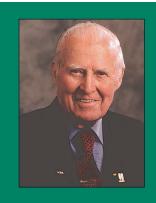
CAST®

ANNUAL REPORT 2021

The Science Source for Food, Agricultural, and Environmental Issues

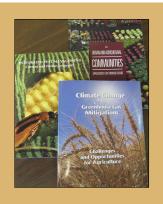


















Acknowledging our past Preparing for the future





Anna Dilger

President



President-Elect







David Baltensperger Past President

Dirk Drost Treasurer

Kent Schescke Executive VP & CEO

DIRECTORS

President: Anna Dilger, University of Illinois **President-Elect**: Sally Flis, Nutrien

Past President: David Baltensperger, Texas A&M University

Treasurer: Dirk Drost, Minor Use Foundation, Inc. & D3 Consulting LLC Liaisons: George Patocka, University of Alberta; Gary Thompson, Southern Association of Agricultural Experiment Station Directors; Melissa Johnson, Corteva Agriscience; Juan Tricario, Innovation Center for U.S. Dairy; Amit Dhingra, Washington State University; Brandon Neuschafer, Bryan Cave Leighton Paisner LLP; Sara Crawford, National Pork Board

Executive Vice President & CEO: Kent Schescke, CAST

REPRESENTATIVES OF MEMBER SOCIETIES

Agricultural and Applied Economics Association: Tina Saitone, University of California-Davis

American Association of Avian Pathologists: Mohamed El-Gazzar, Iowa State University

American Association of Bovine Practitioners: Christine Navarre, Louisiana State University

American Bar Association, Section of Environment, Energy, and Resources: Keith Matthews, Wiley Rein LLP

American Dairy Science Association: Kathryn Proudfoot, University of Prince Edward Island

American Meat Science Association: Kaitlyn Compart, Smithfield Foods
American Meteorological Society Committee on Agricultural and Forest
Meteorology: Eduardo Santos, Kansas State University

American Society of Agricultural and Biological Engineers: Alex Thomasson, Texas A&M University

American Society of Agronomy: Newell Kitchen, USDA-ARS

American Society of Animal Science: Kent Odde, Kansas State University
American Society of Plant Biologists: Amit Dhingra, Texas A&M University
American Veterinary Medical Association: Eric Gonder, DVM, MS, PhD,
ACPV

Aquatic Plant Management Society: Lyn Gettys, University of Florida
Crop Science Society of America: Beth Guertal, Auburn University
Entomological Society of America: Phil Mulder, Oklahoma State University
North Central Weed Science Society: John Hinz, Bayer CropScience
Northeastern Weed Science Society: Anthony Witcher, Tennessee State
University

Poultry Science Association: Jacob Lum, EURODUNA Americas Inc.
Rural Sociological Society: Leland Glenna, Pennsylvania State University
Society for In Vitro Biology: Dwight Tomes

Soil Science Society of America: Charles Rice, Kansas State University Weed Science Society of America: Jill Schroeder, USDA-ARS Western Society of Weed Science: Greg Dahl, Land O'Lakes, Inc.

REPRESENTATIVES OF MEMBER COMPANIES

BASF Corporation: Padma Commuri Bayer CropScience: John Swarthout Corteva Agriscience: Melissa Johnson Syngenta Crop Protection: Tony Burd

REPRESENTATIVES OF MEMBER NONPROFITS

American Seed Trade Association: Andy LaVigne
Association of Equipment Manufacturers: Anita Sennett

CropLife America: Kellie Bray

Innovation Center for U.S. Dairy: Stephanie Masiello Schuette

Minor Use Foundation: Daniel Kunkel

National Cattlemen's Beef Association: Julia Herman

National Corn Growers Association/Iowa Corn Promotion Board: David

Er

National Milk Producers Federation: Jamie Jonker

National Pork Board: Sara Crawford National Turkey Federation: Lindy Froebel

The Fertilizer Institute: John Jones

U.S. Poultry & Egg Association: Paul Bredwell

United Soybean Board: Andrew Scott

REPRESENTATIVES OF MEMBER UNIVERSITIES

Cal Poly State University: Jim Prince lowa State University: Curtis Youngs Mississippi State University: Nancy Reichert Penn State University: Blair Siegfried Tuskegee University: Marceline Egnin University of Nevada-Reno: Melinda Yerka

Additional Organizational Board Members

American Farm Bureau Federation, Cornell University, Kansas State University, North Carolina A&T State University, North Carolina State University, Texas A&M University, The Ohio State University, University of Arkansas, University of California-Davis, University of Florida, University of Kentucky, University of Missouri, University of Nebraska

BOARD OF TRUSTEES

Gary Thompson (Chair)—Executive Director, Southern Association of Agricultural Experiment Station Directors, University of Arkansas, Fayetteville Christopher Daubert (Vice Chair)—Vice Chancellor and Dean, College of Agriculture, Food and Natural Resources, University of Missouri

Mohamed Ahmedna—Dean, College of Agriculture and Environmental Sciences, North Carolina A&T State University

Dale Bauman—Professor Emeritus, Cornell University

Julie Borlaug—Vice President of Communications and Public Relations, INARI Agriculture, A Flagship Pioneering Company

Jamie Eichorn—Commercial Unit Head, South and East Coast, Syngenta Crop Protection, LLC

Julie Funk—Dean, Veterinary Medicine, University of Arizona

Craig Hill—Iowa Farm Bureau Federation

Cathann Kress—Vice President and Dean, Agricultural Administration, The Ohio State University

Nick Place—Dean and Director, CAES, University of Georgia

Mike Strain—Commissioner, Louisiana Department of Agriculture and Forestry

List as of December 31, 2021

PRESIDENT

We live in a world inundated with information. A few keystrokes will lead a person to more information than they can possibly use in a lifetime. While our ancestors may have imagined providing access to information would result in wisdom, we can see that is not always the case. While information is freely available, sound and credible information on which decisions should be based often seems in short supply. Since 1972, CAST has provided credible, unbiased, science-based information about food and agriculture to policymakers, the media, the private sec-

tor, and the public. We believe that decisions related to agriculture and natural resources should be based on credible information developed through scientific reasoning and consensus building. While the form of our communications may have changed over the last 50 years, the CAST mission has not. As we celebrate our 50th Anniversary, I am excited to look to the future and imagine what CAST might become as we also look back and appreciate our past.

