

UMass Sustainability Awards (2021-2022)

Title	PI	Lead Unit
Impacts of Dual-Use Solar on Crop Productivity and the Agricultural Economy in Massachusetts and Beyond	Breger, Dwayne	Cntr: Center for Agriculture, Food, and the Environment
Expanding and connecting learning networks for climate adaptation	Ocana, Melissa	Cntr: Center for Agriculture, Food, and the Environment
How do community members' opinions about fairness, access, and the pricing of electricity impact their electricity consumption choices?	Harper, Krista	Dept. Anthropology
Interactive effects of pesticides, drought, and pathogens on the common eastern bumble bee <i>Bombus impatiens</i>	Adler, Lynn	Dept: Biology
Investigating multi-trophic linkages between plants, insects and migratory birds to inform effective forest habitat management and restoration strategies	Gerson, Alexander	Dept: Biology
Common and distinct early environmental influences on cardiometabolic and respiratory health	Kleinman, Kenneth	Dept: Biostatistics Epidemiology
The interplay of early life exposure to environmental pollutants and folate system in the etiology of autistic behaviors	Oulhote, Youssef	Dept: Biostatistics Epidemiology
CATALYSIS CENTER FOR ENERGY INNOVATION(CCEI) :: Non-thermal Activation of Shale Gas Resources	Abdelrahman, Omar	Dept: Chemical Engineering
Catalysis Center for Energy Innovation	Fan, Wei	Dept: Chemical Engineering
Multi-University Center on Chemical Upcycling of Waste Plastics (CUWP)	Winter, Horst	Dept: Chemical Engineering
Designing Wabanaki Adaptive Capacity for Climate Change	Andreadis, Konstantino	Dept: Civil Environ Engineering
Designing Wabanaki Adaptive Capacity for Climate Change	Andreadis, Konstantino	Dept: Civil Environ Engineering
Phase 1: Ensuring Long Term Availability and Bankability of Offshore Wind Through Hurricane Risk Assessment and Mitigation	Arwade, Sanjay	Dept: Civil Environ Engineering
Developing a selective column retrofit framework for damaged and aging reinforced concrete buildings to improve community resilience after earthquakes	Brena, Sergio	Dept: Civil Environ Engineering

Analysis of the Water Resource Management Options and Water-related Opportunities in Agriculture in the Orinoquia Region of Colombia	Brown, Casey	Dept: Civil Environ Engineering
Partnership to address climate and other deep uncertainties in environmental economic analysis	Brown, Casey	Dept: Civil Environ Engineering
Pro-Poor Digital Water Distribution Network	Brown, Casey	Dept: Civil Environ Engineering
Transportation Resiliency - Pathways towards Transportation Infrastructure Resiliency in New England	Christofa, Eleni	Dept: Civil Environ Engineering
High-resolution mapping of Renewable Energy Sources	Francois, Baptiste	Dept: Civil Environ Engineering
A first global analysis of daily riverine gas exchange using the SWOT satellite Bayesian remote sensing, and carbon transport modeling	Gleason, Colin	Dept: Civil Environ Engineering
Characterizing Future Changes in Glacier Melt, Snow melt, and Regional Runoff to Inform Adaptation Decisions in High Mountain Dependent Economies.	Gleason, Colin	Dept: Civil Environ Engineering
Characterizing Future Changes in Glacier Melt, Snow melt, and Regional Runoff to Inform Adaptation Decisions in High Mountain Dependent Economies.	Gleason, Colin	Dept: Civil Environ Engineering
Global mapping of river discharge	Gleason, Colin	Dept: Civil Environ Engineering
Water Quality in DCR Reservoirs 2022-2024	Guzman, Christian	Dept: Civil Environ Engineering
A Targeted Initiative to Support Safe Drinking Water within MassDEP's Drinking Water Program by Improving the Quality, Reliability, and Future Collection of Data on Drinking Water Wells in MA	Kumpel, Emily	Dept: Civil Environ Engineering
A Decision Support System for Estimating Changes in Extreme Hydrological Events in the Northeast US	Palmer, Richard	Dept: Civil Environ Engineering
Developing Strategies for Stakeholder Engagement and Climate Extension Services in the CASC Network: A Case Study in the Northeast CASC	Palmer, Richard	Dept: Civil Environ Engineering
Dynamic Adaptation for Wetland Restoration and Coastal Communities on Lake Ontario	Palmer, Richard	Dept: Civil Environ Engineering
Exploring the Potential for Adaptation Plantings to Restore and Sustain Forest Habitats Across the Upper States	Palmer, Richard	Dept: Civil Environ Engineering

