TAMMY RENEE BECKHAM, DVM, PhD

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LICENSES

Veterinary Medical License, State of Maryland, since 1999

EDUCATION/EXECUTIVE LEADERSHIP DEVELOPMENT

PhD, Biomedical Science, Auburn University/United States Army Medical Research Institute of Infectious Diseases (USAMRIID), Auburn, AL, May 2001

- Dissertation: Early Recognition of Filoviral Infections: Evaluation and Development of Diagnostic Assays

DVM, Auburn University College of Veterinary Medicine, Auburn University, Auburn, AL, 1998

- Magna Cum Laude Graduate

MM, College Conservatory of Music, University of Cincinnati, Cincinnati, Ohio, 1989

BM, College Conservatory of Music, University of Cincinnati, Cincinnati, Ohio, 1986

Senior Executive Service Development Program, USDA, American University, Certificate of Achievement, Key Executive Leadership, October 2008

PROFESSIONAL EXPERIENCE

August 2019-Present
Deputy Assistant Secretary for Vaccines and Infectious Diseases
Director, Office of Infectious Disease and HIV/AIDS Policy
Office of the Assistant Secretary for Health (OASH); Health and Human Services (HHS), Washington, D.C.

The mission of the *Office of Infectious Disease and HIV/AIDS Policy (OIDP)* is to advise the Secretary, Assistant Secretary for Health, and other senior U.S. Department of Health and Human Services (HHS) officials on health policy and program issues related to HIV/AIDS, viral hepatitis, other infectious diseases of public health significance, as well as blood and tissue safety and availability in the United States. OHAIDP is responsible for coordinating, integrating, and directing HHS policies, programs, and activities related to these issues, which cut across the Department's Operating Divisions and Staff Offices that provide research, services, prevention, treatment, and education and information dissemination to vulnerable populations.

The *National Vaccine Program (NVP, a component of the OIDP)* provides strategic leadership and management and encourages collaboration and coordination among federal agencies and other stakeholders whose mandate is to help reduce the burden of preventable infectious disease. We offer thorough reporting, unbiased advice and expertise to other agencies in identifying and responding to gaps in the vaccine system, making vaccines safer and more effective for all.

In my role as Director of OIDP, I am responsible for managing an approximately $61M budget annually. I routinely advise the ASH on matters related to HIV/AIDS, viral hepatitis, blood and tissue safety, vaccine safety, efficacy, innovation, & marketing, and other zoonotic and infectious disease scientific and policy issues. As

Director of OIDP, I work across federal agencies and within HHS to align research, identify gaps, make recommendations, and ensure appropriate policies are in place to address infectious and zoonotic disease issues affecting public health. I am responsible for coordinating and facilitating infectious disease programs and policies across federal government agencies. I routinely work with external stakeholders to obtain input and ensure programs are synergized across the federal governments. I am responsible for ensuring all activities within OIDP align with OASH and HHS priorities.

Responsibilities:

- Lead the Presidential Initiative to End HIV in America.
- Advise the Assistant Secretary for Health on matters related to zoonotic and infectious diseases, HIV/AIDS, viral hepatitis, vaccines, blood & tissue safety and availability, and tick-borne diseases.
- Formulate and implement the vision and long and short-term goals/objectives for OIDP
    - Ensure alignment with the OASH and HHS priorities.
- Represent the OASH to HHS, federal agencies, and external stakeholders on all topics related to vaccines, immunization, One Health, HIV/AIDS and other infectious diseases of public health significance.
- Lead and establish priorities within OIDP that align with those of the OASH and HHS.
- Set national strategy, identify gaps and priorities, and ensure policies are in place to support a robust U.S. National Vaccine Strategy.
- Align HHS programs and policies, identify gaps and priorities, and develop National Strategies for HIV/AIDS; viral hepatitis, sexually infectious diseases (STDs), and other infectious diseases of public health significance.
- Align HHS programs and policies and identify gaps and national priorities for antimicrobial resistance and zoonotic/emerging infectious diseases of public health significance.
- Manage all aspects of the Presidential Initiative to End the HIV Epidemic: A Plan for America
- Ensure financial management and execution of the OIDP budget to include the Minority HIV/AIDS Funds.
- Provide oversight to 5 Federal Advisory Committees
    - Presidential Advisory Committee on HIV/AIDS
    - National Vaccine Advisory Committee
    - Presidential Advisory Committee on Combatting Antibiotic Resistant Bacteria
    - Advisory Committee on Blood & Tissue Safety and Availability
    - Tick-borne Disease Working Group

Accomplishments:

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- Developed and implemented the Ready, Set, PrEP program, a program to provide PrEP medication at no cost to qualified eligible patients throughout the U.S
    - Established program parameters; provided oversight to development of drug distribution system; and established a robust education and awareness campaign to support the program.
- Provided oversight and coordination for the HHS implementation of the Presidential Initiative to End the HIV Epidemic: A Plan for America
    - Led and coordinated HHS and intergovernmental implementation of the initiative.
        - Established management structure for Ending the HIV Epidemic: A Plan for America.
        - Led interagency working group that established goals and leading indicators for Ending the HIV Epidemic: A Plan for America.
    - Provided briefings to House and Senate appropriations staff on the Initiative.
    - Provided briefings to Office of Management and Budget and Domestic Policy Council on the Initiative.
    - Provided management and oversight to Minority HIV/AIDS Fund

    - Oversight to development of community plans for the Ending the HIV in America Initiative.
    - Provided oversight to all operational aspects of the EHE.
- Established goals and priorities in OIDP that were consistent with OASH and HHS priorities.
    - Ending the HIV Epidemic: A Plan for America
    - Human Papilloma Virus Vaccine Rates
    - Vaccine confidence
- Managed and ensured accountability of an approximately $61M dollar portfolio.
- Established a robust initiative to increase Human Papilloma Virus Vaccine rates to 80% by 2025.
- Provided oversight to Presidential Advisory Committee for Combatting Antibiotic Resistant Bacteria.
    - Published Report on Key Strategies to Enhance Infection Prevention and Antibiotic Stewardship (Sept 2018).
- Represented the Office of the Assistant Secretary for Health as federal liaison on HHS federal advisory committees.
- Established timeline and provided oversight to the updates of the National HIV Strategy; the Viral Hepatitis Action Plan; and the National Vaccine Plan.
- Established timeline, committees, and held first meetings to develop the first National Sexually Transmitted Diseases Federal Action Plan.