CAST is celebrated and appreciated for our ability to convene experts to produce sound scientific consensus on timely issues, but our challenge today is cutting through the noise

to make sure that information is heard and acted upon by our stakeholders. The shift to webinar rollouts of CAST papers has helped in this endeavor as our deliverables are now available immediately to a wider audience. But that is just the beginning as we are working to extend our reach through partnerships with our members to produce learning modules, manage social media campaigns, and engage new groups. I expect, in the coming years, this may result in further changes of how CAST communicates with our audiences. However, with these changes in form, we cannot stray from our mission to convene experts in communicating credible, unbiased scientific information. While the way we gain people's attention might change, what we communicate, namely sound science, will not.

The enthusiasm and dedication of CAST staff, members, and volunteers is what makes CAST successful. I appreciate those who are willing to dedicate their time and treasure toward CAST efforts. I look forward to working alongside all of you to start this next 50 years of CAST off right!

Anna Dilger, CAST President

LETTER FROM THE CAST

"Together we can

important legacy

and build toward

a brighter future."

CAST EVP & CEO

- KENT SCHESCKE

continue this

EXECUTIVE VP & CEO

As CAST enters its 50th year of communicating the science, technology, and innovation of food, agriculture, and the environment, it is an opportunity to reflect on our past, celebrate our successes, and contemplate our future direction. Serving as the executive vice president of CAST for the past seven and a half years, it is particularly gratifying to see how our organization has grown and evolved, but at the same time remained focused around the original vision that the founders of CAST intended. I attribute that to four key, unchanging elements: CAST's purpose,

process, people, and partners.

Purpose. CAST is best known for its many publications that are focused on providing a bridge between the important work of food and agricultural scientists, and a nonscientific audience. To remain relevant, our forms of communication have changed and will continue to, but our focus will not.

Process. CAST's work of producing credible, unbiased, science-based information is based on a rigorous peer-review process. This helps ensure the quality, objectivity, and integrity of each CAST communication.

People. Over the past fifteen years alone,

CAST has involved and engaged well over 2,000 scientists, engineers, economists, and other subject matter specialists who have volunteered their time, energy, passion, and expertise to produce our science communications. Additionally, hundreds of individuals have served on CAST's Board of Representatives, Board of Directors, and Board of Trustees. These committed groups not only drive the ideation of new topics for CAST publications, they also provide great wisdom, guidance, and counsel that has helped promote, propel, and protect our organization.

Partners. CAST's 50th anniversary would not be possible without the many societies, nonprofit organizations, universities, companies, and individuals that support our efforts through their continued membership. We also appreciate those that provide support for our publications, events, and awards which are an integral part of our science communications efforts.

Another key, unchanging element is the gratitude of the CAST Boards and staff for your ongoing support, engagement, and trust in CAST's mission and work. Together we can continue this important legacy and build toward a brighter future.

Kent Schescke, CAST Executive Vice President & CEO

Kut Alchale

WHO WE ARE:

Anno Selg

CAST is a nonprofit 501(c)(3) organization with a membership composed of scientific and professional societies, universities, companies, nonprofits, libraries, and individuals. Established in 1972, CAST's primary work is creating and distributing science communications developed by scientists and subject matter experts from many disciplines, including food, agriculture, and the environment.

These diverse communications are fundamental activities that accomplish our mission to convene and coordinate networks of experts to assemble, interpret, and communicate credible, unbi-

ased, science-based information to policymakers, the media, the private sector, and the public.

The wide distribution of CAST communications to non-scientists—including publications, a weekly e-newsletter, many forms of social media, and a website with extensive resources—enhances the education and understanding of the general public. This in turn supports and reinforces its vision of a world where decision making related to agriculture, food, and natural resources is based on credible information developed through reason, science, and consensus building.

2021 BOARD MEETINGS

Spring Board of Directors Meeting

The CAST Board of Directors held their virtual spring meeting on April 8 and 9. The directors received and discussed the "Impact of CAST" report, plans for the 2021 and 2022 fall annual meetings, and the 50th anniversary celebration. Finance, EVP, and committee reports were also on the agenda. The board also discussed important updates and progress related to the CAST Adaptive Planning process initiated and advanced at the 2019 and 2020 Annual Meetings.

Fall Annual Meeting

The 2021 fall annual meeting occurred October 26–28 in Columbus, Ohio, at The Ohio State University campus. Throughout the three-day meeting, attendees and webinar participants stayed focused on CAST's mission of communicating credible science and agricultural information through special sessions, videos, and webinars. Presenters and emcees included members of the CAST boards (Directors, Representatives, and Trustees), several Borlaug CAST Communication Award winners, CAST staff, government officials, and more.

Along with educational tours on campus, members attended informational sessions and met in various work groups. Informational sessions included presentations from (1) Dr. Chavonda Jacobs-Young—Administrator, USDA Agricultural Research Service—who gave updates from the USDA, (2) Juan Moreno—Founder & CEO, Sexing Technologies and STgenetics—who spoke on *Reproductive Technologies and Sustainability*, and (3) The Ohio State University discussion panel on One Health led by Dr. Rustin Moore and Dr. Lonnie King.

Newly installed CAST President Anna Dilger referred to past accomplishments but kept the focus on the future: "As CAST reflects on the last 50 years, we are proud of our many accomplishments and the value that our stakeholders find in us. In the next 50 years, what won't change about CAST is our focus on bringing together experts to synthesize scientific findings on new technologies and pressing issues in food and agriculture. But we are excited to expand our efforts into new mediums like education modules, videos, or other formats to better reach a broad audience." Dilger received the gavel from outgoing President David Baltensperger, a long-time CAST member and contributor.

