INTRODUCTION

The Institute for Sustainable Food Systems (ISFS) was created in October 2015 within the umbrella of the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida (UF). The Mission of UF/IFAS is “to develop knowledge in agricultural, human and natural resources and to make that knowledge accessible to sustain and enhance the quality of human life.” The ISFS has assembled some of the very best experts to work together to address challenges facing global food systems to deliver food security. ISFS core faculty are James Anderson, Frank Asche, Karen Garrett, Arie Havelaar, Gerrit Hoogenboom, Cheryl Palm, and Pedro Sanchez; affiliate faculty Frederick Royce. ISFS Fellows are Greg Kiker and Senthold Asseng. ISFS Coordinator, Grace Crummer left in September 2018 and in October 2018 by Cathy Bester joined the team as ISFS Coordinator. Our research falls into the following broad categories:

- Food Safety, Health and Nutrition
- Global Food Security
- Tools for Decision Makers: Global Food Systems Models
- Food Production (Agriculture, Aquaculture and Fisheries), Natural Resources and the Environment
- New Metrics

The Global Food System is a complex web of cultures, values, international trade, markets, public and private institutions, farmers, ranchers, fishers, technology, genetic resources, environmental and biophysical interactions. Operationally our work focuses on aquatic systems, terrestrial systems, and food safety and human nutrition.

Our activities include: 1) conducting innovative research on real-world issues that is timely, relevant and pushes beyond the frontier of current knowledge; 2) developing new curricula and training; and 3) communicating results to consumers, producers, marketers, distributors, traders and other public and private decision makers.

The competitiveness and sustainability of Florida firms involved in food production, marketing, distribution and global trade depend on this new knowledge and talent. Furthermore, given the ever-increasing international trade in food, understanding the global food system is essential to ensure that safe and nutritious food is readily available to consumers.

ACCOMPLISHMENTS

2018 Programmatic Progress Highlights:

External funding: ISFS core faculty and colleagues were excellent in obtaining external funding in 2018. The group has worked with colleagues to attract funding for 24 projects, with the 9 newly awarded in
2018 constituting $5.5 million, and previously funded (continuing from 2017 or earlier) projects totaling an additional $4.1 million (Totals exclude the USAID funding for the Feed the Future Innovation Lab for Livestock Systems).

- Core faculty member, Arie Havelaar (PI) worked with colleagues to secure $3.18 million from the Bill & Melinda Gates Foundation in 2018 for the project, “Campylobacter Genomics and Environmental Enteric Dysfunction.”
- ISFS Fellow Senthold Asseng (PI) received a 2018 grant for $1.5 million for his project “Traits for Increasing Wheat Grain Yields.”
- Frank Asche has worked with JL Anderson, Taryn Garlock and others to receive six grants for over $500,000.

**Articles and Presentations:** The output of ISFS core faculty and the colleagues continues to be exceptional. In 2018, ISFS core faculty and their co-authors published over 95 articles, chapters and reports, and made over 75 presentations at conferences, workshops and meetings.


**Awards, Honors and Service:** ISFS core faculty and fellows achieved notable recognition in 2018. Here are just four examples:

James Anderson: 2018 Fellow of the International Institute of Fisheries Economics and Trade (IIFET) in recognition for his outstanding contributions to the field of fisheries economics and international seafood trade.


Karen Garrett: UF IFAS Global – International Achievement Award.

Arie Havelaar: Chair, International Advisory Board, New Zealand Food Safety Science and Research Centre.

**Post-Doc and Students:** In 2018, ISFS:
- Supported five Post-Doctoral Associates and Assistant Scientists: Taryn Garlock (Anderson/Asche); Mark Musumba (Palm/Anderson); Min Li (Havelaar) Nitya Singh (Havelaar); Ly Nguyen (Anderson)
- Hosted over 25 visiting scholars and scientists from Brazil, China, France, Ghana, Iran, Italy, Pakistan, Sweden, and Turkey. Hoogenboom’s work developing DSSAT was the dominant interest for these visiting scholars, followed by several scholars from Norway seeking opportunities to work with Frank Asche and James Anderson.)
- Funded and/or mentored 27 Graduate Students.
**ISFS Fellows:** The ISFS UF Faculty Fellows Program was developed and the first fellows, Senthold Asseng and Greg Kiker, began their two-year terms in August 2017.

- Asseng is leading a transdisciplinary team of crop modelers, crop physiologists, breeders and geneticists to address issues directly related to Global Food Security and Food Production and Environmental Sustainability of global wheat production. He is also very active in planning the Future of Food Forum.
- Kiker is investigating how intra-household dynamics such as gender roles, health and food selection/allocation compare with external drivers to influence food security, vulnerability and overall resilience of resource-limited households.

**Sponsored Workshops and Seminars:**
- Hoogenboom’s group coordinates the development of the Decision Support System for Agrotechnology Transfer (DSSAT; http://www.dssat.net/), the most widely-used crop modeling system across the globe. In 2018, Hoogenboom, Asseng and others organized and facilitated 13 international training workshops on Crop Modeling and Decision Support with more than 150 participants from the U.S., Brazil, Nigeria, Indonesia, Thailand, Cuba, and Jamaica.
- Garrett has translated the Impact Network Analysis (INA) platform into an R package for broad application in the management of agricultural systems. She conducted three workshops on an Introduction to R and Network Analysis in Kenya, Haiti and at the International Congress of Plant Pathology in Boston, MA.
- Havelaar led training sessions in Ethiopia on the CAGED project.
- Anderson, Garlock and Asche, led a workshop: ‘Exploring the Constraints and Opportunities for Florida Finfish Aquaculture’ at UF.
- Anderson, and Robins McIntosh, Sr. VP. CP Foods, conducted a workshop to Develop Plans for Center of Excellence for Shrimp Innovation at UF.

**Extension:**
Cheryl Palm developed and submitted an Educational Business Activity for SoilDoc as an extension tool for use in developing countries where soil testing facilities are, in general, unavailable or if they are available, are beyond the financial resources of small scale farmers. We are in the final stage of approvals. Cheryl, along with Dr. Patrick Mutuo, gave a presentation of SoilDoc in the field and analysis for the African Development Bank Ghana Soil Science Survey Workshop in Tamale, Ghana. Research is ongoing on soil fertility constraints to crop production in Africa with the continued development of SoilDoc for rapid field testing of soils.

**Social Media and Communications:**
Since Cathy Bester joined ISFS in October 2018 our website http://isfs.institute.ifas.ufl.edu has been completely revised and updated. We also started to give more attention to social media accounts on both Facebook and Twitter. Twitter stats as of 1-25-2019: 188 total followers (96 new followers in 2018) and 2018 Facebook stats: 32 total page likes with 42 page followers. The ISFS listserv currently has 142 subscribers (28 new subscribers in 2018). IFAS news media tracking reported on ISFS work 21 times in 2018.

