

IOWA BIOTECH SHOWCASE & CONFERENCE

TUESDAY, MARCH 1, 2022

- 8:00AM** Registration, Breakfast, 1:1 Partnering Meetings
- 9:00AM** Welcome Remarks
- Jessica Hyland, [Iowa Biotechnology Association \(IowaBio\)](#)
 - Rob Denson, President, [DMACC](#)
 - Nate Green, IowaBio Chair, [Renewable Energy Group](#)
- 9:20AM** Biotech Showcase Competition, *sponsored by REG*
- [Aptimmune Biologics Inc](#) (9:20am - 9:45am)
 - [Birds Eye Robotics](#) (9:45am - 10:10am)
 - [Haber Technologies](#) (10:10am - 10:35am)
- 10:35AM** Break: 1:1 Partnering Meetings, Exhibit Time
- 11:10AM** Biotech Showcase Competition continued
- [Innatrix](#) (11:10am - 11:35am)
 - [Mazen Animal Health](#) (11:35am - 12:00pm)
 - [SoilSerdem](#) (12:00pm - 12:25pm)
- 12:30PM** Lunch Buffet, *sponsored by MTI Biotech*
- 1:05PM** IowaBio STEM Remarks
- 1:15PM** The Future of Biotech Innovation in Iowa: Students in Life Sciences
- 2:20PM** Break: 1:1 Partnering Meetings, Exhibit Time
- 3:00PM** Economic Outlook
- Debi Durham, Director, [Iowa Economic Development Authority](#)
- 3:35PM** Industry Legislative Update, *sponsored by Bayer*
- Sara Allen, [Cornerstone Government Affairs](#)
 - Kristin Murphy, [Biotechnology Innovation Organization](#)
- 4:30-6PM** Reception and Biotech Showcase Award, *sponsored by BrownWinick Law Firm*

WEDNESDAY, MARCH 2, 2022

- 8:00AM** Registration, Breakfast, 1:1 Partnering Meetings
- 8:40AM** Welcome Remarks
- 8:50AM** Sustainability Preview Panel, *sponsored by ADM*
- 9:30AM** Economic Sustainability Breakout Sessions
- *In-Season Control: A New Paradigm in Production Agriculture* by Dr. Todd Krone, [PowerPollen](#)
 - *Examining a Sustainable Supply Chain through REG's Global Partnership with Manchester United* by Tara Meier, [REG](#)
 - *Challenges in Making a Safe and Effective African Swine Fever Vaccine* by Dr. Heather Bessoff, [Aptimmune Biologics](#)
 - *Automation and Conservation - Eurofins' Sustainable Approach in Providing Unmatched Bioanalytical Services* by Dr. Kai Liu and Ben Pointer, [Eurofins Scientific](#)
- 10:20AM** Social Sustainability Breakout Sessions
- *Exploration and Implementation of Social Sustainability in Biotech* by Adam Walker, [CRB](#)
 - *Well-being in the workplace... Let's talk about "it"?* by Jason Haglund, [COVID Recovery Iowa](#)
 - *Examining Sustainability through Plant-Based Proteins* by Dr. Zhiyou Wen, [Center for Crops Utilization Research](#)
- 11:10AM** Break: 1:1 Partnering Meetings, Exhibit Time
- 11:55 AM** Lunch Buffet
- 12:30PM** Keynote Presentation, *sponsored by University of Iowa Research Foundation*
- Dr. Lisa Schulte Moore
- 1:40PM** Environmental Sustainability Breakout Sessions
- *CY-VAX - Development lab to connect and expedite commercial vaccine and biotechnology development* by Dr. Michael Roof, [Iowa State University](#)
 - *Enabling the Bio-Economy: Cargill's Investments into Renewable Solutions* by Yana Prosvetov, MBA, [Cargill Inc](#)
 - *Chemurgy 2.0 - Advancing Iowa's Biotechnology Industry - NSF EPSCOR 2021 Proposal* by Nigel Reuel, Laura Jarboe, Monica Lamm, [Iowa State University](#), and Bill Harwood, [University of Northern Iowa](#)
 - *Better Health through One Health - Innovation in Disease Prevention and Food Production* by Cindy Edge, [Boehringer Ingelheim Animal Health USA](#)
- 2:30PM** Iowa Biotech Leader Award & Closing, *sponsored by America's Cultivation Corridor*

