

Department	<u>Faculty Member</u>	<u>Research Description</u>
Accounting	Hani Tadros	<p>Attempting to understand why firms disclose environmental information, prior literature lands conflicting results. Proponents of legitimacy theory argue that environmental reporting is elusive and deceptive while advocates of economic theory believe that this type of disclosure – driven by investors need for information – is informative and value relevant. Using panel data analysis of firms’ environmental disclosures over a 14-year period, Hani Tadros examines whether an association exists between these disclosures and firms’ environmental performance. He tries to understand the determinants of firms’ environmental reporting to better understand the motivation of firms to disclose such information. Relevant recent publications: Tadros, H., & Souissi, M. (2021). Determinants of Environmental Disclosures of US-Electric Utility Firms: between Compliance and Voluntary Reporting. <i>Journal of Accounting, Ethics & Public Policy</i>, 22(4), 541-570. Tadros, H., Magnan, M. & Boulianne, E. (2020). Is corporate disclosure of environmental performance indicators reliable or biased information? A look at the underlying drivers. <i>Journal of Financial Reporting and Accounting</i>, 18(4), 661-686.</p>

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Art, Environmental Studies	Samantha DiRosa	Samantha DiRosa's research investigates the intersections between art, activism, sustainability, environmental justice, and eco-spiritual practices. In 2008, serving as a Sustainability Faculty Scholar, she worked to integrate dialogues on sustainability into the Studio Art foundations curriculum. This led to further pedagogical research, supported by a two-year fellowship from Elon's Center for Advancement of Teaching and Learning, to create more visible bridges between Art and Environmental Science, while broadening interdisciplinary dialogues on sustainability and the environment. Her latest research endeavors include the development of practices to help mitigate eco-anxiety and eco-grief. Additionally, her artwork, which has been shown extensively nationally and internationally, explores our disconnection from the natural world, environmental degradation, and our atomic legacy.
Biology	David Vandermast	David Vandermast's sustainability research focuses on carbon sequestration in trees. He has worked with Duke University's Carbon Offset Initiative and includes Elon undergrads in these projects. Dr. Vandermast also has students working on other aspects of carbon storage and sequestration in trees in the Elon University Forest and in Panama.

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Biology	Jessica Merricks	Jessica Merricks' research interests include environmental justice and environmental health education, behavioral ecology and formal STEM education. She is currently mentoring a Lumen scholar who will partner with a grassroots environmental advocacy (Clean Haw River) group to explore PFAS (an industrial contaminant) exposure and education in the Black community in Pittsboro, NC. This work involves characterizing the extent of PFAS exposure in the blood of residents being exposed to PFAS in their drinking water. Through interviews and a customized intervention program, the hope is to characterize their knowledge and address their health care needs as it relates to this environmental health issue.

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Biology	Linda Niedziela	<p>Linda Niedziela’s area of research that involves undergraduate students focuses on the toxicology of environmental contaminants. She and a research student have engaged in a project that looked at the reproductive and developmental effects of two phthalates, forever chemicals. They used zebrafish as a model to compare a recently regulated phthalate and a new alternative chemical that is supposed to be its safer replacement. Their research found that there were no developmental effects, but there were statistically significant reproductive effects and alterations to hormones in males. Furthermore, they found no evidence to support the alternative being safer. Both the known toxicant and new alternative had similar detrimental effects. Another study in Dr. Niedziela’s lab focuses on ADHD medications and whether they could either be replaced or reduced with an exercise regimen. This study is in the beginning stages. Her research lab has spent a number of years investigating extracts of a native plant on neurological endpoints and investigating it as a possible safer alternative to dementia treatments. The plant has been found to increase a neurotransmitter that declines in dementia patients. They also showed that it was able to increase the memory of aged zebrafish. They are currently investigating whether it has side effects that could be harmful.</p>

