

Council for Agricultural Science and Technology

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ANNUAL REPORT 2019

The Science Source for Food, Agricultural, and Environmental Issues

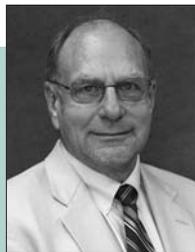


*Building on Our Legacy
for a Brighter Future*

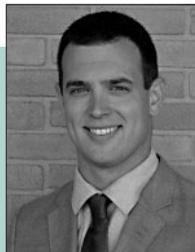
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List as of December 31, 2019

Cover image credit: Leigh Prather/Shutterstock.com

LETTER FROM THE CAST

PRESIDENT

Today, information represents our greatest asset and misinformation represents our greatest challenge—figuratively speaking, they are two sides of the same coin. Anyone with an internet connection has access to vast amounts of (mis)information on food and agriculture which means that *being relevant to all who consume information about food and agriculture is what matters most*. While the agriculture and food sectors continue to advance and improve their offerings, fewer people seem to understand or believe that scientific innovation supports safe and modern food systems. Therefore, CAST's mission—to assemble, interpret, and communicate credible, balanced, science-based information to nonscientific decision-makers on food and agricultural issues—remains critical.

In this context, I believe CAST must continue focusing on its mission through its strengths and values. CAST must continue to focus on timely delivery of pertinent science-based publications and the Borlaug CAST Communication Award (BCCA)—the single most important annual event for CAST providing excellent communication opportunities every April and October.

Our valuable staff and extensive network of volunteer experts operationalize our mission to bring us closer, day by day, to achieving our vision. The development of a refined strategic plan for the next five years is underway. An adaptive planning approach was selected to build on the successes achieved by the implementation of the current strategic plan while allowing CAST boards and staff to be more flexible in its execution. Strategic plan refinement will continue in 2020 with feedback from CAST membership, and I expect it to be formally adopted by October 2020 at the CAST Annual Meeting in Columbus, Ohio.

The vision we share at CAST is one of “a world where decision making related to agriculture and natural resources is based on credible information developed through reason, science, and consensus building.” I believe CAST is on the right path to be more widely recognized as expertise you can trust. **CAST is building on its past successes for an even brighter future.**

Juan Tricarico
CAST President

LETTER FROM THE CAST

EXECUTIVE VICE PRESIDENT

Thank you for your continued support and engagement with CAST this past year. It is not hyperbole or exaggeration when I say, “Your support literally makes our work possible.” As a membership-based organization comprised of scientific societies, nonprofit organizations, universities, companies, and individuals, our continuation and our output of balanced, credible science-based information about food, agriculture, and the environment depends upon your contributions.

Beyond the critical financial investments provided by our members, we appreciate the time, energy, and expertise of all of our volunteer board members, task force chairs, and authors, as well as that of the experts who review our publications for scientific accuracy and integrity. The process of identifying, synthesizing, and creating a CAST publication depends upon the volunteer efforts of scientists, economists, engineers, and many other subject matter specialists. From the CAST Board of Representative work groups where the “ideation” of potential new publications begin—to the reviews by the CAST Board of Trustees and enabling action of the CAST Board of Directors—considerable thought, energy, and discernment goes into ensuring the relevancy, appropriateness, and timeliness of future CAST publications. I continue to be amazed, humbled, and inspired by the enthusiasm, passion, and commitment that all our volunteers bring to the work of CAST. One of the highlights of my role as CAST Executive Vice President is to assist in the release and rollout of our publications in Washington, D.C., and other appropriate locations, and it's a privilege to be a part of the culmination of this longstanding, rigorous process.

With your continued support and engagement, we will strive to pursue our mission and increase the use of social media platforms, webinars, and other technology tools to extend the reach and impact of our communication efforts. A special thank you to our dedicated, talented CAST staff. All of you are making CAST's work possible.

Kent Schescke
CAST Executive Vice President

“Being relevant to all who consume information about food and agriculture is what matters most.”

— JUAN TRICARICO
CAST PRESIDENT

WHO WE ARE:

CAST is a nonprofit 501(c)(3) organization composed of scientific societies and many individual, student, company, nonprofit, and associate society members. Established in 1972, CAST's primary work is the publication of task force reports, commentary papers, special publications, and issue papers written by scientists and subject matter experts from many disciplines including agriculture, environment, and food and health.