September 2018-Present--Intergovernmental Personnel Agreement (IPA)
Director, Office of Infectious Disease and HIV/AIDS Policy
Office of the Assistant Secretary for Health (OASH); Health and Human Services (HHS), Washington, D.C.

September 2017-August 2019: Professor; Department of Diagnostic Medicine and Pathology, College of Veterinary Medicine, Kansas State University, Manhattan, Kansas

September 2017-August 31, 2018
Intergovernmental Personnel Agreement (IPA)-Cooperative Biological Engagement Program (CBEP), Defense Threat Reduction Agency (DTRA), Department of Defense, Fort Belvoir, VA

In my role at DTRA, I was responsible for managing a robust scientific portfolio within the European and Central Commands (EUCOM and CENTCOM). I also led efforts to restructure the CBEP training portfolio to a competency and metrics based program. In my role, I routinely worked with diplomatic personnel within foreign governments (Ministry of Health, Ministry of Agriculture, Ministry of Defense, and Ministry of Education). Through these interactions, I worked to manage the CBEP scientific and training engagements in country and perhaps most importantly to ensure that the work met the requirements of partner nations and contributed to an overall strategy that fostered a self-sustaining and robust bioscience capability. I coordinated with U.S. government stakeholders, other foreign governmental representatives, and non-governmental organizations to ensure coordination with minimal overlap and maximum leveraging of resources. I worked within DTRA CBEP to manage the EUCOM and CENTCOM engagements with the World Organization of Animal Health (OIE), the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and other nongovernmental organizations and donors. I led efforts in Turkey, Iraq, Armenia, Ukraine, Uzbekistan, and Kazakhstan.

Accomplishments:
- Managed a multi-million dollar One-Health focused research portfolio.
    - Provided scientific expertise and oversight to a multidisciplinary, one health approach to research projects in zoonotic and emerging infectious diseases.

- Worked with the DTRA country manager to design, establish and provide subject matter expertise for a comprehensive three-year program for advanced diagnostic and epidemiological training in zoonotic and emerging infectious diseases.
- Provided subject matter expertise to CBEP leadership on the operations and transition of the high containment (biosafety level 3) zoonotic infectious disease laboratory (Central Research Laboratory (CRL)) in Almaty to the Government of Kazakhstan.
- Worked with the Uzbekistan State Veterinary Committee Chief Veterinary Officer and the OIE to design, establish and support an OIE Veterinary Legislative Support Mission.
- Worked with the Uzbekistan State Veterinary Committee Chief Veterinary Officer and the OIE to design, establish and support an OIE Veterinary Educational twinning project.
- Established and chaired two working groups (process and competency) that will ultimately provide recommendations to leadership on methods for restructuring the CBEP training portfolio into a competency based program with defined metrics and third party assessments.
- Worked with Iraq CBEP country manager to establish requirements and priorities for laboratory renovations in Iraq.

August 2015-September 2017
Dean, Professor; Kansas State University College of Veterinary Medicine, Manhattan, Kansas

The Kansas State University College of Veterinary Medicine is dedicated to scholarship through innovation and excellence in teaching, research, and service to promote animal and human health for the public good. As Dean, I led over 700 faculty and staff (to include interns, residents, and graduate students). I was responsible for developing and implementing a sustainable budget of approximately $54 million annually.

Responsibilities:

- Develop and implement a sustainable budget for the College.
- Provide oversight to academic programs, the Veterinary Health Center, and the Kansas State Veterinary Diagnostic Laboratory.
- Work with Kansas State (K-State) campus leadership to advance the K-State University vision and goals.
- Advocate and promote the comprehensive teaching of veterinary medicine to professional students, interns, and residents to include clinical and technical skills, fiscal responsibility, communication, and customer service.
- Lead the development of business plans and other initiatives to support college priorities.
- Work with external organizations to advocate for the College, to include the Kansas Veterinary Medical Association and the legislature.
- Lead development activities for the College.

Accomplishments:

- Prepared and successfully led the College through the American Association of Veterinary Medicine Council on Education (AVMACOE) accreditation process and site visit.
    - College received full accreditation in 2016.
- Established and implemented a three-year strategic plan (2017-2019).
    - Developed and implemented an internal and external stakeholder communication strategy.
    - Established leadership teams to ensure implementation of the strategic plan objectives.
- Improved funding. Raised $14.5M in endowments, deferred gifts and cash to support scholarships, facility renovations, and endowed chairs.
    - Secured funding for complete renovation of the first year gross and microanatomy laboratory.
- Successfully managed the College budget in the face of State budget cuts.
    - Held tuition flat during my tenure as Dean and in fact eliminated over $1500 in fourth year

student fees, making the cost of a veterinary education more affordable.