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Biology, Environmental Studies	Brant Touchette	<p>Brant Touchette's research centers on wetland vegetation and the role climate change plays on wetland plants. This includes the impacts of elevated CO2 levels and sea-level rise on coastal marshes and the consequences of decreased precipitation on freshwater wetlands. Research also includes restoration of rare ecosystems such as coastal maritime swamps and lotic wetlands used by endangered species. He is also involved in conservation- and sustainable- agriculture through the development of new technologies that minimize agriculturally-base pollutants. He is on the editorial board for the peer review journal Aquatic Biology.</p>
Biology, Environmental Studies	Mike Kingston	<p>Mike Kingston's research focuses on the ecology of microscopic algae that live in sand beaches, estuaries, and on the banks of freshwater streams. A second area of research focuses on community ecology and the effects of climate change, introduced species, and predation on the colonization of subtidal hard substrates by invertebrate marine animals.</p>

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Chemistry	Anthony Rizzuto	<p>Dr. Rizzuto's research lab focuses on the role of chemical species in various atmospheric and environmental processes. These projects include: 1. The study of microscopic atmospheric water droplets and how their chemical composition impacts cloud formation and evaporation rates. This information plays an important role in furthering our understanding of oceanic and atmospheric chemistry, which in turn can be used to develop more accurate climate models. 2. The study of carbonic acid (the centerpiece of the global carbon cycle) as it pertains to ocean acidification, nanoparticle sequestration and carbonation, and increased atmospheric carbon dioxide levels. 3. The study of aerosolized nitrous acid (HONO) decomposition and its impacts on NO_x chemistry and the global nitrogen cycle. HONO is a precursor to a number of radical species that significantly impact atmospheric chemistry, in particular ozone depletion. Understanding the kinetics associated with HONO reactions will inform on how best to protect our ozone layer.</p>
Chemistry	Jen Dabrowski	<p>In a world with limited supplies of crude oil there is a growing need for alternatives methods of accessing the products responsible for the modern quality of life desired by society. Currently the majority of consumer products (e.g., medicines, plastics, electronics, etc.) are produced from non-sustainable petroleum-derived substances. Jen Dabrowski's research utilizes the principles of organometallic chemistry to design and apply more Earth-abundant catalysts to solve challenges in the creation of feedstocks for consumer products from biorenewable resources. Current efforts have focused on sugars as a rich scaffold for diversification.</p>

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Chemistry	Justin Clar	Dr. Clar's research projects are focused on the development of novel nanoparticle based solutions for water treatment. The goal is for these systems to be reusable, scalable and sustainable.
Cinema & Television Arts	Doug Kass	As a filmmaker, Doug Kass' scholarship includes film projects of various sorts. From 2018-2020 he made public service announcements for the United Nations AIDS outreach organization, UNAIDS. These projects addressed global issues of health disparity. Kass recently completed a film that is anti-war and has human rights overtones.
Communication Design	Brian Walsh	Brian Walsh's current research interest involves examining the present state of the funeral industry, and how its emphasis on 'traditional' means of interment cause soil, water and air contamination, as well as waste tremendous amounts of natural resources. Walsh explores alternative funerary rites that minimize environmental impact and aim to fundamentally change care of the deceased in America. He teaches in the iMedia graduate program.

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Computer Science	Elizabeth von Briesen	<p>Elizabeth von Briesen and her research student built an agent-based simulation exploring the dynamics of community gardening. In the model, there is an organizer agent who moves through the community "teaching" people how to garden, and individuals who decide to garden or not. People are more likely to garden if they interact with the organizer, have neighbors who are gardening, or have lower levels of hardship preventing them from gardening. This model can be used to explore hypothetical scenarios in which there may be more than one organizer, organizers who use different strategies for working within the community, and a reduction of overall hardship in the community. They hope this model will be useful to those studying food insecurity, particularly organizations strategizing to help others have self-sustainable gardening practices.</p>