The Global Food System Data Wall provides a state-of-the-art visualization of the global food system and our work. In 2018, we partnered with Kathryn Stofer to support a new class (AEC 4932) to translate content from IFAS researchers and explore other means of using technology to enhance public access to research.
The Shrimp Initiative:
A symposium and workshop hosted at the University of Florida (UF) was held on September 17-20. At the event, leaders and experts from Charoen Pokphand Foods (CPF), University of Florida, government and other institutions came together to consider the future of shrimp and how to move a shrimp sector forward.

The purpose of the symposium was to share knowledge and explore the development of a Center of Excellence for Shrimp Innovation that could conduct priority research needed to catalyze a sustainable and profitable shrimp industry in the US. Such a Center would have many multiplier effects including attracting talented researchers and being a training facility for future operators of indoor shrimp farms. During the symposium, senior executives from CPF were able to gain a broader understanding of the research, expertise and training opportunities across different schools and faculties at UF. It became clear that UF had the capacity to facilitate interdisciplinary research and that locating a Center of Excellence on campus would leverage existing expertise. The workshop produced a list of prioritized research areas as well as specifications for a full-scale testing system. This output will be useful in further work to develop alternatives for the build of a Center of Excellence at UF.

FUTURE DIRECTIONS

Goals for ISFS in teaching, research and extension for the upcoming year

The overarching goal is to raise UF, IFAS and ISFS’s profile in: 1) Food, Health and Nutrition; 2) Global Food Security; 3) Tools for Decision Makers: Global Food Systems Models; 4) Food Production (Agriculture, Aquaculture and Fisheries), Natural Resources and the Environment; 5) New Metrics. In support of these areas, the following includes some of the goals and commitments of the ISFS for 2019:

- Anderson will work with Robins McIntosh (CP Foods) and IFAS Advancement to obtain funding for the Shrimp Initiative.
- Anderson will continue his ongoing work on the international shrimp market and aquaculture’s role in the global food system.
- Anderson, Asche, Garlock and Chu will expand and broaden the application of the Fisheries Performance Indicators (FPiS) and develop Aquaculture Performance Indicators (APIs) continue to scale up the research program.
- Asche and Anderson continue to work on the NSF-NIFA INFEWS project in collaboration with Johns Hopkins and Arizona State to measure energy and water use along the production chain of top products in the US seafood supply.
- Asche will be hosting Professor Atle Oglend and Post-Doc Ruth Pincinato in 2019 and together with Jim, will focus on seafood production and markets and particularly the use of the Fish Performance Indicators.
- Asche will assume the editor position for the journal Aquaculture Economics and Management in 2019.
- Asseng will continue to be co-leader of AgMIP, co-leader of AgMIP-Wheat, organize international workshops, and continue as Chair (elected) of Expert Working Group for Plant and Crop Modeling of international Wheat Initiative and expand research with international centers (IFPRI, CIMMYT, CIP, CIAT) and European project MACSUR.
- Garrett (The Garrett Lab) will host multiple workshops in 2018 to support use of this new platform for collaborators in CGIAR and in the US.
• **Havelaar** is will continue to lead the project funded by the Gates Foundation that aims to reduce stunting in children in developing countries by controlling exposure to chicken excreta, specifically Campylobacter bacteria, which induce environmental enteric dysfunction.
• **Hoogenboom**’s group will continue the expansion and development of DSSAT CRAFT and other applications. They continue to incorporate new crops and work with international researchers to create locally relevant decision support tools.
• **Royce** will assume management of UF’s USDA-sponsored Cuba research project: The emerging Cuba-U.S. plant pest pathway: Assessing Cuban pest threats, institutional capacity, and economic impacts.
• **Royce** will participate in implementation of UF-MINAG proposal: Food and environmental security: Cuba’s system of soil conservation polygons as a research platform for intensified sustainable agriculture.
• **Royce** plans to conduct research into: role of 2nd level cooperatives in Cuban agriculture; proportion of Cuba’s food that is imported; and Cuban agricultural cooperatives: private or state managed farms?
• **Sanchez** and **Palm** will continue long-standing collaborations with many African institutions, focusing on increasing food production while improving human wellbeing (income, nutrition) and minimizing environmental impact.
• **Sanchez** will work with Cuba to develop a collaborative program on food security and the environment with various research institutions of Cuba’s Ministry of Agriculture and the Ministry of Higher Education.

**New initiatives, activities or innovative programs that are being considered by ISFS**

**The Shrimp Initiative**
The ISFS Advisory Board for Aquatic Food Systems recommended that ISFS make a commitment global leadership to warm-water aquatic animal disease diagnostics, management and impact analysis. The recommendation is consistent with the ISFS Advisory Board for Agricultural Systems, Health and Nutrition that encouraged us mobilize multinational companies/institutes to partner with ISFS to build sustainable food systems in tropical/subtropical regions. Following up on these recommendations, we will:

• Continue to work with Robins McIntosh, Sr. VP. Charoen Pokphand Foods Co. Ltd. (CP Foods), Bangkok, Thailand to investigate the potential for a partnership between UF and CP Foods to build a center of excellence in shrimp aquaculture at UF and to catalyze the development of a significant shrimp aquaculture industry in the US.
• Expand this effort to include US companies like Beaver Street Fisheries and Legal Seafoods.

**ISFS Future of Food Symposium**
ISFS will host a major “Future of Food Forum” on January 15, 2020, featuring Louise Fresco, President, Wageningen University & Research.

**Global Food System Data Wall**
The Global Food System Data Wall. It will provide a state-of-the-art visualization of the global food system and our work. The goal for 2018 is to add more content from IFAS researchers and make the wall accessible on our website.
ISFS Fellows

In 2019, we will continue the internal (University of Florida) Fellows and initiate the external (other research institutions) Fellows programs. Externally, we will invite Dr. Jintao Xu to become an ISFS Fellow. He is professor of economics and associate dean at National School of Development, Peking University.
APPENDICES

I. Organization
   ISFS Core Faculty
   ISFS Affiliate Faculty
   2018 ISFS Fellows
   2018 ISFS Research Scientists/Post-docs, Staff
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II. Education
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III. Outreach
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V. External Funding

VI. Publications
I. ORGANIZATION

**ISFS Core Faculty**
- Dr. James L. Anderson
- Dr. Frank Asche
- Dr. Karen Garrett
- Dr. Arie H. Havelaar
- Dr. Gerrit Hoogenboom
- Dr. Cheryl Palm
- Dr. Pedro Sanchez

