

Curriculum Vitae

PERSONAL INFORMATION

Name: Muquarrab A. Qureshi
Mailing Address: USDA-ARS Food Science Research Unit, 322 Schaub Hall, Box 7624,
NC State University, Raleigh, NC 27695-7624
Email: Muquarrab.qureshi@usda.gov
Phone: 919-513-7781 (Office), 919-271-3137 (Cell)
Citizenship: United States
Security Clearance: Top Secret Compartmentalized
Affiliation: Agricultural Research Service (ARS)
U. S. Department of Agriculture (USDA)

EDUCATION

<u>Degree</u>	<u>Year</u>	<u>Institution</u>	<u>Field of Study</u>
Ph.D.	1986	Cornell University, Ithaca, New York	Immunology
M.Sc.	1977	University of Agriculture, Faisalabad, Pakistan	Microbiology
DVM	1974	University of Agriculture, Lyallpur, Pakistan	Veterinary Medicine

ADMINISTRATIVE AND PROGRAMMATIC POSITIONS AT USDA

Federal Service at Agricultural Research Service (ARS): From July 2019 to Present

**Research Leader: Food Science Research Unit, Raleigh, NC. (GS-15/10);
July 2019 to Present**

Supervisor: Dr. Ellen Harris, Phone: 662-686-5266

Major Duties: I oversee the research and administrative activities of Food Science Research Unit with focus on National Programs of Food Safety (NP 108) and Product Quality and New Uses (NP 306).

Federal Service at National Institute of Food and Agriculture (NIFA): From June 2003 to July 2019

a) Senior Executive Service (ES-0401) Appointments:

1. Deputy Director, Institute of Youth, Family, and Community: February 2014 – July 2019

2. Assistant Director, Institute of Youth, Family, and Community: June 2012 - January 2014

3: Deputy Director (Acting), Institute of Food Safety and Nutrition: June 2018 – December 2018

Supervisor: Dr. Meryl Broussard (deceased)

Major Duties: I administered NIFA's Institute of Youth, Family, and Community (IYFC). I oversaw 22 legislatively appropriated programs budgeted at over \$200 million across three Divisions: Community and Education (includes K -20 education portfolio and Minority Serving Institutions); Youth and 4-H (includes National 4-H headquarter); and Family and Consumer Sciences (includes federal and military partnership programs). In addition, I provided programmatic and administrative leadership to various interagency agreements and research, education, and outreach effort for 16 "knowledge areas" (KAs) that are self-reported at over \$300 million per year by our land-grant partners. I was a member of SES leadership team that established strategic funding priorities for NIFA's flagship competitive Agriculture and Food Research Initiative (AFRI). I worked closely with NIFA's Director as well as with the USDA's Research, Education, and Economics (REE) mission area leadership (political appointees) at the Office of the Secretary for program and budget planning and addressing

stakeholder needs.

From June 2018 to December 2018, I was given additional responsibilities of Deputy Director (SES) for Institute of Food Safety and Nutrition, due to a colleague moving to another USDA agency.

b) General Schedule (GS) Appointments:

1. **Division Director, Animal Systems, Institute of Food Production and Sustainability:** (GS-15/10)
October, 2010 to June 2012

Supervisor: Dr. D. Sheely (currently at University of Rhode Island; Phone: 401-874-2240)

Major Duties: I provided supervisory, administrative and programmatic leadership to NIFA's animal production and protection programs funded through various competitive and formula-based legislative authorities. I provided opportunities and support for professional and leadership development and managed human capital through strategic recruitment and retention.

4. **Section Director, Animal Systems, Plant and Animal Systems:** (GS-15/10)

October, 2007 to September, 2010

Supervisor: Dr. Meryl Broussard (deceased)

Major Duties: I supervised National Programs staff and oversaw capacity and congressionally directed programs in animal production and protection. I served as USDA's point of contact to animal, poultry, and dairy science Department Heads and also oversaw state plans of work review process for research and extension missions of land-grant universities.

5. **National Program Leader, Animal Genetics:** (GS-14 to GS-15/10) June, 2003 to September, 2007

Supervisor: Dr. Meryl Broussard (deceased)

Major Duties: I developed NIFA priorities and worked with the Federal and land-grant university partners to establish short and long term goals of federal animal genetics portfolio. I co-authored a 10 year roadmap for USDA's animal genetics programs through which chicken, cattle, pig, sheep, and several aquaculture species genomes were sequenced. I directed a multi-species National Animal Genome Research Program in partnership with academia, federal research labs, and U.S. animal/agro industry. I served as NIFA's liaison to Interagency Working Group on the Domestic Animal Genomics, and to several research-oriented multistate technical committees.

NON-FEDERAL ADMINISTRATIVE AND PROGRAMMATIC POSITIONS HELD

1. **Associate Dean (Interim),** Graduate School, NC State University: January 2003 to June 2003

Supervisor: Dr. Robert S. Sowell, Dean and Associate Vice Chancellor; Phone: 919-515-2872

Major Duties: I worked with Directors of Graduate Programs (DGPs), Associate Deans of various colleges and the Board of Graduate School to lead and facilitate the graduate education enterprise at NC State University.

2. **Full Professor (tenured),** Departments of Poultry Science and Microbiology, Pathology & Parasitology: NC State University: July 1995 to June 2003.

Supervisor: Dr. G. B. Havenstein; Phone: 919-515-2626

Subject Matter Expertise: Chicken and turkeys immunology; immunogenetics; toxicology - mycotoxins in animal feedstuff and consumable food; poultry and livestock diseases; food and water microbiology; epidemiology and disease surveillance.

Major Duties: I actively mentored graduate and undergraduate students. Twenty MS and Ph.D. students completed their graduate programs directly under my supervision. I taught in-class courses to undergraduate and graduate students. I provided research and internship opportunities to several undergraduate and high school students, especially women and students from under-

represented communities. I served as chair and/or member of several departmental, college and university administration and program management committees. I conducted research, education and extension activities funded through several competitive and formula-based federal, state, and private industry grants awarded to my diverse programs.

- 3. Director Graduate Program (DGP), Poultry Science: NC State University: July 1999 to June 2003**
Supervisor: Dean of NC State Graduate School
Major Duties: I was responsible for all matters (recruitment and retention, admissions, funding, plan of study, professional development, etc.) related to domestic and international graduate students in Poultry Science.
- 4. Director Graduate Program (DGP), Interdisciplinary Physiology Graduate Program, NC State University: July 1994 to June 1997**
Supervisor: Dean of NC State Graduate School
Major Duties: I administered a campus-wide graduate program that included faculty and graduate students from several academic departments and colleges across NC State University.
- 5. Associate Professor (tenured), Department of Poultry Sci. and Microbiology, Pathology, & Parasitology, NC State University: July 1993 to June 1995**
Supervisor: Dr. G. B. Havenstein; Phone: 919-515-2626
Major Duties: I taught courses, conducted research on animal agriculture and environmental issues and published my work in high impact peer-reviewed scientific journals. I trained graduate students. I was granted promotion and tenure and promoted to a full professorship within two years after receiving my academic tenure.
- 6. Assistant Professor (tenure-track), Department of Poultry Sci. and Microbiology, Pathology, & Parasitology, NC State University: June 1987 to June 1993**
Supervisor: Dr. G. B. Havenstein; Phone: 919-515-2626
Major Duties: I was hired as an immunologist after a nation-wide search. I developed a new teaching, research and outreach program in avian immunology. This program soon reached national and international prominence. I developed two new courses (avian immunology and immunogenetics) that attracted heavy undergraduate and graduate student's enrollment. Both of these courses became a part of the campus-wide immunology graduate program curriculum and were listed as such in the graduate program catalogue of NC State. I also developed and taught a graduate course in Immunotoxicology in collaboration with colleagues at NIEHS. I was promoted to the rank of Associate Professor and tenured by the College of Agriculture and Life Sciences and the College of Veterinary Medicine after the first review of my professional accomplishments.
- 7. Grade I Scientist, Donald Guthrie Foundation for Medical Research, Sayre, PA: August 1986 to May 1987**
Supervisor: Dr. Kwon; Phone: moved. Not known
Major Duties: I conducted research on viral causes of diabetes in humans by using a murine animal model. My research involved gene cloning, sequencing, protein expression, reagents such as monoclonal antibody development.
- 8. Graduate Research Assistant. Department of Avian and Environmental Sciences, Cornell University, Ithaca, NY: September 1982 to July 1986**
Supervisor and mentor: Dr. R. R. Dietert; Phone: 607-253-4015
I conducted research to understand the contribution of individual's genetic makeup on immune

response and how immune response is impacted by the environmental (e.g., toxins, heat stress) and microbial insult.

- 9. Research Assistant**, Immunogenetics and immunotoxicology. Department of Avian And Environmental Sciences, Cornell University, Ithaca, NY: May 1981 to August 1982
Supervisor: Dr. R. R. Dietert; Phone: 607-253-4015
I conducted research on mycotoxins and their impact on immune response *in ovo* and *in vivo*. This research was funded by the National Cancer Institute of NIH.
- 10. Lecturer**, Veterinary Microbiology. University of Agriculture, Lyallpur, Pakistan: February 1975 to February 1981
Supervisor: Rotational Department Chair
I taught Veterinary and Grad students and served as research mentor
- 11. Poultry Disease Investigator**, Department of Microbiology and Veterinary Clinics, University of Agriculture, Lyallpur, Pakistan: 11/74-2/75
Supervisor: Rotational Department Chair
I provided diagnostics, surveillance and monitoring of poultry diseases. Taught courses in Milk Hygiene, food microbiology and clinical bacteriology.

GRADUATE FACULTY MEMBERSHIPS

Immunology, Toxicology, Biotechnology, Physiology, Poultry Science (NCSU)

ADMINISTRATIVE / LEADERSHIP TRAININGS

Salient Executive Service Trainings

- a. **Federal Executive Institute (FEI)** training: “Leadership for a Democratic Society”, 2010.
- b. **Senior Executive Assessment Program**, Management Development Center, 2008.
- c. **Executive Supervisory Skills**: Office of Personnel Management, 2006.
- d. **Executive Development Seminar**: “Leading Change”: Office of Personnel Management, 2004.
- e. **Situational Leadership Training**, USDA, 2008.
- f. **Rapid Response” and “Crisis Management**, FAO training for zoonotic diseases, 2007.
- g. **Intercultural Communication for Community-based Professional**. USDA/University of Michigan, 2003.
- h. **ESCOP/ACOP Administrative Leadership Training**, (APLU), 1997-98

PROFESSIONAL DEVELOPMENT

- Sabbatical at The Ohio State University, Wooster, OH. July to December, 1998.
- “Fulbright Fellow” King Saud University, Riyadh, Saudi Arabia. March – July, 2000
- “Fulbright Fellow” , Jordan, 2003 (Awarded but could not avail due to career change)

SELECTED HONORS

- “Fellow” of Poultry Science Association – Highest Professional Honor, 2010.
- Outstanding Teaching Award; Poultry Science Association, 2003.
- Keynote Speaker, World's Poultry Science Meeting, Delaware, USA, 2002.
- Life-time Accomplishments Award, University of Agriculture, Faisalabad, Pakistan, 2001.
- Fulbright Scholar Award, 1999-2000 (Saudi Arabia); 2003 (Jordan).
- Outstanding Graduate Instructor Award, NC State University, 1998.
- Member, Sigma Iota Rho, the International Studies Honor Society, 1997.
- Bruckner Memorial Award, Cornell University, for excellence in Ph.D. research, 1986.
- Marshall Scholarship, Cornell University, 1983.
- Rotary International Group Study Exchange Award, 1979.