SHOWCASE COMPANIES



Aptimmune Biologics, Inc. was founded in 2010 by Dr. Federico Zuckermann, Professor of Veterinary Immunology at the University of Illinois at Urbana-Champaign (UIUC). Its facilities at BRDG Park, St Louis, MO include a BSL-2 compliant laboratory. The company has a diverse and experienced leadership team who have worked for some of the largest global animal health companies and collectively bring over 100 years of proven accomplishments in vaccine research, development, and commercialization.

Aptimmune exclusively licensed the patented ZMAC® cell line technology from UIUC and developed and launched its' Barricade® Autogenous PRRSV & IAV-S vaccines in the spring of 2017. Aptimmune believes we can help solve the global ASF epidemic crisis using core components from our existing portfolio to develop an effective vaccine. Total potential revenue of a ZMAC-based ASF vaccine is approximately \$15 billion over 15 years. Aptimmune have established agreements with both USDA and DHS to collaborate on ASF commercial vaccine development.



With the labor shortage in agriculture, **Birds Eye Robotics** utilizes a Robotic solution and platform to optimize growing operations + make better decisions, quicker. Our robot is best in class for mortality removal and autonomously navigating the complex chicken barn, all at the birds eye level. We understand the pinch for labor and the financial squeeze that can happen when managing large broiler houses. This business was built by request of a local growers, who simply did not have enough hours in the day. With our roots in Herman, Nebraska, we understand this industry and strive to ensure your experience has the best return on your investment possible.

- Local Support and Assistance
- Respectful of Privacy and House Biosecurity Precautions
- Farmer First Attitude.



While most of the world has focused on increasing corn yield on the production side (a six-fold increase over the past 60 years), **Haber Technologies** is solving the other side of the equation - reducing energy usage, damage and spoilage that occurs once the corn is harvested. Haber Technologies' DRI-Stack® grain management system dries and aerates grain by efficiently using ambient air and supplemental heat to dry the entire bin in an intelligent section-by-section manner - the most unique and effective method to dry grain.

SHOWCASE COMPANIES



Innatrix is producing durable, eco-friendly novel biopesticides to control devastating crop pathogens (\$26B TAM), using patented protein evolution technology developed in house.

Currently, it takes > 10 years and > \$300 million to develop one chemical product to control crop diseases, the pathogen resistance is a severe issue, and the regulatory process is becoming more and more stringent due to the health concerns. Innatrix's eco-friendly products will have big advantages for resources needed (3 years, \$3-4 million), have a much easier regulatory process, and manage disease resistance issue well.

We have raised over \$2M funds, received one issued U.S. patent, and identified several product leads. Fortunately, we have secured Bayer, Global Ag as our R&D and product development partners.

Our team has over 100 years of experience in product development and commercialization, so we are confident that we could develop our products and bring the products to the market fast.



We are **Mazen Animal Health**, disrupting animal disease prevention by creating "edible" vaccines that can be dosed with feed. Imagine a world where a vaccine can be shipped to farms at room temperature in less than 48 hours and fed to animals to control an outbreak and protect our food supply. Mazen is developing orally delivered animal vaccines that will revolutionize animal disease prevention and offer customers cost effective, safe to deliver, efficacious, room temperature stable vaccines to increase productivity and ensure a continuous food supply.

With ongoing collaborations with animal health companies and a customer already engaged for trial and utilization, Mazen's commercially focused team is poised to move Mazen forward to the next series of value-enhancing milestones. Mazen is raising a Series A round to launch the oral PEDV vaccine for sows; to develop an oral cocci vaccine for poultry; and team expansion.