Modeling the Interaction of Forest Management and Climate Change on the Spread and Impact of Non-Native Invasive Plants	Palmer, Richard	Dept: Civil Environ Engineering
University of Massachusetts Consortium to Host Cycle II of the Northeast Climate Adaption Science Center	Palmer, Richard	Dept: Civil Environ Engineering
Developing Irradiance-Controlled Mixing to Overcome Photoinhibition for Advancing Energy Efficient Wastewater Treatment by Oxygenic Photogranules	Park, Chul	Dept: Civil Environ Engineering
Industrial-scale OPG pilot for aeration-free and net autotrophic wastewater treatment	Park, Chul	Dept: Civil Environ Engineering
Implementation of the Statewide Sampling for PFAS Containments in Drinking Water	Reckhow, David	Dept: Civil Environ Engineering
Implementation of the Statewide Sampling for PFAS Contaminants in Drinking Water	Reckhow, David	Dept: Civil Environ Engineering
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Innovative Technologies for Very Small Drinking Water Systems	Reckhow, David	Dept: Civil Environ Engineering
University of Massachusetts Water and Energy Testing Facility Earmark	Reckhow, David	Dept: Civil Environ Engineering
Dynamic Adaptation for Wetland Restoration and Coastal Communities on Lake Ontario	Woodruff, Jonathan	Dept: Civil Environ Engineering
Modeling the Interaction of Forest Management and Climate Change on the Spread and Impact of Non-Native Invasive Plants	Woodruff, Jonathan	Dept: Civil Environ Engineering
CAREER: A Robust and Data-driven Design for Carbon-intelligent Distributed systems	Hajiesmaili, Mohammad	Dept: Computer Science
Do new digital technologies increase public participation and equity in civic decision-making?	Mahyar, Narges	Dept: Computer Science
Collaborative Research: NGSDI: CarbonFirst: A Sustainable and Reliable Carbon-Centric Cloud-Edge Software Infrastructure	Shenoy, Prashant	Dept: Computer Science
Collaborative Research: NGSDI: CarbonFirst: A Sustainable and Reliable Carbon-Centric Cloud-Edge Software Infrastructure	Shenoy, Prashant	Dept: Computer Science
Developing best-use patterns for postemergence herbicide applications in cranberry	Sandler, Hilary	Dept: Cranbry Stat Ext

Integrating development, implementation and awareness of effective strategies and technologies to promote Specialty Crop IPM in Massachusetts	Sandler, Hilary	Dept: Cranbry Stat Ext
Integrating development, implementation and awareness of effective strategies and technologies to promote Specialty Crop IPM in Massachusetts	Sandler, Hilary	Dept: Cranbry Stat Ext
A plant-based culinary intervention to reduce type 2 diabetes risk and Improve self-efficacy in Latino/a/x Adults	Walker, Rachel	Dept: Dean - College of Nursing
Towards a green and inclusive post-pandemic recovery of the Blue Economy and coastal communities (RRR-Coast)	Vicarelli, Marta	Dept: Economics
Remote Sensing of the U.S. Coastline Impacted by Land-Falling Hurricanes	Frasier, Stephen	Dept: Elect Computer Engineering
CCRI: New: A Community Testbed for Designing Carbon-Efficient Cloud Applications	Irwin, David	Dept: Elect Computer Engineering
Biomass estimation with new spaceborne missions for MRV in Tropical Dry Forests and Savannas	Siqueira, Paul	Dept: Elect Computer Engineering
Biomass estimation with new spaceborne missions for MRV in Tropical Dry Forests and Savannas	Siqueira, Paul	Dept: Elect Computer Engineering
Development of the NISAR Ecosystem Disciplines for calibration/validation and to meet mission goals and requirements	Siqueira, Paul	Dept: Elect Computer Engineering
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Two-frequency methods for soil moisture and biomass estimation	Siqueira, Paul	Dept: Elect Computer Engineering
Energy and Economic Growth	Taneja, Jayant	Dept: Elect Computer Engineering
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Mobilising Electricity for PEU & Fishermen; eMobility in Lake Victoria, Accelerating Sustainable Growth	Taneja, Jayant	Dept: Elect Computer Engineering
Biodiversity implications of climate adaptation strategies	Bradley, Bethany	Dept: Environmental Conservation