During the annual meeting, the 50th anniversary commemorative publication was released and eight students from The

Ohio State University were recognized with a science communication scholarship. Please see page five for information about the publication and page nine for information about the 2021 CAST Science Communication Scholarship.



Above right: The passing of the gavel from David Baltensperger to Anna Dilger.

Right: Attendants at the fall meeting.



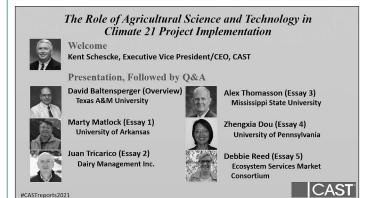
Publications in 2021

CAST continued to host webinars on each publication with an interactive Q&A session with a panel of the paper's authors. Recorded webinars and Ag quickCASTs can be viewed on our website on each publication's landing page.

The Role of Agricultural Science and Technology in Climate 21 Project Implementation

Commentary - QTA2021-1, June 28 Chaired by Dr. David Baltensperger

The Climate 21 commentary was written as a follow-up to the Biden Administration's Climate 21 Project. Each section in the paper explored and summarized the key recommendations from the Climate 21 report. Unlike most CAST papers, this was done as a "fast track" paper, with a total completion time of only seven months from proposal introduction to release.



Celebrating 50 Years as the Trusted Source for Agricultural Science and Technology

Commemorative Publication, November 8

Please see page five for more information on this publication.

Gains Foregone by Going GMO Free: Potential Impacts on Consumers, the Environment, and Agricultural Producers

Commentary - QTA2021-2, November 15 Chaired by Dr. Brandon McFadden

The GMO Free commentary explored the benefits of GMO crops to consumers, the environment, and crop and livestock producers, and impacts of the restriction of GMO crops to the economy and consumers.



BORLAUG CAST COMMUNICATION AWARD

On October 21, CAST celebrated the 12th anniversary of its annual Borlaug CAST Communication Award (BCCA) by honoring this year's recipient, Dr. Sarah Evanega, research professor in the Department of Global Development with a joint appointment in the School of Integrative Plant Science in the College of Agriculture at Cornell University.

Evanega is the founding director of the Cornell Alliance for Science and is an adjunct faculty member at the Boyce Thompson Institute. She has been



Dr. Evanega presenting at the 2021 BCCA event in the World Food Prize Foundation Hall of Laureates in front of a painting of Dr. Norman E. Borlaug.



described as a pioneer, international leader, and icon of young science communication professionals.

The event was held at the World Food Prize Foundation Hall of Laureates in Des Moines, Iowa, and was a part of the World Food Prize Foundation Borlaug Dialogue agenda. Evanega spoke on *Set a Bolder Table for the Future: Modify, Include, Diversify.* Evanega explained why scientists and agriculturalists need to "modify, include, and diversify." As she said, "You can be that person who offers a chair, a hand,

and says, 'Will you join me at my table?' 'Will you join us at our table?', and just as importantly, 'May we join you at your table?'"

The presentation was recorded and is available for viewing on the CAST website.



Back row: Mike Naig—IDALS, Ryan Locke—FMC, Kent Schescke. Front row: Tricia Beal—FJF, Sarah Evanega, Jay Vroom.

CELEBRATING 50 YEARS OF CAST IN 2022

CAST will be celebrating 50 years as the trusted source for credible, balanced, science-based information in 2022. As David Baltensperger, past CAST president, notes, "CAST's 50 years of accomplishments would not have been possible without the combined efforts of our members, supporters, staff, and volunteer authors and reviewers. Time and time again the organization has demonstrated its ability to overcome challenges—such as the COVID pandemic this past year—and emerge stronger and better prepared to face the future."

Kent Schescke, CAST EVP & CEO, also expresses his appreciation, "We are grateful to all of our leaders over the past 50 years who have defined, and continue to refine,

the mission and vision of CAST. That legacy of leadership—with its continuous influx of new and revitalized ideas and energy around communicating the science, technology, and innovation of food and agriculture—has helped propel us to where we are today. Their efforts, insights, and vision for this organization have helped us reach this important milestone."

A commemorative publication was created in October 2021, and it offers three sections covering (1) CAST historical highlights, publications, social media, and organizational structure, (2) an impact of the CAST study report, and (3) essays

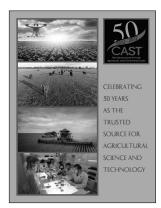
on the future of CAST. At the bottom of the publication's pages, you can follow the history of CAST over the past five decades from its inception in 1972, to hosting "Food Day Dial-ogues," to various types of publications. There are also plenty of pictures to look back upon and see how CAST has grown and changed the



CAST has grown and changed through the decades.

CAST is planning a year-long celebration of this important

milestone. A number of meetings and presentations will take place to share this publication and engage stakeholders to get their ideas, input, and suggestions about how CAST adapts to new challenges to science communications around food, agriculture, and the environment. These events will culminate at the 2022 CAST Annual Meeting which will be held in lowa, where CAST was formed and still currently operates. This commemorative publication has been viewed over 2,600 times since its release and is available for download at cast-science.org/publications/. Thank you to all of the contributors that brought this to reality.



2021 CAST SCIENCE COMMUNICATION SCHOLARSHIP RECIPIENTS

The CAST Science Communication Scholarship encourages graduate-level student scientists, specifically focusing on careers in agriculture or food sciences, to grow their abilities to communicate with nonscientific audiences. Selected graduate and veterinary medicine students were invited to learn about the application of science communication at the 2021 CAST Annual Meeting held at The Ohio State University. This opportunity instilled the importance of science communication by allowing students to participate in CAST's ongoing work and mission as well as provide students with networking opportunities with likeminded scientists from across the nation.

A student presentation for the 2021 CAST Science Communication scholarship at the CAST Annual Meeting held at The Ohio State University. Students submitted a short video, infographic, or a micro-podcast to present at the annual meeting.

