



GLOBAL FOOD OUTLOOK

INSTITUTE FOR THE FUTURE

Food sustains us, nourishes us and connects us to each other. Food is not just a means to build relationships with friends and family, but it connects us across oceans, cultures and economies in increasingly complex ways. This complexity is not just creating new opportunities; it's creating new vulnerabilities and challenges ranging from individual anxieties around food to the potential for global supply chain disruptions.

At the Institute for the Future (ITF), our research and forecasts explore the tensions and possibilities of food futures, from people's everyday food habits and choices to the dynamics of global food markets and the complex environmental issues that sustain food production. We've worked with a variety of organizations for five years using foresight to think through disruptions, dilemmas and opportunities in food and agriculture. By thinking systematically about these future possibilities, we help our clients develop more resilient strategies for a decade of volatility and change.

Our research and forecasting networks can help your organization to:

- › **ANTICIPATE OPPORTUNITIES** for innovative strategies, new products and service offerings.
- › **EXPAND YOUR NETWORK** by interacting with global thought leaders, strategic thinkers, and ITF researchers.
- › **THINK BROADLY** by stepping back from your everyday challenges to gain an "outside-in" perspective on long-term forces and trends shaping the future.
- › **GAIN AGILE POSITIONING** by questioning your assumptions about likely futures and systematically considering alternatives.
- › **REDUCE UNCERTAINTY** and navigate risks by focusing on what's most important in the global food web.
- › **JUMP-START YOUR STRATEGIC THINKING** by identifying flexible long-term actions while immersing yourself in a wide range of future possibilities for food markets and emerging behaviors.

2013 GLOBAL FOOD OUTLOOK RESEARCH AGENDA

THE HISTORY OF TECHNOLOGY IS A HISTORY OF TRYING TO GET ENOUGH FOOD TO EAT

From the earliest experiments with cooking, to the innovation of agriculture, to more recent impacts of refrigeration, our efforts to create tools and technologies have been deeply connected with our efforts to feed ourselves. These technology advances lie at the foundation of a contemporary food system that feeds billions of people, even as fewer and fewer people do the work of producing food.

But while technology has helped create increasing abundance in the global food web, they have also created a dangerously complex and imbalanced system where the numbers of hungry people and overweight people in the world have both soared to unprecedented heights. Real and perceived concerns about food safety and authenticity shake consumer confidence with striking regularity, while suppliers struggle to combat risks and improve resilience in the food web. Potential disruptions such as the prospect of water and energy shortages, threaten to further erode food security. These potential disruptions are also occurring at smaller scales, as shifts in consumer technologies are altering how we grow, buy, eat, and dispose of food.

These technologies are doing more than just disrupting the food web; they are creating new opportunities to innovate. Experiments such as 3-d food printing, synthetic biology, and a host of other emerging technologies are creating incredible opportunities to reimagine the food web from farm to fork.

TECHNOLOGIES RESHAPING THE FUTURE OF FOOD

In 2013, IFTF's Global Food Outlook program will undertake a year-long exploration into the ways that emerging technologies and sciences are reshaping the global food web. Along the way, we'll ask questions like: How will we as individuals, communities, and organizations be challenged or empowered by applying new technologies to the global food web? What technologies will help us grow and distribute food throughout the world, safely and sustainably? How will technologies help us strike a more optimal balance between the microbes that help us and those that harm us? How will innovations in consumer technologies shift what we want and value in our food?

We'll map out the critical technologies shaping the agriculture, food distribution, and retail – with particular emphasis on food safety, sociality, and governance. We'll also develop a set of consumer perspectives highlighting what these technological shifts mean for what people value about food and what they choose to buy and eat.

The year will be structured around a set of workshops, virtual exchanges and research deliverables with a focus on imagining tools to improve the resilience of the global food web.





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TECHNOLOGIES AFFECTING FOOD: MAP OF THE DECADE

Global Food Outlook will create a Map of the Decade exploring the technological forces, disruptions and innovations that are developing the future of the global food web. This map will forecast how shifts in the technological landscape, ranging from innovations in biotechnology to changes in consumer technology patterns, will reshape everyday activities around food including: food production, food logistics, food service, food retail, and food culture.

IDENTIFYING REGIONAL IMPACTS

These technological shifts will not only reshape the broad food web but will also create meaningful changes in how everyday people relate to food. We will develop a set of regional forecast perspectives to highlight how people in different places will be impacted by these technologies, and how they will express their own aspirations through them. We will also bring these perspectives to life with artifacts from the future, underscoring various intersections of technology with daily life.

