Feeding the world’s seven billion people has never been more urgent, or more difficult. One in every eight persons today goes hungry, and the global population is projected to add 2.3 billion people by 2050, further increasing the market demand for food. Yet, agriculture in the 21st century faces tough challenges, including a shrinking rural labor force, depletion of natural resources and climate change disruptions. The enormity of these challenges necessitates working throughout the lifecycle of food products and systems in order to increase sustainability and decrease unwanted environment impacts.

**LEADING THE WAY TOWARD FOOD SUSTAINABILITY**

**Exploring the benefits of buying locally grown food**

Support for local food systems has grown exponentially in recent years, spawning a national wave of interest and investments in food hubs, farmers’ markets, farm-to-table restaurants and locally based food processing. “Locally grown food is often fresher and better tasting than food that travels a long way, and there is widespread agreement on the regional economic benefits of local food production, as well,” says Post-Doc Ethan Schoolman. “The environmental impacts are not as clear.” Over the next few years, Schoolman will investigate the environmental and social consequences of efforts to strengthen local food systems through his independent and collaborative research at the University of Michigan, where he is an Erb Institute and School of Natural Resources and Environment, Dow Postdoctoral Research Fellow. Read more about and watch two videos on Ethan’s work: [http://bit.ly/Post-doc-Ethan](http://bit.ly/Post-doc-Ethan)
**Breaking New Ground in Food Systems Research**

**Aligning sustainable practices with health-care delivery**

For their research project at the University of Michigan Health System, Catherine Dyson, Erb ’14, Annie Cronin, Erb ’14, and Jenna Agins, Erb ’13, conducted a thorough assessment of the Patient Food and Nutrition Services group and explored options for reducing its waste, water and energy footprints while achieving greater cost savings. In their 2013 report, the students made recommendations for improving product sourcing, ramping up recycling and adopting composting processes in order to decrease the amount of plastic, metal and food flowing into the waste stream. They also emphasized the importance of educating and engaging employees. Read more: [http://bit.ly/food-student-research](http://bit.ly/food-student-research)

**Guiding a U.S. retailer in reducing GHG emissions**

During her 2013 summer internship with the National Resources Defense Council, Julia Ruedig, Erb ’15, worked with its Food and Agriculture team to develop strategic recommendations for reducing greenhouse-gas emissions throughout Walmart’s international agricultural supply chain. She also interviewed grocery-store managers to better understand how their handling of perishable products around “best by” and “sell by” expiration dates contributes to food waste in retail settings. Read more: [http://bit.ly/food-student-research](http://bit.ly/food-student-research)

**Engaging stakeholders in sustainability initiatives**

Kara Davidson, Erb ’13, helped to engage stakeholders in sustainability initiatives during two summer internships. In 2011, she collaborated with the board of directors and staff of the Schenectady Greenmarket in Schenectady, New York, to develop, coordinate and supervise a community day designed to raise awareness of the market among members of a low-income community. The following year, Davidson worked on a customer relationship management project at Dairy Management Inc., a Rosemont, Illinois-based trade organization supported by America’s nearly 49,000 dairy farmers, as well as dairy importers. She conducted research and provided recommendations to the organization’s sustainability group on ways to improve stakeholder engagement.

**Launching healthy food products in China**

During his internship at MCM Agriculture, a U.S.-based agricultural-services company, Patrick Lord, Erb ’13, consulted with senior level executives of an agribusiness joint venture seeking to establish international operations for the launch of healthy food products in the Chinese market.

---

**Taking the waste out of takeout**

America is being buried under burgeoning mountains of waste. That trend disturbs Raphael (Phel) Meyer, Erb ’13, who recently co-founded BizeeBox, an entrepreneurial business venture dedicated to stemming the growing tide of trash and reducing its environmental impacts.