These publications and their distribution are fundamental

activities that accomplish our mission to assemble, interpret, and communicate credible, balanced, science-based information to policymakers, the media, the private sector, and the public.

The wide distribution of CAST publications to nonscientists enhances the education and understanding of the general public. Our vision is a world where decision-making related to agriculture and natural resources is based on credible information developed through reason, science, and consensus building.

BOARD MEETINGS

Spring Board of Directors Meeting—Washington, D.C., April 17-18

Attendees of the spring board meeting focused on CAST business including finances, staff changes, upcoming publication releases, and committee reports. CAST officers also spent time meeting with various stakeholders in the D.C. area. The Borlaug CAST Communication Award recipient was announced at the USDA Whitten Patio on April 16.

Fall Board Meeting—University of Arkansas, Fayetteville, October 29-31

Attendees toured the University of Arkansas' plant and animal research labs and the Tyson Discovery Center. They also participated in two panel discussions, an adaptive strategic planning workshop, work group breakout sessions, recognition of the CAST Science Communication Scholarship recipients, and board and trustees meetings.

Notable speakers include:

- Wesley Ward, Arkansas Secretary of Agriculture
- Remko Van Hoek, University of Arkansas; Karen DiCicco, University of Arkansas Cooperative Extension Service; and Marla Johnson, Blockchain Ready Studio for the panel discussion, *Block Chain and Other Technologies Related to Traceability, Food Safety, and Identity Preservation*
- Marty Matlock, 2018 Borlaug CAST Communication Award recipient, University of Arkansas
- Rudy Nayga, University of Arkansas; Beth Rumley, National Ag Law Center; and Justin Whitmore, Tyson Foods for the panel discussion, *The Future of Proteins*



PUBLICATIONS IN 2019

Aquifer Depletion and Potential Impacts on Long-term Irrigated Agricultural Productivity, Issue Paper 63, February 25-26

- Chaired by Dr. John Tracy, Texas A&M AgriLife Research—Texas Water Resources Institute and Department of Civil Engineering, Texas A&M University

Enabling Open-source Data Networks in Public Agricultural Research, CAST Commentary QTA2019-1, March 11

- Chaired by Dr. Sylvie Brouder, Purdue University

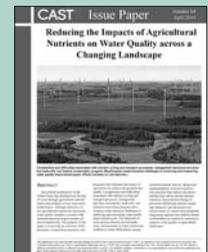
Reducing the Impacts of Agricultural Nutrients on Water Quality across a Changing Landscape, Issue Paper 64, April 15

- Chaired by Dr. Heidi Peterson, Phosphorus Program, International Plant Nutrition Institute

Flujo de Genes en Alfalfa: Biología, Mitigación y Efectos Potenciales en la Producción, Spanish Translation of *Gene Flow in Alfalfa: Biology, Mitigation, and Potential Impact on Production*, Special Publication 28 (2008), August

Protecting Food Animal Gene Pools for Future Generations—A paper in the series on *The Need for Agricultural Innovation to Sustainably Feed the World by 2050*, Issue Paper 65, September 30

- Chaired by Dr. Julie A. Long, Animal Bio-sciences & Biotechnology Laboratory, USDA-ARS



Interpreting Pesticide Residues in Food, Issue Paper 66, October 21

- Chaired by Dr. Carl Winter, Department of Food Science and Technology, University of California-Davis

BORLAUG CAST COMMUNICATION AWARD 10TH ANNIVERSARY

On Wednesday, October 16, CAST celebrated the 10th anniversary of its annual Borlaug CAST Communication Award by honoring this year's recipient, Dr. Frank Mitloehner of the University of California-Davis.

Mitloehner, an expert on air emissions and animal agriculture, uses various modes of communication to amplify factual information about food production and enlighten the public and policymakers alike about the realities of modern-day agriculture.

CAST Executive Vice President Kent Schescke welcomed the 150 participants to the World Food Prize morning event; Julie Borlaug of INARI Agriculture spoke on behalf of this year's sponsor CropLife Foundation; then Schescke honored the president of the World Food Prize, Kenneth Quinn, with a special "Norman Borlaug Plaque."