- Provided oversight to the design and construction of a new Anatomy laboratory.
- Established an Office for International Veterinary Medicine at Kansas State CVM and placed emphasis on the importance of Global Veterinary Medicine in our program and our curriculum.
    - Provided oversight to the development and implementation of a mobile surveillance platform (Kenya Animal Biosurveillance System (KABS)) in Kenya.
        - In collaboration with Washington State University and the Kenya Medical Research Institute (KEMRI)
    - Increased support for U.S. China Center for Animal Health.
        - Secured private sector funding for an additional ten years of support for Chinese veterinary students.
    - Established and OIE Veterinary Educational Twinning project with Sokoine University in Tanzania
    - Established a pre-veterinary studies program with the National Chung Hsing University in Taiwan,
        - This program will allow Taiwanese pre-veterinary students to attend Kansas State University.
- Built capacity in staff and faculty. Filled open leadership positions to include the Executive Associate Dean, Associate Dean for Academic Programs and Student Affairs, the Department Head for Anatomy and Physiology, and the Department Head for Clinical Sciences.
- Worked to provide additional transparency in college decisions by working with the faculty council and faculty senate. Increased inclusion and engagement of staff, improving morale.
    - Established staff council, analogous to the existing faculty council.
- Increased financial reporting during quarterly faculty meetings.
- Worked to increase diversity within the CVM student population and faculty.
- Represented the College with the American Association of Veterinary Medical Colleges (AAVMC), the American Veterinary Medical Association (AVMA), the American Association of Veterinary Diagnostic Laboratories (AAVLD), and the United States Animal Health Association (USAHA). Served as:
    - Chair of the Foreign and Emerging Disease Committee at USAHA.
    - Member of the Kansas Veterinary Medical Association (KVMA) Executive Board.
    - Member of the Kansas City Animal Health Corridor (KCAHC) Board of Directors.
    - Member of the American Royal Board.
    - Member of the Animal Working Group of the Kansas City Area Life Sciences Institute (KCALSI).
    - Chair of the KSUVCO Board of Directors.
    - Ex officio on the Kansas State University CVM Veterinary Medical Alumni Association Board.

September 2010-August 2015
Director, Institute for Infectious Animal Diseases (IIAD, A Department of Homeland Security Science and Technology Center of Excellence), College Station, Texas

The Center's mission is to protect the nation's agriculture and public health sectors against high consequence foreign, emerging and/or zoonotic animal disease threats by conducting research, developing technology, training a specialized workforce and communicating the results of this research to a wider audience of animal, public and human health care providers and organizations, veterinary professionals and agricultural organizations and customers/stakeholders.

Responsibilities:

- Provide leadership to the Institute in its pursuit to conduct research, education and outreach on issues associated with high consequence foreign, emerging and/or zoonotic animal diseases threats.
- Identify additional research and funding opportunities, build partnerships with stakeholders to include federal and state animal health officials, biopharma, and the livestock industries.
- Formulate and implement the vision and long and short-term goals/objectives for the Institute.
- Direct the preparation of proposals, workplans and budgets for projects within the Institute.
- Provide oversight to, and successful implementation/delivery of the Institute's research portfolio.
- Ensure financial management and execution of the Department of Homeland Security (DHS) and U.S. Department of Agriculture (USDA) cooperative agreement awards and basic ordering agreements (BOAs)/task orders.
- Represent the Institute at scientific meetings.
- Work to diversify funding and leverage DHS funding sources to enhance the research, education and outreach portfolio of the Institute.
- Supervise the professional and support staff to assure efficient and effective management of Institute financial and human resources as well as compliance with all applicable Texas A&M University System, federal, and state regulations and procedures.
- Serve on the Agricultural Sector Coordinating Council, interface with the DHS Science and Technology Office, the (USDA), Plum Island Animal Disease Center (PIADC), and other federal and state customers/stakeholders.

Accomplishments:

- Provided and implemented strategic vision and leadership to the Institute.
- Established the Institute as the first World Organization for Animal Health (OIE) Collaborating Centre for Biological Threat Reduction (May 2014).
- Developed and implemented a six-year strategic plan with the Co-Lead of the Zoonotic Animal Disease Defense (ZADD) Center at Kansas State University and provided successful oversight to the strategy, mission and vision of the Institute.
- Provided oversight to novel vaccine platform development.
- Led the development, validation and production of diagnostic assays/agricultural screening tools for high priority & emerging diseases.
- Developed a pipeline for products to be transitioned to commercial production biopharmaceutical industries, which resulted products developed at the Institute to be transitioned to commercial production.
- Provided strategic vision and direction for the development and piloting of a novel suite of information technology capabilities (AgConnect®) supporting biosurveillance, business continuity, emergency response, and laboratory capacity estimation (for the National Animal Health Laboratory Network, NAHLN). The AgConnect® suite of tools is currently being piloted as an animal health integration and aggregation tool throughout the U.S. in collaboration with federal, state, and industry stakeholders and partners.
- Developed and transitioned the biosurveillance common operating picture (BCOP) to the DHS National Biosurveillance Integration Center.
- Prepared proposals which were subsequently awarded through the Norman E. Borlaug International Agricultural Science and Technology Fellowship Program.
    - Approximately 30 fellows from Uganda, Tanzania, Egypt, and Kenya were mentored at the IIAD Center during my tenure as Director.
- Built Coalitions with industry, federal agencies, state agencies and international organizations.
    - Served on the U.S. Agricultural Sector Coordinating Council.
    - Worked with Senior Leadership at the Department of Homeland Security in the Office of University Programs to ensure the Centers vision and objectives aligned with our federal funding partner.

- Interfaced with the DHS Science and Technology Office, the (USDA), Animal and Plant Health Inspection Service, the USDA APHIS Plum Island Animal Disease Center (PIADC), and other federal and state customers/stakeholders.
- Assembled and organized a multi-disciplinary team of expertise to act as reach-back capability for industry, state, and federal partners in high consequence transboundary, emerging, and zoonotic diseases. Established memorandum of understanding (MOU) with the Food and Agriculture Organization of the United Nations (FAO); the MOU has resulted in several ongoing partnerships/collaborations with the Institute's principal investigators (PIs) and other PIs across the entirety of the Texas A&M University System.
- Developed collaborative and formal partnerships with key national and international organizations to include: the World Organization for Animal Health (OIE); the Food and Agriculture Organization of the United Nations (FAO); the Centers for Disease Control and Prevention (CDC); universities/colleges and minority-serving institutions (MSI); biopharma; the U.S. agricultural industries; and federal and state government partners.