This year, eight College of Food, Agricultural, and Environmental Sciences and College of Veterinary Medicine students from The Ohio State University received the scholarship on October 27, during the CAST Annual Meeting in Columbus, Ohio. The recipients could choose to submit a short video, infographic, or a micro-podcast, as well as submitting a short essay on how their digital media example communicates a component of their research. Their submissions can be viewed on our website.

The CAST Science Communications Award is supported by donations from several individual members of CAST.



The 2021 scholarship recipients with CAST EVP & CEO Kent Schescke and CAST President Anna Dilger (back row, far left) and CAST Communications Specialist Dylana Luett (back row, far right).













CAST'S DIGITAL PRESENCE

Follow Us on Social Media:

Blog: cast-science.org/news Facebook: @CASTagScience

Twitter: @CASTagScience

YouTube: youtube.com/CASTagScience Pinterest: pinterest.com/castagscience

LinkedIn: linkedin.com/company/castagscience

Website: cast-science.org

CAST's website received more than 79.8k views from all over the world in 2021.

Top 5 CAST Publications

Below, we provide our top five publications based on impact data—all publications are available for download at castscience.org/publications.

- 1. The Potential Impacts of Mandatory Labeling for Genetically Engineered Food in the United States - IP54 - (Released April 2014)
- 2. Water and Land Issues Associated with Animal Agriculture: A U.S. Perspective – IP50 – (Released August 2012)
- 3. Economic Impacts of COVID-19 on Food and Agricultural Markets - QTA2020-3 - (Released June 2020)
- 4. The Contributions of Pesticides to Pest Management in Meeting the Global Need for Food Production by 2050 -IP55 – (Released November 2014)
- 5. Foodborne Pathogens: Risks and Consequences R122 -(Released September 1994)

People Really "Like" Us!

In 2021, we had almost 11k followers across all our social media accounts:

- + Facebook reached 1.829 followers
- + Twitter climbed to 8.448 followers
 - + LinkedIn totaled 641 followers



CAST 2021 CAST MEMBERSHIP

KEY

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

List as of December 31, 2021

UNITED STATES

ALABAMA

John Beasley Jr., Auburn ♥ Lane Galloway, Auburn Channapatna Prakash, Tuskegee ◊ Harry S. Prim Jr., Gordon ◊

ARIZONA

Michael Brumm, Chandler ♥ P. Thomas Cox. Phoenix ◊ Roger D. Howard, Fountain Hills ◊ Richard E. Stuckey, Surprise ◊ Kai Umeda, Tempe ♥

ARKANSAS

Fred Bourland, Keiser v Mark Cochran, Little Rock Marty Matlock, Fayetteville ◊ Mila Pessotto, Fayetteville Gary Thompson, Fayetteville A

CALIFORNIA

Julie G. Adams, Modesto v Kassim Al-Khatib, Davis ◊ Lars Anderson, Davis M. J. "Moe" Bakke, Clovis ◊ Emilee Beck, Mission Viejo Fred M. Carasso, Van Nuys ◊ Richard Cavaletto, San Luis Obispo ◊ Nathan Diplock, Oakland Robert C. Ehn, Clovis ♥ Donald W. Grimes, Reedley ♥ Jesse Johnson, Mission Viejo Peggy G. Lemaux, Berkeley ♥ Jack Liebeck, Huntington Beach Alfredo R. Loperena, San Diego John Madsen, Woodland ♥ Gary Markegard, Fortuna ♥ Pamela Marrone. Davis ♥ Connor McCabe, Davis Roland Meyer, Davis ♥ Frank Mitloehner, Davis ◊ Maci Mueller, Davis

James W. Oltjen, Winters ♥ Calvin O. Qualset, Davis ◊ Dan Rosenberg, Galt ◊ David Songstad, San Marcos ♥ Richard Stier, Sonoma ◊ Jovce Strand, Sacramento ◊ Joe Traynor, Bakersfield ♥ Alison Van Eenennaam, Davis ◊ Carl Winter, Davis ◊ Alonna Wright, Sacramento

Colorado

John S. Avens, Fort Collins ♥ Stephen Del Grosso, Fort Collins ▼ Franklyn Garry, Fort Collins ♥ Wayne F. Keim, Fort Collins ◊ W. Dennis Lamm, Wellington • William Mcbeth, Wray Delbert Miles, Greeley ▼ Jerry Olson, Fort Collins ♥ Henry Shands, Fort Collins ◊ Lee Sommers, Fort Collins ◊

CONNECTICUT

Lynn R. Brown, Willington •

DELAWARE

Robert Thompson, Bethany Beach • Mark VanGessel, Georgetown ▼

DISTRICT OF COLUMBIA

Jeanne Blankenship, Washington Michael Goldblatt, Washington ◊ Teresa Gruber, Washington ◊ Hans Herren, Washington ◊ Peter Barton Hutt, Washington •

FLORIDA

Clarence Ammerman, Gainesville ◊ Amelia Boettcher, Gainesville Daniel Botts, Maitland ◊ Joel Brendemuhl, Gainesville v Hannah Camilli, Melbourne Bobby Darst, Tavernier ◊ Biswadeep Dhar, Gainesville Kevin Folta. Gainesville ◊ Tamiko Gaines, Gainesville Melvin Greeley, Mount Dora ◊ Edward Hanlon, Immokalee ◊ Haley Jeneske, Molino Marlyn Kallau, Gainesville Richard Lower, St. Petersburg • Gail Mahnken, Gainesville v Donald McFeeters, DeLand ♥ Harry Mersmann, Palm Harbor ♥ Arthur Miller, Sarasota ♥ Gilberto Olaya, Vero Beach v

William Orendorff, Bradenton • Kailash Purohit, Lake City ◊ Pedro Sanchez, Gainesville ◊ Ayush K. Sharma, Gainesville Tia Tyler, Gainesville H. H. (Jack) Van Horn, Gainesville ◊ Clayton Williams, Fort Myers ◊