After being presented the BCCA bronze statue, Mitloehner took the floor to show how facts, logic, and clear messages can



help explain information in ways that the public understands. Participants saw "communication in action," as he pointed out how misleading media reports cause confusion. "The world is losing 40% of food to waste and loss. Scientists, journalists, and policymakers need to know these facts."

Following the presentation, Mitloehner joined four previous BCCA winners—Catherine Bertini (2011), Dr. Carl Winter (2012), Dr. Channapatna Prakash (2015), and Dr. Marty Matlock (2018)—in a panel discussion about science communication, moderated by Julie Borlaug. After many insightful responses from the group, Dr. Mitloehner finished the panel discussion with a positive observation. "Young people are interested in where their food comes from." He explained that we need to tap into that enthusiasm.

All 10 BCCA recipients are noted on the back cover of the annual report.



Right: Dr. Frank Mitloehner, 2019 recipient.

Below: Julie Borlaug, Catherine Bertini, Dr. Carl Winter, Dr. Channapatna Prakash, Dr. Marty Matlock, and Dr. Frank Mitloehner.



Left: CAST EVP Kent Schescke and World Food Prize President, Ambassador Kenneth Quinn.

Below: Julie Borlaug, Catherine Bertini, Dr. Carl Winter, Dr. Frank Mitloehner, Dr. Channapatna Prakash, and Dr. Marty Matlock.



CAST SCIENCE COMMUNICATION SCHOLARSHIP

From videos to infographics, 27 University of Arkansas graduate students produced original digital content that showed off their communication skills for the CAST Science Communication Scholarship.

Students submitted digital, sharable content about their graduate research areas and a short reflection essay. Three judges, who are professional agricultural science communicators, scored each submission and provided feedback for students to strengthen their skills in communicating with non-scientific audiences.

The top ten students with the highest scores received this year's scholarship. Those students, pictured at right, are Kathryn Haydon, Annegret Jannasch, Thadeus Beekman, Zeph Odek, Derrick Harrison, Juanita Gil Bedoya, Pauline Morin, Angela Tacinelli, Rebecca Bruce, and Andrea Sierra Mejia. Each student attended the CAST Annual

Board Meeting in Fayetteville, Arkansas, where they participated in the meeting's events and received this year's award.



The 2019 CAST Science Communication Scholarship recipients with President Gabe Middleton, 2018 BCCA recipient Dr. Marty Matlock, and EVP Kent Schescke.

KEY

- ◇ Lifetime Member
- Millennium Club
- President's Club
- ▲ Friends of CAST Individual Member (includes retired, young professional, and students)
- ♥ Loyalty Member

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 Lane Galloway, Auburn
 Annabelle McEachin, Auburn
 Jacqueline Nix, Prattville
 Channapatna Prakash, Tuskegee ◇
 Harry S. Prim Jr., Gordon ◇
 Mark Slay, Opelika

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 Elaine Grings, Tucson
 Roger D. Howard, Fountain Hills ◇
 Charles R. Krueger, Mesa ◇
 W. Gerald Matlock, Tucson ♥
 Richard E. Stuckey, Surprise ◇
 Kai Umeda, Tempe ♥

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 Olivia Caillouet, Fayetteville
 Mark Cochran, Little Rock
 David Gealy, Stuttgart ♥
 Marei Houpert, Fayetteville
 Marty Matlock, Fayetteville ◇
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 Kassim Al-Khatib, Davis ◇
 Lars Anderson, Davis
 M. J. Bakke, Clovis ◇
 Joshua Bubar, Los Angeles
 Fred M. Carasso, Van Nuys ◇
 Richard Cavaletto, San Luis Obispo ◇
 Alexandra Duval, San Luis Obispo
 Robert C. Ehn, Clovis ♥
 Rylie Ellison, Davis
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 Yuanhui Fu, Walnut □
 Nichole Ginnan, Riverside

Donald W. Grimes, Reedley ♥
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 Peggy G. Lemaux, Berkeley ♥
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 Gary Markegard, Fortuna ♥
 Pamela Gail Marrone, Davis ♥
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 Frank Mittoehner, Davis ◇
 Maci Mueller, Davis
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 Garth W. Boyd, Raleigh ◇
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- ◇ Lifetime Member
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- President's Club
- ▲ Friends of CAST Individual Member (includes retired, young professional, and students)
- ♥ Loyalty Member