AWARDS RECEIVED BY MY STUDENTS

Dutch Gardner Memorial Awards: Poultry Science and Allied Disciplines, NC State:

- Donna Neldon-Ortiz for best M.S. thesis, 1990 (toxicology research)
- Lance Miller for best Ph.D. thesis, 1992. (Heat stress and immune response)
- Ann Gore for best M.S. thesis, 1997. (Vitamin D and immunity)
- C. L. Heggen for best Ph.D. thesis, 2001 (viral immunology)

Graduate Student Research Presentation Awards at Various National Scientific Societies:

- L. Miller, Immunology, 1991.
- M. T. Kidd, Immunology, 1993.
- M. Brundage, Immunology, 1994.
- A. Gore, Immunology, 1996 (SEPEA); 1996 (PSA).
- A. Peterson, Immunology, 1997.
- C. L. Heggen, Avian Diseases, 1997.
- N. Dil, Immunology, 2001

Graduate Student Research Manuscript Awards:

- L. Miller, Poultry Science Association for best Research Paper published in 1992.
- A. Gore, Poultry Science Association for best Research Paper published in 1997.

Outstanding Graduate Teaching Assistant Awards:

- C. L. Heggen, NC State University, 1998.

Undergraduate Advisees Award:

- Rebecca Robbins, Poultry Science Association for best research presentation in 2003.

RESEARCH GRANTS

- *NCSU Hatch Project: "Characterization of chicken reticuloendothelial system", 10/87 to 9/90, \$15,000.
- *North Carolina Biotechnology Center: "Inflammatory and molecular basis of chicken macrophage activation", 1/88 to 1/89, \$50,000.
- *NCSU Faculty Research and Professional Development Grant: "Protein changes associated with chicken macrophage activation", 1/88 to 12/88, \$3,500.
- *North Carolina Agricultural Foundation: "Genetic and environmental influences on macrophage function in chickens". Research support for a grad student, 1988-1990.
- *NIH Biomedical Research Support Grant: "Genotoxic and immunotoxic effects of aflatoxin B₁ on macrophages", 4/88 to 3/89, \$5,000.
- *USDA Animal Health: "Involvement of the reticuloendothelial system in response to aflatoxicosis in turkey poults", 4/88 to 9/89, \$16,000.
- *NIH Biomedical Research Support Grant: "Signal requirements for macrophage activation

- towards tumoricidal pathway", 4/89 to 3/90, \$8,000.
- *Perdue Farms: "Immune performance of mononuclear phagocytic system cells of Perdue chicken genetic stocks", 9/89 to 1/90, \$9,834.
 - *The Institute of Nutrition, The University of North Carolina System: "Immune system modulation by dietary calcium and phosphorus." 3/90 to 6/90, \$2,900, (Garlich & Qureshi).
 - *The Institute of Nutrition, The University of North Carolina System: "Immunological response of turkey poults to arginine." 12/90 to 6/91, \$3,000, (Garlich, Ferket & Qureshi).
 - *USDA Animal Health: "The effects of Aflatoxin-B₁ on mononuclear phagocytic system in turkeys." 6/90 to 5/93, \$8,000 (1990), \$12,000 (1991), \$10,000 (1992-93).
 - *The Institute of Nutrition, The University of North Carolina System: "Immunological response of turkey poults to calcitriol. 7/91 to 6/92, \$2,500, (Garlich and Qureshi).
 - *Zinpro Corporation, Bloomington, MN: "Effect of level and source of dietary zinc and manganese on market toms." 6/91 to 6/92, \$30,000 (Ferket, Scheideler, & Qureshi).
 - *Arbor Acres Farms: "Comparison of 1957 vs. 1991 Broilers and Feeds." 10/91 to 12/91, \$8,795 (Havenstein, Ferket, Scheideler, Donaldson, Christensen, & Qureshi).
 - *Elf Aquitaine, Inc.: "Efficiency of a direct fed microbial compound on immune function in broilers." 1/92 to 7/92, \$9,683 (Jones, Brake, & Qureshi).
 - *Zinpro Corporation, Bloomington, MN: "Immune function of market toms as influenced by supplemental organic zinc and manganese". 3/92 to 4/93, \$10,000 (Ferket and Qureshi).
 - *Southeastern Poultry & Egg Association: "Dietary exposure of broiler breeders to aflatoxin and diacetoxyscirpenol: Effects on embryonic development, broiler chick quality, and long-term immunocompetence." 7/92 to 6/94, \$23,490 (Qureshi, Brake, & Hamilton).
 - *BASF: "Effects of vitamin E on live performance and immune function of turkeys." 6/92 to 12/92, \$9,831 (Ferket, Rives, Qureshi, & Garlich).
 - *Embrex, Inc., "IL-2 Bioassay and production program." 9/92 to 6/93, \$11,926.
 - *Zinpro Corporation, Bloomington, MN: "Blood clearance of *Escherichia coli* and evaluation of mononuclear phagocytic system as influenced by zinc-methionine in young turkeys". 6/93 to 12/93, \$10,000 (Ferket & Qureshi).
 - *Eartrise Trading Company, CA.: "Immune enhancement potential of Algae-Feast Product." 12/92 to 6/93, \$7,719.
 - *Zinpro Corporation, Bloomington, MN: "Effect of zinc-and manganese-methionine on the performance and immune response of young turkeys". 2/93 to 9/93, \$7,965 (Ferket & Qureshi).
 - *Eartrise Trading Company, CA.: "Immune enhancement potential of Algae-Feast Phase I. Immunomodulation in layers (Phase I): " 9/93 to 12/93, \$9200; broilers (Phase II): 1/94 to 3/94, \$8686; disease challenge (Phase III): " 4/94 to 7/94, \$8061; Total = \$25,947.
 - *The Institute of Nutrition, The University of North Carolina System.: "Enhancement of immune function by Zinc-methionine". 7/93-6/94, \$1,222. (Ferket, Qureshi).
 - *British United Turkeys of America: "The determination and enumeration of commercially important immunological traits in a selected family of turkeys." 7/93 to 6/94, \$14,980.
 - *Southeastern Poultry & Egg Association: "Effects of long-term caging and molt on the heterophil : lymphocyte ratio, hormonal and behavioral response and immune function of 1950, 1960, 1970 and present day SCWL laying hens." (Anderson, Davis, & Qureshi) 6/93 to 5/95, \$51,450.
 - *USDA Animal Health: "Aflatoxin and Diacetoxyscirpenol effects on chickens." 6/93 to 9/96, \$8,834 (1993-94).
- Amoco Biproducts Corporation, Naperville, IL.: "Evaluation of progeny of broiler breeders fed 25- hydroxyvitamin D₃". (Brake & Qureshi) 1/95 to 12/95, \$14,500.
- *Nutri-Quest, Inc., Chesterfield, MO : "Broiler performance and carcass characteristics as affected by dietary arginine : lysine ratios from .95 to 1.40 during heat stress. (Brake, Ferket &

- Qureshi) 1/95 to 6/95, \$15,000.
- *USDA-SBIR: "The effect of β -hydroxy- β -methyl butyrate on immune function and mortality in young broilers." (Fuller, Qureshi & Ferket). 5/95-11/95, \$55,000.
 - *NCSU Hatch Project: "Avian macrophage biology in relation to effector functions". 6/95 – 9/00. \$~5,000/year.
 - *The Institute of Nutrition, The University of North Carolina System: "The influence of dietary iron levels on the phagocytic potential of avian macrophages". 8/95-6/96, \$3,000.
 - *Eartrise Trading Company, CA.: "Phagocytic potential of feline macrophages after exposure to a water-soluble extract of *Spirulina platensis in vitro*". 6/95-11/95. \$9,636.
 - *Spiking Mortality Task Force, NC. : "Use of a chicken virus neutralization factor and chicken IBDV and other chicken IBDV vaccines to reduce mortality and stunting in turkey poult exposed to fecal material from poults in flocks experiencing spiking mortality"(Edens & Qureshi). 6/95 to 6/96. \$15,000.
 - *Spiking Mortality Task Force, NC.: "Physiological and immunological manifestations in the diagnosis of Poult Enteritis and Mortality Syndrome and interventions designed to maintain normalcy". (Edens, Qureshi: 6/96 to 6/97, \$78,098; Qureshi: 6/97 to 6/98, \$60,000; Qureshi 7/98 to 6/99 \$26,130).
 - *Spiking Mortality Task Force, NC.: "Identification of viral etiological agent(s) and their mode of immunosuppression and pathogenesis in Poult Enteritis and Mortality Syndrome (PEMS)". (Qureshi, Edens, Schat, Saif, *et al.*) 6/96 to 6/99. \$219,376.
 - *Kemin Industries, Inc., Iowa: "Influence of MycoCurb and SalCurb on feed intake and livability of turkey poults". (Edens, & Qureshi). 6/96 to 12/96. \$5,000.
 - *Kemin Industries, Inc., Iowa: "Sensitivity of *E. coli* and *Salmonellae* associated with PEMS to MycoCurb and SalCurb". (Edens & Qureshi). 7/96 to 12/96. \$1,200.
 - *USDA-SBIR: "Development of the leucine metabolite HMB as an immunostimulant feed ingredient for broilers". (Fuller, Qureshi *et al.*), 5/1996-6/1998. Total = \$250,000; NCSU funded \$21,817.
 - *NSF: "The biological significance of cellular alloantigen systems in captive populations". (PI: Briles; Qureshi *et al.*), 9/1996-8/1999. \$305,000.
 - *Bio-Tek Industries, Inc. Atlanta, GA.: "Antimicrobial activity of Tek-Trol and Micro-Bond against *Escherichia coli*". 2/97 to 8/97. \$10,200.
 - *Nutri-Quist, Inc., Chesterfield, MO. : "Effect of Arginine-Lysine ratios and temperature on macrophage functions of broilers". 2/97 to 8/97. \$5,000.
 - *The Institute of Nutrition, The University of North Carolina system: "Immunological responses of chickens to dietary exposure of lead, mercury, cadmium, chromium and vanadium". 6/97 to 6/98. \$3,000.
 - *USDA Animal Health: "Immunological assessment as a measure of normal and disease induced immunocompetence in turkeys". 10/97 – 9/02, \$~10,000/year.
 - *Bioxy, Inc., NC.: "The effect of Aquatize on viability and phagocytic function of chicken macrophages *in vitro*" 4/98 to 7/98, \$3,300.
 - *Spiking Mortality Task Force, NC: "The interaction of "novel small viral agents" with the immune system of young turkey poults". (Qureshi & Saif), 7/98 to 6/99, \$24,820.
 - *Bioxy, Inc., NC: Testing of Aquatize as a possible immune enhancer in turkeys". 4/99 – 9/99, \$7,100.
 - *U.S. Poultry & Egg Association: "The role of a novel small round virus in poult enteritis and mortality syndrome (PEMS) and associated immune functions". (Qureshi, Edens & Saif) 6/99 – 5/2001, \$20,000.
 - *United States Information Services, Fulbright Program: "Interface of Nutrition and Immunology: an academic and research approach". 3/2000 – 7/2000, \$33,000.
 - *Ross Breeders. "Immune comparisons of commercial broiler strains raised on two dietary regimens". 12/2000 – 6/2001, \$27,774.