- Managed financial programs/grant programs /budget, improving the funding and finances.
  - Ensured financial management and execution of the Department of Homeland Security (DHS) and U.S. Department of Agriculture (USDA) cooperative agreement awards and basic ordering agreements (BOAs)/task orders.
  - Worked to diversify funding and leverage DHS funding sources to enhance the research, education and outreach portfolio of the Institute.
  - Provided oversight to the development of a nationally aligned and highly integrated research portfolio focused on innovative solutions and product delivery; the Institute has been awarded over $20M since 2010 in competitive grants/task orders.

March 2010-September 2010
Interim Director, Department of Homeland Security Science and Technology's Center of Excellence: Institute for Infectious Animal Diseases (IIAD), College Station, Texas

May 2008-September 2014
Director/Chief Executive Officer, Texas A&M Veterinary Medical Diagnostic Laboratory, The Texas A&M University System, College Station, Texas

The mission of the Laboratory was to promote animal health and protect agricultural, companion animal and public health in Texas and beyond through excellence in veterinary diagnostic services. I led this State Agency as the Chief Executive Officer through a number of subordinate leaders with a total staff of 160 and a budget of $17 million.

Responsibilities:

- Provide visionary leadership to all four locations of the Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) in its pursuit to serve the animal industries of Texas and the nation by addressing animal and public health issues, diagnosing animal diseases, and helping to prevent catastrophic foreign animal or zoonotic disease through early detection.
- Serve as the Chief Executive Officer for the four-location laboratory system of 160 employees.
- Work closely with the Texas A&M University System, legislative liaisons and directly with elected officials to ensure effective communication of agency priorities and needs and ensure timely and accurate response to requests for information from legislators.
- Formulate and implement the vision and long and short-term goals/objectives for TVMDL.
- Direct the preparation of annual and legislative budgets and make presentations to Texas A&M University System, State officials, and legislature for budget justification.

- Work to ensure current and future streams of revenue and funding for TVMDL.
- Ensure that all agency programs and operations are in compliance with applicable federal and state statutes and the Texas A&M University System's policies/procedures.
- Provide leadership in establishing and maintaining an organizational culture and work environment supportive of affirmative action, diversity, and equal employment opportunity goals.
- Assure that all members of the organization have a clear understanding of the TVMDL vision, mission, scope, objectives, and core values.
- Supervise the fiscal, general business, and human resource functions to assure the efficient and effective management of the laboratory system's financial and human resources as well as compliance with all applicable Texan A&M University System, federal, and state regulations and procedures.

Accomplishments:

- Provided strategic vision and leadership to the laboratory. Formulated and implemented the vision and long and short-term goals/objectives which were to expand our collaboration with both the University and with our industry stakeholders and expand our role.
    - Formed a TVMDL advisory committee consisting of agricultural commodity leaders and members of the Texas A&M University System, the Texas Animal Health Commission, and the Texas Department of Health and Human Services.
    - Enhanced collaborations across Texas A&M University System. Established joint appointments and programs with the Texas A&M University College of Veterinary Medicine and Biological Sciences and Texas A&M AgriLife agencies to include a joint pathology residency program, a veterinary diagnostic elective, and joint veterinary extension appointments. As a result, we now serve as a diagnostic training resource for the next generation of veterinarians – critical to protecting our livestock.
    - Provided oversight to the veterinary medical extension program within Texas A&M AgriLife. This unique partnership added outstanding veterinary extension capabilities to the laboratory to serve the citizens of Texas. These individuals translated animal health issues in the field to the veterinary diagnostic laboratory and vice versa.
- Worked to ensure current and future streams of revenue and funding. Directed the preparation of annual and legislative budgets and made presentations to Texas A&M University System, State officials, and the Texas legislature for budget justification.
- Worked closely with the Texas A&M University System, legislative liaisons and directly with elected officials to ensure effective communication of agency priorities and needs.
    - Created and implemented new diagnostic development and validation capacity.
    - Successfully evaluated and altered our fee structure to stabilize finances in the face of State general revenue cuts.
    - Successfully procured $50M in funding from the Texas legislature for design and construction of a new 60,000 square foot BSL-2 and BSL-3 laboratory.
    - Obtained over $1M in grant funding for new test development activities.
- Refined and expanded our laboratory capacity.
    - Provided oversight to the strategic design of the new TVMDL College Station laboratory.
    - Provided oversight to the design and construction of a BSL-2 poultry laboratory in Gonzales, Texas and a BSL3 laboratory in Amarillo, Texas.
    - Ensured reaccreditation -enhanced and implemented new biosafety, biosecurity, and quality standards for the laboratory; successfully led the laboratory through a quality system audit (re-accredited by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) through 2016).
    - Led our racing laboratory through a successful audit that resulted in ISO 17025 accreditation (October 2014).
- Provided human capital management and leadership to change the culture and environment to support

my vision. Supervised the fiscal, general business, and human resource functions to assure the efficient and effective management of the laboratory system's financial and human resources as well as compliance with all applicable Texan A&M University System, federal, and state regulations and procedures.

- Revitalized the staff and improved both morale and performance, changing the culture.
    - Assured that all members of the organization had a clear understanding of my vision, our mission, scope, objectives, and core values. Set new expectations and provided a different focus on ensuring we provided value to our stakeholders.
    - Provided staff development, engagement opportunities and career development.
    - Provided leadership in establishing and maintaining an organizational culture and work environment supportive of affirmative action, diversity, and equal employment opportunity goals, improving morale and transparency.

July 2007-May 2008
Director, Foreign Animal Disease Diagnostic Laboratory, United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Plum Island Animal Disease Center (PIADC), Orient Point, New York

Our mission was to protect the health of animals and contribute to public health by providing timely, accurate, and reliable laboratory support to our customers.