SoilSerdem produces high quality soil fertility maps for agronomists, which enable them to provide precise fertilizer recommendations for farmers. The primary reason for overapplying and sometimes underapplying fertilizers is the low quality (accuracy and details) of current soil fertility maps. If agronomists intend to produce high-quality soil fertility maps, they will need to take more soil samples, which increases soil lab and soil map creation costs. To increase the quality of soil fertility maps, SoilSerdem uses precise and detailed soil and environmental information. SoilSerdem eliminates unnecessary soil samples to decrease soil lab costs by 50% and locate fertilizers on the correct locations in order to decrease the input costs and maximize yield potential. SoilSerdem can increase the profit margin by at least \$30 per acre for end users.

SHOWCASE JUDGES



Shawn Baier, Chief Operating Officer, [MTI Biotech](#)



Nadilia Gomez, Chief Technology Officer, Digital and Precision Agriculture research and innovation platform, [Iowa State University](#)



Joe Leo, Partner, [BrownWinick Law Firm](#)



Donna Ramaeker Zahn, Global Outreach Strategist
Entrepreneur in Residence, Iowa State University Startup
Factory, [Iowa State University](#)



Tom Swegle, CEO, [MedCara Pharmaceuticals](#)

SPEAKERS

KEYNOTE PRESENTATION



Dr. Lisa Schulte Moore is a professor in the Department of Natural Resource Ecology and Management and associate director of the Bioeconomy Institute at Iowa State University. She conducts research and teaches in the areas of agriculture, ecology, forestry and human-landscape interactions. Her research addresses the integration of continuous living cover into agricultural landscapes to support new markets and to meet societal goals for clean water, healthy soils, abundant wildlife and inspiring recreational opportunities. She works to return more of the value from agricultural supply chains to rural communities and the land, and develops relationships and institutional capacity so diverse groups of people can more effectively work together.

Dr. Schulte Moore is co-founder of the Science-based Trials of Rowcrops Integrated with Prairie Strips (STRIPS) project, which developed the prairie strips conservation practice. She is also lead developer of People in Ecosystems/ Watershed Integration (PEWI), a simple web-based educational game designed to help people understand human impacts on the environment and improve the management of natural resources. She directs C-CHANGE, an Iowa State University Presidential Interdisciplinary Research Initiative and USDA-NIFA Sustainable Agricultural Systems Coordinated Agricultural Project.

Dr. Schulte Moore has published more than 100 scientific and educational articles. Her honors include the Iowa State University Early Career Award in Teaching (2007), Teaching Award of Merit from the North American Colleges and Teachers of Agriculture (2007), Stanford University Leopold Leadership Fellow (2013), Kavli Frontiers of Science Fellow (2014), University of Minnesota Duluth Academy of Science and Engineering Inductee (2017), Business Record/ISU Ivy College of Business innovation ENTREPRENEUR Award (2020), Ecological Society of America Fellow (2021), and MacArthur Fellow (2021). Along with her colleagues on the STRIPS team, she received the Iowa State University College of Agriculture and Life Science Team Award in 2018 and the Soil and Water Conservation Society's Conservation Innovation Award in 2020 for their development of prairie strips. She is on the editorial board for the scientific journal *BioScience*, a member of Ecological Society of America's "Rapid Response Team," on the board of directors for Practical Farmers of Iowa, and on the board of trustees for The Nature Conservancy's Iowa Chapter. Her work has been covered by the BBC, *Corn and Soybean Digest*, National Public Radio, the New York Times, *Successful Farming*, and The Washington Post among other farm and general interest media outlets.

She has been on the faculty at Iowa State University since 2003. She worked as a post-doctoral associate with the U.S. Forest Service from 2002 to 2003. She earned a B.S. in biology at the University of Wisconsin-Eau Claire, an M.S. in biology at the University of Minnesota-Duluth and Ph.D. in forestry in 2002 at the University of Wisconsin-Madison.

Schulte Moore lives in Ames, Iowa, with her husband, Peter Moore, and two sons. They also spend time at their family farm near Strum, Wis.

SPEAKERS

ECONOMIC OUTLOOK



Debi Durham is a longtime economic and community development professional who serves as executive director of the Iowa Economic Development Authority (IEDA) and the Iowa Finance Authority (IFA). Durham was named to the position by Iowa Governor Kim Reynolds in January 2019.