- *Alltech, Inc. "Immunomodulatory effects of NuPro". 12/2001 – 06/2002, \$6,500.
- *Immunodyme.: "Beta –glucan immunomodulatory effects in chickens". 12/2001-06-2002, \$5,000.
- *Phytobiotics. "Immunological assessment of Sangrovit in poultry". 11/2002 - 6/2003, \$43,000.
- *Alltech, Inc. "BioMos as a possible modulator of proinflammatory acute phase response".
11/2002 - 6/2003, \$11,220.

TEACHING EXPERIENCE

Core Courses taught as Instructor of Record at NC State

Immunogenetics (PO, IMM 756); *Avian Immunology* (PO, IMM 757); *Immunology* (MB 551); *Immunotoxicology* (TOX 605).

Team-Taught Courses at NC State

Biochemical Toxicology (TOX 510); *Agriculture and Life Sciences*; *Honors Course* (ALS 299H); *Advanced Immunology and Biotech.* (VMS 691); *Special Problems in Poultry Science* (PO 698)

Courses taught at University of Agriculture, Faisalabad, Pakistan

Mycology (team-taught); *Food Microbiology*; *Veterinary Public Health*; *Virology* (team-taught)

GRADUATE TRAINEES

Following students completed their **doctoral programs** under my supervision at NC State:

2002 - 2004	Renee Plunske (Co-Chair) (Ph.D.) - Nutrition/Immunology
1998 - 2001	Nyla Dil (Ph.D.)-Immunology
1995 - 1998	Levent Karagenc (Co-chair) (Ph.D.) - Physiology
1995 - 2000	Cherilyn Heggen (Ph.D.) - Immunology
1993 - 1997	Noris Carbajal (Ph.D.) - Animal Sciences/Immunology.
1993 - 1997	Irshad Hussain (Ph.D.) - Immunology.
1992 - 1994	Michael Kidd (Co-chair) (Ph.D.) – Nutrition/Immunology.
1987 - 1991	Lance Miller (Ph.D.) – Physiology/Immunology.

Following students completed their **Master's programs** under my supervision at NC State:

2002 - 2004	Lizza Macalintal (M.S.) - Poultry Science/Immunology
2000 - 2003	Manzoor Cheema (M.S.) – Poultry Science/Immunology
1995 - 1999	Scott Mazingo (M.O.P.) - Physiology
1995 - 1997	Angela Peterson (M.S.) - Physiology/Immunology.
1995 - 1997	Andrew Powell (M.O.P.) - Physiology.
1995 - 1996	Ann Gore (M.S.) - Physiology/Immunology.
1995 - 1996	James Mitchell (M.L.S.) - Physiology.
1995 - 1996	Sally Morin (M.L.S.) - Immunology/physiology
1991 - 1994	Melissa Brundage (M.S.) - Poultry Science/Immunology.
1990 - 1993	Rizwana Ali (M.L.S.) - Physiology/Immunology.
1988 - 1990	Donna Ortiz (M.S.) – Physiology/Immunology.

Graduate Committee Memberships at NC State:

2002 - 2004	Faqir Muhammad (Ph.D.) Comp. Biomed. Sciences.
2001 - 2004	Ondulla Foye (Ph.D.) Nutrition
2001- 2004	Kimberly Gowdy (M.S.) Poultry Science
2000 - 2004	Marta Bull (Ph.D.) – Immunology (graduate school representative)
2000 - 2004	Kyoungju Choi (Ph.D.) - Toxicology
1999 - 2001	Umaporn Silphaduang (Ph.D.) - VMS

1998 - 2001	Christopher Moore (Ph.D.) - Physiology
1997 - 1999	Stephen Graham (Ph.D.) - Toxicology (graduate school representative)
1997 - 2000	Kamel Mahmoud (Ph.D.) - Physiology
1996 - 1998	Brian Miller(M.S.) - Physiology
1995 - 1999	Craig Harms (Ph.D.) - Immunology
1997 - 1998	Rachel Doerfler (M.S.) - Poultry Science
1997 - 1998	Christopher Moore (M.S.) - Physiology
1996 - 1998	Julie Suders (Ph.D.) - Biochemistry
1995 - 1998	Michael Radmacher (Ph.D.) - Biomathematics
1995 - 1998	Joe Bucci (Ph.D.) - Immunology
1994 - 1998	Chandrika Ediriwickrema - (Ph.D.) - Immunology
1995 - 1997	Guy Beretich (Ph.D.) - Immunology
1995 - 1997	Lori Mixson - (Ph.D.) - Biomathematics
1995 - 1997	Robert Lange (Ph.D.) - Toxicology
1993 - 1996	Holly Dunham - (Ph.D.) - Microbiology
1993 - 1999	M. A. Grice – (Ph.D.) - Physiology
1992 - 1996	Elizabeth B. Kegley (Ph.D.) - Nutrition.
1992 - 1995	John R. Dodam (Ph.D.) - VMS.
1992 - 1994	Gene Gengelbach (Ph.D.) - Nutrition.
1992 - 1993	Liana Brentano (Ph.D.) - VMS.
1992 - 1994	Silvia Buntinx (Ph.D.) - Nutrition (graduate school representative).
1992 - 1995	Jennifer J. Quinlan (Ph.D.) - Food Science.
1992 - 1993	Ann-Marie Colapietro (M.S.) - Toxicology.
1992 - 1993	Michelle Gemborys (Ph.D.) - Nutrition.
1991 - 1995	Sajid Aslam (Ph.D.) - Nutrition.
1991 - 1992	Vicki L. Burnett (Ph.D.) - Toxicology.
1991 - 1992	Eric Van Heugten (Ph.D.) - Nutrition.
1991 - 1993	Adeniyi Ojutiku (Ph.D.) - Physiology.
1991 - 1996	Scott Knowles (Ph.D.) - Toxicology.
1990 - 1992	Timothy R. Skinner (M.S.) - Microbiology.
1990 - 1991	Damien Schreuer (Ph.D.) - VMS/Immunology.
1990 - 1995	Dori R. Germolec (Ph.D.) - Toxicology.
1990 -1998	Barbara Liljequist (Ph.D.) - Physiology.
1989 - 1990	Michael Jabe (Ph.D. Co-chair) - Physiology.
1989 - 1995	Hilda R. Holcombe (M.S. and Ph.D.) -VMS/Immunology.
1989 - 1991	Ann E. Droke (Ph.D.) - Animal Science.
1989 - 1990	Allison P. Belsches (M.S.) - Zoology.
1987 -1998	Kady G. Jessing (M.S.) - Veterinary Medical Sciences.
1987	Wesley Sing (Ph.D.) - Microbiology (graduate school representative).
1987	Calvin Johnson (Ph.D.) - VMS (graduate school representative).

POST-DOCTORAL TRAINEES (Hosted in my lab at NC State):

1994	Dr. C. Nicolas-Bolnet; Macrophage Growth Factor Project.
1995	Dr. S. Aslam; Nutritional Immunology
1997	Dr. I. Hussain; Molecular Immunology
2000	Dr. C. L. Heggan-Peay, Immunology
2003	Dr. Nyla Dil, Immunology

UNDERGRADUATE ADVISEMENT

1989 -1999 Pre-Vet and related undergraduate majors advisor, NC State.

SABBATICALS / SCIENTISTS AND INTERNS HOSTED IN MY LAB AT NC STATE

2002 Dr. Maria Sílvia Furquim de Azevedo Morgulis, Uni. Sau Paulo, **Brazil**
2002 Dr. Mark Chadfield, Department of Veterinary Microbiology, The Royal Veterinary and Agricultural University, **Denmark**
2001-2002 Dr. Yuming Guo, Professor and Head, Division of Animal Nutrition and Feed Science, College of Animal Science and Technology, **China** Agricultural University.
2001 Dr. Moataz Fathi, Associate Prof. of Poultry Breeding, Ain Shams University, **Egypt**
2001 Mr. Scott McLeod, Ross Breeders, **United Kingdom**.
2001 Dr. Renato DaMatta, Professor, Universidade Estadual do Norte Fluminense, **Brazil**
2001 Dr. Valerie Carney Melnychuk, Aviagen North America, Alabama, **USA**
1999 Ms. Silvia Salado, Ph.D. research rotation, Univetsidad Politecnica de Madrid, **Spain**
1999 Dr. Renato DaMatta, Professor, Universidade Estadual do Norte Fluminense, **Brazil**
1997 Dr. M. Smith, Associate Professor of Nutrition, University of Tennessee, **USA**.
1997 University of Arkansas and Tennessee Tech. and Grad Students.
1996 Dr. M. F. Ali, Professor, Ain Shams University, Cairo, **Egypt**.
1996 Dr. G. B. Esani, Dean Faculty of Vet. Sci. Agri. Uni. Tando Jam, **Pakistan**.
1991 Dr. Fred McCorkle, Central Michigan University, Mt. Pleasant, MI, **USA**.
1988 Dr. C.R. Balakrishnan, National Dairy Research Institute, Karnal, **India**.