GEORGIA

Elizabeth L. Andress, Athens > Todd Applegate, Athens Louis J. Boyd, Watkinsville ◊ Gale A. Buchanan, Adel ◊ William Flatt, Athens ◊ Stanley Fletcher, Peachtree City ◊ David A. Knauft, Watkinsville ◊ Alexa Lamm, Athens ◊ Albert E. Pope, Gainesville ◊

HAWAII

Sabina Budhathoki, Honolulu James R. Carpenter, Hilo ◊ Roshan Paudel, Honolulu

IDAHO

Md Hossen, Moscow

ILLINOIS

Anna Dilger, Urbana ◊ Richard Fredrickson, Urbana ◊ Ralph Grotelueschen, East Moline ◊ Philip Lofgren, River Forest ♥ Kenneth Olson, Schaumburg ♥ Wendell Shauman, Kirkwood ◊ Juan Tricarico. Rosemont ◊ James Usry, Chicago ◊ Paul Walker, Danvers ♥ Jack Widholm, Tolono ♥

INDIANA

Mayesha Awal, Indianapolis Lindsey Berebitsky, West Lafayette Daniel Dorney, Vincennes A David Evans, Bloomington ◊ Larry Huggins, West Lafayette ◊ Melissa Johnson, Indianapolis Eileen Kladivko, West Lafayette v Victor Lechtenberg, West Lafayette ◊ Jayson Lusk, West Lafayette ◊ Lance Murrell, West Lafayette ◊ Lewis Naylor, Goshen ♥ Jeff Simmons, Greenfield ◊ Jeffrey Volenec, West Lafayette ♥ Randall Warden, Fort Wayne •

Iowa

Duane Acker, Atlantic ◊ Jimmie Andersen, Council Bluffs ♥ Paul Armbrecht, Rockwell City ♥ Donald Beermann, Ames ♥ Donald Beitz, Ames ◊ John Bonner, Vincent ◊ Linda Chimenti. Ames ◊ Joseph Cordray, Ames ♥ Paula Davis, Grimes ♥ Cornelia Flora, Ames ◊ Laura Foell, Schaller G. William Griffel Jr., Fort Dodge v John Hagie, Clarion ◊ Bill Harriott, Council Bluffs ◊ Craig Hill, West Des Moines John Hinz, Story City Maynard Hogberg, Ames ♥ Palmer Holden, Iowa City ♥ Dennis R. and Betty Keeney, Ames ◊ Marvin Koeper, Rhodes ◊ John Kolb, Ames William Kuhn, Urbandale ◊ Frank Loeffel, Norwalk ◊ Steve Lupkes, West Des Moines ♥ Clyde Martin, Maguoketa ◊ Rick McConnell, Grimes ◊ Nolan Monaghan, Manchester Christopher Nuss, Des Moines ♥ Todd Peterson, Urbandale ◊ Craig Rowles, Clive ♥ John Sawyer, Ames ♥ Kent Schescke, Ames ◊ Sue L. Sullivan-Twilley, Urbandale ◊ M. A. Tabatabai, Ames v Rodrigo Tarté, Ames v Phillip Thien, Des Moines ♥ Dwight Tomes, Johnston Jerry L. Wille, Ames ♥ Wendy Wintersteen, Ames ♥ Curtis R. Youngs, Ames

KANSAS

N. Alfred Dutrow, McPherson ♥ George Ham, Manhattan ◊ Jerry Heath, Olathe ♥ M. B. Kirkham, Manhattan v R. Gary Lortscher, Bern ◊ Douglas and Cathy Nord, Larned ♥ Gerry Posler, Manhattan ◊ P.V. Vara Prasad, Manhattan Robert D. Rowland, Olathe ◊ Dan Senestraro, Johnson ♥ Phillip Stahlman, Hays ◊ David Whitney, Manhattan ▼



CAST 2021 CAST MEMBERSHIP

KEY

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

List as of December 31, 2021

KENTUCKY

Richard D. Coffey, Lexington ♥ Dennis Egli, Lexington ♥ Benjamin W. Harmon, Olive Hill v Jacqueline Jacob, Lexington ♥ Merlin Lindemann, Nicholasville v

LOUISIANA

Cecil Brooking, Ferriday ♥ Kenneth McMillin, Baton Rouge ◊ Christine Navarre, Port Allen

MAINE

Maxwell McCormack, Jr., Orono ♥ Bruce Stillings, Falmouth ♥

MARYLAND

Lowell Midla, Liamsville ◊ Ronald Myers, Gambrills Richard Reynnells, Laurel ♥ Ronald Ritter, Odenton ♥ Jane Robens, Bethesda ◊ David Ross, Laurel ♥ Nathaniel Tablante, College Park ♥ Elymar Vea, Crownsville v

MASSACHUSETTS

Prasanta Bhowmik, Amherst ◊ John Gerber, Amherst ◊ James F. Martin, Chelmsford Paul Peters, Brimfield ♥

MICHIGAN

Max Benne, Sturgis ♥ Caryn Dawson, Spring Lake Russell Freed, East Lansing ♥ Lee Jacobs, Perry ◊ Dean Krauskopf, Parma v Enhong Liu, East Lansing Thomas Redick, Spring Lake ◊

MINNESOTA

Daniel Borgen, Minnetonka Francis Busta, Roseville ◊ Vernon Cardwell, Wyoming ◊ H. Cheng, St. Paul ◊ Charles Clanton, Hampton ♥

David Craigmile, Boyd Gregory Dahl, Eagan ♥ Jerome Franckowiak, Ham Lake ♥ Sandra Godden, St. Paul Kevin Janni, St. Paul ◊ Douglas Karlen, St. Paul v Gordon Marten, Roseville v Cynthia Moen, Windom v R. Vance Morey, Roseville v Josie Pechous, Hastings Howard Rines, Roseville ♥ Luther Tweeten, Northfield ◊ Mark Wrucke, Farmington ♥

