

Agricultural Outlook Forum

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ACTIVITIES AND COORDINATION TO ADDRESS HIGHEST PRIORITY GAPS

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Prevention and Control of Avian Influenza in the U.S.

USDA CSREES N° 35605-15388

USDA - CSREES

NRI - CAP

Cooperative Agricultural Project: Animal and Plant Biosecurity



Cooperative State
Research, Education, and Extension Service





USDA NRI Animal Biosecurity Objectives and Goals

- **Help ag. producers and professionals safeguard US agriculture from animal diseases and associated losses**
- **Establish investigator collaboration on diseases of high economic impact**
- **Help assure continued supply of safe, high-quality, affordable food and fiber for consumers and trade partners**



Unique NRI Program

- **Goal: To enhance global competitiveness of US agriculture**
- **Relatively large projects**
- **Emphasis on integration of**
 - **Research**
 - **Education**
 - **Extension**

Prevention and Control of Avian Influenza in the U.S.

Mission

- To develop knowledge-based integrated approaches to detect, control, and prevent the emergence of influenza viruses (particularly HPAI)
 - Three specific aims/Eight major objectives
 - Aim 1: Molecular aspects of interspecies transmission and pathogenesis of avian influenza in terrestrial poultry
 - Aim 2: Risk factors in LBMs and supply flocks, AI Surveillance in LBMs, supply flocks and waterfowl, Education/Biosecurity, Composting.
 - Aim 3: Diagnostics and Vaccines

AI CAP - AIM 1 - Two objectives

- **AIM 1: To determine the basis for adaptation of influenza A viruses from wild aquatic birds to land-based poultry.**
 - **Objective 1a. Define the role of intermediate hosts, in emergence of influenza A viruses in chickens and turkeys.**
 - **Objective 1b. Determine the molecular basis of transmission of flu A viruses in land-based avian intermediate hosts (reverse genetics.)**
 - **Objective 2. Determine the molecular parameters for detecting and diagnosing avian influenza viruses in chickens & turkeys affected by co-infections by other common respiratory and immunosuppressive viruses**

AI CAP - AIM 2 - Four objectives

- **AIM 2: To determine the dynamics and evolution of influenza A viruses in the LBM system, wild birds and game birds across the U.S., to characterize risk factors that contribute to the perpetuation of viruses in these populations, and to bring forth educational programs aimed at preventing, containing and controlling the spread of AI in these systems and thereby protect the commercial poultry industry.**

AI CAP - AIM 2 - Four objectives

- **AIM 2:**
 - **Objective 3: Characterization of the risk factors associated with LBM systems in CA, MN, and NY**
 - **Objective 4: Establish and maintain a coordinated, systematic type A influenza virus surveillance network in wild birds populations in the U.S.**
 - **Objective 5: Build effective education programs for outreach & extension.**
 - **Objective 6: Develop methods of poultry pathogen inactivation and create a network of local expertise for the disposal of catastrophic mortality.**