RESEARCH IMMERSION AND STRATEGIC INSIGHT RETREAT

In September 2013, we will host a research immersion and strategic retreat in our offices in Palo Alto. This retreat will immerse you into the technological forces and consumer values reshaping the global food web. At the retreat, you and your team will engage in a series of group processes to facilitate strategic decision-making and identify ways that your organization can take action in the present to respond to this emerging landscape.



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“The connection between identity and consumption gives food a central role in the creation of community, and we use our diet to convey images of public identity.”

—Gary Alan Fine
American sociologist and author

2013 GLOBAL FOOD OUTLOOK RESEARCH AGENDA

GLOBAL FOOD OUTLOOK PROGRAM DELIVERABLES

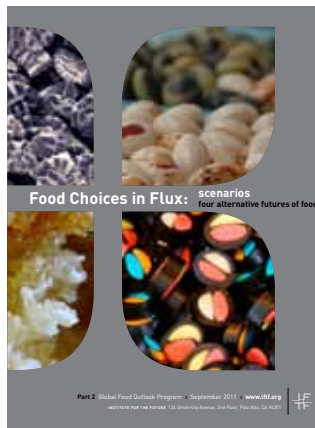
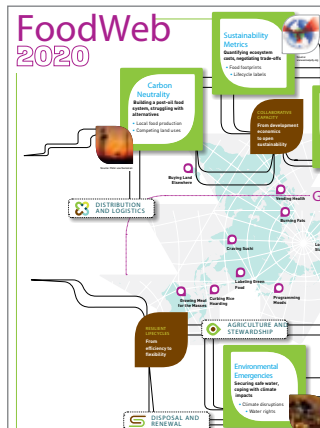
TECHNOLOGIES AFFECTING FOOD: Map of the Decade will forecast the technological innovations and disruptions that will impact the future of the global food web.

REGIONAL PERSPECTIVES will translate the map's findings into insights for different regions and populations.

ARTIFACTS FROM THE FUTURE will bring findings to life in familiar settings in the form of provocative visual forecasts.

MEMBER WEBSITE:

<http://www.iff.org/globalfoodoutlook> Member-only access to past reports





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CUSTOM WORK

IFTF and the Global Food Outlook team offer custom implementations of the Foresight to Insight to Action process. This work can be tailored to fit the needs of your organization and add value to your strategic planning, new product development, and innovation efforts. Examples include:

- **CUSTOM MAP OF THE DECADE:** Working together with your internal teams, we develop a map that serves as a basis for identifying core competencies, strategic advantages, and potential new opportunities for your organization.
- **CUSTOM FORECAST MEMO:** Considering the trends of the next three to five years, we identify five key issues for your leadership group to discuss and use to develop strategies for the next year. We will present these forecasts to your leadership team in an executive workshop and in a written memo.
- **STRATEGIC OPPORTUNITY MAPPING:** We work together with you to produce a graphic map of the big-market opportunity areas for your company, by combining your internal perceptions of capabilities, positional strengths, and market directions with our foresights to identify potential new markets, products, or services, and outline a plan for next steps.
- **IMMERSIVE LEARNING EXPERIENCES:** We believe individuals develop tacit insights into complex problems and emerging phenomena by fully engaging in immersive learning experiences that include both content and context. Drawing on our extensive network of leading-edge thinkers and innovators, our immersive experiences include expert workshops and in-field experiences with startups, university labs, and research facilities.
- **OTHER CUSTOM RESEARCH PIECES:** We frequently work together with clients to produce other customized research to meet their needs.

“Thinking seriously about food in our times is a little dangerous. Considering how complex and chemicalized our hypercapitalistic food system is, it is so much easier to enjoy dinner in peaceful oblivion.”

—Warren Belasco
American historian

GLOBAL FOOD OUTLOOK TEAM

Miriam Lueck Avery, Program Director



As an anthropologist, Miriam Lueck Avery has an overarching interest in how individual and collective choices make the future. Her passion as a forecaster is envisioning futures that inspire people to navigate complex transitions, make resilient communities, and create circumstances in which we all can thrive.

Miriam works primarily with the Global Food Outlook, Health Horizons, and Ten-Year Forecast programs. Her research on food futures focuses on people's everyday decisions, social and industrial systems, and complex ecological processes. Her Global Food Outlook forecasting focuses on places where the global and the personal collide, from global trade and environmental challenges to the grocery aisle.

She began interning with IFTF in 2003 and joined the research staff full time in 2007. Miriam holds a degree in anthropology from UC Berkeley. Together with Vivian Distler, she received an inaugural grant from the Roy Amara Fund for Participatory Foresight to bring futures thinking to food system change curriculum for middle and high school students in East Palo Alto and across the Bay Area.