**ISFS Affiliate Faculty**
- Dr. George Baker
- Dr. Xiang Bi
- Dr. Mark Brown
- Dr. Christa Court
- Dr. Johann Desaeger
- Dr. Derek Farnsworth
- Dr. Liz Felter
- Kelly Grogan
- Dr. Lisa House
- Dr. Andrew Kane
- Dr. Kai Lorenzen
- Dr. Anne Mathews
- Dr. Travis McArthur
- Dr. Brandon McFadden
- Dr. Conner Mullally
- Dr. Rafael Muñoz-Carpena
- Dr. Patrick Mutuo
- Dr. Rao Mylavarapu
- Dr. Gulcan Onel
- Dr. Frederick Royce
- Dr. James Seale
- Dr. Karla Shelnutt
- Dr. Kathryn Stofer
- Dr. Pilar Useche
- Dr. James Wilen

**2018 ISFS Fellows**
- Dr. Senthold Asseng
- Dr. Gregory Kiker

**2018 ISFS Research Scientists/Post-docs and Staff**
- Dr. Taryn Garlock (Anderson/Asche)
2018 ISFS Global Leaders Advisory Boards

- **Agriculture Systems, Health and Nutrition Advisory Board**
  We established the Institute for Sustainable Food Systems Global Leaders Advisory Board for Agriculture Systems, Health and Nutrition as a complement to the ISFS Aquatic Food Systems Advisory Board. The members are:
  
  * Martin Bloem, Director and Professor, Center for a Livable Future, Johns Hopkins Bloomberg School of Public Health;*
  * Lisa Conti, Deputy Commissioner and Chief Science Officer, Florida Department of Agriculture and Consumer Services;*
  * Matthew Johnston, Head, Global Vegetable Seeds and Flowers, Syngenta Crop Production AG;*
  * Dino Martins, Executive Director, Mpala Research Centre, Kenya; Research Scholar and Lecturer in Ecology and Evolutionary Biology at Princeton;*
  * Morven McLean, Executive Director, ILSI (International Life Sciences Institute) Research Foundation;*
  * Mark Rosegrant, Director of Environment and Production Technology Division, IFPRI (International Food Policy Research Institute); and*
  * Stanley Wood, Senior Program Officer, Agriculture Development, Global Growth Opportunities, Bill and Melinda Gates Foundation.*

  This advisory group met with ISFS core faculty on May 2, 2018 at the ISFS office, where they were briefed on ISFS progress to date resulting in recommendations from the group. Some of their recommendations included focusing the ISFS mission on becoming a global leader, building sustainable food systems in Tropical/Subtropical regions, and leveraging the full potential of UF’s intellectual and physical capacity to optimize health, nutrition, and economic and environmental outcomes. They also encouraged us to mobilize multinational companies/institutes to partner with ISFS; and to consider AgBusiness Leadership training and establish a world center food technology hub - leveraging all IFAS RECs for tropical/subtropical food systems development.

- **Aquatic Food Systems Advisory Board**
  The members are:
  
  * George Chamberlain, President, Global Aquaculture Alliance and the Responsible Aquaculture Foundation Portsmouth, NH*
  * John Connelly, President, National Fisheries Institute Washington DC*
  * Bill Herzig, President, Sustainable Strategies and Initiatives, Seattle, WA, Former Sr. Vice President, Red Lobster, Orlando, FL*
  * Brad Richmond, Chief Financial Officer (retired), Darden Restaurants Orlando, FL*
  * John Stephens, President, Bama Sea Products St. Petersburg, FL*

- **Academic Advisory Board**
  The members are:
  
  * Ilaria Capua, Director, Center for Excellence in One Health, Emerging Pathogens Institute, University of Florida; Professor of Veterinary Medicine, University of Florida*
Thomas Frazer, Director, School of Natural Resources and Environment, University of Florida; Acting Director, UF Water Institute, University of Florida; Professor, Aquatic Ecology, University of Florida
James Jones, Director, Florida Climate Institute, University of Florida; Distinguished Professor Emeritus, Agricultural & Biological Engineering Department, University of Florida
Kati Migliaccio, Chair and Professor, Department of Agricultural and Biological Engineering, University of Florida
Glenn Morris, Director, EPI; Professor of Medicine (Infectious Diseases), University of Florida
Ramesh Reddy, Chair and Professor, Soil & Water Science, University of Florida
Lisa House, Chair and Professor, Food and Resource Economics, University of Florida
II. EDUCATION

2018 ISFS Graduate Students (ISFS Core Faculty - Chair/Co-Chair/Committee)

- Jordan Moor (Anderson, chair, FRED, MSc since 2018)
- Bixuan Yang (Anderson, chair, FRED, PhD, since August 2016)
- Robert Botta (Asche – co-chair; SNRC, since August 2018)
- Yingkai Fang (Asche - chair; FRED, since August 2016)
- Isaac Duerr (Asseng - committee; ABE, PhD, graduated 2018)
- Josue ST Fort (Asseng - committee; ABE, MSc)
- Carla Gavilan (Asseng – co-chair; SWS, PhD)
- Jose Guarin (Asseng - chair; ABE, MSc, graduated August 2018)
- Ixchel Hernandez Ochoa (Asseng - chair; ABE, MSc, graduated August 2018)
- Jahangir Khan (Asseng - committee; ABE, PhD)
- Hunter R. Merrill (Asseng - committee; ABE, PhD, graduated 2018)
- Kirsten Paff (Asseng - chair; ABE, MSc, graduated August 2018)
- Daniel Perondi (Asseng – committee; ABE, PhD)
- Andres F. Rodriguez (Asseng - committee; SWS, PhD)
- Tayler Schillerberg (Asseng – external committee; Auburn University, PhD)
- Nebi Yesilekin (Asseng - committee; ABE, MSc)
- Elizabethe Beshearse (Havelaar; College of Nursing; PhD, graduated August 2018)
- Billy (Dehao) Chen (Havelaar; EGH, PhD, since August 2018)
- Alan Gutierrez (Havelaar; FSNH, PhD)
- Taylor Langford (Havelaar; ANS, MSc)
- Lindsey Laytner (Havelaar; EGH, PhD, graduated December 2018)
- Bruce (Xialong) Li (Havelaar; EGH, PhD, since August 2018)
- Yi Su (Havelaar; EGD; PhD)
- Yitagele Terefe (Havelaar; Haramaya University, Ethiopia, PhD)
- Alwin Hopf (Hoogenboom; ABE, MSc)
- Patricia Moreno Cadena (Hoogenboom, Asseng, Palm - committee; ABE, PhD)
- Yujing Gao (Hoogenboom; Asseng - committee; ABE, PhD)
- Congmu Zhang (Hoogenboom; ABE, PhD)
- Carly Muir (Palm- committee; Geography, PhD)
- Valerie Valerio (Palm- committee; ABE, PhD)
- Benjamin Clark (Palm – co-chair; Columbia University)
- Alexandra Huddell (Palm – committee; Columbia University)
- Redjino Mompremier (Sanchez – committee; ABE, PhD))
- Julio Pachón (Sanchez – committee; ABE, MSc/PhD)

2018 ISFS Visiting Scholars/Scientists

- July 29, 2017 – August 1, 2018. Dr. Jing Cao. Visiting Scientist. Institute of Agricultural Economics and Information, Jiangsu Academy of Agricultural Sciences, Nanjing, P.R. China.
- August 2017 - July 2018. Professor Sigbjørn Tveteras and Ph.D. student Ursula Landazuri from the
University of Stavanger, Norway.