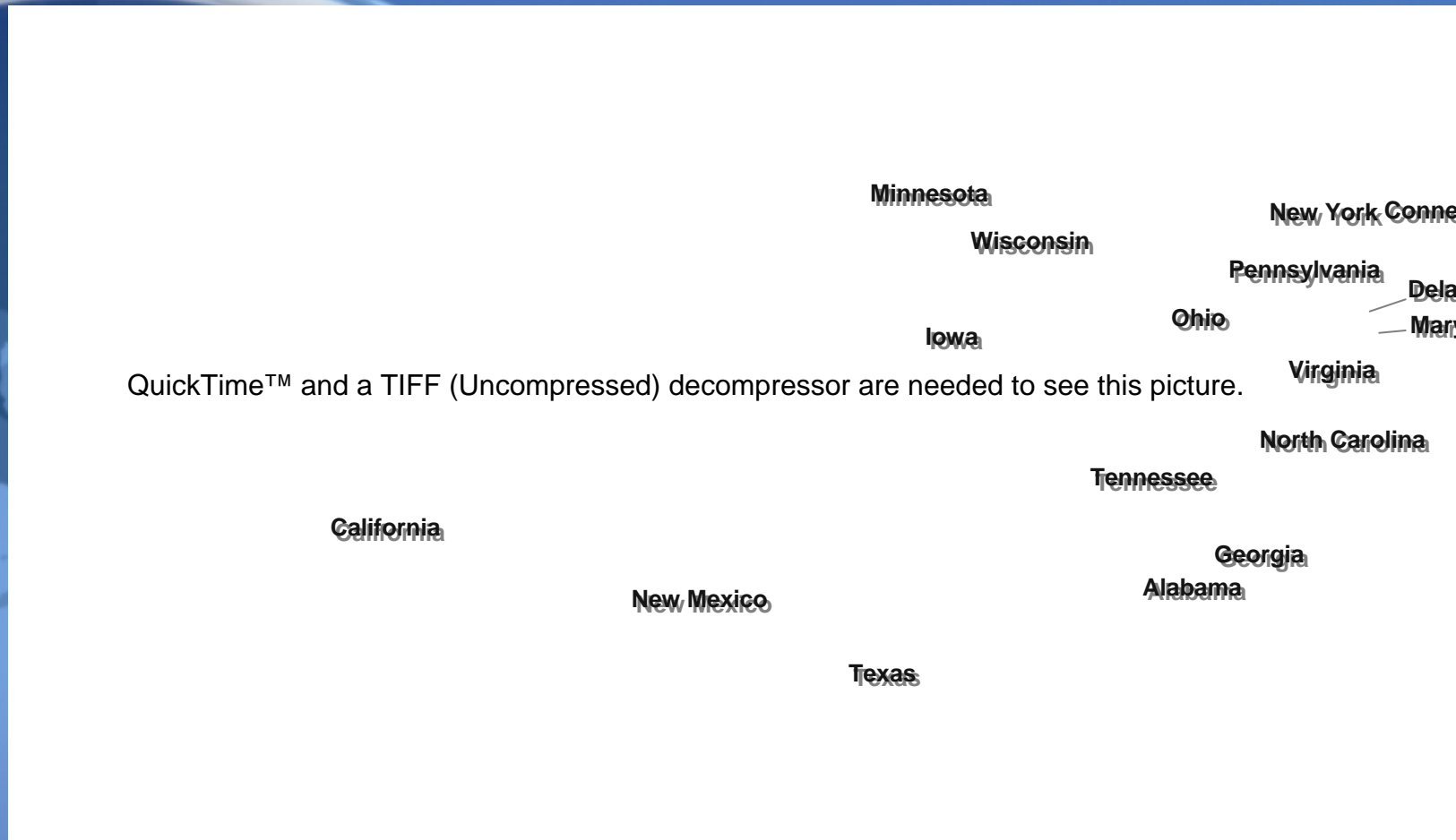
AI CAP - AIM 3 - Two objectives

- **AIM 3: To develop critical diagnostic tests and vaccines for avian influenza**
 - **Objective 7: Diagnosis of AI**
 - **Goal: Provide better diagnostic tools for avian influenza for:**
 - **Rapid Diagnostics**
 - **Improved penside diagnostics**
 - **Faster characterization of AI isolates**
 - **Improved RRT-PCR**
 - **Tools to implement DIVA strategy**
 - **ELISA tests for Neuraminidase**

AI CAP - AIM 3 - Two objectives

- **AIM 3: To develop critical diagnostic tests and vaccines for avian influenza**
 - **Objective 8: Vaccines**
 - Evaluation of Antigenic Drift in Mexican Avian Influenza Viruses Using DNA Vaccines
 - Evaluation of Avian Influenza Low Pathogenic H5 and H7 Subtype Isolates for Suitability as Vaccine Seed Strains for Emergency Vaccine Stockpiles
 - Novel Vector Vaccines to Control Avian Influenza
 - Control of Avian Influenza (AI) in flocks with vaccines generated by reverse genetics.
 - Replication-defective Adenovirus Recombinant Vaccine to Protect Chickens against Avian Influenza