Bradley Kreit, Program Director



Bradley Kreit's research explores how everyday challenges, decisions, and contexts shape long-term futures—both in individual lives and at larger scales. He primarily researches issues involving food, health, and biological identity.

As a researcher for Health Horizons, he has written on how emerging life sciences and technologies are reshaping our understandings of illness, identity, and well-being. With the Global Food Outlook program, his interests lie in considering the different strategies and approaches people are using to navigate the increasingly complex web of choices we have to make in order to simply eat dinner. He frequently speaks at and facilitates meetings with health system, food, and consumer goods companies and regularly blogs at IFTF's Future Now site.

Before joining IFTF in 2009, Brad worked as a writer, editor, and teacher. He holds a BA in history from Connecticut College and a master's degree in anthropology from UC San Diego.

Rod Falcon, Program Director, Health Horizons



As a leading ethnographic researcher at IFTF, Rod Falcon uses the stories of real people to get at larger trends. For his pioneering work on social networks, he visited homes in China, India, Japan, the United Kingdom, and Sweden. Rod has also examined the information and technology ecology of the home and workplace and has led research on technology adoption, workspace and mobility patterns, and personal health technologies.

Rod leads IFTF's Health Horizons team. He conducts research across a range of health and health care issues with an emphasis on the global health economy. Rod's current work explores how social technologies are creating health-aware environments as well as personal systems for managing health. Rod speaks to executive audiences in the health care and food industries and helps them formulate innovative strategies for participating in the global health economy.

Rod joined IFTF more than eighteen years ago. He has a BA in American history and ethnic studies and an MPP from UC Berkeley. He is currently part of the Aging Well Think Tank at the Philips Center for Health and Well-being.

Dawn Alva, Business Development Manager



Dawn Alva oversees client services for the Health Horizons program and across other projects at IFTF, contributing to the business relationship part of the equation. She began her technical sales career more than a decade ago after realizing her skills lie in building partnerships between organizations and their clients. She was intrigued by the topics IFTF

covers because she believes in living life passionately. This view of life has taken her on many adventures, from starting a company in the dot-com era to dancing the tango in Buenos Aires. Recently, this passion has taken a more personal turn to focus on her new son.

Before joining IFTF, Dawn worked at International Data Corporation (IDC), a global provider of market intelligence. She graduated from Western Washington University with a BA in finance and economics.

Devin Fidler, Research Manager



Devin Fidler's interests center on applying foresight to organizational strategy and strategic planning. In particular, he is interested in organizations as systems designed to activate know-how in the right places and at the right times. Additional areas of focus include new business models, future supply chains, innovation economics, and emerging

disruptions of the higher education space.

Before joining IFTF, Devin was involved with a number of projects in the areas of technology assessment and the future of business, including work in the Research and Analysis Center of the U.S. Chamber of Commerce and as an analyst for the Royal Bank of Scotland in Edinburgh. He has lived and worked in several countries throughout his career and approaches projects from a strongly international perspective.

Devin undertook his MBA work with a focus in emerging markets at the Budapest University of Economics and the Institut des Hautes Etudes Economiques et Commerciales in Paris, and participated in the inaugural class of Singularity University, a NASA and Google-sponsored program focused on the evaluation of emerging

Ben Hamamoto, Research Manager



Ben Hamamoto's upbringing in the diverse socioeconomic conditions of the San Francisco Bay Area inspired his lifelong interest in issues of race, class, and social justice. He spent half a decade covering these issues as a journalist at Youth Outlook, New American Media, and the Nichi Bei Times before coming to IFTF in 2011.

Ben believes that short-term thinking is a major cause of today's social inequity and that foresight is critical to successful social change and effective governance. He has researched and written for the Health Horizons and Global Food Outlook programs. In addition to his work at IFTF, he continues to contribute to the Nichi Bei Weekly and edits the National Japanese American Historical Society's official magazine, *Nikkei Heritage*.

Gabriel Harp, Research Manager

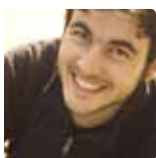


Gabriel Harp's research pivots on the interactions between ecology, design, and infrastructure as pervasive enabling resources for services, technology, and evolutionary change. As research manager in the Technology Horizons program, Gabriel draws on work in the life sciences, public health and disaster preparedness, education, experimental media, and design.

Gabriel holds an MFA from the University of Michigan, Ann Arbor, and a BA and an MA in ecology, evolution, and behavior from Indiana University. Before joining IFTF, he worked with a multidisciplinary team at the Center for Study of Science, Technology, and Policy in Bangalore, India, to develop rich-interactive simulations, social media, and gaming tools for envisioning infrastructure trade-offs and transitions.