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Pradesh

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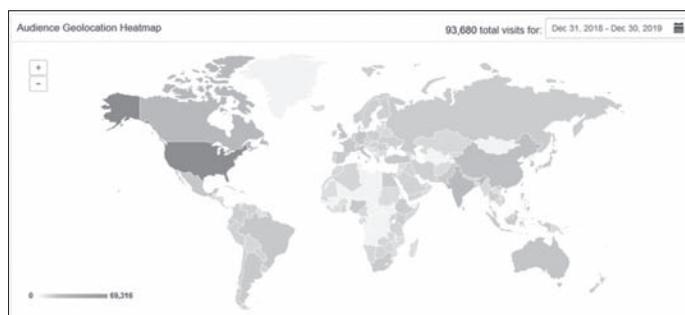
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CAST's New Website and Blog

CAST is heading into a new decade in style. We refreshed our website's look and made our publications easier to access and download. We also merged our blog into the website, making it easier for our audiences to see all CAST content in one place. Visit our website at cast-science.org.



CAST's website received more than 93.6k followers from all over the world in 2019.



INDIVIDUAL MEMBERSHIP OPTIONS

- **Lifetime Member:** \$2,500/contribution or pledge
- **Millennium Club:** \$1,000/calendar year
- **President's Club:** \$500/calendar year
- **Friends of CAST:** \$250/calendar year
- **Individual Member:** \$100/calendar year
- **Retired Member:** \$60/calendar year
- **Young Professional:** \$35/calendar year
- **Student Member:** \$0/calendar year

BENEFITS OF MEMBERSHIP

- With your generous support, CAST will continue to strengthen its position at the international forefront of science communication.
- Receive digital exclusives like *Friday Notes* and advance notice on CAST publications and activities.
- Receive CAST's publications.
- Recognition of your support.
- CAST is a qualified 501(c)(3) tax-exempt organization. Therefore, your membership may qualify as charitable contributions under IRS guidelines.

Join online today @ cast-science.org.

People Really "Like" Us!

In 2019, we had nearly 10k followers across all our social media accounts:

+ Facebook reached 1,693 followers

+ Twitter climbed to 7,782 followers

+ LinkedIn totaled 345 followers

MEMBER SOCIETIES

Agricultural and Applied Economics Association
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 American Association of Bovine Practitioners
 American Bar Association, Section of Environment, Energy, and Resources
 American Dairy Science Association
 American Meat Science Association
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 American Society for Nutrition Nutritional Sciences Council
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 American Society of Animal Science
 American Society of Plant Biologists
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 Northeastern Weed Science Society
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 Soil Science Society of America
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NONPROFIT ORGANIZATIONS

Agribusiness Association of Iowa
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 American Registry of Professional Animal Scientists
 American Seed Trade Association
 American Sheep Industry Association
 American Society of Sugar Beet Technologists
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 California Citrus Quality Council
 California Farm Bureau Federation
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 Farm Foundation
 Foundation for Food and Agriculture Research
 Illinois Crop Improvement Association
 Indiana Crop Improvement Association, Inc.
 Indiana Soybean Alliance
 Innovation Center for U.S. Dairy
 Iowa Beef Industry Council
 Iowa Corn Promotion Board
 Iowa Farm Bureau Federation
 Iowa Pork Producers Association
 Iowa Poultry Association
 Iowa Soybean Association
 Mid America CropLife Association
 National Alfalfa & Forage Alliance
 National Association of Animal Breeders
 National Association of Wheat Growers
 National Cattlemen's Beef Association
 National Chicken Council
 National Corn Growers Association
 National Cotton Council of America
 National Milk Producers Federation
 National Pork Board
 National Renderers Association

Noble Research Institute, LLC
 North Carolina Biotechnology Center
 Pennsylvania Pork Producers Council
 Rice Research Board
 Southern Crop Production Association
 Texas Cattle Feeders Association
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 United States Animal Health Association
 Virginia Farm Bureau Federation
 Wyoming Farm Bureau Federation

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 USDA–Animal and Plant Health Inspection Service
 Zoetis