INTERNSHIP/EXPERIENTIAL LEARNING FOR MINORITY STUDENTS

1988 Shalon Ruffin, USDA Summer Research Apprentice.
1989 Daphne D. Bazemore, USDA Summer Research Apprentice.
1991 Tanika D. Cooper, NIH Summer Research Apprentice.
1992 Chandra Coates, USDA Summer Research Apprentice.
1994 Joseph Ladapo, NIH Summer Research Apprentice.
1995 Chris Jordan, USDA Summer Research Intern.
1995 Shirley Owino, USDA Challenge Grant Intern.
2001 Christina Robinson, senior research; St. Augustine, Raleigh, NC
2001 Erica VanFoote, senior research; St. Augustine, Raleigh, NC

CONTINUING EDUCATION COURSES OFFERED

- 1 - Faculdade de Ciencias Agrarias e Veterinaria Microbiologia, UNESP, Jaboticabal - SP (Brazil), Avian Immunology Lecture and Laboratory course (20 hours), June 2002.
- 2- Department of Biological Sciences, Quaid-e-Azam University, Islamabad, Pakistan. "Hybridoma technology and cell culture", four week course. June, 1992.
- 3 - Department of Microbiology, University of Agriculture, Faisalabad, Pakistan. "Immunology", three week course. May, 1989.
- 4 - Department of Molecular Genetics, Guthrie Medical Research Institute, Sayre, PA. Separation and identification of cellular proteins using two-dimensional and Western blotting techniques. May, 1987.
- 5 - Department of Poultry and Avian Sciences, Immunogenetics section, Cornell University, Ithaca, NY. Methodologies in macrophage culture and function. January, 1987.
- 6- Elmira College, Elmira, NY. Cultivation and identification of microbial agents. 1982.

CLINICAL

Clinical Veterinary Microbiology, Veterinary Clinics, University of Agriculture, Faisalabad, Pakistan, 1975-1981.

INTERNATIONAL ACTIVITIES

- *United Nations Consultant for Pakistan through TOKTEN program (1989 – 2002)
- *Ph.D. Thesis examiner of several overseas (**Pakistan, Australia**) universities (1990 – 2010)
- *Reviewer, Faculty promotions and tenure panels, several Pakistani Universities (1990 – 2010)
- *Fulbright Scholar assignment, King Saud University, Riyadh, **Saudi Arabia** (2000) and **Jordan** (2003)
- *UN/FAO/USDA/USAID Rapid Response for Avian Influenza, **Bangladesh**, (2007 – 2009)
- *Department of State's "Biosecurity Engagement Program" team visit to **Pakistan** (2007)
- *USDA Rep on Science and Technology MOU with Government of Pakistan (2007-2010)
- *Strategic Expert to US/USDA missions/post in Pakistan on S&T capacity/engagement (2003-2004)
- *Administrative Member, EU/US Animal Biotechnology Task Force (2010 - 2012)
- *Subject Matter Expert Animal Systems, USDA's Foreign Agricultural Service (2003 – present).

INVITED SPEAKER (*Domestic and International*)

- *World's Poultry Science Association, "Avian macrophages and immune response", Delaware, 2002.
- *University of Veterinary and Animal Sciences, Lahore, **Pakistan**. "Current progress in avian macrophage biology and function". August 2002.
- *Degussa Technical Conference, "Nutritional immunity in relation to amino acids". Hanau, **Germany**, June, 2002.
- *Featured Speaker at the APINCO 2002 FACTA Conference, "Impact of immune system on avian health and productivity"., Campinas, **Brazil**, June 2002.
- *Department of Microbiologia, UNESP, Jaboticabal, Brazil. "Avian Immune Functions", June 2002.
- *Aviagen North America, Huntsville, AL. "Immune response of commercial genetic broiler strains", November, 2001.
- *Federal Postgraduate Medical Institute, Lahore, Pakistan. "Role of macrophages in health and disease"., June, 2001.
- *Agricultural University, Peshawar, Pakistan. "Avian macrophage system and health"; June, 2001.
- *Poultry Professionals Forum, Rawalpindi, Pakistan. "Current practices in poultry health management"., June, 2001.
- *University of Agriculture, Faisalabad, Pakistan. "Role of immune system in health and disease"., July, 2001.
- *National Agricultural Research Council, Islamabad, Pakistan. "Novel viral agents involved in Poultry Enteritis and Mortality Syndrome"., July, 2001.
- *World's Poultry Science Association, Pakistan. "Chicken immune responses in health and disease"., July 2001.
- *Department of Poultry Science, NCSU. "An update on chicken macrophage activation and function". November, 2000.
- *King Saud University, Riyadh, Saudi Arabia. "Genetic, nutritional and environmental influences on avian macrophage functions.". May, 2000.
- *King Saud University, Riyadh, **Saudi Arabia**: "Immune system: a common link between multiple body functions." April 25, 2000.
- *King Saud University, Riyadh, Saudi Arabia. "Avian immune system: the contributions of mononuclear phagocytic system." April, 2000.
- *Arabian Agricultural Services Company, Riyadh, Saudi Arabia. "Understanding Avian Immunology in health and disease". April, 2000.
- *Arabian Agricultural Services Company, Riyadh, Saudi Arabia. "Biosecurity: when, where and how". April, 2000.
- *26th Carolina Poultry Nutrition Conference, Research Triangle Park, NC. "The avian immune system and nutritional modulators". November, 1999.

- *North Carolina Veterinary Conference, Research Triangle Park, NC. "Update on Small Round Virus in association with PEMS and immune function". November, 1999.
- *Italian Society for Avian Pathology, Forli, **Italy**. "Development and reactivity of the immune system in different genetic hosts". October, 1999
- *Fermex Amino Acid Meeting, Mexico City. **Mexico**. "Impact of immune function on nutrient requirements in poultry". September, 1999
- *Avian Disease & Oncology Lab., USDA, East Lansing, MI. "Genetic, environmental and nutritional influences on chicken macrophage functions". June, 1999.
- *Immunology Program, Cornell University, Ithaca, NY. "Poult enteritis and mortality syndrome: Involvement of novel small viruses and associated immune alterations". May, 1999.
- *Department of Poultry Science, NCSU. The role of "Small Round Virus" in poult enteritis and mortality syndrome. February, 1999.
- *The Ohio State University, College of Veterinary Medicine. Chicken macrophage functions as affected by genetics, nutrition and environment. November, 1998.
- *Fourth Roche International Turkey Advisory Board Meeting, Short Hills, NJ. Digestive Immunology of Turkeys. October, 1998
- *North Central Avian Disease Conference, Indianapolis, IN. Interaction of Small Round Virus with the immune system of young turkeys. September, 1998.
- *Fifteenth Annual Biokyowa Amino Acids Council Meeting, St. Louis, MO. Impact of immune function on nutrient requirements. September 29 – October 1, 1998.
- *Technical Turkey Conference, Pott Shrigley, Cheshire, **England**. Turkey Immune System as affected by dietary and environmental factors. April, 1998.
- *Health Forum, Al-Iman School and Education Foundation, McKimmon Center, NCSU. Immunizations. November, 1996.
- *North Carolina Turkey Industry Days Conf. NCSU. Assessment of immunocompetence in poults. October, 1996.
- *University of Agriculture, Faisalabad, Pakistan. The mononuclear phagocytic system of avian species. August, 1996.
- *College of Veterinary Science, Lahore, Pakistan. Role of macrophages in avian health and disease. August, 1996.
- *National Animal Sciences Institute, Islamabad, Pakistan. Role of macrophage in health and disease. July, 1996.
- *Roche Technical Meeting, Orlando, FL. The avian immune system. June, 1996.
- *Watt Poultry Summit II - University of Georgia, Athens, GA. Genetic basis of immune response in chickens. April, 1996.
- *Institute for Comparative and Environmental Toxicology, Cornell University, Ithaca, NY. Immunomodulation in response to environmental factors. March, 1996.
- *Department of Microbiology and Immunology, Cornell University, Ithaca, NY. Tox. 611 Molecular Toxicology Course. Avian immunological model in toxicology. March, 1996.
- *Department of Poultry Science, NCSU. Immunological Observations during spiking mortality in turkeys. February, 1996.
- *Embrex, RTP, NC. Genetic influences on immune response of commercial chicken lines. December, 1995.
- *Arbor Acres Farm, Inc., Glastonbury, Connecticut. "Marker-assisted selection and avian immune system". March, 1995.
- *Biokyowa Amino Acid Council Meeting, St. Louis, Missouri. "Impact of immune status on metabolism and nutrition of broilers and turkeys." October, 1994.
- *Sandoz Pharmaceutical, Basel, **Switzerland**. "Aflatoxin and diacetoxyscirpenol-mediated immunosuppression in chickens." August, 1994.

- *British United Turkeys of America, West Virginia. "Marker-assisted selection in turkeys." April, 1994.
- *University of New Hampshire, Department of Animal Science. "Macrophages and Immunity in chickens." April, 1994.
- *Parents for the Advancement of Gifted Children Program, Dept. Poultry Science, NCSU, Raleigh, NC. "Immune system and health." March, 1994.
- *Apex High School, Apex, NC. "Immune system protects you from getting sick." October, 1993.
- *Poultry Science Association, MSU, East Lansing, MI. "Current advances in avian immunology symposium. Macrophage functions." October, 1993.
- *Cuddy Farms, Marshville, NC. "Mycotoxin-immune system interaction and post-hatch poult mortality." May, 1993.
- *Pakistani Delegation, NCSU, Raleigh, NC. "Application of Biotechnology in Poultry Production." May, 1993.
- *North Carolina Turkey Industry Days Conference, NCSU, Raleigh, NC. "Immune function in turkeys." March, 1993.
- *USDA Higher Education Challenge Grant Symposium, NCSU, Raleigh, NC. "Avian immune system." March, 1993.
- *Smithfield-Selma Middle School Teachers Conference, N.C. State University, Raleigh, NC. "Disease resistance and the immune system: An overview." January, 1993.
- *USDA Challenge Grant Symposium, Pembroke State University, Pembroke, NC. "Birds, Biology, and Biotechnology." January, 1993.
- *Hubbard Advisory Board, Walpole, NH. "Immune response considerations during genetic selection programs for chickens and turkeys." October, 1992.
- *Zinpro Corporation, Perdue Headquarters, Salisbury, MD. "Dietary manipulations of the broiler immune system." October, 1992.
- *University of Agriculture, Faculty of Veterinary Science, Faisalabad, Pakistan. "Current Research Interests in Poultry Science in the U.S." June, 1992.
- *University of Agriculture, Faculty of Animal Husbandry, Faisalabad, Pakistan. "Humoral and Cell-Mediated Immune Response Assessment in Chickens." June, 1992.
- *National Institute of Biotechnology and Genetic Engineering, Faisalabad, Pakistan. "Modulation of Macrophage Functions by Heat and Chemical Stress." June, 1992.
- *Embrex, Inc., RTP, NC. "Avian Interleukin-2: Assessment of Lymphoproliferative Activity." May, 1992.
- *USDA Challenge Grant Symposium, North Carolina A&T University, Greensboro, NC. "Undergraduate teaching at NCSU." May, 1992.
- *North Carolina State University, Raleigh, NC. The Farm Credit Board of Directors Meeting. "Poultry Science: A Multidiscipline Effort with a Common Goal." May, 1992.
- *North Carolina State University, Raleigh, NC. Workshop for Science Teachers. "Macrophage-Mediated Disease Resistance". March, 1992.
- *Physiology Program Seminar Series. NC State University, Raleigh, NC. "Chicken Macrophages: Interaction with Physiological and Environmental Factors." March, 1992.
- *Department of Poultry Science, North Carolina State University, Raleigh, NC. "Factors Affecting Macrophage Functions in Poultry." February, 1992.
- *National Breeders Roundtable, St. Louis, MO. "Effects of Physiology, Genetics and Environment on Activity and Function of Chicken Macrophage." May, 1991.
- *North Carolina State University, Raleigh, NC. Animal Breeding Seminar: "Genetic and Environmental Influences on Chicken Macrophage Activation and Function." April, 1991.
- *North Carolina State University, Raleigh, NC. Workshop for Science Teachers: "What Keeps You From Contracting a Disease?" March, 1991.
- *The University of Georgia, Athens, GA. "Avian Macrophages: Functional Changes Associated