- September 4, 2017 – September 8, 2018. Xiaolin Li. Visiting Scientist. Graduate Student, College of Water Resources & Civil Engineering, China Agriculture University, Beijing, P.R. China.
- February 7, 2018 – Present. Dr. Yue Li. Visiting Scientist. Associate Professor, School of Information Sciences and Technology, Ganu Agricultural University, Lanzhou, Gansu, P.R. China.
- August 5, 2018 – Present. Dr. Ying Wang. Visiting Scientist. Associate Professor, Department of Water Conservancy, Yunna Agricultural University, Kumming Ching, P.R. China.
- September 6, 2018 – Present. Gelareh Goodarzi. Visiting Scientist. Graduate Student, Zabol University, Zabol, Iran.
- September 25, 2018 – Present. Jintao Cui. Visiting Scientist. Graduate Student, Department of Agricultural Water Soil Engineering, College of Water Conservancy and Hydropower Engineering, Hohai University, Nanjing, P.R. China.
- October 1, 2018 – Present. Dan Wang. Visiting Scientist. Graduate Student, College of Water Resources and Civil Engineering, China Agricultural University, Beijing, P.R. China.
- November 9, 2018 – Present. Fabio Augusto Antunes de Oliveira. Research Associate.
- 2018: Olegario Muñiz, Visiting Scientist, Soils Institute, Ministry of Agriculture, Havana, Cuba
- Short term visits were conducted by Håkan Eggert (University of Gothenburg, Sweden), Hans-Martin Straume and Ivar Gaasland (Norwegian School of Management, Norway), Martin Smith (Duke University) and Cathy Roheim (University of Idaho)
2018 University Courses Taught

University of Florida
Spring Semester 2018
Senthold Asseng taught Simulation of Agricultural and Biological Systems, ABE 5646

University of Florida
Spring 2018
Cheryl Palm and Mark Musumba presented a new course: Agricultural Intensification: Tradeoffs or Synergies with the Environment and Livelihoods, AOM 4932/6932 (8 students (7 graduate and 1 undergraduate) plus one hour lab section on indicator estimation and trade-off analysis (2 credit course and accompanying 1 credit lab course on metrics, indicators and data)

University of Florida
Summer Semester 2018
Karen Garrett taught Epidemiology and data science, (course dept. number)

University of Florida
Fall Semester 2018
Frank Asche taught Fish and Aquaculture Economics, FAS6932 - Special Topics

Wageningen University/University of Florida
June 3-8, 2018
The Center for Stress Resilient Agriculture (CSRA) facilitated a collaboration with UF/IFAS Gerrit Hoogenboom and Ken Boote and Wageningen University to host a short course for PhD students, Fundamentals of Crop Physiology in a Changing World (hosted in the Netherlands)

Cheryl Palm, Pedro Sanchez and Patrick Mutuo (IITA/UF) led 3 undergraduates (Victoria Steinnecker (ABE), Sienna Turner (Plant Science) and Ethan Weinrich (SWS) on a Center for African Studies Research Tutorial Abroad Program on Agricultural Intensification in Semi-Arid Kenya: tradeoffs with livelihoods and ecosystem services, at the Mpala Research Center in Laikipia County, Kenya June 15-30. Joining the group were two undergraduates from Africa: Joseph Omagwa (Kenyatta University, Kenya) and David Mubiru (Makerere University, Uganda. The team was joined the second week by UF faculty Rafa Munoz-Carpena and Greg Kiker (ABE) and Gabriel Maltais-Landry (SWS) and two graduate students, Julio Pachon (SWS) and Enrique Orozoco (ABE, with travel support from the Campbell Field Travel Fellowship in Water Resources). The group toured large and small scale farms in the watershed of Mt. Kenya exploring research opportunities in agriculture and conservation. (2018).
Training Workshops/Seminars

Jan 8-12, 2018  Hoogenboom
8th DSSAT Development Sprint, University of Florida, Gainesville, FL (31 participants)

Feb 6, 2018  Havelaar
Dynamics of infection with Campylobacter in young children in low and middle income countries. Biocomplexity Engineering Group seminar series at ABE/UF, Gainesville, FL

Feb 13-14, 2018  Hoogenboom
DOE ARPA-E Workshop Energy-Smart Farm: Distributed Intelligence Networks for Highly Variable and Resource Constrained Crop Production Environments, Phoenix, AZ

Feb 21-22, 2018  Asseng, Hoogenboom, Migliaccio, and Zhao
Mechanistic crop modeling and life-cycle assessment modeling workshop, Gainesville, FL

Feb 26-March 2, 2018  Hoogenboom
DSSAT 2018. International Training Program on Assessing Crop Production, Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models (17 participants). International Institute of Tropical Agriculture, Ibadan, Nigeria

March 19-24, 2018  Hoogenboom
DSSAT 2018. International Training Program on Assessing Crop Production, Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models (15 participants). Hotel du Parc, Tunis, Tunisia

March 22-23, 2018  Anderson
Meeting with CP Foods executives to explore a partnership of shrimp aquaculture (ISFS), Gainesville, FL

April 4, 2018  Garrett
Workshop: Introduction to R and Networks in R, ILRI campus, Nairobi, Kenya

April 9-13, 2018  Hoogenboom
DSSAT 2018. International Training Program on Assessing Crop Production, Water and Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models (21 participants). Training Center, Great Giant Pineapple Co., Terbanggi Besar Km. 77, Lampung Tengah, Indonesia

April 27, 2018  Anderson, Garlock, and Asche
Workshop: Exploring the Constraints and Opportunities for Florida Finfish Aquaculture. Finfish Aquaculture in Florida: Think Tank (ISFS), Gainesville, FL

May 3, 2018  Hoogenboom
DSSAT Mini-Sprint. Institute for Sustainable Food Systems, University of Florida, Gainesville, FL

May 14-19, 2018  Hoogenboom
DSSAT 2018. International Training Program on Assessing Crop Production, Water and Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models (47 participants). The University of Georgia, Griffin, GA
June 3-8, 2018  **Hoogenboom**  
Postgraduate Course Fundamentals of Crop Physiology in a Changing World. The C.T. De Wit Graduate School Production Ecology & Resource Conservation, Wageningen University & University of Florida (33 participants). Parkhotel de Bosrand, Ede, the Netherlands