Identifying vulnerable ecosystems and supporting climate-smart strategies to address invasive species under climate change	Bradley, Bethany	Dept: Environmental Conservation
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Northeast Climate Adaptation Science Center: Climate Fellows Research Initiative	Bradley, Bethany	Dept: Environmental Conservation
Creating Equity in the Offshore Wind Professional Workforce	Breger, Dwayne	Dept: Environmental Conservation
GHG Emissions Inventory and Net Zero Scoping Technical Assistance	Breger, Dwayne	Dept: Environmental Conservation
Challenge Cost-share Agreement between the USDA Forest Service, Northern Research Station and the University of Massachusetts Amherst NWOS Puerto Rico	Catanzaro, Paul	Dept: Environmental Conservation
Challenge Cost-Share Agreement between USDA Forest Service Northern Research Station and the University of Massachusetts Amherst - TPO & NWOS	Catanzaro, Paul	Dept: Environmental Conservation
UMass Amherst Forest Partnership Estate Planning Outreach Services Implementation Plan	Catanzaro, Paul	Dept: Environmental Conservation
Climate driven community simplification on Gulf of Maine rocky shores	Cheng, Brian	Dept: Environmental Conservation
Development of a Sustainable Recreational Fishery for Golden Dorado in South America	Danylchuk, Andy	Dept: Environmental Conservation
Exploring Complex Social-Ecological Interactions of Australia's Recreational Fisheries	Danylchuk, Andy	Dept: Environmental Conservation
Stripers On The Line: Quantifying short-term post-release activity, behavior, and mortality of striped bass (<i>Morone saxatilis</i>) in the Massachusetts recreational fishery	Danylchuk, Andy	Dept: Environmental Conservation
The Kings Banquet Quantifying the Connection Between Atlantic Tarpon and Forage Fish Prey Sources for Conservation and Management	Danylchuk, Andy	Dept: Environmental Conservation
Tracking the United States Forgotten Sharks: Satellite tagging tiger sharks in the U.S. Virgin Islands for improved conservation	Danylchuk, Andy	Dept: Environmental Conservation
Mitigating the effects of prescribed fire on Eastern Box Turtle populations	DiRenzo, Graziella	Dept: Environmental Conservation

Biocontrol of Invasive Emerald Ash Borer to Protect Urban and Natural Forest Ecosystems	Elkinton, Joseph	Dept: Environmental Conservation
Development of Monitoring and Control Methods for Exotic Invasive Forest Pests	Elkinton, Joseph	Dept: Environmental Conservation
FOREST INSECT RESEARCH	Elkinton, Joseph	Dept: Environmental Conservation
Enabling tools to build a sustainable, equitable, and inclusive seafood marketing program	Gianelli, Jynessa	Dept: Environmental Conservation
Linking Management to Biodiversity - New Joint Venture Agreement 20-JV-11242308-051	Griffin, Curtice	Dept: Environmental Conservation
Redefining the ecological memory of disturbance over multiple temporal and spatial scales in forest ecosystems	Itter, Malcolm	Dept: Environmental Conservation
Ecosystem-based Regional Connectivity to Inform Climate Refugia Networks	Jackson, Scott	Dept: Environmental Conservation
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Statewide Hydraulic Model for Massachusetts: UMass Component	Jackson, Scott	Dept: Environmental Conservation
Increasing Tribal climate adaptive capacity for coastal resources in the Northeast	Jordaan, Peter	Dept: Environmental Conservation
Seabird diets in a warming climate: An assessment of critical and emergent trophic relationships of terns (<i>Sterna</i> sp.) in their Northern breeding range	Jordaan, Peter	Dept: Environmental Conservation
Strategic Plan Climate Change and Food Security	Jordaan, Peter	Dept: Environmental Conservation
Assessing the Mechanical, Physiological and Carbon Accounting Effects of Different Pruning Regimens	Kane, Brian	Dept: Environmental Conservation
Training volunteers to prune small street trees	Kane, Brian	Dept: Environmental Conservation
Collaborative research: Mating systems as mechanisms for resilience of species with temperature-dependent sex determination under environmental change	Komoroske, Lisa	Dept: Environmental Conservation
Harvested Wood Product Carbon Model - Updated Discarded Products Analysis	MacLean, Meghan	Dept: Environmental Conservation