MISSISSIPPI

Roy G. Creech, Grenada ◊ Johnie Jenkins, Starkville v Nancy Reichert, Mississippi State ◊ David Shaw, Mississippi State • Earl Watson, Brandon ◊

Missouri

Kaleb Baber, Weston Will Carpenter, Chesterfield ◊ Harold Cleberg, Kansas City ◊ Robert Fraley, St. Louis ◊ Chris Knight, St. Louis ◊ Charles McFatrich, Washington ♥ Mohammad Mobarok, Columbia Kenneth Schneeberger, Columbia • Thad Simons, Creve Coeur ◊ Marc Vanacht, St. Louis John Vicini. St. Louis ♥

MONTANA

Laura Peterson, Billings Robert Short, Laurel ◊ B. Staigmiller, Absarokee ◊

NEBRASKA

Cheryl Alberts Irwin, Lincoln Chris Calkins, Lincoln ♥ Charles Francis, Lincoln ♥ Walter Graeber, Lincoln K. E. Lanka. Fulton ◊ Martin A. Massengale, Lincoln ◊ Fred Roeth, Lincoln ◊ William Schmutz. Omaha v Michele Schoeneberger, Lincoln Larry Schulze, Eagle ♥ Charles Shapiro, Concord ◊ Leroy Svec, Seward ♥ Raymond Ward, Kearney ◊ Ted Warfield, Kearney ◊

NEVADA

Warren Schwecke, Mesquite ◊

NEW **J**ERSEY

C. Andrew Beagle, South Plainfield > Kenneth Cummings, Stockton ▼ Zane Helsel, Ewing ♥ Melvin Henninger, East Windsor ♥ Daniel Kunkel. Princeton Donald Schaffner, Milltown ♥

New Mexico

Robert Hagevoort, Clovis ♥ Jerome Kumbalek, Rio Rancho Jill Schroeder, Las Cruces ♥

New York

Philippe Baneux, Ithaca Daniel Barber, New York Gary Bergstrom, Ithaca ♥ Catherine Bertini, Syracuse ◊ Karyn Bischoff, Lansing ♥ Sarah Evanega, Ithaca ◊ Keith Fairbank, Ashville ◊ Sally Flis, Wilson Russell Hahn, Groton ◊ Cassandra Orndorff, Brooktondale Marvin Pritts, Trumansburg ▼ William Prokop, Tully ◊ Joe Regenstein, Ithaca ♥ Norman Scott, Ithaca ♥ Alexia Yue, Vestal Rick Zimmerman, Albany

NORTH CAROLINA

Don Allemann, Greensboro ◊ Markus Andres, Chapel Hill ♥ A. Richard Bonanno, Raleigh v Garth Boyd, Raleigh ◊ Leonard Bull, Wilmington ♥ Harold Coble, Cary ◊ Carl Crozier, Plymouth ♥ Dirk Drost, High Point ◊ Keith Edmisten, Raleigh Walter Fehr, Chapel Hill ◊ Robert Giegengack, Winston-Salem Robert Holm, Holly Springs ♥ David Lineback, Southport ◊ Janis McFarland, Chapel Hill Carroll Moseley, Brown Summit ♥ Ishwar Murarka, Durham ◊ Piyush Pandey, Raleigh Katharine Perry, West End ◊ Odis Wayne Robison, Raleigh ◊ Joseph Schuh, Raleigh ♥ R. Wayne Skaggs, Raleigh ◊ Ronald E. Sneed, Raleigh v Charles Sopher, Washington ◊

Charles Stuber, Raleigh ♥ Turner Sutton, Windsor ♥ A. Douglas Worsham, Scottville •

NORTH DAKOTA

David Borlaug, Bismarck ◊ Alan Dexter, Fargo ◊ Calvin Messersmith, Fargo ◊ John Miller, Gackle William S. Niehaus, Fargo A James L. Ozbun, Dickinson ◊ Harsh Pathak, Bismarck Thomas Peters, Fargo ◊ Anthony Thilmony, Valley City ▼

Оню

Alex Amador, Columbus Mark Armfelt, Gambier ◊ David T. Brennan, Ashland Keith Brown, Wooster ◊ Larry Davis, Mason ◊ John Foltz, Dublin ◊ Daniel Gingerich, Lebanon A Robert Gustafson, Worthington • Robert Harriman, Delaware ◊ Jane Hunt, Dublin Jerish Joyner Janahar, Columbus Stanley Joehlin, Curtice ◊ Michael Kelty, Dublin ◊ Cathann Kress, Columbus ◊ Jeffrey Lakritz, Plain City John Litchfield, Worthington ♥ Phil Lowe, Beverly Gabe Middleton, Orrville Eric Nelson, Springfield ◊ Lenin Rodriguez, Wooster Donald Sanders, Urbana v Kentlyn Weaver, Reynoldsburg Kush Kumar Yadav, Wooster

OKLAHOMA

Billy Clay, Stillwater ▼ Gary Detrich, Cushing Michael Craig Edwards, Stillwater William Edwards, Stillwater • John Fenderson, Stillwater ♥ Drew Kershen, Norman ◊ Don Murray, Stillwater ◊ Jim Rainey, Edmond ◊

OREGON

W. James Clawson, Dallas v Thayne Dutson, Sisters ◊ Russell Karow, Corvallis > Benjamin Rietmann, Condon Loydee Stonebrink, Rickreall ◊

PENNSYLVANIA

Duncan Allison, Kennett Square • Jim Borel, West Chester ◊ Catherine Ernst, State College ♥ Robert Graves, State College ◊ Verdean Keyser, Boswell ◊ Charles Krueger, State College ◊ David Lutz, New Holland ♥ Gregory Martin, Elizabethtown ♥ Sarah Rassler, New Tripoli Robert M. Smith, State College ◊ Hannah Taylor, Allentown Lester Vough, Hanover ♥ Paul Wangsness, State College ♥ Leah Welk, Strasburg