- with Environmental and Physiological Factors." March, 1991.
- *Department of Poultry and Avian Sciences and Institute for Comparative and Environmental Toxicology, Cornell University, Ithaca, NY. "Chicken Macrophages: Effects of Physiological and Environmental Factors on Activation and Function", April, 1990.
 - *Perdue Advisory Board, Salisbury, MD. "Immune Performance of Mononuclear Phagocytic System Cells of Perdue Chicken Genetic Stocks." February, 1990.
 - *Department of Microbiology, Pathology, and Parasitology, College of Veterinary Medicine, N.C. State University. "Chicken Macrophages: Interaction with Chemical and Biological Agents." November, 1989.
 - *Department of Poultry Science, NC State University. "Chicken Inflammatory Macrophages: Influence of Biological Signals and Toxicant Exposure on Effector Function." September, 1989.
 - *Toxicology Program, North Carolina State University, Raleigh, NC "Some Aspects of Toxicant-Macrophage Interaction." March, 1989.
 - *Biotechnology Program, North Carolina State University, Raleigh, NC. "Chicken Macrophages: Activation and Association with Effector Function." December, 1988.
 - *Department of Poultry Science, Senior Seminar Series, North Carolina State University, Raleigh, NC. "Why Do We Need to Go to Graduate School?" November, 1988.
 - *High School Science Teachers' Workshop, North Carolina State University. "Innovative Techniques for Improving Disease Resistance in Domestic Poultry." February, 1988.
 - *Commercial Layer Research and Extension Overview, North Carolina State University. "Research Studies on the Immune Response in Layers." February, 1988.
 - *Department of Microbiology, North Carolina State University. "Interaction of Genetic and Environmental Factors with Chicken Mononuclear Phagocytic System Cells." October, 1987.
 - *Department of Poultry Science, North Carolina State University. "Use of Chicken Macrophages as Target Cells for Genetic and Toxicological Studies." February, 1987.
 - *Department of Animal Science, Cook College, Rutgers's University, NJ. "Genetic and Toxicological Influences on Reticuloendothelial System in Chicken." February, 1987.
 - *Graduate Field of Immunology, Cornell University, Ithaca, NY. "Genetic and Environmental Influences on Chicken Macrophage Function." October, 1986.
 - *Donald Guthrie Foundation for Medical Research, Guthrie Research Institute, Sayre, PA. "Gene Dosage and Environmental Influences on Macrophage Function." June, 1986.
 - *Department of Animal Science, Cornell University, Animal Breeding Seminar. "Genetic Influences on Reticuloendothelial System in Chicken." April, 1985.
 - *College of Veterinary Science, Lahore, Pakistan. "Use of Avian Fetal Antigens for the Study of Avian Hematopoietic Development and Differentiation." June, 1983.
 - *Department of Microbiology, University of Agriculture, Faisalabad, Pakistan. "Chicken Fetal Antigen: Association with Lymphoid Development and Differentiation." June, 1983.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

2002 – 2003	American Association of Avian Pathologists
1999- 2004	American Veterinary Medical Association
1998- 2000	Conference of Research Workers in Animal Diseases
1994 - 2002	Society for Experimental Biology and Medicine
1992 - 2006	World's Poultry Science Association
1988 - 2003	North Carolina Poultry Federation
1986 - 2003	The American Association of Immunologists
1985 - Present	Poultry Science Association, USA
1984 - 1985	Reticuloendothelial Society, USA

PROFESSIONAL SERVICES (Selected)

Poultry/Animal/Dairy Science Associations: Member, Open Access journal taskforce, 2010; Chair, Overall Scientific Program, 2008; Co-Chair, Joint annual meetings, San Antonio, 2007; Chair, Ancillary Scientist Committee, 2005; Member (elected) Nominating Committee, 2003-2006; Member, Ancillary Scientist Committee, 2001 – 2006; Member, Committee on Drugs and Chemicals, 2002 – 2006. Section Chair, Immunology, 1992, 1996;

Editorial/Technical Services: International Correspondent, *Veterinary News & Views (weekly) Pakistan*, 1999 – 2003; Associate Editor, *Poultry Science*, 1993 - 1999. 2001 – 2003; Member, Advisory Board, International Journal of Poultry Science (electronic), 2001-2009; Reviewer, *British Poultry Science*; *The Anatomical Record*; *Poultry Science Reviews*; *Developmental and Comparative Immunology*; *Poultry Science*, Immunology Section; *Journal of Animal Science*; *Mycopathologia*; *Life Sciences*; *Proc. Soc. Exp. Biol. Medicine*; *Veterinary Research Communication*; Technical Reviewer, Business Innovation and Technology Advancement Center, Inc.; Reviewer, USDA Competitive Research Grants, Canadian Research Council; Technical Consultant, *Pakistan Veterinary Journal*; Member, Administrative Board of the Graduate School, NC State University, 2003; Member, Board of Scientific Advisors, Earthrise Company, Petaluma, CA, 1997-2000; Member, Scientific Advisory Board of Friends of Trisomy 21 Research, Inc., LA, CA, 2000– 2003

EXTENSION-RELATED SERVICES

*Organized an *in vivo* embryology exhibit at the NC State Fair, 1987, 1988, 1989, 1990.

*Published several popular articles on various livestock diseases in "Zarrii (Agriculture) Digest" published by the University of Agriculture, Faisalabad, Pakistan. 1975-1981.

*Presented several radio talks on various livestock health issues on Radio Pakistan, 1975-1981.

SELECTED UNIVERSITY SERVICES (at NC State and elsewhere):

NC State: Member, Search Committee for Immunologist Position, Department of Microbiology, 1988; Organizer, Undergraduate Research Symposium, 2001 – 2004; Judge, Research Forum, CVM, 2002; Member, Study Abroad Scholarship Selection Committee, 2002; Wrote and received a Graduate Student Recruitment Grant, \$2800, 2001; Wrote and received a Poultry Science webpage development Grant, \$3500, 2001; Member, Search Committee for Associate Dean, CALS, 2001; Member, Graduate School Student Recruiting Task Force, 2001 – 2002; Member, Committee on Terms and Conditions for Graduate Students, Graduate School, 2000; Member, Executive Committee, 1999-2003; Director, Graduate Program of Poultry Science, 1999 – 2003; Member, Undergraduate Research Symposium Committee, 1998-2001; Member, Dean's Administrative Team for Microbiology and Biochemistry Departments, 1998; Chair, Executive Committee, Immunology Program, 1997-2000; Director, Interdisciplinary Physiology Graduate Program, 1994-1997; Member, Dean's Committee for Administrative and Program Review of Poultry Science, 1994; Member (Elected), Physiology Executive Committee, 1994-1997; Member, Graduate Curriculum Committee, Toxicology Program, 1994- 2000; Member, Strategic Planning Committee, CALS, 1993-1995; Member, Executive Committee, Immunology Program, 1993-1996; Member and Secretary, Provost's Committee on Faculty Concerns, 1993; Member, Interdepartmental Physiology Program Seminar Committee, 1992, 1993; Member, ALS Honors Program Committee, College of Agriculture and Life Sciences, 1990-1995; Member, Student Judicial Board, 1991-1992; Member, North Carolina Junior Science and Humanities Symposium Committee, 1991; Member, Search Committee for Immunologist Position, Department of Microbiology, 1988; NCSU Poultry Science: Member, Academic Affairs, Graduate Studies and Long Range Planning Committees, 1993-1996; Chair, Social Committee, 1992-1996; Chairman *Ad hoc* Committee for Instructional Facilities, 1992 – 1997; Member, *Ad hoc* Committee on Common Research Facilities, 1992-1997; Member, Academic Affairs Committee, 1989-1997; Chairman, University Open House Committee, 1990; Member, Seminar Committee, 1989-1990; Member, Search Committee for Biotechnologist Position, 1990; Member, State Fair Committee, 1987-1988; Member,

Library Committee, 1988; Member, Graduate Studies Committee, 1995-1997; Member, Strategic Planning Committee, 1995-1997; Member, Promotion and Tenure Committee, 1995-2003; At University of Agriculture, Lyallpur, Pakistan: Secretary, Academic Staff Association, 1980-1981; Protocol Officer, 1979-1981; Member Senate, (Elected), , 1979-1980; Advisor, Veterinary Medical Society, 1978-1979; President, Veterinary Medical Society, 1974-1975.

