy Automation: batteries Energy System: Batteries

international development and community-based energy solutions

CO2 capture and energy storage technologies

hydrogen solar thermochemical fuel production iodine sorption characterization. Electric Venicles: Electric Venicles (EV), charging of EVs, chargers, electric grid integration, smart transportation, Batteries

energy economics and data-driven energy policy

semiconductor nanoparticles, silicon-based solar cells material

energy informatics and data-driven energy decision-making

strategic planning and energy futures

Energy efficiency & Energy automation: efficient energy generation,

transmission, and distribution

Energy system: Thermal system, mechanical energy system, etc.

carbon dioxide capture carbon sequestration

carbon foot-printing

Proton Exchange Membrane Fuel Cells: Efficient catalyst design and

development for high power density Membrane-Electrodes-Assembly (MEA) for

automotive and aerospace applications.

I ne Milcarek research group is tocused on chemical and electrochemical

conversion processes with applications in power generation and energy storage,

including fuel production. Key research interests include solid oxide fuel cells, Energy transition policy and planning

Energy poverty

Social and behavioral dimensions of energy systems and energy transitions Energy Efficiency & Energy Automation

Efficient energy generation, transmission, and distribution: Energy theft

detection using machine learning

Economic viability and environmental implications of alternative transportation

fuels and biomass-based system

Energy policy, energy transition

energy-efficient buildings, construction management

Thermal engineering, sustainable energy systems, energy policy materials and systems design for solar technologies for producing sustainable

liquid hydrocarbons from carbon dioxide

hydrogen from advanced water splitting

clean water

solar photovoltaics (PV), fuel cells and batteries

Market driven PV applied research addressing technology application issues and real world reliability issues using actual field failure data and accelerated indoor testing data.

Integrated Power Management Circuits, RF, Mixed-Signal IC motor drive for electrical vehicle, medium voltage inverter for PV, fast charging stations and high speed motor drive; control and stability in high penetrated microgrid; on board charger for electrical vehicle; DC-DC converter for data Miniaturization of EV power converters, especially the auxiliary power module and on-board charger Wireless power charging Professor Bryan is active in several professional and technical societies; he has served on the ASHRAE committee responsible for developing the 90.1 Energy Standard, is presently serving on the ASHRAE TC 2.8 and SPC 189 committees which are concerned with Buildings Impact on the Environment, as well as the AIA's Committee on the Environment. He was on the Board of Directors of the Arizona Chapter of the U.S. Green Building Council and is certified in both BREEAM (a rating system widely used in Europe and Canada) as well as LEED. He is currently serving on the Board of Directors on the Green Building Initiative which developed the Green Globes' rating system.

engineering systems using or inspired by nature that generate sustainable chemicals, fuels, materials and devices; biofuels, climate-change, artificial photosynthesis, bioenergy, energy and sustainability, bioenergy markets

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