Responsibilities:

- Provide oversight to all aspects of Foreign Animal Disease Diagnostic Laboratory's (FADDL) role in diagnosing animal diseases, supporting and developing a nation-wide animal health diagnostic system, and providing services as a national and international veterinary reference laboratory for animal diseases.
- Manage employees (approximately 30), budget ($3M), procurement, laboratory equipment, information technology, and other property in carrying out the laboratory's mission.
- Develop budget, workforce, and technology plans; collaborate with other USDA National Veterinary Services Laboratories (NVSL), Veterinary Services (VS), and Agency staff, where appropriate, on resource planning and utilization.
- Ensure equal opportunity and non-discrimination in internal personnel management practices and in the delivery of program services.
- Ensure the safety and security of employees and overseeing the management of transboundary animal and zoonotic agents as well as select agents in the laboratory.
- Ensure compliance of the USDA APHIS FADDL select agent program
- Provide USDA NVSL customers' timely and accurate response and assistance.
- Ensure the implementation and ongoing support of the USDA NVSL Quality Assurance program.

Accomplishments:

- Successfully managed and provided oversight to the operational and project plans for FADDL.
    - Provided oversight to USDA APHIS FADDL diagnostic programs within the Biosafety Level 3 (BSL-3), BSL3Ag and BSL2 facilities.
- Managed FADDL's program budget and fully staffed the laboratory.
- Coordinated with the USDA National Animal Health Laboratory Network (NAHLN) coordinator to ensure FADDL support for the NAHLN, including reference materials, proficiency testing and training.
- Represented the USDA APHIS as a member of the U.S. National Bio-and Agro-defense site assessment and development teams.
- Worked to integrate FADDL activities with ongoing diagnostic research and development within the DHS and the USDA Agricultural Research Service.

- Coordinated and prioritized quality assurance (QA) needs and QA-related activities within FADDL.
- Coordinated international reference laboratory activities including diagnostic testing of samples from the Food and Agriculture Organization of the United Nations (FAO).
- Coordinated closely with the DHS National Bioforensics Analysis Center (NBFAC) director to execute the agricultural bioforensics program; coordination of this program included establishing policies and procedures for receipt and handling of high consequence agricultural forensics specimens into the FADDL.
- Acted as a subject matter expert to the DHS and international organizations, such as the USDA Foreign Agricultural Service, on the development and validation of new diagnostic technologies.
- Provided updates and briefings to National Program Coordinators and the House Government Reform Committee and legislative affairs personnel for the House Energy and Commerce Committee.
- Represented FADDL on the Plum Island Animal Disease Center Senior Leadership Group, NAHLN Steering Committee, and National Veterinary Stockpile Committee.
- Assisted with, and facilitated the development of a technology transition agreement for assay development and validation between FADDL, NAHLN and the DHS.

August 2006-July 2007
Supervisory Veterinary Medical Officer, USDA APHIS PIADC, Orient Point, New York

Our mission was to protect the health of animals and contribute to public health by providing timely, accurate, and reliable laboratory support to our customers. I led a staff of 10 and managed a budget of approximately $2.5 million.

Responsibilities:

- Coordinate all aspects of the Foreign Animal Disease Diagnostic Laboratory's role as a reference laboratory for the National Animal Health Laboratory Network (NAHLN).
- Provide oversight to diagnostic programs conducted within a BSL-3 and a BSL-3Ag facility
- Support the NAHLN as an expert on diagnostic testing and validation of assays used to detect exotic animal diseases.
- Act as the Scientific Lead for the development and validation of emerging technologies to detect endemic and exotic livestock diseases.
- Coordinate and execute the Department of Homeland Security's (DHS) agricultural bioforensic program at PIADC.
- Act as a liaison between the USDA Animal and Plant Health Inspection Service (APHIS) and DHS.
    - Coordinate collaborations and facilitate interactions with the DHS National Bioforensics Analysis Center (NBFAC), DHS Agricultural Assay Development and Agricultural Domestic Demonstration and Application Projects and the University Center of Excellence for Foreign Animal and Zoonotic Disease Defense.
- Communicate and coordinate with foreign scientists and world reference laboratories on reagent generation/collection, diagnostic test development, validation and implementation.
- Act as a U.S. subject matter expert on foreign animal disease (FAD) diagnostic test development and validation.

Accomplishments:

- Established and accomplished program goals and milestones within a defined staffing and financial and plan.
- Managed a $2.5M validation budget and fully staffed the PVSS section within 6 months of being hired as the PVSS Section Head.
- Successfully managed and provided scientific oversight to the Proficiency and Validation Services Section (PVSS) of FADDL.

- Within the first 9 months in this position, provided oversight to the successful validation and review of two new assays (real time PCR assays for foot and mouth disease (FMD) and classical swine fever (CSF) viruses) that were deployed to the NAHLN.
- Coordinated the 2006 FMD and CSF proficiency testing of NAHLN member laboratories, which resulted in 154 laboratory personnel in 37 NAHLN laboratories being certified to perform these assays.
- Prepared and established an interagency agreement between the USDA APHIS and NBFAC for execution of the NBFAC agricultural bioforensics program within USDA APHIS.
- Identified staffing and budget requirements for execution of the bioforensics program within USDA APHIS.
- Coordinated closely with the DHS National Bioforensics Analysis Center (NBFAC) director to execute the agricultural bioforensics program.
- Provided monthly financial and progress reports to the DHS NBFAC program.
- Coordinated national research efforts (within USDA APHIS and with the DHS) for the identification and development of emerging technologies for the detection of exotic livestock diseases.
- Acted as a subject matter expert to DHS on the development and validation of new diagnostic technologies.
- Provided updates and briefings to National Program Coordinators to include a briefing on the Updated Joint USDA/DHS 2006 Diagnostic Roadmap.
- Conceived, planned, and led scientific studies for the diagnostic validation of African Swine Fever, Rinderpest and other high consequence foreign animal disease rRT-PCR assays.
- Prepared and established a statement of work (SOW) that outlines collaboration with NVSL FADDL, the NAHLN, and DHS for validation of a semi-automated high throughput robotic system.
- Worked as a part of the NAHLN Technical Methods Working Group subcommittee on equivalency to establish guidelines for diagnostic assay equivalency studies.
- Coordinated international collaborations to obtain reagents and samples for the validation of real-time PCR assays for Foot and Mouth Disease Virus, African Swine Fever, Rinderpest and Classical Swine Fever Virus.
- Prepared standard operating procedures for proficiency panel testing, quality control procedures, reference panel production and assay performance.