Gabriel is a founding faculty artist-in-residence at the Center for Experimental Media Arts (CEMA) at the Srishti School of Art, Design, and Technology in Bangalore, a graduate program for tactical media art and participatory design.

David Evan Harris, Research Director



David Evan Harris brings an international perspective and a deep passion for health care equity to his Health Horizons research. He lived in Brazil from 2004 to 2007 as a Rotary Foundation Ambassadorial Scholar and spent eight months traveling and studying in Tanzania, India, the Philippines, Mexico, and the UK in the International Honors Program.

A cross-disciplinary mediamaker, David founded the Global Lives Project, an ongoing crowdsourced documentary; authored a book, *Você Vai me Servir* (You Will Serve Me); wrote and directed newscasts for CurrentTV; and penned articles and created photographs for the BBC, the Guardian, Adbusters, Focus on the Global South, Alternet, and Grist. He has spoken publicly about his work to audiences at the Smithsonian, UC Berkeley, Stanford, United Nations University, Apple, Google, Adobe, and numerous other events around the world.

David holds a BA from UC Berkeley in the political economy of development and environment and a master's degree in sociology from the University of São Paulo.

Mike Liebhold, Distinguished Fellow



Mike Liebhold is an IFTF distinguished fellow focusing on the mobile and abundant computation, immersive media, and geospatial web foundations for context-aware and ubiquitous computing. He provided the technical foundations for Health Horizons research projects on health-aware environments and mobile health, and he co-authored

the Global Health Mapping report. Mike is a frequent speaker, most recently at an NIH conference on infrastructures for behavioral health, and has authored a number of papers, including "Data Management in the World-Wide Sensor Web," for the *IEEE Journal on Pervasive Computing*.

Previously, Mike led research on semantic systems for MDconsult.com, a search service that provides physicians with integrated search of clinical information from medical publishers. He was also a visiting researcher at Intel Labs, working on a pattern language based on semantic web frameworks for ubiquitous computing. He has held the positions of senior consulting architect at Netscape Communications, vice president and chief technology officer at Times Mirror Publishing, and senior scientist at Apple Computer. Mike also served as principal technology policy adviser to Apple chairman John Sculley.

Neela Nuristani, Program Manager



As manager of the Health Horizons and Global Food Outlook programs, Neela facilitates the team's wide range of projects and priorities to keep the programs running smoothly. On top of managing day-to-day coordination and logistics, she collaborates with the programs' directors and is involved in all aspects of planning the programs' conferences, research, and

project deliverables.

Neela's interest in health lies in her commitment to helping others by providing health and wellness information and assistance. Before IFTF, she worked on these issues at organizations such as Planned Parenthood, Good Samaritan Hospital, and Breathe California. She holds a BS in health science with a focus on community health promotion from San Jose State University.

Jason Tester, Research Director, Human-Future Interaction



Jason Tester's health research focuses on understanding how people interact with technology, applying design to futures research, and facilitating groups to stimulate insights and implications about the future. He developed IFTF's current "artifacts from the future" methodology. Most recently, he developed a platform called human-future

interaction to make futures thinking part of daily life by using immersive experiences and new media tools to provoke and capture citizens' thoughts about the future.

Before IFTF, Jason undertook the Accelerated Democracy project, a series of scenarios that uniquely illustrate the potential future—positive and negative—of technological voting. Jason holds a BS in human-computer interaction design from Stanford University and a master's degree from the Interaction Design Institute in Ivrea, Italy. When he was at Stanford, Jason helped found the Stanford Persuasive Technology Lab, the only research and design group focused on the new field of persuasive technologies.

CONTACT INFORMATION

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please visit our Web site at www.iftf.org or contact:

Dawn Alva at 650-233-9585 or dalva@iftf.org

PARTICIPANTS IN THE GLOBAL FOOD OUTLOOK PROGRAM

AB InBev

Amway Corporation

General Mills

Health Canada

International Food
Information Council

Kraft Foods

Pepsico

Scripps Networks

The Hershey Company

Unified Grocers

ABOUT THE INSTITUTE FOR THE FUTURE

The Institute for the Future is an independent, nonprofit strategic research group with over 40 years of forecasting experience. The core of our work is identifying emerging trends and discontinuities that will transform global society and the global marketplace. We provide our members with insights into business strategy, design process, innovation, and social dilemmas. Our research generates the foresight needed to create insights that lead to action. Our research spans a broad territory of deeply transformative trends, from health and health care to technology, the workplace, and human identity. The Institute for the Future is based in Palo Alto, CA.

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