Board Chair

Mark Keenum, Ph.D.

• Inaugural FFAR board member
• President of Mississippi State University
WELCOME
Dr. Mark Keenum, Board President
Board of Directors

19 voting members

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Dr. Doug Cameron, First Green Partners
Dr. Gail Christopher, Kellogg Foundation
Dr. Nancy Creamer, North Carolina State University
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Dr. Chris Mallett, formerly at Cargill Inc.
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Mr. Bob Stallman, American Farm Bureau Federation
Dr. Alton Thompson, Association of Research Directors of 1890 Land Grant Universities

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Dr. France Córdova, Chair, National Science Foundation
Dr. Chavonda Jacobs-Young, ARS Administrator and Acting Deputy Under Secretary for Research, Education and Economics, USDA
Dr. Tom Shanower, Acting NIFA Director, USDA
Executive Director

Sally Rockey, Ph.D.

• Became FFAR’s first Executive Director in September 2015

• 19 years with USDA

• Deputy Director for Extramural Research at the National Institutes of Health
Today’s Agenda

• 2018 Highlights
• FFAR’s Future
• Public Conversation
2018 Highlights
85 grants awarded
$40 million in funds left to program
100+ donors and partners
Donors and Funding Partners

And many more...
NAS Prize in Food and Agriculture Sciences

• $100,000 prize
• Endowed in perpetuity
• Prestigious mid-career recognition

Rodolphe Barrangou
North Carolina State University
For his discovery of the genetic mechanisms and proteins driving CRISPR-Cas systems.
Consortia Formed or Forming

- POP: Precision Indoor Plants
- CroPs of the Future
- ICASA
- Irrigation Innovation Consortium
Realizing Increased Photosynthetic Efficiency (RIPE)

$45M Reinvestment in “Green Revolution 2.0”

➢ Researchers have increased crop yield by more than 60% and reduced water intake by 25%

➢ Public-private funding supports staple food crops: soybean, cowpea, cassava.

Funders: FFAR, Bill & Melinda Gates Foundation, U.K. Department for International Development
World Wildlife Fund Food Waste Report

- **No Food Left Behind: Underutilized Produce Ripe for Alternative Markets,**
- Assesses food loss after harvest.
- 4 crops on farms in Florida, New Jersey, Idaho and Arizona
- Left in the field:
  - 40 percent of tomatoes
  - 39 percent of peaches
  - 56 percent of romaine lettuce, and
  - 2 percent of processing potatoes
- Causes include weather, labor costs or market conditions.
Breakthroughs 2030 Study Findings

1. The potential of microbiomes
2. Advancements in genetic evaluation and editing
3. Mining the advances in big data
4. Increase precision and productivity through sensors and biosensors
5. The power of transdisciplinary collaborations
“A Sprinkle of Seaweed Could Deflate Gassy Cows”
Inaugural FFAR Fellows
2018 FARM BILL

Thank you for your support.
Upcoming Award and Program Announcements

- New Innovators, 2018
- Seeding Solutions, 2018
- Swine Survivability and Technologies for Monitoring Swine
- Bluefin Tuna Aquaculture project
- Egg-Tech Prize
- XPRIZE
- Crops in silico 2.0
- Crops of the Future Leafy Greens Storability and Corn Drought Resistance
- And many more...
## Upcoming Convening Events

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Name</th>
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<tbody>
<tr>
<td><strong>October 16-17</strong></td>
<td>Research Gaps in Soil Health and Human Health</td>
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<td><strong>Jan 14</strong></td>
<td>Next Generation Gene Editing for Plants and Animals</td>
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<td><strong>Jan 31 – Feb 1</strong></td>
<td>Growing Better Health Convening Event</td>
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Seeking *Your* Input

How should our Challenge Areas evolve in 2019 and beyond?
<table>
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<tr>
<th>FFAR Challenge Area Priorities: 2017 - 2019</th>
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<tr>
<td><strong>Water Scarcity</strong></td>
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<tr>
<td>• Irrigation</td>
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<td>• Plant efficiency</td>
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<tr>
<td>• Water reuse/recovery</td>
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<tr>
<td>• Groundwater recharge</td>
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<td><strong>Soil Health</strong></td>
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<tr>
<td>• Soil health indicators</td>
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<td>• Soil enhancing techniques</td>
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<td>• Open platform decision support tools</td>
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<td><strong>Protein Challenge</strong></td>
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<td>• Health and productivity issues under new production practices</td>
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<td>• Environmental Sustainability</td>
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<td>• Animal Welfare</td>
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<tr>
<td><strong>Food Waste and Loss</strong></td>
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<tr>
<td>• Food system inefficiencies</td>
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<tr>
<td>• Measurement methodologies, monitoring &amp; reporting</td>
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<td>• Food and feed applications</td>
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<tr>
<td>• Non-food applications</td>
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<td><strong>Innovation Pathways</strong></td>
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<tr>
<td>• Building trust in the science of new technologies</td>
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<td>• Measuring technology adoption</td>
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<tr>
<td>• Overcoming constraints to tech adoption</td>
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<tr>
<td><strong>My Plate, Your Plate / Urban Food Systems</strong></td>
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<tr>
<td>Production/Crop Diversification</td>
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<tr>
<td>• Nutrition</td>
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<td>• Resilience</td>
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<tr>
<td>• Market opps Access, Affordability and Behavior</td>
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<tr>
<td>• Food interventions promoting health</td>
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<td>• Supply chain dynamics</td>
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Preliminary FFAR Challenge Areas: 2019 and Beyond

**Soil Health**
- Soil-human health connections
- Linkages between farm productivity and soil health
- Benefits of sound soil practices
- Barriers to adoption of soil health practices

**Sustainable Water Management**
- On-farm water reuse/recycling
- Food-energy-water nexus
- Groundwater recharge
- Diversification of agricultural systems
- Sustainable improvements to water productivity

**Advanced Animal Systems**
- Precision management
- Technologies for improved welfare
- Environmentally integrated production
- Innovative approaches to reducing reliance on antibiotics

**Next Generation Crops**
- Crop diversification
- Crop resiliency
- Accelerated breeding methodologies
- Breeding better nutrition

**Healthy Food Systems**
- Access to nutritious foods
- Food waste and loss
- Growing better health
- Advancing efficient production systems
- Anticipating crop supply and demand

**Urban Agriculture**
- Production systems in urban and peri-urban environments
- Networked production practices
- Systems solutions to food and nutritional insecurity
- Urban resource mgmt

Fostering the Future of Food and Agriculture Scientists
Question and Answers
Thank you

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