March 2006-August 2006
Microbiologist & Deputy Director for Science, Department of Homeland Security (DHS), Science and Technology (S&T), PIADC, Orient Point, New York

Our mission was to enhance current capabilities and develop state-of-the-art countermeasures for high priority foreign animal diseases. Led a staff of 20 with a budget of $10 million.

Responsibilities:

- Participate with the Center Director and Deputy Director for Operations, in the planning, coordinating, managing, and evaluating the overall scientific activities of PIADC.
- Provide leadership to DHS scientific staff, oversee the implementation of DHS scientific programs, and make commitments in the allocation, control and efficient use of resources in DHS scientific programs at PIADC.
- Plan, lead, coordinate and guide DHS scientific staff in research and development projects and activities.
- Conceive, plan, lead, coordinate, direct and evaluate scientific research and development projects utilizing the latest technologies, systems and methods to develop preventive and therapeutic measures and diagnostic tools to counter foreign animal diseases and high-consequence zoonotic threat agents.
- Plan, lead, coordinate and guide DHS scientific staff in research and development projects and

activities: conception, planning, coordination, determination of content, priorities, timeframes, changes, staffing, funding, infrastructure planning, procurement of selected services and needed equipment, and coordination of efforts with customers and with other research organizations having parallel programs, shared interests or needed expertise.
- Provide management oversight and integration with USDA components of projects and program activities.
- Research, evaluate and promote new and emerging technologies, and develop standards, criteria, and performance measures for products, technologies and systems.
- Act as Thrust Area Coordinator, Agriculture Security Thrust Area, Biocountermeasures Portfolio, Office of Research and Development, Science and Technology Directorate, DHS. Coordinate collaborations with DHS University Center of Excellence for Foreign Animal and other high consequence diseases.

Accomplishments:
- Prepared the 2006 DHS Agricultural Security Program Execution Plan.
- Provided scientific oversight to the DHS Targeted Advanced Development and Disease Threat Assessment/ Forensics Unit at Plum Island.
- Coordinated and supported the DHS funded Agricultural Assay Development and Agricultural Domestic Demonstration and Application Programs.

June 2005-March 2006
Microbiologist & Chief of the Disease Threat and Assessment/Forensics (DT&F) Unit, DHS S&T, PIADC, Orient Point, New York

The mission was to enhance current capabilities and develop state-of-the-art countermeasures for high priority foreign animal diseases.
Full time: 40 hours/week; Salary: $101,400/year; GS14-Step 4; Supervisor, Dr. Beth Lautner (email: Elizabeth.a.lautner@aphis.usda.gov; phone: 515-337-7301); Contact-Yes

Responsibilities:
- Coordinate all activities of the PIADC Agricultural Bioforensics Laboratory with the National Bioforensics Analysis Center (NBFAC) at Fort Detrick, MD.
- Establish a Disease Threat and Assessment/Forensics (DTA&F) capability at PIADC to include laboratory, epidemiological, and bioinformatics components.
- Provide support for the DHS Biodefense Knowledge Center, Biological Threat Characterization Center, and other intelligence agencies on agricultural threats.
- Coordinate program responsible for development and validation of emerging technologies to identify and detect endemic and exotic livestock diseases.
- Act as the Thrust Area Coordinator, Agriculture Security Thrust Area, Biocountermeasures Portfolio, Office of Research and Development, Science and Technology Directorate, DHS.
- Coordinate DHS-funded Agricultural Domestic Demonstration and Application Programs.
- Coordinate collaborations with DHS University Center of Excellence for Foreign Animal and other high consequence diseases.

Accomplishments:
- Supported the establishment of a bioforensic laboratory capability at PIADC by coordinating with NBFAC personnel.
- Managed a $600K forensics and $3M Disease Threat and Assessment/Forensics (DTA&F) Unit budget.
- Identified staffing needs and challenges within the DTA&F unit and used creative methods such as the Oakridge Institute for Science and Education (ORISE) program and establishment of SOWs with other federal agencies to harvest expertise to fill critical functions/needs of the DTA&F Unit.

- Coordinated national research efforts for the identification, development and validation of emerging technologies for the identification and detection of exotic livestock diseases.
- Provided updates and briefings to National Program Coordinators.
- Validated virus isolation, antigen capture ELISA and rRT-PCR assays for use in the newly established bioforensic laboratory at PIADC.
- Adapted current diagnostic protocols for use in the newly established bioforensics laboratory.
- Coordinated national research efforts for the identification, development and validation of emerging technologies for the identification and detection of exotic livestock diseases.
- Provided updates and briefings to National Program Coordinators.
- Coordinated international collaborations to obtain reagents and samples for the enhancement of the PIADC reference collection and validation of real-time PCR and other diagnostic assays for Classical Swine Fever and Foot and Mouth Disease Viruses.
- Prepared standard operating procedures for proficiency panel development and testing.
- Prepared standard operating procedures for newly developed diagnostic procedures.

October 2002-June 2005
Veterinary Medical Officer, APHIS USDA PIADC, Orient Point, New York

Our mission was to protect the health of animals and contribute to public health by providing timely, accurate, and reliable laboratory support to our customers.

Responsibilities:

- Act as the Scientific Lead for the development and validation of emerging technologies to detect endemic and exotic livestock diseases.
- Coordinate all aspects of the Foreign Animal Disease Diagnostic Laboratory's role as a reference laboratory for the National Animal Health Laboratory Network.
- Support the National Animal Health Laboratory Network (NAHLN) as an expert on diagnostic testing and validation of assays used to detect exotic animal diseases.
- Coordinate and support the establishment of a DHS bioforensic agricultural capability at PIADC.