June 11-12, 2018  **Garrett**  
“Introduction to R” workshop as part of the USAID AREA project in Port-au-Prince, Haiti

June 25-28, 2018  **Asseng, Hoogenboom, Migliaccio**  
2nd Annual workshop for climate adaptation and mitigation in fruit and vegetable supply chains project, Prosser, WA

July 9-13, 2018  **Hoogenboom**  
9th DSSAT Development Sprint. Maricopa Agricultural Research Center (MAC), University of Arizona, Maricopa, AZ

July 12, 2018  **Hoogenboom**  
DSSAT Training Workshop (via Skype). Escola Superior de Agricultura “Luiz de Queiroz”, Universidade de São Paulo, Piracicaba, Brazil

July 23-27, 2018  **Hoogenboom**  
Crop Simulation Modeling-Regional Capacity Building Workshop. Module 2: Advanced Modeling (26 participants). The University of the West Indies, Mona Campus, Kingston, Jamaica

July 29, 2018  **Garrett**  
Workshop: Network analysis in R, International Congress of Plant Pathology, Boston, MA

Aug 20-30, 2018  **Havelaar**  
Training sessions CAGED project at Haramaya University, Ethiopia

Aug 20-Sept 1, 2018  **Hoogenboom**  
Small Farm Precision Agriculture Training Workshop. A Training Program on DSSAT v4.7 and MWCropDSS Tool (24 participants). Green Lake Resort, Chiang Mai, Thailand

Sept 18, 2018  **Hoogenboom**  
Crop Modeling as a Tool for Research and Extension. Sustainable Cropping Systems Seminar at SROC – Waseca (University of Minnesota), MN

Sept 18-21, 2018  **Anderson, ISFS Team & IFAS Advancement Office**  
Workshop to Develop Plans for Center of Excellence for Shrimp Innovation (ISFS), Gainesville, FL

Oct 30-Nov 2, 2018  **Musumba**  
Sustainable Intensification Indicators Framework Implementation workshop. He advised and facilitated a workshop for CGIAR scientist working on the AfricaRISING project on indicator selection and estimation for sustainability assessment, Accra, Ghana
Hoogenboom

Nov 5, 2018
22nd DSSAT Foundation Open Forum. 2018 International Annual Meetings, ASA, CSSA, and CSA. Baltimore, MD

Dec 18, 2018
DSSAT Mini-Sprint, Institute for Sustainable Food Systems, University of Florida, Gainesville, FL
III. OUTREACH

2018 Conferences/Presentations/Meetings

Jan, 2018  
Musumba  
Attended meeting as part of the AGU Talent Pool Strategy Task Force, Washington DC

Jan 10, 2018  
Asseng  
Invited presentation, “Simple modeling approach”. DSSAT Development Sprint, University of Florida, Gainesville, FL

Jan 15, 2018  
Garrett  
Keynote presentation, “Symposium on Global Change and Agroecosystems: Challenges and Opportunities. Michigan State University, East Lansing, MI

Jan 16, 2018  
Garrett  
Panel presentation, “ESPP Colloquium: Sustainable Food Systems in Developing Countries”. Michigan State University, East Lansing, MI

Jan 16, 2018  
Havelaar  
Invited presentation, “Contamination cycles of zoonotic and foodborne pathogens”. Retirement symposium for Dr. Ariena Van Bruggen, Gainesville, FL

Jan 22-26, 2018  
Havelaar  
Presentation, CAGED project (session chair), LSIL Annual General Meeting and Innovation Platform. Addis Ababa, Ethiopia

Jan 30, 2018  
Asseng  
Invited presentation, “AgMIP- The Agricultural Model Intercompansion and Improvement Project”. ABE Seminar Series, University of Florida, Gainesville FL

Feb 8-10, 2018  
Asseng  
Invited presentation, “What’s for Dinner? Climate’s Impact on Food Security and Production at Our Climate: The Only Constant is Change”. 24th annual Public Interest Environmental Conference, Levin College of Law in Gainesville, FL

Feb 15, 2018  
Garrett  
Presentation, Workshop on “Building resilience against crop diseases: a global surveillance system (GSS)”. Rockefeller Conference Center, Bellagio, Italy

Feb 15, 2018  
Havelaar  
Participant, Emerging Pathogens Institute Research Day. Gainesville, FL

Feb 19, 2018  
Anderson, Asche, and Garlock  
Feb 20, 2018  **Asche and Anderson**

Feb 20, 2018  **Asche and Anderson**
Presentation, “The dynamics of Disease in Aquaculture from an Economic Perspective”. Aquaculture America 2018 in Las Vegas, NV

Feb 20, 2018  **Garrett**
Presentation, Workshop on “Advancing interdisciplinary invasion science at the University of Florida”. Gainesville, FL

Feb 21-22, 2018  **Asseng**
Invited presentation, “A simple model for fruit and vegetables”. NIFA Fruit and vegetable project Workshop, ABE, University of Florida, Gainesville, FL

Feb 27, 2018  **Palm**
Presentation, “Developing Indicators for Sustainable Intensification” invited presentation at CGIAR workshop, Assessing the impact of research on managing natural resources for sustainable production systems. IFPRI, Washington DC

Feb 27-28, 2018  **Havelaar**
Invited participant, Water Summit, Center for Produce Safety, Covington. KY

March 1, 2018  **Havelaar**

March 7-9, 2018  **Anderson**
Participant, World Ocean Summit 2018. Cancun-Playa del Carmen, Mexico

March 20-21, 2018  **Havelaar**

March 21, 2018  **Garrett**
Commentary, Agricultural Research Connections Workshop (BecA-ILRI Hub). Nairobi, Kenya

March 22-23, 2018  **Anderson**
Meeting with CP Foods executives, “Exploring the Potential to Create a Shrimp Aquaculture Industry in the US” ISFS, Frazer Rogers, University of Florida. Gainesville, FL

March 29, 2018  **Havelaar**
Invited participant, Workshop on Disease Modeling to Support Revision of ERS Cost of Foodborne Illness Estimates. USDA Economic Research Service, Washington, DC

March 27-30, 2018  **Garrett**
Presentations, CGIAR RTB Seed Systems project meeting, Nairobi, Kenya

April 9-11, 2018  Garrett  
Presentation, CGIAR RTB Pest Risk Assessment project meeting. Fera Science, Sand Hutton, UK

April 10, 2018  Asche  

April 11, 2018  Asseng  
Invited presentation, “AgMIP Research in North America”. NIFA Seminar, USDA-NIFA Headquarter, Washington DC

April 16, 2018  Asseng  
Invited presentation, “Fruit and Vegetable Supply Chains: Climate Adaptation & Mitigation Opportunities”. ABE Advisory Board Meeting, University of Florida, Gainesville FL