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Computer Science	Ryan Mattfeld	<p>Ryan Mattfeld’s sustainability focused research projects cover a variety of topics. 1) Autonomous fire detection using drones (with the goal of identifying wildfires and domestic fires more quickly to prevent destruction and loss of life). His research team is investigating the use of cameras, thermal cameras, and LiDAR to detect fires autonomously to assist emergency response teams. This fits under the goal of climate action with preservation of our forests. 2) A device for assisting people with visual impairments by detecting objects and providing haptic feedback for object avoidance. This works towards reduced inequalities by improving the ability for individuals with visual impairments to interact with the world with greater independence. 3) Improved step detection algorithms for pedometers toward improving health and well-being through increased motivation for exercise. Accurate pedometers are essential for setting and achieving goals toward increased exercise. If the device is perceived to be unreliable, users frequently abandon it and return to a less active lifestyle. 4) He is investigating the effects of different grading systems (like contract grading, specifications grading, and others) on student motivation and engagement. Different grading systems can also promote greater equity and improved learning. This research works toward providing and developing a quality education.</p>

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Economics	Brooks Depro	Brooks Depro is an environmental economist and examines the relationship between housing choices, environmental health risks, and environmental justice. His work in this area has been published in the Journal of the Association of Environmental and Resource Economists, Land Economics, and the edited volume of The Political Economy of Environmental Justice. His principles of economics classes cover environmental topics, and he also teaches advanced courses, such as Environmental Economics, Markets and Environmental Justice, and the Moral Limits of Markets. He teaches in both undergraduate and graduate business programs.
Economics	Steve DeLoach	Steve DeLoach has published papers and mentored numerous student theses dealing with various aspects of sustainability. He has published several papers examining the impact of financial inclusion on the lives and livelihoods of households in developing countries. Since 2016, he has worked with several students to estimate the effects of participation in village savings and loan programs on South Sudanese refugees living in settlements in northern Uganda.

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Education & Wellness	Katie Baker	<p>Dr. Katie Baker’s research focuses on mathematics teaching and learning that centers student thinking and students’ contributions. Her work considers if and how learners get access to high-quality mathematics education and what this access affords. Mathematical access especially aligns to the United Nations Sustainable Development Goal 4 of Quality Education, but impacts many of the other goals through the problem-solving and critical thinking skills it affords learners. In order to consider and reflect upon various ways to learn mathematics, she collaborates with Dr. Scott Morrison around teaching and learning mathematics outside and supports undergraduates researchers in their pursuits of expanding the creativity and richness of mathematics instruction that also fosters a connectedness to nature.</p>
Education & Wellness	Scott Morrison	<p>Scott Morrison’s research focuses on environmental education, ecologically minded teaching, and place-based education. His most recent articles have been on gender socialization in nature-based education (Decker & Morrison, 2021; Decker & Morrison, 2023), supporting autistic students in nature-based learning (Friedman & Morrison, 2021; Friedman, James, Brocklebank, Cox, & Morrison, 2023), and teaching mathematics in outdoor environments (Baker, Morrison, & Herrmann, 2021; Baker, Morrison, & Cisneros Perez, 2022). His article on walking curriculum (Morrison & Morrison, 2022) has led to an international research project on teachers’ perceptions of taking students on walks with a curricular focus, as well as how walks can be neurodiversity affirming and inclusive of students with disabilities. He is currently working on a manuscript on the intersection of abolitionist teaching and place-based environmental education.</p>

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Engineering	Bethany Brinkman	Bethany Brinkman's sustainability research investigates permeable paver systems for reducing stormwater pollution and runoff from Elon's walkways as well as organic carbon concentration and composition from various land uses. Benefits of permeable pavement include helping reestablish a natural hydrologic balance and reducing runoff and concentrations of certain pollutants. Organic carbon is naturally occurring, but can impact water quality, water treatment chemicals, and taste and odor.
Engineering	Jonathan Su	Jonathan Su is developing a lens-free holographic imaging system for use in water quality measurement. He and his students are currently using it to try to create an automated system which can detect cyanobacteria in local water systems. These cyanobacteria can release toxic cyanotoxins that can pose a danger to humans and animals. His other work also focuses on fluid mechanics, mass transport, and drug delivery systems.
Engineering	Will Puer	Will Puer researches stormwater in rural, suburban, and urban landscapes, developing novel management infrastructure to reduce impacts of pollution from excess nutrients in runoff. Research questions: How do preferential flow paths within BMPs impact nitrate and phosphate reduction? How do different retrofits and design features enhance mixing within BMPs and improve nutrient treatment? How do different storm intensities impact flow paths and treatment within BMPs?