Durham was first appointed to lead IEDA in 2011 and has turned the agency into a successful public-private partnership, landed billion-dollar economic development projects for Iowa and worked tirelessly to expand trade and investment opportunities for the state. She was appointed to lead IFA in 2019, when Governor Reynolds recognized an opportunity to further bolster Iowa's communities and economy by bringing together IFA and IEDA. Durham prides herself on building coalitions, supporting new ventures and strengthening the state's industries and communities.

Prior to joining IEDA/IFA, Durham served as president of the Siouxland Chamber of Commerce.

Her several accolades include being recognized as one of the "Most Influential Business Leaders" in the 2020 and 2019 Des Moines Business Record Book of Lists and receiving the Technology Association of Iowa's "Legislative Advocacy Leader" award in 2017. Durham also was recognized by the Business Record as a "Woman of Influence" in 2016, and she received the Christian Petersen Design Award from Iowa State University's College of Design in 2015.

Durham holds a Bachelor of Science in Business Administration, Marketing and Management from Missouri Southern State University.

LEGISLATIVE UPDATE



Sara Allen joined Cornerstone in September 2016. Sara brings years of healthcare experience, as well as years spent lobbying, developing and executing policy positions, engaging grassroots advocates, and assisting with political action committee campaigns and endorsements. Sara assists clients throughout the legislative and rule-making process, focusing on health care and state government concerns.

Most recently, Sara worked as a state lobbyist and staff attorney working for the Iowa Hospital Association, representing all 118 Iowa hospitals at the statehouse and various administrative agencies. In this position, Sara gained expertise in a variety of areas impacting hospitals and other health care providers; these areas include financing and reimbursement, behavioral health, value-based healthcare delivery reform models, informational technology innovation, regulatory and legal compliance, scope of practice concerns for specific providers, public body concerns, and public health initiatives.

SPEAKERS

Before her position at the Iowa Hospital Association, Sara worked for a physician staffing company as associate corporate counsel. In that role, she was responsible for maintaining the corporation's business compliance, contract drafting and enforcement, and managing the human resources function.

Sara received her juris doctorate from Drake University in December 2010 and was admitted to the Iowa Bar in April 2011. Prior to Drake, Sara received her Business Administration degree from Grand View University. In addition to her formal education, Sara received her private pilot's license in 2005 and enjoys recreational flying.

Sara lives in Des Moines with her husband Colby and her three young children, Briar, Blake, and Boone.



Kristin Murphy is Senior Director of Federal Government Affairs at the Biotechnology Innovation Organization (BIO).

Prior to joining BIO, Kristin - a native Iowan - was the Senior Director for Government Affairs at the Association for Accessible Medicines, where she served for 4 years. Kristin was formerly part of the legislative affairs team at the Ambulatory Surgery Center Association (ASCA), and advocated on a range of health care issues, from Medicare payment to drug shortages and compounding pharmacies.

Kristin worked on Capitol Hill for Congressman Rick Larsen (D-WA) and on former Senate Majority Leader Tom Daschle's re-election campaign. Kristin received her Bachelor of Arts from the University of South Dakota and Master of Business Administration in Healthcare Management from Johns Hopkins University.

ECONOMIC SUSTAINABILITY SESSION



Dr. Todd Krone is Founder and CEO of PowerPollen®, a Des Moines based biotech company that is improving pollination in important crops to enhance global food security. Prior to forming PowerPollen® in 2015, Todd had a 20-year career in research & development in the seed and biotech industry, including leadership roles at Bayer and Corteva. In these roles, Todd helped apply innovations and biotechnology to improve crop productivity. He led research and commercialization teams for many of the biotech traits currently on the market that are improving the productivity of farmer's around the world. Todd holds a Ph.D. in plant genetics from the University of Minnesota.

SPEAKERS

ECONOMIC SUSTAINABILITY SESSION



Tara Meier is Executive Director of Marketing for Renewable Energy Group, Inc. (REG). In this role, she leads REG's global branding, marketing, sponsorships and digital efforts. Prior to joining REG, Ms. Meier spent more than 20 years in marketing and communications leadership roles, with such companies as Ruan Transportation Managements Systems, Spalding, The Integer Group and MidAmerican Energy. Ms. Meier volunteers her time with various organizations, including United Way, Women United and Ronald McDonald House. Ms. Meier earned her Bachelor of Arts degree in Journalism and Mass Communication from Iowa State University.