April 16, 2018  Anderson  
Invited presentation, “Fisheries, Aquaculture and the Future of Seafood“. Florida Museum of Natural History Science Café, Blue Gill Quality Foods, Gainesville FL

April 24-26, 2018  Asseng  

April 24-26, 2018  Hoogenboom  
Invited presentation, “Agricultural Model Intercomparison and Improvement Project”. 4th Annual LTAR Conference, El Reno, OK

April 27, 2018  Anderson  
Organizer, “Florida Aquaculture Think Tank” meeting, Gainesville FL (ISFS HQ)

April 30, 2018  Asseng  

April 30, 2018  Palm  

May 2, 2018  Garrett  
Presentation, UF IFAS Research Forum, Gainesville, Florida
May 2, 2018  
**Palm**
Invited presentation, “Sustainable Agricultural Intensification”. Institute for Sustainable Food Systems ISFS Global Leaders Advisory Board Meeting, University of Florida, Gainesville FL

May 2, 2018  
**Asseng**
Invited presentation, “Future Farming Systems”. Institute for Sustainable Food Systems ISFS Global Leaders Advisory Board Meeting, University of Florida, Gainesville FL

May 11, 2018  
**Hoogenboom**
Invited presentation, “DSSAT & AgMIP”. Cacao Simulation Modeling Workshop, Reading, UK

May 14, 2018  
**Anderson**
Invited presentation, “Seafood Systems Thinking”. Food from the Sea Workshop, Newport, OR

May 14-22, 2018  
**Asseng**
Invited presentation, “Enhancing Systems understanding with crop simulation modeling”. Seminar at the International Maize and Wheat Improvement Center (CIMMYT-Turkey), Ankara, Turkey

June 5, 2018  
**Asseng**
Remote invited presentation, AgMIP, Mini-Symposium on Crop modeling. CIMMYT, Mexico City, Mexico

June 8, 2018  
**Garrett**
Presentation, Haitian Agricultural Ministry-Phytosanitary Group, Port-au-Prince, Haiti

June 20, 2018  
**Garrett**
Plenary presentation, 21st Penn State Plant Biology Symposium: “Wild and Tamed Phytobiomes”. Pennsylvania State University, State College, PA

June 20, 2018  
**Royce**
Invited presentation, “Cuba and the Gator Nation: Agriculture, Business and Travel”. Association of Hispanic Alumni and the Pinellas County Gator Club joint meeting, St. Petersburg, FL

June 25-28, 2018  
**Asseng**
Invited presentation, “Crop Modeling”. Annual NIFA Project Meeting, The Clore Center, WA

July 2, 2018  
**Asseng**
Invited participant, Expert Working Group Meeting of Wheat Initiative, Berlin, Germany

July 7-11  
**Havelaar**
Presentation, “Food Safety in Low- and Middle-Income Countries”, Panel member Roundtable: “The Conundrum of Campylobacter Source Attribution”. Annual Meeting International Association for Food Protection, Salt Lake City, UT

July 16-20, 2018  
**Anderson**
Plenary speaker, “Embracing the Future of Seafood and Systems Thinking”. International Institute of Fisheries Economics & Trade, University of Washington, Seattle, WA
July 16-20, 2018  Garlock, Asche, Anderson  

July 18, 2018  Anderson  
IIFET Fellow’s Address, “Embracing the Future of Seafood and Systems Thinking”. International Institute for Fisheries Economics and Trade Conference, Seattle, WA

July 31, 2018  Garrett  
Presentation, Session on: Multi-Scale Influence of Weather on Pathogens and Disease Development. International Congress of Plant Pathology, Boston, MA

July 31, 2018  Garrett  
Keynote presentation, Session on: Emerging Plant Diseases and Global Food Security. International Congress of Plant Pathology, Boston, MA

August 13-17, 2018  Sanchez, Palm and Mutuo  
Keynote presentation, “Soils of the world: Reconciling food, fuel, water, and biodiversity”. World Congress of Soil Science, Rio de Janeiro, Brazil

Aug 20-21, 2018  Hoogenboom  
Presentation, "How Physiological Crop Models relate to Agricultural Big Data". Identifying Obstacles to Applying Big Data in Agriculture Conference, Houston TX

Aug 21-23, 2018  Musumba  
Participant, Working group meeting for the Sustainable Agriculture Matrix through SESNYC. Annapolis MD

Aug 27-31, 2018  Asseng  

Sept 4, 2018  Anderson, Valderrama, and Jory  
Invited presentation,“Global Shrimp Production Review and Forecast”. Global Outlook for Aquaculture Leaders (GOAL) Conference, Guayaquil, Ecuador

Sept 4, 2018  Palm  

Sept 5, 2018  Havelaar  
Presentation, “The global burden of animal source foods”. Safe Food fair Food Cambodia Annual Meeting. Phnom Penh, Cambodia

Sept 6-7  Havelaar  
Presentation, “The global burden of animal source foods”. LSIL Annual General Meeting and Innovation Platform. Phnom Penh, Cambodia
Sept 17, 2018  Hoogenboom
Invited presentation, “Advances in Crop Simulation Modeling – From Basic Research to Practical Applications”. St. Paul, MN

Sept 17-19, 2018  Havelaar
Poster presentation, “Food Safety Research in the Feed the Future Innovation Lab for Livestock Systems”. Tropentag, Ghent, Belgium

Sept 17-18, 2018  Garlock, Asche, and Anderson
Presentation, “Fishery Performance Indicators: First Empirical Results”. FAO Fish Price Index workshop. Capri, Italy

Sept 18, 2018  Asche and Tveterås
Presentation, “Index and price developments”. 10th AD-HOC FAO FISH PRICE INDEX WORKSHOP, Capri, Italy

Sept 18, 2018  Hoogenboom
Invited presentation, “Crop Modeling as a Tool for Research and Extension”. Southern Research and Outreach Center, University of Minnesota, Waseca, MN

Sept 18, 2018  Anderson

Sept 19, 2018  Hoogenboom
Presentation, “Crop Adaptation to Maintain Food Security under Climate Change”. Agroecology Debate, University of Florida, Gainesville FL

Oct 1, 2018  Sanchez
Presentation, “New Breakthroughs in Brazilian Tropical Agriculture”. University of Florida, Gainesville FL

Oct 8-10, 2018  Asseng
Invited presentation, “Simulation of CO2 effects in wheat”. JRC Workshop on CO2 effects on crops: current understanding, modelling needs, and challenges, Ispra, Italy

Oct 11-16, 2018  Asseng
Invited presentation, “A simple crop model”. Seminar at the University of Sassari, Sardinia, Italy