Prevention and Control of Avian Influenza in the U. S. USDA-NRI: Participating States



Prevention and Control of Avian Influenza in the U. S. USDA-NRI: Participating Institutions/Investigators



Richard Slemons
Yehia M. Saif

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Carol Cardona
Tim Carpenter
Peter Woolcock, (UC-Fresno)
Sharon Hietala



Joseph Giambrone
Haroldo Toro
Vicky Van Santen
Frederic J. Hoerr



Kent van Kampen
De-Chu C. Tang
Peng Gao



Daniel Perez
Nathaniel Tablante
Subbiah Elankumaran
Vikram Vakharia



Blanca Lupiani
Sanjay Reddy
John El Attrache
Ellen Collisson
Luc Berghman
Ian Tizard



Maricarmen Garcia
Mark W. Jackwood

Prevention and Control of Avian Influenza in the U. S. USDA-NRI: Participating Institutions/Investigators



Eva Wallner-Pendleton
Huanguang Lu
Patricia Dunn
Daniel P. Shaw



Christopher Olsen
Alexander Karasin



Mazhar Kahn



David Suarez
Erica Spackman



Dave Halvorson



David Gottfried



Jack Gelb
Brian S. Ladman
Sandra S. Cloud
John K. Rosenberger
Conrad R. Pope

Eric Benson
Robert Alphin
George Malone
Mariano Salem

Calvin Keeler



Sherrill Davison
Eric Gingerich
Robert Eckroade

Prevention and Control of Avian Influenza in the U. S. USDA-NRI: Administrative Structure

Program Director

- Daniel R. Perez UMD

Co-Program Director

- Richard Slemons OSU

Executive Committee

- Carol Cardona, UC-Davis
- David Suarez, SEPRL, ARS
- Haroldo Toro, Auburn U.
- Ruben Donis, CDC
- Nathaniel Tablante, UMD

Scientific Advisory Board

- Charles Beard, USPE
- Bruce Stewart-Brown, Purdue Farms
- Kanta Subbarao, NIH-NIAID
- David Swayne, SEPRL, USDA, ARS
- Ron Fouchier, EMC

- Michael Perdue, WHO, CDC

Stakeholder Panel

- Fidelis Hegngi, APHIS
- Dennis Senne, NVSL, USDA, ARS
- Chuck Hofacre, AAAP
- Jim Sunmer, UPEEC
- Steve Gemperle, UEP, PePa
- George Watts, NCC
- Michael Rybolt, NTF

Regional Coordinators

- Elizabeth Krushinskie, USPE
- Eric Gingerich, Univ. Pennsylvania
- Dave Halvorson, Univ. Minnesota