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English	Cassie Kircher	Cassie Kircher is a nature writer, who writes about Alaska's Kenai Peninsula, Wisconsin's lake country, and her seven years working and living as a park ranger in Colorado's Rocky Mountain National Park. Her first collection of essays, <i>Far Flung: Improvisations on National Parks, Driving to Russia, Not Marrying a Ranger, the Language of Heartbreak, and Other Natural Disasters</i> , was published in spring 2019 by West Virginia University Press. Kircher is currently working on her observations and experiences surrounding race in national parks.
Environmental Studies	Amanda Chunco	Amanda Chunco's lab studies patterns of species invasions over time, with a goal of improving the monitoring and control of species invasions. Dr. Chunco's work focuses on the impact of human activity (particularly climate change and land-use) on the distribution and abundance of wildlife. She works primarily with mammals and amphibians, but the general methodology she uses is applicable to the conservation of biodiversity as a whole. Research questions: 1) Where are invasive species causing environmental harm? 2) How is climate change affecting species distributions?
Environmental Studies	Kelsey Bitting	In partnership with students, Kelsey Bitting's research investigates carbon sequestration in soil (on campus and in the Elon Forest).

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Finance	Adam Aiken	<p>The idea of “exit and voice” has made its way from sociology to form a crucial part of the framework used to study shareholders, managers, and corporate governance. Sustainable, or ESG-related investing, has largely followed an “exit” strategy, as some fund managers choose to avoid certain stocks or industries. More recently, ESG investing has evolved from simple exclusionary strategies, such as avoiding all oil and gas firms, to screens that involve more complex measures that attempt to quantify the ESG nature of firms and include firms with positive characteristics in a portfolio. If asset managers care about ESG and sustainability, who is producing the information needed to make ESG decisions? Adam Aiken and his co-authors believe that the Chartered Financial Analyst (CFA) program is a natural place to look for the relationship between training and ESG issues. They are trained to focus on long-term issues. Are portfolio managers with CFAs more likely to focus on sustainability and ESG issues when managing their fund? Aiken and his co-authors study their use of “voice” directly and note how each fund votes on environmental and social issues as raised through shareholder proposals. He teaches in both undergraduate and graduate business programs.</p>
Finance	Drew Peabody	<p>One of Drew Peabody’s research streams evaluates corporate social responsibility (CSR) through the lens of corporate finance, with an emphasis on business leaders’ decisions to engage in sustainable activities and how those decisions affect firms. Dr. Peabody is currently investigating if there exists a peer effect among firm competitors for CSR activity and how engaging in sustainable initiatives sends positive signals to various firm stakeholders such as customers, investors and employees.</p>

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Finance	Raj Gupta	Raj Gupta is developing a pipeline of ethics and sustainability research linked to his areas of expertise in finance and business administration. His ongoing and recent work include empirical studies of financial performance and value creation looking at the competitive advantage of sustainable companies, both domestic and global. His past work includes studying linkages between the green corporations or sustainability indices and other broadly-based financial indices. He teaches in both undergraduate and graduate business programs.
History & Geography	Honglin Xiao	Honglin Xiao's research is dedicated to comprehensively understanding the interplay between societies, economies, governments, and the environment. This includes conducting separate but related studies in China and the Piedmont region. His focus is on deciphering the key factors driving land-use changes, developing advanced diagnostic models for monitoring these changes, and devising integrated strategies for sustainable land use and environmental rehabilitation in the future. Central to his work is the study of land use and land cover changes, which are crucial for understanding global environmental shifts, ecosystem deterioration, and the loss of biodiversity.