Connecting communities with real-time data collection and downscaled climate risk models to improve water quality and sustain salt marshes in the Buzzards Bay Watershed	Milman, Anita	Dept: Environmental Conservation
EAGER: SAI: Water Supplier Decisions & Institutional Change During Transitions	Milman, Anita	Dept: Environmental Conservation
GCR: Collaborative Research: Designing a sustainable coffee production system through convergence research using a multi-scale ecosystems approach	Randhir, Timothy	Dept: Environmental Conservation
Information for Climatic Adaptation and Restoration of Ecosystem Services (I-CARES) for urban and agricultural landscapes of Massachusetts	Randhir, Timothy	Dept: Environmental Conservation
Advancing Conservation and Restoration of Brook Floater and Associated Freshwater Mussels	Roy, Alison	Dept: Environmental Conservation
Factors Influencing Freshwater Productivity of Juvenile River Herring - Doris Duke Conservation Scholars Program Mentorship	Roy, Alison	Dept: Environmental Conservation
Factors Influencing Freshwater Productivity of Juvenile River Herring - Doris Duke Conservation Scholars Program Mentorship	Roy, Alison	Dept: Environmental Conservation
FRAMEWORK FOR PROTECTING AQUATIC BIODIVERSITY IN THE NORTHEAST UNDER CHANGING CLIMATES	Roy, Alison	Dept: Environmental Conservation
Landscape drivers of freshwater mussel assemblages and imperiled species status: implications for optimal allocation of conservation effort within the Delaware River Basin	Roy, Alison	Dept: Environmental Conservation
Rethinking lake management for invasive plants under future climate: Sensitivity of lake ecosystems to winter water level drawdowns	Roy, Alison	Dept: Environmental Conservation
LTER: CAP IV - Investigating urban ecology and sustainability through the lens of Urban Ecological Infrastructure	Warren, Paige	Dept: Environmental Conservation
LTER: CAP IV - Investigating urban ecology and sustainability through the lens of Urban Ecological Infrastructure	Warren, Paige	Dept: Environmental Conservation
Effects of habitat, density, and climate on moose and winter tick ecology in the Northeast U.S.	Wilson, Tammy	Dept: Environmental Conservation
The Environmental Health Fellows Program for Urban Health	Arku, Raphael	Dept: Environmental Health Sciences