Accomplishments:

- Conceived, planned, and led scientific studies for the diagnostic validation of Classical Swine Fever and Foot-and-Mouth Disease rRT-PCR assays.
- Supported the establishment of a bioforensic laboratory capability at PIADC by coordinating with NBFAC personnel.
- Validated virus isolation and rRT-PCR assays for use in the newly established bioforensic laboratory at PIADC.
- Adapted current diagnostic protocols for use in the newly established bioforensics laboratory.
- Implemented a training and proficiency testing program for members of the NAHLN.
- Increased national preparedness for response to a foreign animal disease outbreak and strengthened the National Animal Health Surveillance Program capability by training and proficiency testing members from 29 NAHLN laboratories on the performance of the Classical Swine Fever and Foot-and-Mouth Disease rRT-PCR assays.
- Coordinated national research efforts for the identification and development of emerging technologies for the detection of exotic livestock diseases.
- Provided updates and briefings to National Program Coordinators.
- Prepared standard operating procedures for proficiency panel development and testing.
- Prepared standard operating procedures for newly developed diagnostic procedures.
- Coordinated international collaborations to obtain reagents and samples for the validation of real-time

PCR assays for Classical Swine Fever and Foot and Mouth Disease Virus.
- Conducted equivalency experiments to scale-up rapid diagnostic assays to a high-throughput format.

March 2002-October 2002
Microbiologist, Agricultural Research Service (ARS) USDA PIADC, Orient Point, New York

Responsibilities:
- Perform scientific research on pathogen genomics and the development of rapid diagnostic assays to detect foreign animal diseases.

Accomplishments:
- Developed quantitative real-time RT-PCR assays to study host gene expression following infection of swine macrophages with African Swine Fever Virus. This work was published in a peer-reviewed journal, the Journal of Virology.
- Sequenced five full length Rinderpest genomes.
- Supported the development and evaluation of a real-time RT-PCR assay for the detection of Rinderpest Virus.

December 2001-March 2002
Animal Program Veterinarian, Science Applications International Corporation (SAIC), National Cancer Institute, Frederick, MD
Responsibilities:
- Supervise research activities in the *In vivo* models program of the National Cancer Institute.

September 2001-December 2001
Senior Scientist, GeoCenters, U. S. Army Soldier and Biological Chemical Command, Aberdeen Proving Ground, Edgewood, MD

Responsibilities:
- Develop and optimize diagnostic assays to detect pathogens of military importance.

June 2001-September 2001
Clinical Veterinarian, Merial Limited, Clinical Science Division, Athens, Georgia

Responsibilities:
- Coordinate small animal companion vaccine trials and prepare reports for USDA licensure of vaccines.

June 1998-June 2001
Principal Investigator, United States Army (US Army), United States Army Medical Research Institute for Infectious Diseases (USAMRIID), Frederick, MD

Responsibilities:
- Develop diagnostic assays for BSL-4 pathogens to include Ebola and Marburg Viruses.
- Develop and implement clinical (bleeding and necropsies) and investigative work on animal models of disease (mice, nonhuman primates, and guinea pigs).

Accomplishments:
- Trained and certified for work within BLS-3 and BSL-4 laboratories.

- Worked with high consequence disease pathogens (Ebola and Marburg virus) within BSL-4 laboratory, maintained compliance with agents and adhered to biosafety and biosecurity rules for working in a high-containment laboratory.
- Acted as the Scientific Lead for the development of two TaqMan-based real-time PCR assays for the detection of Ebola and Marburg virus infections, respectively. The real-time PCR assays for the detection of Ebola and Marburg virus were the first rapid tests for these diseases to be run on rapid nucleic acid analysis platforms and "fielded" for use.
- Acted as the Scientific lead for the development of real-time RT-PCR assays to study host gene expression following infection of nonhuman primate cells with Ebola virus.
- Studied pathogenesis and apoptosis in Ebola infected mouse model of disease.
- Studied the pathogenesis of Ebola virus infection in mice and published this work in a peer-reviewed journal.
- Published five manuscripts in peer-reviewed journals.

PUBLICATIONS

Julia M. Michelotti, Kenneth B. Yeh, **Tammy R. Beckham**, Michelle M. Colby, Debanjana Dasgupta, Kurt A. Zuelke and Gene G. Olinger. The Convergence of High-Consequence Livestock and Human Pathogen Research and Development: A Paradox of Zoonotic Disease. Trop. Med. Infect. Dis. 2018 May 30; 3(2).

Beckham, T, Fine, Joshua, Brake, Davis. Strengthening One Health through investments in Agricultural Preparedness. Health Security. 2018 MAR/Apr; 16(2):92-107.

Holmstrom, L.K., **Beckham, TR**. Technologies for capturing and analyzing animal health data in near real time. World Organization of Animal Health Review: Biological Threat Reduction. Vol. 36(2), 2017.

Beckham, TR., Holmstrom. The Use of Information Technology in Animal Health Management, Disease Reporting, Surveillance and Emergency Response. Compendium of Technical Items, OIE World Assembly, 83rd General Session World Assembly, May 24-29th, 2015.

Spengler JR, Stonecipher S, McManus C, Hughes-Garza H, Dow M, Zoran DL, Bissett W, **Beckham T**, Alves DA, Wolcott M, Tostenson S, Dorman B, Jones J, Sidwa TJ, Knust B, Behravesh CB. Management of a pet dog after exposure to a human patient with Ebola virus disease. J Am Vet Med Assoc. 2015 Sep 1;247(5):531-8. doi: 10.2460/javma.247.5.531.

Gates MC, Holmstrom LK, Biggers KE, **Beckham TR**. Integrating novel data streams to support biosurveillance in commercial livestock production systems in developed countries: challenges and opportunities. Front Public Health. 2015 Apr 28;3:74. doi: 10.3389/fpubh.2015.00074. eCollection 2015. Review.

Sun, F, Cochran M, **Beckham T**, Clavijo, A. Molecular Typing of Epizootic Hemorrhagic Disease Virus Serotypes by One-Step Multiplex RT-PCR. (2014) J Wildl Dis. Jul;50(3):639-44. doi: 10.7589/2013-11-302. Epub 2014 May 7.