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Law	Caroleen Dineen	<p>Caroleen Dineen's recent research has focused on legislative approaches to addressing nutrient pollution's impact on harmful algal bloom (HAB) proliferation. HABs can poison aquatic life, cause lethal oxygen depletion in the aquatic ecosystem, and create an aquatic "dead zone" incapable of sustaining plant or animal life. HABs also may create serious health issues and negatively impact recreational and commercial aquatic uses. Nutrient pollution results from a variety of sources, including fertilizer application, animal waste, stormwater runoff, and sewage treatment facilities. The research explores various nutrient pollution legislative initiatives and analyzes their feasibility and efficacy. Recent publication: "Stemming the 'Red Tide': Legislative Approaches to Addressing the Contribution of Agricultural Nutrient Pollution to the Development and Consequences of Harmful Algal Blooms," Vermont Journal of Environmental Law, Spring 2023, 24(3): 196-265.</p>
Management & Entrepreneurship	Brittany Mercado	<p>Brittany Mercado has several research projects that explore employee performance, including employee green behaviors. In addition, she has shifted her work on employee performance, most specifically cyberloafing, to a more sustainable perspective. Instead of viewing the impact of these counterproductive employee behaviors on organizations, she is examining the toll various work behaviors take on employees themselves, with the goal of developing interventions to boost employee well-being and reduce negative psychological symptoms.</p>

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Management & Entrepreneurship	Christy Benson	Christy Benson teaches business law and ethics. Her research focuses on international trade and sustainable development. Her recent work includes an empirical study of financial performance and value creation, looking at the competitive advantage of sustainable companies. She is also looking at the impact of the EU's mandatory sustainability/ESG reporting requirements in comparison to voluntary reporting by US companies in the absence of such formal rules. She practiced law for 10 years with major law firms in Washington, DC, specializing in international trade and transactions. She served in the Rules Division of the WTO Secretariat in Geneva in 2000, has advised numerous foreign government ministries in FTA negotiations and assisted a wide range of multinational clients on trade matters.
Management & Entrepreneurship	Elena Kennedy	Elena Kennedy's research focuses on socially and locally oriented entrepreneurship and ways in which entrepreneurial ecosystems support meaningful and equitable work. Current work is examining the different ways entrepreneurial communities support one another during crisis and the access to resources for Black entrepreneurs. Recent publications include: Dowin Kennedy, E. 2021. Creating community: The process of entrepreneurial community building for civic wealth creation. <i>Entrepreneurship & Regional Development</i> . 33(9-10): 86-836. Doi: 10.1080/08985626.2021.1964612; and Beaton, E. & Dowin Kennedy, E. 2021. Responding to Failure: The Promise of Social Enterprises as Market Menders. <i>Public Management Review</i> . 23:5: 641-664. doi: 10.1080/14719037.2020.

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Management & Entrepreneurship	Rosey Bao	Rosey Bao's current research focuses on the antecedents/predictors of corporate social responsibility (CSR) by exploring the specific firm level corporate governance conditions under which firms are likely to behave in socially responsible ways. Using a sample of firms across 26 different countries, the study examines and teases out the moderating effects of country level institutions on the relationship between firm level governance and CSR. It suggests that the relationship between firm level governance mechanisms such as insider and institutional ownership and CSR is moderated by country level institutions such as the presence of minority shareholder protection and regulatory quality.
Marketing & International Business	Carri Reisdorf	Carri Reisdorf's research focuses on corporate social responsibility, environmental sustainability and ethics, in particular how these concepts are influenced by culture, consumer perceptions and identification. One research question we are currently working on is: how can firms utilize the Sustainable Development Goals and the Global Reporting Initiative framework in their business strategies?
Marketing & International Business	Chris Nelson	Chris Nelson's research examines how corporate inauthenticity in diversity based social responsibility efforts can damage the trust of key stakeholders both inside and outside of the firm and what the organization can do to repair trust. He is working with co-authors on a paper submission to the Journal of Business Ethics entitled, "Abstained from What You Said in Racial Diversity Messaging? It Leads to Inauthenticity: Solution to Repairing Broken Trust."