SOUTH DAKOTA

David J. Schingoethe, Brookings v

TENNESSEE

Dwight Armstrong, Nashville ♥ Frank J. Delfino, Columbia v Jamie Eichorn, Germantown David Harmon, Morristown ◊ Larry Heatherly, Seymour ♥ Richard Large, Cordova ◊ Troy Wakefield, Brentwood ◊ Dennis West. Knoxville ♥

TEXAS

David Baltensperger, College Station ♥ Julie Borlaug, Dallas Erin Burton, Pottsboro Carl Coppock, San Antonio v Gary Eilrich, Willis ♥ Cady R. Engler, Bryan ◊ Paul F. Engler, Amarillo ◊ Calvin Hamilton, Flower Mound □ ♥ Paul G. Harms, College Station ♥

A. Bruce Maunder, Lubbock ◊ Tom McDonald, Dalhart ◊ Paul D. Ohlenbusch, Georgetown v Walter Owsley, Stephenville . Randy Rosiere, Stephenville v Edward C. Runge, College Station ◊ Jeffrey Savell, College Station ♥ Andrew Scott, Weslaco L. R. Sprott, College Station ♥ David Waggoner, Hillsboro ♥ Neil Walter, Oglesby ♥ Robert Zimbelman, Georgetown ◊

UTAH

David Dibb, Santa Clara ◊ Calvin Pearson, Salem • Alyssa Villa, Salt Lake City

VERMONT

Dale E. Bauman, South Burlington ♥ Kent Henderson, Saint Albans ♥ Julie Smith, Colchester ◊

VIRGINIA

John Becker, Arlington ♥ Jody Bickel, Stone Ridge Mahlon A. Burnette, III, Great Falls ◊ Richard Crowder, Alexandria Bernadette Dunham, Hume v Alan Grant, Blacksburg ♥ Candi Kelly, Blacksburg ◊ Ronald Pearson, Blacksburg ◊ Don Vondriska, Richmond ◊

WASHINGTON

Michael Anderson, Bellingham Bal Krishen Bhat, Seattle ♥ Gary Hergert, Redmond ♥ Larry K. Hiller, Pullman ◊ Joe Hillers, Coupeville ♥ Drew Lyon, Pullman v

Bernalyn McGaughey, Lakewood ◊ John P. McNamara, Pullman ◊ Lorna Michael-Butler, Mukilteo ◊ Tom Young, Walla Walla ◊

WEST VIRGINIA

Gary Heichel, Martinsburg ♥

Wisconsin

Larry L. Borchert, Cottage Grove ◊ Thomas Kennedy, Westport ▼ Triveni Shukla, Mukwonago ◊ Shelby Stark, River Falls Leo Walsh, Madison ◊

WYOMING

Deborah Ridge, Afton Alvin Young, Cheyenne ♥

INTERNATIONAL

AUSTRALIA

Gregory Healy, Black Rock Yuxin Xue, Toowong

BANGLADESH

Md. Jonaid Hossain, Dhaka

CANADA

Timothy M. Ballard, Aldergrove, BC ◊ Charles Gracey, Ancaster, ON ▼ Robert Hall, Guelph, ON ◊ Paul Lague, Baie d'Urfe, QC ♥ John Mitchell, Hamilton, ON ◊ Arnold Pierce, Calgary, AB ♥ Lexie Reed, Waterford, ON John Vanderstoep, Surrey, BC ♥

CROATIA

Jasmina Lukac Havranek, Zagreb ◊ Етніоріа

Abebe Aragaw, Addis Ababa Haimanot Atinkut, Gondar

Carlo Cardinali, Valbonne Maggie Lam, Sorede

HUNGARY

FRANCE

Khabat Hussein, Budapest

INDIA

Durga Prasad Naik Bhukya, Tirupati Deeksha Gedam, Balaghat Soumyadeep Ghosh, Howrah Hanuman Jatav, Varanasi Vignesh K., Chidambaram Kumaresan Palaniyappan, Amman Kovil Patty Annadi Priyanka, Hyderabad Arunkumar R., Chidambaram Arunkumar S., Cuddalore

MEXICO

Luis Vallarta, Guadalajara

Deepranjan Sarkar, Varanasi-

Sandeep Somvanshi, Aurangabad

NETHERLANDS

Leon Gorris, Nijmegen ◊

NIGERIA

Akin Adesina, Abuja ◊

PAKISTAN

Tauseef Anwar, Bahawalpur Dr. Muhammad Adnan Bodlah, Rahim Yar Khan Aleena Kanwal, Raheem Yar Khan Maha Nadeem Nadeem, Lahore Taqi Raza, Mian Channu Maliha Rehman, Mecload Gani

PAPUA NEW GUINEA

Russia

Ranim Naal, Moscow

SOMALIA

Ahmed Ibrahim, Mogadishu

Jonah Taugi Anton, Mt. Hagen

CAST

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

Join online today @ cast-science.org.

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 hard copies of CAST 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.



CASI 2021 Sustaining Members

MEMBER SOCIETIES

Agricultural and Applied Economics Association

American Association of Avian Pathologists

American Association of Bovine Practitioners

American Bar Association, Section of Environment, Energy, and Resources

American Dairy Science Association American Meat Science Association American Meteorological Society, Committee on Agricultural and Forest Meteorology

American Society of Agricultural and Biological Engineers

American Society of Agronomy American Society of Animal Science American Society of Plant Biologists American Veterinary Medical Association

Aguatic Plant Management Society Crop Science Society of America **Entomological Society of America** North Central Weed Science Society Northeastern Weed Science Society Poultry Science Association Rural Sociological Society Society for In Vitro Biology Soil Science Society of America Weed Science Society of America Western Society of Weed Science

ASSOCIATE SOCIETIES

Association of American Veterinary Medical Colleges Midwest Poultry Federation Ohio Dairy Vets Philadelphia Society for Promoting Agriculture

EDUCATIONAL PROGRAMS

Cal Poly State University Cornell University Iowa State University Kansas State University Mississippi State University North Carolina A&T State University North Carolina State University Penn State University Texas A&M University The Ohio State University Tuskegee University

University of Arkansas Division of Agriculture

University of California-Davis University of Florida

University of Kentucky

University of Missouri

University of Nebraska

University of Nevada-Reno

COMPANIES AND COOPERATIVES

BASF Corporation Bayer CropScience Compliance Services International Corteva Agriscience DPI Global Foley & Lardner, LLP

GROWMARK, Inc.

