The USDA-NIFA Food Virology Collaborative (NoroCORE)

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**Long Term Goal:** To reduce the burden of food borne disease associated with viruses, particularly noroviruses

**Objectives (Cores):**
- Molecular virology
- Detection
- Epidemiology and Risk Analysis
- Prevention and Control
- Extension and Outreach
- Education and Capacity Building
NoroCORE Organizational Chart

**Government Advisory Committee**
- Administrative Director
- Admin. Support Assoc.
- Research Specialist

**Industry Advisory Committee**
- Curr. Development Specialist
- Public Comm. Specialist
- Senior Researcher

**Executive Committee**

**Detection Core**
- **Co-Leads:**
  - Cannon (UGA)
  - Atmar (BCM)
  - Jaykus (NCSU)
- **Collaborators:**
  - NCSU
  - RTI
  - Rutgers U.
  - U. Of Georgia
  - Office of Applied Research & Assessment, CFSAN

**Epidemiology & Risk Analysis Core**
- **Co-Leads:**
  - Moe (Emory)
  - Hall (CDC)
  - Beaulieu (RTI)
- **Collaborators:**
  - Emory
  - CDC
  - RTI
  - Arizona State U.
  - U. of Cincinnati

**Molecular Virology Core**
- **Co-Leads:**
  - Estes (BCM)
  - Vinje (CDC)
- **Collaborators:**
  - Baylor College of Medicine
  - Purdue
  - CDC
  - Ohio State U.
  - Cincinnati Children's Hosp.
  - U. of Delaware

**Control Strategies Core**
- **Co-Leads:**
  - Lee (IIT)
  - Williams (NCA&T)
  - Jaykus (NCSU)
- **Collaborators:**
  - IIT
  - NCA&T
  - Arizona State U.
  - Louisiana State U.
  - U. of Delaware
  - ARS-WRRC
  - Office of Applied Research & Assessment, CFSAN

**Education/Capacity Building**
- **Co-Leads:**
  - Yeh (NCCU)
  - Jaykus (NCSU)
- **Collaborators:**
  - All Participants

**Extension, Outreach & Engagement Core**
- **Co-Leads:**
  - Fraser (Clemson)
  - Moe (Emory)
  - Jaykus (NCSU)
- **Collaborators:**
  - All Participants
Research Activities

* Molecular Virology: Develop improved methods to facilitate the study of foodborne viruses and to further elucidate the significance of viral foodborne disease

* Detection: Develop and validate sensitive, rapid, and practical methods to detect and genotype HuNoV in relevant sample matrices, with the ultimate goal of commercialization
Research Activities

* Epidemiology and Risk Analysis: Collect and analyze population data on the burden of virus-associated disease, including epidemiological attribution and characterization of risk and costs.

* Prevention and Control: Improve understanding the occurrence and behavior of HuNoV in the food safety continuum so as to inform development of scientifically justifiable control measures.
Extension and Outreach: Translate and disseminate new knowledge about foodborne viruses into practices that reach target audiences in relevant work environments and across a wide array of stakeholder groups.
Capacity Building: Build scientific and human capacity to support increased and sustained efforts in food virology by fostering information and exchange, expanding professional capacity through formal student education and training initiatives.
Integration and Synergy

Data & Information
- Farm to Fork Prevalence
- Environmental Behavior
- Virus-Food Interaction
- Burden of Disease

Risk Modeling
- Predictive Models for Strain Emergence
- Epidemiological Attribution Models
- Predictive Models for Inactivation
- Economic Analysis Models
- Risk Assessment Models

Stakeholder Advisory Committees

Stakeholders

Tools
- Reagents
- Protocols
- Centralized Database
- Educational Materials
- Extension/Training Materials
- Reliable Detection & Typing Methods
- Human Viruses & Cultivable Surrogate

Control
- Pre-Harvest Control Strategies
- Post-Harvest Processing Methods
- Efficacious Hand & Surface Sanitizers
- Targeted Extension & Outreach Programs
* **Measurable** improvement in public health
* Practical, commercializable control strategies
* Increased awareness
* Model for the *New Biology* approach to science
* Sustained, successful stakeholder engagement
* Delivery of meaningful information to relevant stakeholders
* Leverage
Thank you for joining us today and we look forward to a fruitful relationship.