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Mathematics & Statistics	Mark Weaver	<p>Mark Weaver does collaborative, health-related research that is related to the sustainability goal of good health and well-being. He is currently working on studies related to pain management in the emergency department (with a goal to prevent the transition from acute to chronic musculoskeletal pain among older adults in the emergency department), to identifying behavioral targets for the prevention of metabolic syndrome risk development in the transition to high school students living at home to the first year of college, and to estimate the effectiveness of misoprostol-only medical abortion regimens.</p>
Mathematics & Statistics	Nicholas Bussberg	<p>Nicholas Bussberg's research is in environmental statistics, which frequently intersects with sustainability issues (primarily conservation efforts). He has mentored student researchers in this topic. One student looked at Elon's water usage over time and investigated how COVID impacted it. A second student is looking at how the Greensboro stay-at-home order in 2020 impacted bat activity. A third student is looking at marine debris and how we can use the data to better inform debris cleanup programs.</p>

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Political Science & Policy Studies	Aaron Sparks	Aaron Sparks studies the politics of environmental policies. This is done mainly through the lens of political behavior, that is, how do people think about the environment, and how does that impact their environmentally related behavior from organizing to carrying a reusable water bottle. With Elon students, Aaron Sparks is also working to understand how climate organizations build political power. He is also interested in improving measures of sustainability knowledge. Research questions: 1) What is the best way to measure environmental-related mental attributes? 2) How should environmental behavior be recorded and which types should researchers focus on? 3) What are the causes of environmental behavior? 4) How can sustainability literacy be measured?
Psychology	Maureen Vandermaas-Peeler	Working with undergraduate researchers, Dr. Maureen Vandermaas-Peeler studies the development of young children's inquiry and discovery through joint participation with peers and adults in authentic, engaging activities in outdoor environments. Findings contribute to the growing momentum in programs and schools to make spending time in natural outdoor settings a priority for young children to foster developing skills and knowledge and to help ensure a future generation of environmental stewards.
Religious Studies	Geoffrey Claussen	Geoffrey Claussen's research has focused on ways in which narratives from ancient Jewish literature may cause human beings to attend to the claims made by land animals or, conversely, may encourage ignoring the claims that land animals make. His research was published in the following article: Geoffrey D. Claussen, "Moses and the Kid, Judah and the Calf, and the Disavowal of Compassion: Reading Rabbinic Stories with The Question of the Animal and Religion," The Journal of Scriptural Reasoning, vol. 20, no. 1 (2023).

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Religious Studies	Rebecca Todd Peters	Rebecca Todd Peters' research on abortion and reproductive justice is focused on addressing the disproportionate impact of restrictive abortion policies on poor women, young women, and women of color with particular attention to intersecting forms of oppression and structural violence based on gender and economic status. Her scholarship on economic and environmental ethics is focused on exploring the development of a solidarity economy and shifting collective worldviews/ethical underpinnings of alternative economic structures that focus on the common good and the well-being of the entire human and natural world.
Sociology & Anthropology	Rissa Trachman	Rissa Trachman has conducted archaeological research in Belize for over 20 years. Her research is conducted on a 250,000 acre conservation and management area and necessarily involves perspectives of environmental impact both of ancient Maya inhabitants and the modern impact of archaeology on its surroundings. The ancient Maya interaction with the environment was substantial and underestimated. Her field research project in Belize, the Dos Hombres Archaeological Project explores these interactions and their subsequent social impacts as reflected in her recent publications.
Sport Management	Young Do Kim	Young Do Kim's research interests center around the effectiveness of sport organizations' pro-environmental (PE) initiatives. His current work is focused on how consumers' perceptions of the PE initiatives influence their psychological and behavioral responses. Overall, his research seeks to help sport practitioners optimize the process and implementation of their PE initiatives.

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Strategic Communications	Barbara Gaither	Barbara Gaither researches marketplace advocacy, a form of advertising and public relations used by corporations and industries to generate acceptance for industry-related issues, particularly those involving environmental and/or health risks. Gaither explores the implications of this form of advocacy for industry, environmental efforts and public policy. Gaither also researches public response to corporate social responsibility.