Exposure to Ambient Air Pollution and Temperature During Spermatogenesis: Impact on Men's Reproductive Health and Infertility Treatment Outcomes	Nobles, Carrie	Dept: Environmental Health Sciences
Near-Peer Mentoring in Environmental Health: Chemical Exposures and Disease Risk	Vandenberg, Laura	Dept: Environmental Health Sciences
Update and extend forest carbon and land sector analysis from the 2050 Roadmap Study to inform the development of a Natural Working Lands plan and the Clean Energy and Climate Plans.	MacLean, Meghan	Dept: Environmental Sciences
Sustainable Film Development - Grounds for Sustainability: Eco-Friendly Film Development from Coffee Waste	David Bendiksen	Dept. Film Studies
Predicting lipid oxidation lag phases: The key to determining shelf-life and decreasing food waste	Decker, Eric	Dept: Food Sciences
Reducing the Environmental Impact of Plant-based Meat Extrusion Processes by Self-Aggregating Proteins	GROSSMANN, LUTZ	Dept: Food Sciences
Editor Hydrological Processes; Impact Factor: 3.015; Ranking: 2016: 8/85 (Water Resources)	Boutt, David	Dept: Geosciences
Climate and Cryosphere International Project Office of the World Climate Research Program	Bradley, Raymond	Dept: Geosciences
NSFGEO:NERC: Collaborative Research: Environmental change and impacts on prehistoric human colonization of Peary Land, northernmost Greenland	Bradley, Raymond	Dept: Geosciences
Collaborative Research: Quantitative reconstructions of last millennium hydroclimate and temperature from the tropical high Andes	Castaneda, Isla	Dept: Geosciences
P2C2: Temperature and Hydroclimate Variability in Mid-Latitude arid Central Asia During the Past 13,600 years: a Multi-Proxy Investigation of Issyk-Kul (Kyrgyzstan)	Castaneda, Isla	Dept: Geosciences
Collaborative Research: GreenDrill: The response of the northern Greenland Ice Sheet to Arctic Warmth - Direct constrains from sub-ice bedrock	Deconto, Robert	Dept: Geosciences
Continued Modernization of the Massachusetts National Ground Water Monitoring Network - Objective 3	Mabee, Stephen	Dept: Geosciences
Western Massachusetts Ground Water Level Measurements for the USGS/MA Cooperative Program FY23	Mabee, Stephen	Dept: Geosciences

LTER: Beaufort Sea Lagoons: An Arctic Coastal Ecosystem in Transition	Rawlins, Michael	Dept: Geosciences
Does synergy among litter, organic horizons, and roots bolster nutrient retention and production?	Richardson, Justin	Dept: Geosciences
The inequitable impact of natural disasters: Advising MA policymakers on mitigating the impact of flooding and post-flood hazards on populations most at risk	Şalap-Ayça, Seda	Dept: Geosciences
University of Massachusetts Consortium to Host Cycle II of the Northeast Climate Adaption Science Center	Woodruff, Jonathan	Dept: Geosciences
Alaska Native Collaborative Hub for Resilience Research (ANCHRR)	Rataj, Suzanne	Dept: Health Promotion Policy
SRS RN: Preparing for Just and Sustainable Climate Migration	Infield, Elisabeth	Dept: Landscape Arch Regional Plan
Sustainable Viticulture - Adoption of Standards and Business Practices Among Sustainable Wine Producers in Western Massachusetts	Bogdan Prokopovych	Dept. Management
Contextualized Problems and Projects: International Energy Justice	Baker, Erin	Dept: Mech Industrial Engineering
FMRG: Sustainable Route to 3D Solid-State Sodium-ion Battery by Direct Ink Writing and Capillary Rise Infiltration.	Chen, Wen	Dept: Mech Industrial Engineering
Massachusetts Energy Efficiency Partnership Industry Support	Kosanovic, Dragoljub	Dept: Mech Industrial Engineering
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Enhancing Resiliency and Increasing Equity in the Transition to a Sustainable Energy Future	Lackner, Matthew	Dept: Mech Industrial Engineering
GCR: The Transition to a Sustainable Energy Future	Lackner, Matthew	Dept: Mech Industrial Engineering
An Integrated Wave Energy Stabilizer for Floating Wind Turbines	Sharman, Krish	Dept: Mech Industrial Engineering
Effective implementation of low cost sensors into aquaculture enclosures for the purposes of environmental and fish health monitoring	Sharman, Krish	Dept: Mech Industrial Engineering