MEETINGS ATTENDED (during academic career) (*Meetings at which papers were presented)

- *Poultry Science Association, University of Delaware, DE, August, 2002.
- *APINCO Conferencie, Campiñas, Brasil, June, 2002.
- *Fourth International Symposium on Turkey Diseases, Berlin, Germany, May 2002.
- *FASEB, New Orleans, LA, April, 2002.
- *International Poultry Scientific Forum, Atlanta, GA, January 2002
- North Carolina Veterinary Conference, Research Triangle Park, NC, November, 2001.
- *Multi-State NE60-Regional Meetings, N. C. State University, NC, October, 2001.
- *Poultry Science Association, Indianapolis, IN, July, 2001
- *International Poultry Scientific Forum, Atlanta, GA, January 2001.
- *Multi-State NE60-Regional Meetings, Cornell University, Ithaca, NY, October, 2000.
- North Carolina Veterinary Conference, Research Triangle Park, NC, November, 2000.
- *Poultry Science Association, Montreal, Canada, August, 2000.
- *Southern Poultry Science Society & Southern Conference on Avian Diseases, January, 2000
- *North Carolina Veterinary Conference, Research Triangle Park, NC, November, 1999.
- *The Carolina Poultry Nutrition Conference, Research Triangle Park, NC, November, 1999.
- *The Italian Society for Avian Pathology, Forli, Italy, October, 1999.
- *Fermex Amino Acid Meeting, Mexico City, Mexico, September, 1999.
- *Poultry Science Association, Arkansas, August, 1999.
- *American Veterinary Medical Association, New Orleans, LA, July, 1999.
- *Southern Poultry Science Society & Southern Conference on Avian Diseases, January, 1999.
- *Conference of Research Workers in Animal Diseases, Chicago, Ill, November, 1998.
- *Roche 4th International Turkey Advisory Board Meeting, Short Hills, NJ, October, 1998.
- *NE60-Regional Meetings, University of New Hampshire, October, 1998.
- *NCR187 Enteric Diseases of Poultry. Indianapolis, Sept., 1998.
- *21st. Technical Turkey Conference, Cheshire, England, April, 1998.
- *Southern Poultry and Egg Association, Atlanta, January 1998.
- *NE60-Regional Meetings, Arkansas, October, 1997.
- *National Turkey Federation Summer Meeting; June, 1997.
- *PEMS workshop, CVM, NCSU, May-June, 1997.
- *Immunology Symposium, CVM, NCSU, October, 1996.
- *NE60-Regional Meetings, Framingham, MASS, October, 1996.
- *Institute of Nutrition, Chapel Hill, NC, October, 1996.
- *Poultry Science Association, Louisville, Kentucky, July, 1996.
- *USDA Challenge Grant Symposium, NC State University, Raleigh, NC, April, 1996.
- *Watt Poultry Summit II, Uni. Georgia, Athens, GA, April, 1996.
- *Southeastern Poultry and Egg Association, Atlanta, GA, January 1996.
- *Poultry Science Association, Alberta, Canada, August, 1995.
- *NE-60 Regional Meetings, UC Davis, CA, October, 1995.
- *Genetic Resource Conservation Task Force, UC Davis, CA, October, 1995.
- *Forty-Fourth Western Poultry Disease Conference, UC Davis, Sacramento, CA, March, 1995.
- *International Biotechnology Conference, NC State University, November, 1994 (session chair).
- *First Annual NCSU Immunology Symposium, CVM, NCSU, October, 1994.

- *European Toxicology Conference, Basel, Switzerland, August, 1994.
- *Poultry Science Association, Mississippi State Uni., Mississippi, August, 1994.
- *Avian Immunology Research Group, University of Reading, England, April, 1994.
- *Southeastern Poultry & Egg Association, Atlanta, GA, January, 1994.
- *NE-60 Regional Meetings, McGill University, Montreal, Canada, October, 1993.
- NE-168 Regional Meetings, Advanced Technologies for the Genetic Improvement of Poultry, NC State University, September, 1993.
- *Poultry Science Association, East Lansing, MI, August, 1993.
- Gordon Conference on Mycotoxins. Plymouth State College, Plymouth, NH, July, 1993.
- Southeastern Poultry & Egg Association, Atlanta, GA, January, 1993.
- *Poultry Science Association, Fayetteville, AR, August, 1992.
- *Institute of Nutrition Conference, Chapel Hill, NC, Oct. 1991.
- *Poultry Science Association, Texas A & M, College Station, TX, August, 1991.
- *National Breeders Roundtable, St. Louis, MO, May, 1991.
- *Immunotoxicology Discussion Group. Animal Models in Immunotoxicology: Species Selection. U. S. Environmental Protection Agency, RTP, NC, May, 1991.
- *Institute of Nutrition Conference, McKimmon Center, Raleigh, NC, Oct. 1990.
- *Poultry Science Association, Virginia Tech; Blacksburg, VA, August, 1990.
- *FASEB, Washington, DC, April, 1990.
- *NE-60 Meetings, Cornell University, Ithaca, NY, October, 1989.
- *Poultry Science Association, University of Wisconsin, WI, July, 1989.
- *NE-60 Meetings, Genetic Bases of Immunity and Resistance in Avian Species. Ft. Collins, CO, October, 1988.
- *Poultry Science Association, Louisiana State University, Baton Rouge, LA, August, 1988.
- *Poultry Science Association, Oregon State University, Corvallis, OR, August, 1987.
- *FASEB, Washington, DC, March, 1987.
- *Poultry Science Association, NC State University, Raleigh, NC, August, 1986.
- *FASEB Meetings, St. Louis, MO, April, 1986.
- NE-60 Meetings - Genetic Control of Avian Disease. The University of Connecticut, Storrs, CT, October, 1985.
- *RES/LCC Joint Conference, Cornell University, Ithaca, NY, August, 1985.
- *Poultry Science Association, University of Guelph, Ontario, Canada, August, 1984.
- *Poultry Science Association, University of Maryland, Baltimore Campus, MD, August, 1983.
- *FASEB, Chicago, IL, April, 1983.
- *Annual Health Symposium, National Health Laboratories, Islamabad, Pakistan, April, 1976.
- *Annual Health Symposium, National Health Laboratories, Islamabad, Pakistan, April, 1975.

THESES

1. Qureshi, M. A. Bacterial and Viral Etiology of Mortality in Layers. Masters Thesis. Department of Microbiology, University of Agriculture, Faisalabad, Pakistan, 1977.
2. Qureshi, M. A. Genetic and Environmental Influences on Macrophage Function in the Chicken. Ph.D. Thesis. Department of Poultry and Avian Sciences, and Institute for Comparative and Environmental Toxicology, Cornell University, Ithaca, NY. 1987.

PUBLICATIONS: Papers (peer reviewed journals)

1. *Qureshi, M.A.*, M.S. Ahmed, C.S. Hayat, and H. Afzal. A vaccine for the control of husk in calves. Pak. J. Sci. 27:144-148, 1975.
2. Ahmed, R., R.A. Cheema, and *M.A. Qureshi*. Bacteriological examination of drinking water supplies in Lyallpur. Proc. 3rd Ann. Health Symp. Islamabad, Pakistan. pp. 62-69, 1975.

3. Afzal, H., *M.A. Qureshi*, and Z.U. Rehman. Urine analysis of apparently healthy buffalos. *Pak. J. Agri. Sci.* 14:23-27, 1977.
4. Ara, R., H. Afzal, *M.A. Qureshi*, and N.A. Chaudhry. Prevalence of widal antibodies in apparently healthy human population. *J. Pak. Med. Ass.* 30:269-271, 1980.
5. *Qureshi, M.A.*, M. Ashfaq, and R.A. Qureshi. Bacterial and viral etiology of mortality in layers. *Pak. Vet. J.* 1:115-116, 1981.
6. Dietert, R.R., H.A. Lewin, *M.A. Qureshi*, and L.B. Kass. Chicken fetal antigen: Association with lymphoid development and differentiation. *J. Exp. Zool.* 220:65-70, 1982.
7. Dietert, R.R., *M.A. Qureshi*, and K.A. Trembicki. Developmental expression of chicken fetal antigen on peritoneal macrophage: Implications for hematopoietic differentiation. *Proc. Soc. Exp. Biol. Med.* 172:84-88, 1983.
8. Dietert, R.R., S.E. Bloom, *M.A. Qureshi*, and U.C. Nanna. Hematological toxicology following embryonic exposure to aflatoxin-B₁. *Proc. Soc. Exp. Biol. Med.* 173:481-485, 1983.
9. *Qureshi, M.A.*, K.A. Trembicki, J.V. Jackson, P.E. Borenstein, and R.R. Dietert. Quail fetal antigen: Identification and comparison with chicken fetal antigen. *Devel. Comp. Immunol.* 7:325-331, 1983.
10. Trembicki, K.A., *M.A. Qureshi*, and R.R. Dietert. Avian peritoneal exudate cells: A comparison of stimulation protocols. *Devel. Comp. Immunol.* 8:395-402, 1984.
11. Trembicki, K.A., *M.A. Qureshi*, and R.R. Dietert. Differentiation properties of avian tumor cell lines: Analysis using chicken fetal antigen and other markers. *Cancer Res.* 44:2616-2621, 1984.
12. Dietert, R.R., *M.A. Qureshi*, U.C. Nanna, and S.E. Bloom. Embryonic exposure to aflatoxin B₁: Mutagenicity and influence on development and immunity. *Environ. Mutagen.* 7:715-725, 1985.
13. *Qureshi, M.A.*, R.R. Dietert, and L.D. Bacon. Genetic variation in the recruitment and activation of chicken peritoneal macrophages. *Proc. Soc. Exp. Biol. Med.* 181:560-568, 1986.
14. *Qureshi, M.A.*, K.A. Trembicki, R.R. Dietert, and L.D. Bacon. Chicken developmental antigens in 15I₅-B-congenic lines. *J. Hered.* 77:435-440, 1986.
15. Trembicki, K.A., *M.A. Qureshi*, and R.R. Dietert. Monoclonal antibodies reactive with chicken peritoneal macrophages: Identification of macrophage heterogeneity. *Proc. Soc. Exp. Biol. Med.*, 183:28-41, 1986.
16. Fleet, J.C., *M.A. Qureshi*, R.R. Dietert, and C.C. McCormick. Tissue specific accumulation of metallothionein as influenced by the route of zinc administration. *J. Nutrition* 118:176-182, 1988.
17. *Qureshi, M.A.*, R.R. Dietert, and L.D. Bacon. Chemotactic activity of chicken blood mononuclear leukocytes from 15I₅-B-congenic lines to bacterially-derived chemoattractants. *Vet. Immunol. Immunopath.* 19:351-360, 1988.
18. *Qureshi, M.A.*, S.E. Bloom, J.W. Hamilton, and R.R. Dietert. Toxic effects of methylmethane sulfonate (MMS) on chicken activated macrophages. *Environ. Mol. Mutag.* 13:253-262, 1989.
19. *Qureshi, M.A.*, S.E. Bloom, and R.R. Dietert. Effects of increased MHC dosage on chicken monocyte-macrophage function. *Proc. Soc. Exp. Biol. Med.* 190:195-202, 1989.
20. *Qureshi, M.A.*, J-W. Yoon, and B.S. Kwon. Identification and production of monoclonal antibodies against a discriminating protein molecule between B and D variants of encephalomyocarditis virus. *Develop. Comp. Immunol.* 13:263-271, 1989.
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Abstracts:

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18. *Qureshi, M. A.*, F. W. Edens, C. L. Heggen, and G. B. Havenstein. Poult enteritis and mortality syndrome (PEMS) – etiology and potential remedies. Proc. 24th Annual Carolina Poultry Nutrition Conf., December 3-4, Charlotte, NC., 1997.
19. Davis, G. S., and *M. A. Qureshi*. Stimulation of immune function in Bobwhite quail by the direct-fed microbial show promise, Part 1. Wings Forecast, Vol. 3 (2): 8, 1997.
20. Davis, G. S., and *M. A. Qureshi*. Stimulation of immune function in Bobwhite quail by a direct-fed microbial shows promise, Part 2. Wings Forecast, Vol. 3 (3):9, 1997.
21. Davis, G. S., and *M. A. Qureshi*. PrimaLac affects immune function of Bobwhites. Wildlife Harvest, Vol. 28 (5):54-56, 1997.
22. Davis, G. S., and *M. A. Qureshi*. Immune function in Bobwhite quail may be enhanced by direct fed-microbials. The Game Bird Bulletin, Vol.XXX(1): 1-6, 1997.
23. Davis, G. S., and *M. A. Qureshi*. Immune function in Bobwhite quail may be enhanced by a direct-fed microbial. Southeastern Game Breeders & Hunting Preserve Association News and Notes, Fall Issue:2-3, 1997.
24. *Qureshi, M. A.*, P. R. Ferket, and G. B. Havenstein. Turkey Immune System as affected by dietary and environmental factors. Proc. 21st. Tech. Turkey Conf. April 15-17, Cheshire, England, Pp 1-10, 1998.
25. *Qureshi, M. A.*, Impact of immune function on nutrient requirements. Proc. 15th Ann. Biokyowa Amino Acid Council Meetings. Sept. 29 – Oct. 1, St. Louis, MO, Pp. 1-9, 1998.
26. *Qureshi, M. A.* Digestive Immunology of Turkeys. Proc. 4th. Roche International Turkey Advisory Board Meeting, Oct. 26 – 30, Short Hills, NJ., Pp. 5-8, 1998.
27. *Qureshi, M. A.*, Y. M. Saif, C. L. Heggen, K. A. Schat, S. Schultz-Cherry. The interaction of “novel small viral agents” with the immune system of young turkey poults. Proc. & Tech. Supp. Roche Turkey Coronavirus Workshop, May 4-6, Raleigh, NC. Pp. 147, 1998.
28. Edens, F. W., *M. A. Qureshi*, G. B. Havenstein, and C. R. Parkhurst. Induction of poult enteritis and mortality syndrome due to the interaction among bacterial and small virus isolates from PEMS infected poults. Proc. & Tech. Supp. Roche Turkey Coronavirus Workshop, May 4-6, Raleigh, NC., Pp. 133-135, 1998.
29. *Qureshi, M. A.*, K. A. Schat, H. J. Barnes, and C. L. Heggen. Physiological and immunological manifestations in the diagnosis of poult enteritis and mortality syndrome: Proc. & Tech. Supp. Roche Turkey Coronavirus Workshop, May 4-6, Raleigh, NC, Pp 143-145, 1998.
30. Ferket, P. R., and *M. A. Qureshi*. Funcao imune em aves e interacoes nutricionias. Proc. Seminario tecnico sobre nutricao mineral e o seu efeito na imunidade das aves, Nutron

- Ailmentos Ltda, Chimpanas, SP, Brazil, Sept. 28 – Oct. 2, Pp 14-27, 1998.
31. Havenstein, G. B., F. W. Edens, P. R. Ferket, J. R. Grimes, J. C. H. Shih, T. D. Siopes, *M. A. Qureshi*, and C. M. Williams. An overview of turkey research and waste management research in the North Carolina State University Department of Poultry Science. Proc. 22nd. Tech. Turkey Conf. April 14-16, Cheshire, England, 1-8, 1999.
 32. *Qureshi, M. A.* Impact of immune function on nutrient requirements in poultry. Fermex Amino Acid Meeting, Mexico City, Sept. 10, 1999, Pages 31-47.
 33. Ferket, P. R., and *M. A. Qureshi*. The Turkey Immune System and Nutritional Immunomodulators, Proc. 12th European symposium on poultry nutrition. Velhoven, The Netherlands. August 15-19, pages 17-30, 1999.
 34. Ferket, P. R., *M. A. Qureshi* and F. W. Edens. Trace minerals in immunity and stress in poultry. Proc. 60th Minnesota Nutrition Conference and Zinpro technical Symposium. Bloomington, MN. September 20-22, pages 21-37, 1999
 35. *Qureshi, M. A.*, and G. B. Havenstein. Development and reactivity of the immune system in different genetic hosts. Proceedings, 38th Mtg. Italian Soc. Avian Pathol., Forli, Italy, October 1-2, pages 1-10, 1999.
 36. *Qureshi, M. A.*, and P. R. Ferket. The avian immune system and nutritional modulators. Proceedings, Carolina Poultry Nutrition Conference, Research Triangle Park, NC, November 10, pages 19- 34, 1999.
 37. Pisenti, J. M., *M. A. Qureshi, et. al.*, Avian genetic resources at risk: An assessment and proposal for conservation of genetic stocks in the USA and Canada. Report No. 20. Genetic resources Conservation Program, Division of Agriculture and Natural Resources, UC Davis, California, pages: 1-32, 1999.
 38. Yu, M., M. M. Ismail, *M. A. Qureshi*, R. N. Dearth, H. J. Barnes and Y. M. Saif. Studies on the etiology of the poult enteritis and mortality syndrome and characterization of a small round virus. Proc. North Central Avian Disease Conference and Symposium on Emerging Respiratory Diseases, pp. 103-104, Minneapolis, MN, 1999.
 39. *Qureshi, M. A.* Nutrition and Immune System Interaction and Poultry Productivity. Proceedings APINCO 2002 Conference, The Royal Palm Plaza Hotel, Campinas – SP (Brazil), pages: 243-254, 2002.
 40. Havenstein, G. B., P. R. Ferket, J. R. Grimes, *M. A. Qureshi*, and K. E. Nestor. Changes in the performance of Turkeys – 1966-2003. Proc. 27th. Tech. Turkeys Conf. April 15-16, MacClesfield, Cheshire, England, page: 1-13, 2004.
 41. *Qureshi, M. A.* The National Program for Animal Genomics: The Potential Impact of the Program on Primary Poultry Breeding. Proc. 2005 National Breeders Roundtable, St. Louis, MO, pages: 6-14, 2005.
 42. *Qureshi, M. A.* Conservation of avian genetics resources: Current opportunities and challenges. Poultry Science Association Newsletter, 29:3-4, 2005.

PATENTS/DISCLOSURES

Ferket, P. R., and *M. A. Qureshi*, 1995. *In ovo* injection of β -hydroxy- β -methylbutyrate and vitamin E to enhance immune function and hatchability of poultry. NC State Technology Transfer Office Disclosure.

Qureshi, M. A., C. L. Heggen-Peay, K. A. Schat, and P. O'Connell, 2001. The use of Poult Enteritis and Mortality Syndrome (PEMS) – associated reovirus for vaccine production and diagnostic test kits. NC State Technology Transfer Office Disclosure.

SALIENT ADMINISTRATIVE SERVICES/EXPERIENCE AT USDA/NIFA since 2003.

1. Served as the Acting Deputy Administrator of NIFA/PAS when requested.
2. Administer Congressional “Special Grants”.
3. Co-Program Director for Competitive Grants Program (Animal Genetics/Genomics), 2003-2010.
4. Member, Interagency Work Group on Domestic Animal Genomics under the Committee on Science, 2003 – 2010.
5. Co-Chair, USDA Animal Genomics Task Force, appointed by the REE Under Secretary, 2005 – 2008.
6. Organized a USDA-Animal Genomics workshops, 2004 and 2010.
7. Served as supervisor for several national program leaders and support staff.
8. Served as Chair, Search Committee for the NPL-Vet Sci. position, 2004.
9. Served on “Diversity Working Group” and Leader of Human Capital Development Task Force of NIFA, 2003 - 2010.
10. Organized an Asian-American/Pacific-Islanders Heritage month, 2004.
11. Member, Program Committee, DISCOVER conference, 2004.
12. Chair, Poultry Science Association Symposium Committee, 2004-2005.
13. Served as a member of the Competitive Programs Guidance Development Committee for State Agriculture Experiment Stations, 2005.
14. NIFA representative to the USDA Avian Influenza Joint Working Group and Point of Contact for the USDA Foreign Agriculture Service, 2004-2006.
15. Served as a “Mentor” in the NIFA mentoring program, 2005-present.
16. Program and Department Reviews of New Mexico (2004), Virginia Tech (2005), Nebraska (2006), Arizona (2007), Washington State (2008), Oregon State (2011).
17. State Plan of Work Liaison for the state of Oregon, 2006 – 2009.
18. USDA representative on US-Pakistan Joint Committee on Science and Technology, 2007-2012.
19. Co-Chair, Animal Science, Dairy Science, and Poultry Science annual conference, 2007.
20. Chair Scientific Program, Poultry Science Association annual meetings, 2008.
21. Member, USDA/FAO rapid response team visit to Bangladesh for Avian Influenza, 2007.
22. Member, Department of State’s “Biosecurity Engagement Program” team visit to Pakistan, 2007.
23. Represented USDA and USA under a Science and Technology collaboration visit to Pakistan, 2007.
24. Co-Coordinator, Animal Production Portfolio for Planning and Accountability, 2006, 2007.
25. NIFA Liaison with the Extension Committee on Organization and Policy (ECOP), 2009-2010.
26. Acting Deputy Administrator of Plant and Animal Systems, NIFA, 2010 (occasional).
27. Organized an “Animal Genetics, Genomics, and Bioinformatics” Workshop at USDA, 2010.
28. Assistant Director (Acting, SES level), Institute of Youth, Family and Community, NIFA, August – November, 2011
29. Member, Executive Merit Staffing Board, USDA 2013, 2014.
30. Member, Executive Service Performance Review Board, 2013
31. Chair USDA Education Coordination Committee, 2013 – present.
32. Champion, Human Capital Development Task Force, 2011 – 2014.

33. Member, Federal Coordination of STEM Committee, Office of Science and Technology Policy, National Science and Technology Council, 2014 – 2019.