Heather Bessoff, DVM, is CEO of Aptimmune Biologics, Inc. Prior to joining Aptimmune, Dr. Bessoff worked as a senior leader with biotech start-up companies, introducing new technologies into animal health and agriculture to reach their full market potential. Bessoff also held leadership roles with Pfizer, Inc. and Pfizer Animal Health in R&D, Strategy and Operations and with Elanco as Director of Emerging Businesses. She started her professional career in livestock practice and herd management consulting. She earned her Doctor of Veterinary Medicine degree from the University of Wisconsin - Madison and Bachelor of Science degree from the University of Connecticut College of Agriculture and Natural Resources with an Animal Science/Pre-Vet Major.

SOCIAL SUSTAINABILITY SESSION



Adam Walker is the Senior Manager of Sustainability at CRB Group. Adam is LEED AP BD+C accredited with 11 years in the AEC industry as a Project Manager, Project Designer, Project Engineer, and Construction Project Manager. As the Senior Sustainability Manager, he oversees efforts to make our business and our clients' projects more sustainable. He approaches sustainability from a less is more perspective to allow complex issues to be broken down, understood and solved individually.

As he believes that sustainability encompasses people, planet, and profit, Adam is passionate about serving the communities where he lives and works. He is an active youth group volunteer and mentor. Adam is a member of NOMA (National Organization of Minority Architects) and serves on the Board of Directors for Flance Early Learning Center. An early childhood education center focused on sustainability and community engagement.

SPEAKERS

SOCIAL SUSTAINABILITY SESSION



Jason Haglund serves as the Ag & Rural Behavioral Health Specialty Coordinator for Covid Recovery Iowa. As owner of Haglund Consulting LLC., Haglund provides behavioral health subject matter expertise, public policy analysis and executive coaching based in Story City. Understanding the uniqueness of rural Iowa, Haglund strays beyond his professional experiences and draws upon the lessons he has learned from his own multigenerational family farm. As co-owner of Boone County based Hickory Grove Family Farm, Haglund is the 5th generation to continue the family farming tradition. Keeping up with the constant evolving pace of science, technology, and management of uncertainty can be overwhelming. Haglund understands first hand juggling all of this is required to own and operate a technology informed, financially viable, sustainable family business. This unique perspective affords Haglund to lead engaging, relatable discussions on topics such as stress management, emotional wellness and burnout.

Haglund, an accomplished senior executive, delivers guidance, system design consultation, public policy analysis, and educational trainings on suicide prevention, mental illness, addiction, behavioral health policy, crisis/disaster management, stigma, and stress. Haglund is leading a speciality team at the Iowa Department of Human Services implementing the FEMA crisis counseling program disaster response to the Pandemic and Derecho of 2020 and 2021. This project draws upon in-depth expertise of the state behavioral healthcare system, mental health literacy, change management, and his deep agricultural roots.



Dr. Zhiyou Wen became the director of the Center for Crops Utilization Research (CCUR) in January 2020. From 2005 to 2010, he was an assistant professor at Virginia Tech in Biological System Engineering. In 2010, Wen joined the Iowa State University Department of Food Science and Human Nutrition as an associate professor and was promoted to full professor in 2016. Wen served CCUR interim director for 15 months before was appointed as the CCUR director. Wen's research has focused on bioprocessing engineering, green and sustainable food, fuel and biomaterials processing technologies. He has secured over \$8 million dollars in research funding. These research results have led to a number of technology innovations and patents. As Center Director his priority is to enhance the Center visibility and leverage staff expertise and services available for industry and faculty aiding in conducting research and outreach programming in food, feed, and biorenewables. Wen is co-founder of Gross-Wen Technologies Inc. (www.algae.com), an Iowa-based company that uses algae to mitigate water pollution while delivering high-value products, including biofuels, food, feed and fertilizer.