Oct 15-18, 2018  Havelaar
Invited participant, Grand Challenges Annual Meeting. Berlin, Germany

Oct 17, 2018  Garrett and Vera Cruz

Oct 17, 2018  Garlock, Anderson, Asche, and J. Chu
Oct 24, 2018  Garrett
Presentation, Session on: “SEEDs or NO SEEDS: What is the dilemma? How to create root and tuber seed systems”. Triennial Symposium of International Society for Tropical Root Crops (ISTRC), Cali Colombia

Oct 27, 2018  Palm

Nov 1-2, 2018  Havelaar
Participant, Animal Sciences Graduate Research Symposium, St. Augustine, FL

Nov 2, 2018  Garrett
Remote presentation, National Institute of Microbial Forensics & Food and Agricultural Biosecurity, Oklahoma State University, Stillwater, OK

Nov 4-7, 2018  Asseng

Nov 4, 2018  Asseng
Co-chair of Organizing Committee for AgMIP side session on AgMIP-North America. American Society of Agronomy and Crop Science Society of America Meeting, Baltimore MD

Nov 12-13, 2018  Hoogenboom
Keynote Presentation, “Advances in Crop Modeling – From Basic Research to Practical Applications”. 1st International Conference on Agricultural Models and Their Applications in Modern Sustainable Agriculture & the 5th Symposium on the Development and Application of Agricultural System Models. Nanjing, China

Dec 6-7, 2018  Asseng
Participant, Fruit and vegetable supply chain, NIFA Project Directors Meeting, Washington, DC

Dec 10-14, 2018  Asseng
Presentations, “Climate Adaptation and mitigation opportunities for the two largest Solanceae crops in the US: potatoes and tomatoes”; “Integrating satellite and climate data to predict wheat yield in Australia using machine learning approaches”. AGU 100 Advancing Earth and Space Sciences Meeting. Washington DC
2018 Media

Social Media
2018 Twitter stats
- 140 total followers (102 new followers in 2018, 368% increase since Jan 1, 2018)
- 391 tweets
- 54,173 tweet impressions
- 86 mentions
- 382 link likes
- 56 retweets
- 0.67 average engagement rate (According to 2018 industry benchmarks by Rival IQ, the median Twitter engagement rate across every industry is .046%.)

2018 Facebook stats:
- 30 total page likes with 40 page followers (as of Dec 31, 2018)
- 423 posts
- 4224 reach
- 196 engagements
- 13 post likes
- 16 post shares
- 2 post comments

2018 Listserv stats: 142 subscribers (28 new subscribers during 2018)

News Media

01/03/2018 UF gets $8.7 million grant to improve nutritional quality, food safety in Ethiopia, Burkina Faso

01/10/2018 The future of food includes insect cuisine, edible packaging, sea vegetables and more

01/24/2018 Scientists help UF/IFAS predict where to grow food worldwide

01/24/2018 UF researchers are trying to grow potatoes and pineapples on a computer

03/09/2018 U.S. and Europe to Stop Being Selfish About Shellfish
07/16/2018 Considering Cuba: Opportunities and Challenges for Ag Input Suppliers (authors - Messina and Royce)

07/24/2018 Regional Agriculture Stakeholders Benefiting from Climate Resilience Workshop

07/24/2018 Shaw welcomes crop modelling to mitigate climate change impact
http://www.jamaicaobserver.com/latestnews/Shaw_welcomes_crop_modelling_to_mitigate_climate_change_impact?profile=1228

07/24/2018 Big data in agriculture focus of Houston conference Aug. 20-21

08/20/2018 Guar, wheat integration focus of new Texas A&M AgriLife study

09/05/2018 Egypt’s Wheat Production Illustrates Global Security Issues

09/05/2018 Egypt’s Wheat Production Illustrates Global Security Issues
https://www.newswise.com/articles/view/699985/?sc=rsla

09/24/2018 Sustainable fishing aids economies, communities, global study shows

09/25/2018 GOAL shrimp survey: Every region expects an upturn in production

09/26/2018 18% increase in shrimp production predicted
https://thefishsite.com/articles/18-increase-in-shrimp-production-predicted

09/26/2018 GOAL forecast has Vietnam shrimp output overtaking India, Indonesia getting close

10/01/2018 Editor’s recap: US cuts salmon fillets from China tariffs; Tesco shrimp shift; Concern over SHIV

10/05/2018 Mainers send their elver catch to Asia to reach market size. Why not grow eels here?
10/15/2018 Will Americans Embrace A Zeal For Eel? This Maine Entrepreneur Hopes So

10/28/2018 Rising dollar, market glut cut Vietnam’s shrimp export value

11/01/2018 Falling shrimp prices prompting US importers to think collectively

12/04/2018 Hotter world threatens the breadbasket of the US
https://www.ft.com/content/2eda777e-db68-11e8-b173-ebef6ab1374a
IV. AWARDS, HONOR, AND SERVICE

**Anderson**: 2018 Fellow of the International Institute of Fisheries Economics and Trade in recognition of his outstanding contributions to the field of fisheries economics.


**Asche**: Quality of Research Discovery Award, American Applied Economics Association for:

**Asche**: Featured as research highlight in Nature Energy, Vol 3, 01/09/18:


**Asseng**: University Term Professorship Award, University of Florida, 2017-2019.

**Asseng**: Florida Climate Institute Fellow, 2016-2018.

**Asseng**: University of Florida Research Foundation Professor, 2016-2019.

**Asseng**: Adjunct Professor at Nanjing Agricultural University, 2016-2021.


**Asseng**: Co-Chair of iCropM2020, International Symposium to be held in Montpellier, 3-5 February 2020 (2018-2020).

**Asseng**: Co-chair for Aspen Seminar on Next-Generation Food Shock Modeling to be held in May 2019, 2018-2019.


**Asseng**: Chair of Organizing Committee for AgMIP-Wheat, May 2019, Oklahoma, USA, 2018-2019.

**Garrett**: UF IFAS Global – International Achievement Award.

**Havelaar**: Chair, International Advisory Board, New Zealand Food Safety Science and Research Centre.
Havelaar: Member, Public Health External Advisory Committee for the UF College of Public Health and Health Professions.

Havelaar: Member, Strategic Planning Team, Global Burden of Animal Diseases Initiative.

Havelaar: Member, Scientist Promotion Panel, International Livestock Research Institute, Nairobi, Kenia.