Hoard's Dairyman Magazine ISK Biosciences Corporation

Lisbon Veterinary Service

The McGregor Company

Merck Animal Health Morning Star Company

Nutrien (Agrium)

Page & Pedersen International, LLC Riceland Foods Foundation

Syngenta Crop Protection, Inc.

The Andersons, Inc.

Van Diest Supply Company Zeigler Bros., Inc.

SUBSCRIBERS

Brigham Young University-Harold B. Lee Library

Canadian Agriculture Library Colorado State University Libraries Dalhousie University-MacRae

Iowa State University-Parks Library North Carolina State University **Hunt Library**

Purdue University Libraries Texas A&M University-Evans Library Texas Tech University Libraries University of California-Berkeley

University of California–Davis Library University of Georgia Libraries

University of Guelph-McLaughlin

Library

University of Illinois Library University of Maryland-McKeldin

University of Minnesota Libraries

University of Tennessee-John Hodges Library

University of Wisconsin, Madison-Steenbock Memorial Library Wageningen University Bibliotheek

Ex Officio Members

Agricultural Institute of Canada National Coalition for Food and Agricultural Research

Nonprofit Organizations

American Farm Bureau Federation American Registry of Professional **Animal Scientists**

American Seed Trade Association American Sheep Industry Association American Society of Sugar Beet **Technologists**

Animal Agriculture Alliance

Animal Health Institute

Association of American Plant Food Control Officials (AAPFCO)

Biotechnology Innovation Organization

California Citrus Quality Council California Farm Bureau Federation

CropLife America

Farm Foundation

Foundation for Food and Agriculture Research

Illinois Crop Improvement Association Indiana Crop Improvement Association, Inc.

Indiana Soybean Alliance, Inc. 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

Minor Use Foundation National Association of Animal

National Cattlemen's Beef Association

Breeders

National Corn Growers Association National Cotton Council of America National Milk Producers Federation National Pork Board National Turkey Federation

Noble Research Institute, LLC

North American Renderers Association

Pennsylvania Pork Producers Council

Rice Research Board Southern Crop Production Association

Texas Cattle Feeders Association The Fertilizer Institute

U.S. Poultry and Egg Association,

United Soybean Board United States Animal Health Association

Virginia Farm Bureau Federation Wyoming Farm Bureau Federation

GRANTORS/EVENT SPONSORS

Agrium

BASF

Bayer CropScience

Compliance Services International

Corteva Agriscience

CropLife America

Farm Journal Foundation

Grand Messengers of Science Innovation Center for U.S. Dairy

Iowa Farm Bureau Federation

Minor Use Foundation

Ohio Farm Bureau Federation

Syngenta Crop Protection

Texas A&M University, Department of Soil and Crop Sciences

The Andersons, Inc.

The Ohio State University

United Soybean Board

USDA-Agricultural Research Service

In 2021, CAST had 33 volunteer task force chairs. authors, reviewers, and board liaisons.

CAST had 6,987 views on publications released in 2021.

2021 REVENUE SOURCES



PROGRAM SUPPORT 46%

4% Borlaug CAST Communication **Award Support**

- 16% Unrestricted Fund
- 8% Designated **Publication Support**
- 8% USB Grants
- 5% CRIS Contract
- 5% ARS-APHIS-NIFA-USDA

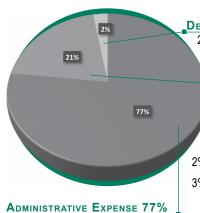
MEMBERSHIP 54%

- 3% Individual Memberships
- 23% Company Memberships
- 11% Nonprofit Memberships

18%

11% Education/Subscriber Memberships

6% Society and Associate Memberships



DEVELOPMENT EXPENSE 2% 2% Membership Recruiting

and Development

PROGRAM EXPENSE 21% 14% CAST Publication Payroll

2% Borlaug CAST Communication

Award Payroll 2% Direct Publication Expenses

3% Travel: Officers, Staff, BCCA, Publications, and Other



FRONT COVER

Row 1: Charles A. Black, who was CAST's founder and first president; Issue Papers through the decades; Norman E. Borlaug, who wrote CAST's first published paper and received CAST's first "Distinguished Achievement Award in Food and Agricultural Science."

57% Payroll Salaries Expense

20% Office Expense

- Row 2: CAST early newsletters; CAST's 50th anniversary logo; comprehensive Task Force Reports authored by multiple scientists.
- Row 3: Borlaug CAST Communication Award; CAST website in 2022; U.S. Capitol, where CAST presenters met with policymakers

BACK COVER

- Row 1: Food Day Dial-oque participants; Special Publications over the years; translations of some CAST publications into other languages.
- Row 2: CAST officers at the ribbon-cutting ceremony for CAST's new building in Ames, Iowa; CAST office site in Ames; CAST officers burn the mortgage for the Ames location.



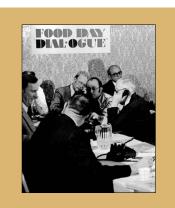
2021 CAST Staff Back row: Megan Wickham, Colleen Hamilton, Gale Osborne, Anne Owens, Dylana Luett, and Rachel Bauler. Front row: Melissa Sly, Kent Schescke, and Dan Gogerty.

CAST hosted two webinars with 13 panelists/webinar speakers and had almost 1,000 webinar registrants in 2021.



MISSION

CAST convenes and coordinates networks of experts to assemble, interpret, and communicate credible, unbiased, science-based information to policymakers, the media, the private sector, and the public.













VISION

A world where decision making related to agriculture, food, 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 E-mail: cast@cast-science.org