Lizhe Xu, William Hurtle, Jessica M. Rowland, Karissa A. Casteran, Stacey M. Bucko, Fred R. Grau, Begoña Valdazo-González, Nick J. Knowles, Donald P. King, **Tammy R. Beckham**, Michael T. McIntosh. Development of a universal RT-PCR for amplifying and sequencing the leader and capsid-coding region of foot-and-mouth disease virus. (2013) Journal of Virological Methods Apr;189(1):70-6. doi: 10.1016/j.jviromet.2013.01.009. Epub 2013 Feb 1.

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Das A, **Beckham TR**, McIntosh M: 2011, Comparison of methods for improved RNA extraction from blood for early detection of classical swine fever virus by real-time reverse transcription polymerase chain reaction. J Vet Diagn Invest 23(4)727-735.

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King DP, Ferris NP, Shaw AE, Reid SM, Hutchings GH, Giuffre AC, Robida JM, Callahan JD, Nelson WM and **Tammy R Beckham**. Detection of foot-and-mouth disease virus: comparative diagnostic sensitivity of two independent real-time RT-PCR assays. (2006) J. Vet. Diag. Investigation. Jan;18(1):93-7.

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Gibb TR, Norwood DA, Woollen N, Henchal EA. Characterization of Viral Replication and Host Gene Expression in Alveolar Macrophages Infected with Ebola Virus (Zaire strain). (2002) Clin Diagn Lab Immunol, 9(1):19-27.

Gibb TR, Norwood DA, Woollen N, Henchal EA. Development and Evaluation of a Fluorogenic 5'Nuclease Assay to Detect Marburg Virus. (2001) Molecular and Cellular Probes, 15:259-266.

Gibb TR, Norwood DA, Woollen N, Henchal EA. Development and Evaluation of a Fluorogenic 5'Nuclease Assay to Detect Ebola-Zaire and Ebola-Sudan Virus. (2001) Journal of Clinical Microbiology, 39(11):4125-4130.

Gibb TR, Bray M, Geisbert TW, Steele KE, Kell WM, Davis KJ, Jaax NK. Pathogenesis of Experimental Ebola-Zaire Infection in the BALB/c mouse. (2001) Journal of Comparative Pathology, 125(3):233-242.

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APPOINTMENTS, PROFESSIONAL AFFILIATIONS & DEVELOPMENT

Texas Task Force for Infectious Disease Preparedness and Response, member-appointed by the Governor of Texas (October 2014-August 2015)

United States Animal Health Association (USAHA)

- Chair, Foreign and Emerging Disease Committee (2014-2019)
- Vice Chair, Foreign and Emerging Disease Committee (2009-2013)

USAHA/AAVLD Committee on Animal Health Surveillance & Information Systems

American Association of Veterinary Laboratory Diagnosticians (AAVLD)

Institutional Biological Safety Committee, Texas A&M University (2009-2012)

CONGRESSIONAL TESTIMONY, INVITED PANELS, AND RECENT TALKS

2018 American Society for Microbiology Biothreats Conference: Convergence of High Consequence Foreign Animal and Human Pathogen Research: Paradox of Zoonotic Diseases, Science Workshop, Baltimore, MD. February 13th, 2018.

Blue Ribbon Study Panel on Biodefense: Agrodefense: Challenges and Solutions. Panel 2: Surveillance and Detection. Kansas State University, Manhattan, Kansas. January 26, 2017.

Bio-and Agro-defense: America's Food Supply, Health, and Economy at Risk. Panel Member, Current Bio/Agrodefense Landscape: Where do things stand today? Bipartisan Policy Center, Washington, DC. October, 13th, 2016.

House Committee on Homeland Security, Subcommittee on Emergency Preparedness, Response, and Communications: Food for Thought: Efforts to Defend the Nation's Agriculture and Food, Washington, DC. February 26th, 2016.

House Committee on Agriculture: American Agriculture and Our National Security. Washington, DC. November 4th, 2015.

OIE: "The future of pen-side testing and mobile surveillance tools: Implementation vs. Policy." Paris, France. February 13th, 2015.

OIE 83rd General Session: Technical Item: "*The Use of Information Technology in Animal Health Management, Disease Reporting, Surveillance and Emergency Response*." Paris, France. May 24-29th, 2015.

OIE Conference on Biological Threat Reduction: *Future perspectives for detection, characterization and real time reporting of infectious disease events: Looking ahead to 2040: systems for reporting, monitoring and analyzing animal health data*. Paris, France. June 2015

EDITORIAL & REVIEW ACTIVITIES

Editor and Coordinator, OIE Scientific and Technical Review, "Biological Threat Reduction": Vol. 36 (2), August 2017.
Guest Editor for the European Union Foot and Mouth Disease Monthly Newsletter

AWARDS & HONORS

Member, The Honor Society of Phi Kappa Phi

Certificate of Appreciation in Recognition of Dedicated Service to Safeguarding US Animal Health as the Foreign Animal Disease Diagnostic Laboratory Director

Certificate of Appreciation in Recognition of Exceptional Performance of Duties as PVSS Section Head

Certificate of Appreciation in Recognition of Leadership in PCR Validation and Support of the National Animal Health Laboratory Network

United States Department of Agriculture: Certificate of Merit for Organizing and Conducting Validation of Real Time PCR for Diagnosis of Foot and Mouth Disease and Classical Swine Fever

United States Department of Agriculture: Certificate of Merit

United States Department of Agriculture: Certificate of Appreciation for extra efforts in training and diagnosis of Foreign Animal Diseases.

Department of the Army. The Army Commendation Medal – For outstanding achievement while assigned to the Diagnostic Systems Division, United States Army Medical Research Institute of Infectious Diseases

PERSONAL

Military Status: US Army, Captain, 6/98-6/01, Honorable Discharge
Citizenship: United States
Maiden Name: Tammy Gibb