Salient Meetings Attended (during NIFA career) (*papers/reports were presented)

- Animal Science / Dairy Science Association meetings, Phoenix, AZ, June, 2003
- *National Animal Germplasm Program, Phoenix, AZ, June, 2003
 - *Poultry Science Association Annual Meetings, Madison, WI, July, 2003.
- Seeds and Breeds Summit at Phoenix hotel in Washington, DC, September, 2003.
- Future Trends in Animal Agriculture Conference, Washington, DC, September, 2003.
- *Livestock Genome Conference, Lake Conroe, Texas, October, 2003 (Session Chair).
- Animal Genomics Symposium, NCBC, RTP, NC, October, 2003.
- *NE-1016 (Poultry Disease Genetics) Multi-state Regional project, U Conn., October, 2003.
 - *S289 Multi-state Regional project, Black Mountain, NC, October, 2003.
 - *S1008 Multi-state Regional Project, Raleigh, NC, October 2003.
- VMAC/FDA meeting on cloned animal issue, Rockville, MD, Nov. 2003.
- *Chicken Genome Sequence: Impact and Applications, Atlanta, GA, Nov. 2003.
- National Science and Technology Council Committee on Science, White House Conference Center, Nov. 2003.
- *ARS Immunology Research Workshop, Bethesda, MD, Dec. 2003. (Session Chair).
- *Plant and Animal Genome; National Animal Genome Research Program; NC-1008 Multi-state, San Diego, Jan., 2004
 - *Animal and Poultry Science Department Heads/Chairs meeting, Phoenix, AZ, Jan., 2004.
- National Science and Technology Council Committee on Science, White House Conference Center, Feb., 2004
- *Program Review, New Mexico State University, Feb., 2004.
 - *World's Poultry Science Association's Poultry Congress, Istanbul, Turkey, June, 2004
 - *Poultry Science Association meetings and Homeland Security Symposium (Co-Chair), St. Louis, MO, July, 2004.
- The Pew initiative on Food and Biotechnology, National Press Club, June 2004.
- *NE-1016 (Poultry Disease Genetics) Multi-state Regional project, Northern Illinois University, DeKalb, October, 2004.
 - *S1008 Multi-state Regional Project, Milwaukee, WI, October 2004.
- DISCOVER conference on Genetic Resources Conservation, Cheyenne, Wyoming, October, 2004.
- *Plant and Animal Genome; National Animal Genome Research Program (NAGRP); NC-1008
 - *Multi-state Regional Project (*NC 1008; *NRSP-8); *International Shrimp Genome Consortium; International Swine Genome Consortium; San Diego, Jan., 2005.
- Agricultural Animal Genomics: From Discovery to Application. Mini symposium, College Park, MD. April 2005.
- *Poultry Breeders Roundtable, St. Louis, MO, May 2005.
 - *Poultry Science Association and Genetic Conservation Symposium, Auburn University, Auburn, AL, July-August, 2005.
 - *National Animal Germplasm Program Poultry Committee meeting, Auburn, AL, August, 2005.
 - *NRI/AFRI Grantsmanship Workshop, Washington, DC, September, 2005, 2010.
 - *NE-1016 (Poultry Disease Genetics) Multi State project, Clemson, SC, October, 2005.
 - *Plant and Animal Genome; National Animal Genome Research Program; NC-1008 Multi-state, San Diego, Jan., 2006.
- US Poultry and Egg Association and Southern Conference on Avian Disease, Atlanta, Jan, 2006.
- USDA Animal Production Workshop, Kansas City, Missouri, April, 2006.
- USDA Animal Genomics Task Force, Beltsville, MD, April 2006.

Poultry Science Association meetings, University of Alberta, Canada, July 2006.

*S-1008 Multi-state Regional Project, Raleigh, NC, October 2006.

*NE-1016 (Poultry Disease Genetics) Multi State project, University of California, Davis, CA. October, 2006.

*Plant and Animal Genome; National Animal Genome Research Program; NC-1008 Multi-state, San Diego, Jan., 2007.

*Animal, Dairy, and Poultry Science Department Heads meeting, Nashville, TN, January, 2007.

*S-1008 Multi-state Regional Project, Washington, DC, October 2007.

Animal Genomics and Health International Symposium, Paris, France, October 2007.

*I led a USDA/FAO delegation to Bangladesh through the FAO's Crisis Management Center on Avian Influenza, 2007.

*Plant and Animal Genome; National Animal Genome Research Program; NC-1008 Multi-state, San Diego, Jan., 2008.

USDA Diversity Conference, University of Maryland, 2008.

*Represented USDA and US Government, by invitation, in a regional countries meeting in Bangladesh on global Avian Influenza situation, 2008.

*Plant and Animal Genome; National Animal Genome Research Program; NC-1008 Multi-state , San Diego, Jan., 2009.

Extension Committee on Organization and Policy leadership advisory committee meeting, Charlotte, NC, May 2009.

Poultry Science Association Meetings, Raleigh, NC. July 2009.

Transgenic Animal Research Conference VI. Tahoe City, California, August 2009.

*NE-1034 (Poultry Disease Genetics) USDA Multistate Project, University of Arkansas, October 2009.

*Multi State regional Project (S-1040 – Dairy Genetics), Paris, France, November, 2009.

USDA (NIFA/ARS) Animal Protection Stakeholder Workshop, Baltimore, March, 2010.

Extension Committee on Organization and Policy leadership advisory committee meeting, Chicago, Ill, May 2010.

*Joint Annual Meeting of Animal Science Societies, Denver, CO, July 2010.

USDA/ARS/NIFA/Dairy Management Inc., meetings, Marshfield, WI. August, 2010.

*NE-1034 (Poultry Disease Genetics) USDA Multistate Project, University of Delaware, October, 2010.

New Dean/Director/Administrator/National Program Leader Orientation, Washington, DC, December, 2010.

*Plant and Animal Genome; National Animal Genome Research Program; NC-1008 Multi-state, San Diego, Jan., 2011.

Poultry Science and American Association of Avian Pathologists, St. Louis, July 2011.

*International Chick Meeting, University of Edinburgh, Scotland, September 2011 (Session Chair).

*NE-1034 (Poultry Disease Genetics) USDA Multistate Project, Cornell, October, 2011.

*Plant and Animal Genome; National Animal Genome Research Program; NC-1008 Multi-state, San Diego, Jan., 2012.

*Association of Public and Land-grant Universities meeting, Denver, CO, November, 2012.

*Association of Extension Administrators of 1890 land-grants. Huntsville, AL, January, 2013.

*Use of Nanotechnology in Agriculture. Puerto Rico, August, 2013.

*Vision and Change in Undergraduate Biology Conference, Washington, DC, August 2013.

*Community College Business Officers Meeting, Palm Springs, CA, September, 2013.

*Association of Research Administrators of 1890 land-grants. Charlotte, NC, August, 2014.

*Asia Pacific Resilience Innovation Summits and Expo. Honolulu, HI, September, 2014.

(several more not listed)

Salient Invited Presentation (during CSREES/NIFA/ARS career)

- * “Overview and update on aquaculture genome projects”. Joint Subcommittee on Aquaculture, The White House Conference Center, Washington, DC. January 2005.
- *“The impact of federal efforts on animal genomics programs with special reference to chicken genomics”. Poultry Breeders Roundtable, St. Louis, MO. May 2005.
- *“Animal Genetics – past, present and future: an international perspective”. Animal Sciences Institute, Islamabad, Pakistan. June 2005.
- *“Animal Genome Sequencing – an international perspective”. University of Animal and Veterinary Sciences, Lahore, Pakistan. June 2005.
- *“Conservation of avian genetic resources; current opportunities and challenges”. Poultry Science Association’s Ancillary Scientists Symposium, Auburn, AL, July 2005.
- *“Challenges and opportunities in animal agriculture in the 21st century”. A keynote speech given at the Centenary Celebrations of the University of Agriculture, Faisalabad, Pakistan, March 2006.
- *“Overview of CSREES Liaison Activities” Oregon State University, Portland, OR, Sept. 2006.
- *“Roadmap of Animal Genomics – A global effort”. National Agriculture Research Center, Islamabad, Pakistan, May, 2007.
- *“Agricultural Animal Genomics – current status and future directions”. ARID Agriculture University, Rawalpindi, Pakistan. June 2007.
- *National Animal Genome Research Program Symposium, “Vision for USDA funded animal genomics”, Plant and Animal genome Meetings, San Diego, 2009.
- *USDA Southern Region Workshop, “USDA’s National Institute of Food and Agriculture Program Priorities and vision”. Raleigh, NC March, 2010
- *University of Agriculture, Faisalabad, Pakistan. “USDA’s global scientific linkages”. Faisalabad, Pakistan, April, 2010.
- *Higher Education Commission of Pakistan. “Higher Education Linkages and opportunities between Pakistan and the US”. Islamabad, Pakistan, March, 2010.
- *American Registry of Professional Animal Scientists (ARPAS), “Science Priorities and Agricultural Policies”. Beltsville, MD., April, 2010
- *USDA’s Education programs; USDA Education Listening Session, Washington, DC, 2013
- *USDA’s STEM Education pipeline. Vision and Change in Undergraduate Biology Conference, Washington, DC, August 2013.
- * Agricultural Innovation Prize Conference. “Building capacity to meet food security challenges – keynote address”. University of Wisconsin- Madison, Madison, WI, April, 2014.
- *Livestock and Livelihood – keynote address at “The Alliance to end hunger” and “Heifer International” meetings, Russell Senate Office Building, Washington, D.C., July, 2014.
- * Poultry Science Association meeting. “USDA’s vision on domestic animal genomic priorities”. 10th Anniversary of Chicken Genome Sequence. Corpus Christi, Texas, July, 2014.
- *Asia Pacific Resilience Innovation Summit. “The Agricultural Innovation Prize: Lessons from the field”. Panel Keynote. Honolulu, HI, October, 2014.
- *Experimentation Station Committee on Organization and Policy. “USDA NIFA and programs”. Jekyll Island, GA. October, 2014.
- *4-H National Youth Science Day. “Where Do We Go From Here: Unpacking Panel Discussion”. National Academies, Washington, D.C., October, 2014.
- *Agricultural Higher Education in the 21st Century. “Addressing current and future agricultural workforce needs to meet societal challenges” Zaragoza, Spain, June, 2015.
- *Challenges and opportunities in meeting agricultural workforce. XXV World’s Poultry Congress, Beijing, China 2016.
- *USDA’s continuing vision on animal genome sequencing within a systems approach to production agriculture. International Symposium on Avian Genetics and Immunity, University of Surrey, Guildford, UK, June 2017.

- *34th Annual Clyde W. Eby Memorial Lecture, NC State University, Raleigh, NC. “Everything is contextual – even production agriculture”. April, 2018
- *“Systems Approach in Building a Nexus Among Plants, Animals and Human Health”, Prestage Department of Poultry Science, NC State University, Raleigh, NC. September, 2019.