Project Sub-Agreement 1: Ocean Energy Safety Institute 2	Sharman, Krish	Dept: Mech Industrial Engineering
Linking root and soil microbial stress metabolism to watershed biogeochemistry under rapid, year-round environmental change	DeAngelis, Kristen	Dept: Microbiology
Linking root and soil microbial stress metabolism to watershed biogeochemistry under rapid, year-round environmental change	DeAngelis, Kristen	Dept: Microbiology
The promotion of natural medicine for human health	Liu, Zhenhua	Dept: Nutrition
Do low-income communities in Massachusetts trust the safety and quality of their public drinking water? Where do people get information about their drinking water supply and how does it relate to trust?	Airin Martinez	Dept. Public Health and Health Sciences
How do disparities in access to biodiversity in urban spaces affect disparities in human well-being?	Chan, Nathan	Dept: Resource Economics
Farm Succession and Transfer Dynamics: Sustaining an Agriculture of the Middle in the U.S.	Fitzsimmons, Jill	Dept: Resource Economics
Measuring the Social Costs of Nutrient Pollution through Integrated Assessment Modeling	Keiser, David	Dept: Resource Economics
Collaboration and Equity: The Resources, Relationships, and Recognition (R3) Model for Advancing Women and Underrepresented Faculty in Science and Engineering	Smith Doerr, Laurel	Dept: Sociology
Irrigation water temperature effect on root development during propagation	Bayer, Amanda	Dept: Stockbridge Sch of Agriculture
2020 National Bentgrass (Fairway/Tee) Test - Drought Tolerance	Ebdon, Jeffrey	Dept: Stockbridge Sch of Agriculture
Conquering Cover Crop Challenges Coast to Coast	Hashemi, Masoud	Dept: Stockbridge Sch of Agriculture
Greenhouse Rice Research-Yield 10	Inguagiato, Michelle	Dept: Stockbridge Sch of Agriculture
Sticky roots - implications of altered rhizodeposition (driven by cryptic, viral infection of plants) for the fate of rhizosphere mineral organic matter associations in natural ecosystems	Keiluweit, Marco	Dept: Stockbridge Sch of Agriculture
Collaborative Research: BoCP-Design: US-China: Functional divergence between the sexes: ecological consequences of climate-induced sex ratio shifts	Keiser, Ashley	Dept: Stockbridge Sch of Agriculture

Protecting Massachusetts specialty crops from two invasive pests through monitoring, research, and outreach	Pinero Ramirez, Jaime	Dept: Stockbridge Sch of Agriculture
Tree Fruit Entomological Research	Pinero Ramirez, Jaime	Dept: Stockbridge Sch of Agriculture
Computational Thinking Funds of Knowledge: Research and Development of a Culturally Sustaining Assessment Tool for CT in the Early Grades	Sullivan, Florence	Dept: Teacher Ed/Curriculum Studies
Engaging Undergraduates in Research and Extension Training using Technology and Experiential Learning to Enhance the Sustainability of Food Production Systems	Garofalo, Elizabeth	Dept: UMass Extension
Assessing Agricultural Water Quality for Food Safety on Massachusetts Specialty Crop Farms	McKeag, Lisa	Dept: UMass Extension
Nuestras-Raices Agri-Culture Enterprises	Scheufele, Susan	Dept: UMass Extension
Training for Forest Health Professionals	Simisky, Tawny	Dept: UMass Extension
Transportation Program: Focus on Safety, Efficiency, Environment, and Career Opportunities	Fitzpatrick, Cole	Dept: UMass Transportation Center
Tree Preservation and Planting for Complete Streets Development	Kane, Brian	Dept: UMass Transportation Center
Annual Commonwealth funding for the Massachusetts Pesticide Analytical Laboratory to perform pesticide analytical services (FEDERAL)	Clark, John	Dept: Veterinary Animal Sciences
FY22 ISA Massachusetts Pesticide Analytical Laboratory (MPAL) (STATE)	Clark, John	Dept: Veterinary Animal Sciences
Purchase and Setup of Equipment to Massachusetts Pesticide Analytics Laboratory (MPAL) for testing of chemical compounds for hemp regulation in the Commonwealth	Clark, John	Dept: Veterinary Animal Sciences
FY23 ISA Massachusetts Pesticide Analytical Laboratory (MPAL) Services (STATE)	Doherty, Jeffery	Dept: Veterinary Animal Sciences
Blackstone River Water Quality Monitoring Project FY23	Hatte, Marie-Francoise	Dept: Water Resources Research Ctr
Water Resources Research Center Massachusetts FY21 Annual Application	Hatte, Marie-Francoise	Dept: Water Resources Research Ctr