Palm: UF, Member of India Committee Chaired by Ramesh Reddy

Palm: UF, Member of Agroecology Committee (representing ABE)

Palm: UF, served on honor committee of UF ABE student Victoria Steinnecker

Palm: UF, served as mentor to SURF student, Jaden Talley

Palm: Developed Training Course (with Mark Musumba -UF and Sieglinde Snapp – MSU) for USAID AfricaRISING workshop on Indicators for Sustainable Intensification

Palm: Served as External Reviewer for MS thesis, Witswatersrand University, South Africa

Palm: Reviewed entire syllabus and class materials for course Wageningen University, “Analysing Sustainability of Farming Systems”

Palm: Member of Science Committee for planning of 4th International Global Food Security Conference, to be held June 2020 in Montpellier, France


Palm: Took five UD faculty to Kenya/Mpala Research Center for a one to two week visit from which a research proposal has been developed as a result. The UF International Center was kind enough to provide $12,000 in funds support.

Sanchez: Presidential Award and Medal, Brazilian Soil Science Society.

Sanchez: Served on the President’s Committee on the National Medal of Science

Sanchez: Informal nomination for the next president of the International Union of Soil Science
V. EXTERNAL FUNDING (*new this year)

*Anderson and Asche (PIs)
NSF/NIFA INFEWS Program
$2,500,000 (UF $782,135)
1/1/2018‐11/15/2021 (Note: Award announced 2017; funding received 2018)
Reducing Resource Use at the Seafood-Energy-Water Nexus: Focus on Efficient Production and Waste Reduction

Anderson and Asche (PI)
Gulf States Marine Fisheries Commission
$69,000
12/31/2017‐3/31/2018
Finfish Aquaculture in the Gulf: Market Potential and Interaction with Wild Fisheries

*Anderson (PI)
CP Foods
$47,000
2018
Gift from CP Foods for shrimp aquaculture-related work

*Asche (PI)
Norce Norwegian Research Centre
$30,000
01/2018 – 01/2019
Quality-based differentiation of salmon

*Asche (PI)
University Of Stavanger
$15,000
07/2018 – 05/2019
Sustainfish-2018

*Asche (PI)
International Res Inst Of Stavanger
$10,000
05/2018 – 11/2018
Market Oriented and Sustainable Value Chains for Cod Products Based on Live Storage

Asche (PI)
International Res Inst Of Stavanger
$15,000
08/2017 – 08/2018
Market Oriented and Sustainable Value Chains for Cod Products Based on Live Storage
Asche (PI)
University Of Stavanger
Sustainfish-2017 (AWD02494)
08/2017 – 08/2018
$10,000

*Asche (Co-PI)
Gulf Seafood Council
$286,875
09/2017-03/2019
Aquaculture in the Gulf

Asseng (PI) and Hoogenboom
USDA-NIFA-AFRI
$3,409,360
(07/01/2017-06/30/2021)
Climate Adaptation and Mitigation in Fruit and Vegetable Supply Chains

Asseng (PI)
IWYP
$1,524,666
12/1/2018-11/30/2021
Traits for increasing wheat grain yield

Asseng (PI)
CIMMYT
$20,000
3/1/2018-6/30/2018
CGIAR Data Search for Crop Modeling

Asseng (PI)
CIMMYT
$170,000
12/01/2015-12/31/2019
CRP WHEAT – Wheat Crop Modeling

Asseng (Co-PI)
USDA-NNF
$238,500
01/01/2015-12/31/2020
Training Biological Engineers in Food Security

Asseng (Co-chair Sci Com)
UF IFAS
$10,000
2018
Support for Global AgMIP7 workshop in 2018
**Asseng** (Co-chair Sci Com)
UF IFAS
$10,000
2018
*Support for Global Aspen Workshop on Nutrition in 2018*

Adesogan (PI) and **Havelaar** (Co-PI)
USAID
$49,569,507
10/1/2015-9/30/2020
*Feed the Future Innovation lab for Livestock Systems*

Danyfuk (PI) and **Havelaar** (Co-PI)
Florida Tomato Committee
$31,313
11/01/2017-03/01/2019
*Establishing a scientific basis for the buffer zones following animal intrusion*

*Havelaar* (PI)
Bill & Melinda Gates Foundation
$3,180,129
01/01/2018-12/31/2022
*Campylobacter Genomics and Environmental Enteric Dysfunction*

**Havelaar** (PI)
Florida Department of Health
$280,000
07/01/2017-06/30/2021
*Centers of Excellence for Food Safety*

**Hoogenboom**
USDA-ARS-NACA
$70,000
2017-2019
*Targeting improvements in DSSAT and CSM*

**Hoogenboom**
UC Davis/USDA-NIFA Alfalfa and Forage Research Program (AFRP)
$83,318
2017-2019
*A Decision Support Tool for Predicting Alfalfa Yield and Quality to Enhance Resource Use Efficiency*

*Hoogenboom*
Texas A&M University/USDA-NIFA-Foundational BNRE
$75,734
2018-2022
*Enhancing Ecosystem Services through Integration of Guar into Wheat Cropping Systems of the Southern Great Plains*
*Hoogenboom
Great Giant Pineapple, Inc.
$42,889
2018
_Training on the DSSAT - Aloha Pineapple Model_

*Hoogenboom
International Fertilizer Development Center
$100,000
2018-2019
_Cooperative crop modeling and scientific data effort_

*Hoogenboom
CIAT/CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)
$90,000
2018
_CCIFS Regional Agricultural Forecasting Toolbox (CRAFT) maintenance, improvement, and support_

*Hoogenboom
IFPRI/Platform for Big Data in Agriculture
$222,541
2018-2019
_Applying FAIR data principles to CGIAR agronomic data_

*Hoogenboom
University of Arizona/Department of Defense-DARPA
$635,000
2018-2021
_World Modelers_

*Hoogenboom
NEC
$36,000
2018-2019
_Improvement of the 2-D DSSAT Model for Water and Nutrient Management of Tomatoes_

*Hoogenboom
Bundesanstalt fur Geowissenschaften und Rohstoffen
$42,223.46
2018
_DSSAT Training in Tunisia_

*Royce
Federation of Southern Cooperatives
$22,223.46
2018
_US-Cuba Cooperative Food System Initiative_
Sanchez
Dyson Tropical Soils Gift
$100,000 per year for 5 years
2015-2020
Unrestricted
VI. PUBLICATIONS


doi:10.1016/j.eja.2018.04.001

doi:10.1016/j.agsy.2017.05.010


doi:10.4324/9781315561103-25


doi:10.1080/00036846.2018.1489502


doi:10.1080/13657305.2018.1385659


doi:10.1016/j.aquaculture.2016.10.031

doi:10.1073/pnas.1807677115

doi:10.1007/s00248-018-1302-1

doi:10.1088/1748-9326/aada50


Kim, H., Hyun, S. W., Hoogenboom, G., Porter, C. H. & Kim, K. S. (2018). Fuzzy Union to Assess Climate Suitability of Annual Ryegrass (Lolium multiflorum), Alfalfa (Medicago sativa) and Sorghum (Sorghum bicolor). Scientific Reports, 8:10220. doi:10.1038/s41598-018-28291-3