SPEAKERS

ENVIRONMENTAL SUSTAINABILITY SESSION



Dr. Michael Roof has over 25 years of experience in the Animal Health and vaccine Industry and currently serves at the Chief Technology Officer for the State of Iowa Bioscience initiative. This position is focused on technology transfer and commercialization in the Vaccine and Immunotherapeutic area. He has past work experience with NOBL Laboratories, Boehringer Ingelheim, and Arko laboratories. He has participated in mergers, acquisitions, and integration of Fort Dodge Laboratories and Merial. During his tenure with Boehringer Ingelheim he served as Global Head of Vaccine R&D with leadership positions in locally (Ames/Iowa), Regionally (Iowa/Missouri), and Globally (Hannover Germany/Shanghai China). He has over 25 patents with USPTO and co-authored over 45 papers. He has contributed to USDA and globally licensed vaccines include SC-54 (*S. choleraesuis*), Enterisol (*L. intracellularis*), CircoFLEX (Porcine Circovirus), MycoFLEX (*M. hyopneumoniae*), Ingelvac and ReproCYC PRRS vaccines, Provenza (Swine Influenza), Bovela (BVD), and USDA licensure of companion animal vaccines. He has also participated in the USDA approval of Production Platform and Prescription Platform vaccines. He has a strong partnership with the Iowa State University Research Park, Iowa State University, University of Iowa, National Animal Disease Center, Ames Economic Development Commission, Iowa Economic Development Authority and local business partners which support commercialization efforts and job creation.

Mike earned his M.S. and Ph.D. degrees at Iowa State University and lives in Ames with his wife, Jill. They have two adult children.



Yana Prosvetov is a Global Business Development Manager in Cargill's Bio-Intermediates Business. Her team is responsible for finding, scaling, partnering, and investing in creative bio-solutions for apparel, packaging, and absorbent hygiene segments. Yana joined Cargill in early 2019 holding roles in Product Line Management, Strategic Pricing and Go To Market teams. Prior to Cargill, Yana spent close to eight years at Target Corp. negotiating with large CPG vendors, and building commercial and promotional strategy focused on the delighting the consumer. Yana earned her Bachelor's Degree in Accounting and Finance from the Carlson School of Management at the University of Minnesota in 2010. Following up with an MBA from the Kelley School of Business, from Indiana University in 2019. She lives in Minneapolis, Minnesota with her husband and two children.

SPEAKERS

ENVIRONMENTAL SUSTAINABILITY SESSION



Dr. Monica Lamm is an Associate Professor in the Department of Chemical and Biological Engineering at Iowa State University.



Dr. Laura Jarboe is a Professor in Chemical Engineering in the Department of Chemical and Biological Engineering at Iowa State University.



Dr. Nigel Reuel is an Associate Professor, Jack R. and Carol A. Johnson Faculty Fellow, and Director of Graduate Education in the Department of Chemical and Biological Engineering at Iowa State University.



Dr. Bill Harwood is Department Head, Chemistry & Biochemistry at the University of Northern Iowa.

SPEAKERS

ENVIRONMENTAL SUSTAINABILITY SESSION



Cindy Edge serves as Head, Global Innovation Regional Center Southeast & Clinical Operations Excellence & Planning for Boehringer Ingelheim's Animal Health business.

Cindy has served as Head of Clinical Planning and Excellence with Boehringer Ingelheim's Animal Health Global Innovation for the last three years. Prior to joining the company in April 2016, Cindy held numerous roles within Roche Pharmaceutical based in Basel Switzerland, including Global Planning Manager for Technical Development, Vice Director for Global Pharma Technical Strategy Supply Chain. She also led multiple global projects deploying planning processes and systems across value chain for human pharma during her 12-year tenure at Roche.

Cindy obtained her BS in Chemistry from Winthrop University and began her chemistry career with Auburn University's School of Veterinary Medicine, exploring canine olfactory capabilities for detection of contraband materials. This work led to close collaborations with government agencies, supported by grants totaling over \$10 million, and resulted in improved canine training as well as improvements to Ion Mobility Mass Spectrometer technology now used in airports worldwide.

Cindy is a member of the Board of Directors for Georgia Bio, currently serving as Vice Chair, and is an active mentor for students studying or pursuing careers in chemistry.