2019 REVENUE SOURCES



2019 EXPENSES

PROGRAM SUPPORT 43%

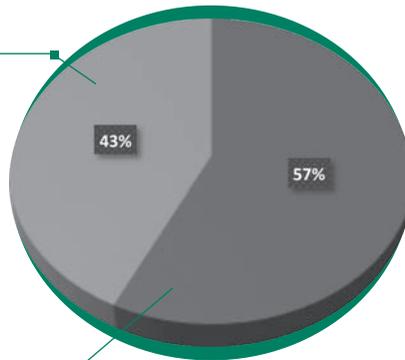
- 5% Borlaug CAST Communication Award
- 11% Unrestricted Fund
- 18% Designated Publication Support

GOVERNMENT GRANTS

- 3% CRIS Grant
- 6% ARS and APHIS Grants

MEMBERSHIP 57%

- 3% Individual Memberships
- 25% Company Memberships
- 10% Nonprofit Memberships
- 10% Education/Subscriber Memberships
- 9% Society and Associate Society Memberships



DEVELOPMENT EXPENSE 4%

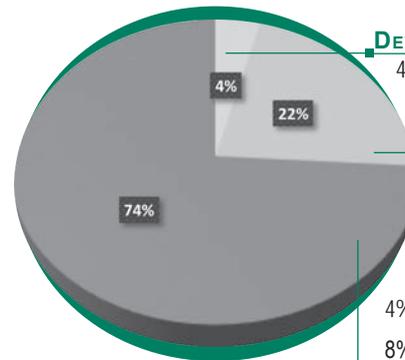
- 4% Membership Recruiting and Development

PROGRAM EXPENSE 22%

- 6% CAST Publication Payroll
- 4% Borlaug CAST Communication Award Payroll
- 4% Direct Publication Expenses
- 8% Travel: Officers, Staff, BCCA, Publications, and Other

ADMINISTRATIVE EXPENSE 74%

- 56% Payroll Salaries Expense
- 13% Office Expense
- 5% Compensated Benefits



TOP 10 PUBLICATIONS OF THE PAST DECADE

Since 2010, CAST has published 36 papers addressing issues impacting U.S. agriculture and the food production system. Below, we provide our top 10 publications based on impact data from the past decade. All publications are available to download at cast-science.org/publications.

1. *The Potential Impacts of Mandatory Labeling for Genetically Engineered Food in the United States*, April 2014
2. *Plant Breeding and Genetics*, March 2017
3. *The Direct Relationship between Animal Health and Food Safety Outcomes*, May 2012
4. *Herbicide-resistant Weeds Threaten Soil Conservation Gains: Finding a Balance for Soil and Farm Sustainability*, February 2012
5. *Assessing the Health of Streams in Agricultural Landscapes:*

The Impacts of Land Management Change on Water Quality, March 2012

6. *Animal Feed vs. Human Food: Challenges and Opportunities in Sustaining Animal Agriculture Toward 2050*, September 2013
7. *Air Issues Associated with Animal Agriculture: A North American Perspective*, May 2011
8. *Food, Fuel, and Plant Nutrient Use in the Future*, March 2013
9. *The Contributions of Pesticides to Pest Management in Meeting the Global Need for Food Production by 2050*, November 2014
10. *Impact of the Precautionary Principle on Feeding Current and Future Generations*, June 2013



2019 CAST Staff (From left): Kent Schescke, Kimberly Nelson, Megan Wickham, Gale Osborne, Melissa Sly, Colleen Hamilton, Dan Gogerty. Caryn Dawson (inset).

Carol Gostele retired in May from her position as **Managing Scientific Editor**. We thank Carol for being a part of CAST's mission for 9 years.



MISSION

CAST, through its network of experts, assembles, interprets, and communicates credible, balanced, science-based information to policymakers, the media, the private sector, and the public.

10 years

Borlaug CAST Communication Award

CAST CELEBRATES A DECADE OF
OUTSTANDING SCIENCE COMMUNICATION
FOCUSED ON AGRICULTURAL ISSUES.



Dr. Frank Mitloehner
2019



Dr. Marty Matlock
2018



Dr. Jayson Lusk
2017



Dr. Kevin Folta
2016



Dr. Channapatna Prakash
2015



Dr. Alison Van Eenennaam
2014



Jeff Simmons
2013



Dr. Carl Winter
2012



Catherine Bertini
2011



Dr. Akinwumi Adesina
2010

VISION

A world where decision making related to agriculture and natural resources is based on credible information developed through reason, science, and consensus building.

Council for Agricultural Science and Technology
4420 West Lincoln Way Ames, IA 50014-3447
Phone: (515) 292-2125
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