Prevention and Control of Avian Influenza in the U. S. USDA-CAP Funding Year 1

| BUDGET YEAR 1 | | | | | | | | | |
|---|--------------------------------|---------------------|---------------|---------------|---------------------|-----------------------------|---|-----------------------|--------------------|
| Budget Total per Investigator | | Year 1 | Year 2 | Year 3 | TOTAL Direct | TOTAL ID Sub | TOTAL D + ID (lane M in each subcontract) | TOTAL ID UMD | |
| PI | Institution | | | | | | | | |
| Olsen | Univ. Wisconsin | \$48,900.34 | \$0.00 | \$0.00 | \$48,900.34 | \$11,002.58 | \$59,902.92 | | \$1,497.57 |
| Toro | Auburn Univ. | \$45,000.78 | \$0.00 | \$0.00 | \$45,000.78 | \$10,125.18 | \$55,125.95 | | \$1,378.15 |
| Giambrone | Auburn Univ. | \$16,572.00 | \$0.00 | \$0.00 | \$16,572.00 | \$3,728.70 | \$20,300.70 | | \$507.52 |
| Khan | Univ. Connecticut | \$21,083.00 | \$0.00 | \$0.00 | \$21,083.00 | \$4,743.68 | \$25,826.68 | | \$645.67 |
| Keeler | Univ. Delaware | \$40,577.10 | \$0.00 | \$0.00 | \$40,577.10 | \$9,129.85 | \$49,706.95 | | \$1,242.67 |
| Gottfried | Georgia Tech Res. Inst. | \$53,691.93 | \$0.00 | \$0.00 | \$53,691.93 | \$12,080.68 | \$65,772.61 | | \$1,644.32 |
| Benson | Univ. Delaware | \$24,230.00 | \$0.00 | \$0.00 | \$24,230.00 | \$5,451.75 | \$29,681.75 | | \$742.04 |
| Davison | Univ. Pennsylvania | \$45,470.50 | \$0.00 | \$0.00 | \$45,470.50 | \$10,230.86 | \$55,701.36 | | \$1,392.53 |
| Slemons | Ohio State Univ. | \$125,962.52 | \$0.00 | \$0.00 | \$125,962.52 | \$29,407.13 | \$155,369.65 | | \$2,084.00 |
| Cardona | UC-Davis | \$138,794.59 | \$0.00 | \$0.00 | \$138,794.59 | \$32,615.15 | \$171,409.74 | | \$2,084.00 |
| Wallner | Penn State Univ. | \$49,358.00 | \$0.00 | \$0.00 | \$49,358.00 | \$11,105.55 | \$60,463.55 | | \$1,511.59 |
| Gelb | Univ. Delaware | \$48,540.00 | \$0.00 | \$0.00 | \$48,540.00 | \$10,921.50 | \$59,461.50 | | \$1,486.54 |
| Garcia | Univ. Georgia | \$39,766.32 | \$0.00 | \$0.00 | \$39,766.32 | \$8,947.42 | \$48,713.74 | | \$1,217.84 |
| Lupiani | Texas A&M | \$118,996.00 | \$0.00 | \$0.00 | \$118,996.00 | \$26,774.10 | \$145,770.10 | | \$3,644.25 |
| Spackman | SPRL-ARS | \$16,000.00 | \$0.00 | \$0.00 | \$16,000.00 | \$3,600.00 | \$19,600.00 | | \$490.00 |
| Suarez | SPRL-ARS | \$68,700.00 | \$0.00 | \$0.00 | \$68,700.00 | \$15,457.50 | \$84,157.50 | | \$2,103.94 |
| Halvorson | Univ. Minnesota | \$52,078.00 | \$0.00 | \$0.00 | \$52,078.00 | \$11,717.55 | \$63,795.55 | | \$1,594.89 |
| Saif | Ohio State Univ. | \$38,120.04 | \$0.00 | \$0.00 | \$38,120.04 | \$8,577.01 | \$46,697.05 | | \$1,167.43 |
| Total Direct Costs | | \$991,841.12 | \$0.00 | \$0.00 | \$991,841.12 | | | | |
| | | | | | | Total Indirect Costs | \$225,616.18 | | \$26,434.95 |
| Grand Total Subcontracts First Year as of 01/04/05 | | | | | | | \$1,217,457.30 | | |
| Perez | Univ. Maryland | \$221,392.71 | \$0.00 | \$0.00 | \$221,392.71 | | \$221,392.71 | | \$55,348.18 |
| SAB | Other Direct Costs Year | \$19,000.00 | \$0.00 | \$0.00 | \$19,000.00 | | \$19,000.00 | | \$4,750.00 |
| Budget Reserve | Other Funds Requested Year 1 | \$80,719.60 | \$0.00 | \$0.00 | \$80,719.60 | \$0.00 | \$80,919.60 | | \$20,179.90 |
| Budget Reserve | Uncomm. Funds Requested Year 1 | \$17,107.24 | \$0.00 | \$0.00 | \$17,107.24 | \$0.00 | \$17,107.24 | | \$4,276.81 |
| Item J. All Other Direct Costs Year 1 (Total Direct Subs + Total ID Subs + SAB budget + Budget Reserves) | | | | | | | | \$1,334,284.14 | |
| Item K. Total Direct Costs Year 1 (Item J + Perez, UMD portion of project) | | | | | | | | \$1,555,676.85 | |
| Item L. F&A/Indirect Costs (25% of total direct of UMD portion + ID costs charged by UMD to subcontracts + ID costs on SAB budget) | | | | | | | | \$110,989.84 | |
| Item O. Total Amount of This Request (Year 1) | | | | | | | | \$1,666,666.68 | |

