Scott M. Swinton 2017–18 President

The son of a foreign correspondent, Scott Swinton was born in Rome, Italy, and grew up in New York City. The family apartment was frequented by journalists from around the world. New York in the 1960s and 1970s was part intercultural melting pot and part cauldron of social ferment. Several summers in the Hudson Valley acquainted Swinton with farming and gardening. Urban summer jobs in high school at a plant store and running a community park cemented his fondness for growing things, as well as for the people who care for them.

At Swarthmore College, early studies in political science persuaded Swinton to double major in economics, because economic explanations of political behavior seemed the most compelling. Study in Colombia during his junior year revealed a fondness for other cultures that would lead to periods of living and working in Mexico, Niger, and Peru. By his undergraduate senior year, he was committed to a career path dedicated to advancing international economic development, preferably through agriculture.

By the late 1970s, the Green Revolution had begun raising global cereal yields, yet many farmers in the developing world were refusing to adopt the new seeds. Why? Swinton was inspired by stories of agricultural economists who studied farmers and how they made their choices. Cornell's Agricultural Economics Department opened Swinton's eyes to how the rigorous practice of empirical economics can make a difference in people's lives.

How and why farmers make the decisions they do became the central research questions of Swinton's career. His M.S. thesis used statistics and linear programming to explore how off-farm employment affected the farming systems of Mexican smallholders. Guidance from Bernard Stanton and Donald Freebairn enabled Swinton's field interview research and subsequent modeling.

Bringing economics to interdisciplinary research became the hallmark of how Swinton studied farmer decisions, starting with his post-M.S. work with Purdue University. He joined a multidisciplinary team of plant breeders, agronomists, and economists seconded to the National Institute of Agricultural Research of Niger (INRAN). Swinton used survey research and farmer-managed, on-farm trials to learn why crop farmers chose traditional millet-cowpea intercropping over monocropping with improved varieties. His first journal article examined how Niger farmers survived the 1984-85 Sahel drought by selling livestock and relying on the cross-border cereal trade.

The American community in Niger was so small in those days that all Americans were invited to the U.S. Ambassador's residence to celebrate the Fourth of July. There in

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1983, Swinton met a Peace Corps Volunteer named Sylvia Morse. A biologist, she was conducting a fisheries inventory of the Niger River. She was warm, perceptive, hard-nosed, and funny. A year and a half later, they married. They played career leap-frog, as Swinton followed Morse to Auburn University for her M.S. in fisheries biology, then Morse followed Swinton to the University of Minnesota for his Ph.D. in agricultural and applied economics. During the years in St. Paul, their children, Amelia and Peter, were born.

Career paths can bend unexpectedly. Shortly after a funded Ph.D. research proposal into the value of long-term rainfall forecasts to Sahelian farmers hit a roadblock, Prof. Rob King offered an alternative. Developing a decision support program for profitable weed management in Midwestern U.S. corn and soybean became a new way for Swinton to collaborate with biologists and weed scientists. Unintentionally following in King's footsteps, he shifted course from development economics in francophone West Africa to production economics with a U.S. focus.

Both working across academic disciplines and working across international cultures share the common challenge of persuading others that despite your differences, there are gains from trade in ideas. Since joining the faculty at Michigan State in 1991 as a production economist, Swinton has continued collaborating with biologists on farmer decision making, focusing his economic research on environmental management in four areas: (*a*) information-based weed management, (*b*) precision agriculture, (*c*) agriculture as a managed ecosystem, and (*d*) bioenergy feedstock supply. This work explores economics in a natural systems context, uses varied empirical methods, and is diffused to reach the audiences for whom the research results are most relevant.

The weed management economic research introduced bioeconomic modeling as a profitability-based alternative to extant herbicide efficacy models. The exercise of building a bioeconomic simulation model drew upon the expertise of weed scientists, and actually stimulated new weed ecology research to develop and validate functions for crop yield loss from weeds, weed reproduction, and weed seed germination.

Precision agriculture holds the seductive promise of substituting information for physical inputs. Spatial information paired with dynamic systems modeling can enable the targeting of agrochemicals where and when they are needed, a potential win-win for profitability and the environment. Collaborating with soil scientists, farmers, and Jess Lowenberg-DeBoer at Purdue, Swinton analyzed expected profitability of investment in site-specific management of crop nutrients and weeds. This work culminated with a spatial econometric analysis in *AJAE* that was the first to find evidence of site-specific corn yield response to nitrogen—meaning that recommendations should be tailored spatially.

A 1999 sabbatical at the International Potato Center (CIP) in Lima, Peru, created an opportunity to grow both personally and professionally. For a family with children aged eight and ten, the timing was ideal for developing language skills and comfort with living abroad. The CIP turned out to be a superb spot for Swinton to build GIS skills in the context of surveying smallholder farmers to learn how poverty affects natural resource management both specifically, in the Altiplano near Lake Titicaca, and generally, in Latin America.

On returning to MSU, Swinton began collaborating with ecologists in looking at agriculture as a managed ecosystem. He organized a 2007 workshop to explore how agriculture fit with the new paradigm of ecosystem services, and lead-edited a special section of *Ecological Economics* on that theme. His ensuing empirical research has measured the economic value of ecosystem services and the willingness of farmers to adopt enabling stewardship practices. With Frank Lupi and several gifted graduate students, Swinton developed a series of surveys that measured the supply-side cost of providing ecosystem services from agriculture and the demand-side willingness-to-pay for those services. Related research with other students involved the bioeconomic modeling of natural biocontrol of crop pests in the United States, the role of land tenure security in enticing farmers to invest in soil conservation in Ethiopia, the severity of hidden health costs from pesticide use in Zimbabwe, and farmer adoption of integrated pest management in Ecuador and Nicaragua.

After the U.S. Congress upgraded the Renewable Fuels Standard in 2007, Swinton joined the large, multidisciplinary Great Lakes Bioenergy Research Center to develop biofuels from cellulosic feedstocks. The economic research into potential supply of

cellulosic biomass for bioenergy progressed from budgeting studies to real options investment analysis to regional mathematical programming models informed by biophysical simulations. Early findings pointed to the high opportunity cost of displacing food and feed crops, exacerbated by the greenhouse gas emission costs of displacing agricultural crops. Refocusing the research toward marginal lands, Swinton, Brad Barham, and their collaborators surveyed and interviewed land managers who have explored their willingness to convert land use to bioenergy crop production. Key results were synthesized in a 2016 *Choices* article on the "inconvenient truths about landowner (un)willingness to grow bioenergy crops on marginal lands."

Stimulated by years of working with biologists, engineers, and most recently sociologists, Swinton enjoys partnering across disciplines to understand and inform farmer decisions. He likes tackling new problems with whatever tools are most appropriate. His latest passion is less applied—to explore how researchers in different disciplines build arguments that they find persuasive. The first step along that path was the research that led to his AAEA presidential address. Swinton is grateful for the mentors, friends, colleagues, and family who have enabled his journey. His goal in leading the AAEA is to enable others in our profession to contribute to society and to develop fulfilling careers.