“Ironically, I continue to be part of the problem because our infrastructure is not set up to enable ordinary consumers, such as me, to reduce the waste we generate from getting food-to-go from restaurants,” Meyer explains. “I can’t tell you the number of times I’ve been confronted with the sight of trash cans overflowing with takeout containers.” The immensity of the waste problem, he says, is “mind boggling,” but finding a solution to this environmental juggernaut is not easy. Read more about Phel: [http://bit.ly/Phel-Meyer](http://bit.ly/Phel-Meyer)
Driving Sustainable Changes in our Global Food Systems

Creating the first U.S. Dairy sustainability report
Since 2008, the Innovation Center for U.S. Dairy has spearheaded the dairy industry’s commitment to sustainability. To evaluate the trade organization’s success in promoting economically, environmentally and socially responsible practices, intern Katie O’Hare, Erb ‘11, led a project team in creating the first sustainability progress report for the dairy industry. The 2010 document presented economic data on greenhouse-gas emissions and energy impacts, and also outlined strategic partnerships and initiatives to drive innovations across the sustainability spectrum. Read more: http://bit.ly/Food-Dairy

Promoting more sustainable agricultural supply chains
To gain insights into supply chain sustainability issues in the multimillion-dollar agribusiness industry, Jessica Lin-Powers, ‘07, conducted research at a major beverage company, where she worked with three teams focused on the procurement of globally produced and traded orange juice, coffee and sugar for several different brands. Her goal was to identify the key categories of information that significantly determine the feasibility, opportunity and urgency of developing a sustainable supply chain in agriculture. For her 2007 report, Lin created the Sustainable Agriculture Supply Chain Assessment Framework as a screening tool that large food and beverage companies could use to evaluate, improve or benchmark the sustainability of their agricultural supply chains. One of the biggest challenges to sustainable supply chain work, she concluded, is aligning the incentives of all supply chain players to improve environmental and social outcomes. Read more: http://bit.ly/Food-Indust

Studying the feasibility of a local food hub
While working at Fair Food Network, an Ann Arbor-based nonprofit, in 2009 and 2010, Alex Linkow, Erb ‘11, contributed to a feasibility study assessing the potential for a local food aggregation hub in Southeast Michigan and a program incentivizing food-stamp recipients to purchase Michigan-grown produce. Read more: http://bit.ly/Food-Local

Working across the beef value chain
Rachel Smeak, Erb ’13, analyzed the market potential for developing a branded beef business with environmental attributes during her 2011 summer internship with the Nature Conservancy and Three Rivers Alliance, a Colorado landowners’ nonprofit group formed to preserve local ecosystems and agricultural viability. Her study examined the financial, operational and social aspects of the new venture, providing cattle ranchers with critical business information.

Julia Ruedig, Erb ‘15, believes more can be done to reduce inefficiencies and improve the sustainability of America’s food system. “Food waste is a big problem that occurs in many areas, including our agricultural supply chains, retail sales outlets – and even our own homes,” she says. “Unfortunately, there’s no silver bullet for solving this sustainability problem. The solution will require a widespread approach.” Thus far, Ruedig’s efforts to sow the seeds of food system sustainability have taken her into the high-level conference room of a major U.S. retailer, the aisles of local groceries and the purchasing offices of leading corporations. Read more about Julia: http://bit.ly/Julia-Ruedig
Assessing certification programs in tropical landscapes

The increasing demand for beef from Brazil and palm oil from Indonesia challenged a project team to assess the design, implementation and impact of voluntary certification programs that promote sustainable environmental and social practices in agricultural food chains. Ben Chen, Erb ’14, and his team members traveled to São Paulo and the state of Mato Grosso where they interviewed Brazilian cattle farmers, trade-association representatives, nongovernmental organization leaders and food-chain retailers. Chen and his team found that voluntary certification benefits large cattle farmers, who can afford to get certified. They concluded that a new strategy is needed to allow smallholder and medium-size farmers, who lack adequate monetary resources, to improve their financial performance while also improving their sustainability. Read more: http://bit.ly/food-student-research

Cargill Executive Speaks Out on World Food Security

Cargill Executive Chairman Greg Page told University of Michigan students and faculty that Academia has a huge role to play in world food security. Page explained that industry and academia work together and recognize their shared interest in science- and fact-based analysis, particularly as it relates to agricultural topics such as food, water, energy and climate interactions.

After the March 14 Erb Speaker Series presentation, Page met informally with U-M students in a smaller-scale workshop setting to delve deeper into food-security issues and coalition-building to drive change. Read more about Mr. Page’s visit to U-M and watch the recording of his Erb Speaker Series Presentation: http://bit.ly/Greg-Page