AICAP Funding Overview Year 2

| Name of investigator | New proposal | Renewal | Budget (direct costs only) | Does the budget need to be adjusted? | New Budget |
|--|--------------|---------|----------------------------|--------------------------------------|-----------------------|
| Lee | X | | \$54,236.64 | | \$54,236.64 |
| Toro | | X | \$87,607.00 | | \$87,607.00 |
| Giambrone | | X | \$11,772.00 | | \$11,772.00 |
| Khan | X | | \$32,228.00 | \$32,228.00 | \$0.00 |
| Keeler | | X | \$41,423.40 | | \$41,423.40 |
| Gottfried | | X | \$77,305.12 | | \$77,305.12 |
| Benson | | X | \$72,275.00 | \$7,000.00 | \$65,275.00 |
| Davison* | | X | \$45,470.50 | | \$45,470.50 |
| Siemons | | x | \$153,962.48 | | \$153,962.48 |
| Cardona | | x | \$149,878.05 | \$149,878.05 | \$0.00 |
| Wallner | | X | \$49,357.00 | | \$49,357.00 |
| Gelb | | X | \$44,273.30 | | \$44,273.30 |
| Garcia | | X | \$63,567.39 | | \$63,567.39 |
| Pastey | X | | \$41,206.25 | | \$41,206.25 |
| Schat | X | | \$26,591.00 | \$26,591.00 | \$0.00 |
| Vakharia | | X | \$71,577.75 | | \$71,577.75 |
| Elankumaran | | X | \$67,458.90 | | \$67,458.90 |
| Lupiani | | X | \$138,500.00 | \$60,000.00 | \$78,500.00 |
| Spackman | | NO | \$0.00 | | \$0.00 |
| Suarez | | NO | \$0.00 | | \$0.00 |
| Halvorson | | Pending | \$45,486.00 | | \$45,486.00 |
| Tablante | | X | \$40,893.75 | \$1,000.00 | \$39,893.75 |
| Saif | | x | \$46,764.24 | | \$46,764.24 |
| Olsen | | NO | \$0.00 | | \$0.00 |
| Budget reserve | | | \$100,000.00 | | \$100,000.00 |
| Requested Total Direct costs | | | \$1,461,833.77 | | \$1,185,136.72 |
| Requested Total ID costs to subcontracts (estimate) | | | \$328,912.60 | | \$266,655.76 |
| Total D&ID costs | | | \$1,790,746.37 | | \$1,451,792.48 |
| Target Total Direct Costs | | | \$1,197,266.84 | | \$1,197,266.84 |
| Target ID costs to subcontracts | | | \$269,385.04 | | \$269,385.04 |
| Target D&ID costs | | | \$1,496,583.55 | | \$1,496,583.55 |
| UMD portion | | | \$111,632.47 | | \$111,632.47 |
| Total ID costs UMD | | | \$27,908.12 | | \$27,908.12 |
| Total D&ID costs UMD | | | \$139,540.59 | | \$139,540.59 |
| Target ID costs UMD charged to subcontracts | | | \$37,414.59 | | \$37,414.59 |
| Target Total D&ID costs UMD including ID costs | | | \$176,955.18 | | \$176,955.18 |
| TOTAL MAXIMUM CURRENTLY REQUESTED | | | \$1,930,286.96 | | \$1,591,333.07 |
| TOTAL MAXIMUM ALLOWED | | | \$1,673,538.73 | | \$1,673,538.73 |

2/10/2006

THANK YOU!



2/10/2006

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