***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**

**Degree Year Institution Field of Study**

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 ofPoultry 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**

* 1. **Federal Executive Institute (FEI)** training: “Leadership for a Democratic Society”, 2010.
	2. **Senior Executive Assessment Program,** Management Development Center, 2008.
	3. **Executive Supervisory Skills**: Office of Personnel Management, 2006.
	4. **Executive Development Seminar:** “Leading Change”: Office of Personnel Management, 2004.
	5. **Situational Leadership Training,** USDA, 2008.
	6. **Rapid Response” and “Crisis Management,** FAO training for zoonotic diseases, 2007.
	7. **Intercultural Communication for Community-based Professional.** USDA/University of Michigan, 2003.
	8. **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, Scheilder, 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).

\*Earthrise 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).

\*Earthrise 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 ß-hydoxy-ß-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.

\*Earthrise 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 poults 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 Fluminese, **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 Fluminese, **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

Poult 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, Altanta, GA, January l996.

\*Poultry Science Association, Alberta, Canada, August, l995.

\*NE-60 Regional Meetings, UC Davis, CA, October, l995.

\*Genetic Resource Conservation Task Force, UC Davis, CA, October, l995.

\*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. Ashfaque, 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.

21. Miller, L., *M.A. Qureshi*, and H.A. Berkhoff. Interaction of congo red positive and negative phenotypic variants of *Escherichia coli* with chicken mononuclear phagocytic system cells. Develop. Comp. Immunol., 14:481-487, 1990.

22. *Qureshi, M.A*., L. Miller, H.S. Lillehoj, and M.D. Ficken. Establishment and characterization of a chicken mononuclear cell line. Vet. Immunol. Immunopath. 26:237-250, 1990.

23. Ficken, M.D., H.J. Barnes, and *M.A. Qureshi*. Acute airsacculitis in turkeys inoculated with cell‑free culture filtrate of *Pasteurella multocida*. Vet. Path. 28:46-54, 1991.

24. *Qureshi, M.A.,* and L. Miller. Signal requirements for the acquisition of tumoricidal competence by chicken peritoneal macrophages. Poultry Sci. 70:530-538, 1991.

25. Ficken, M.D., H.J. Barnes, and *M.A. Qureshi.* Vaccination of turkeys with *P. multocida* cell‑free filtrate. Avian Dis. 35:126-134, 1991.

26. Neldon‑Ortiz, D.L., and *M.A. Qureshi*. Direct and microsomal activated aflatoxin‑B1 exposure and its effects on turkey peritoneal macrophage functions *in vitro*. Tox. Appl. Pharmacol. 109:432-442, 1991.

27. *Qureshi, M.A*., and L. Miller. Comparison of macrophage function in several commercial broiler genetic lines. Poultry Sci. 70:1094-1101, 1991.

28. Miller, L., and *M.A. Qureshi*. Induction of heat-shock proteins and phagocytic function of chicken macrophage following *in vitro* heat exposure. Vet. Immunol. Immunopath. 30:179-191, 1992.

29. Garlich, J. D., *M.A. Qureshi*, P. R. Ferket, and S. M. Aslam, 1992. Immune system modulation by dietary calcium. Proc. 19th World’s Poultry Congress, 20-24 Sept. Amsterdam, The Netherlands, Pages 618-619.

30. Neldon‑Ortiz, D.L., and *M.A. Qureshi*. The effects of direct and microsomal activated aflatoxin B1 on chicken peritoneal macrophages *in vitro*. Vet. Immunol. Immunopath. 31:61-76, 1992.

31. Neldon-Ortiz, D.L., and *M.A. Qureshi*. Effects of AFB1 embryonic exposure on chicken mononuclear phagocytic cell function. Develop. Comp. Immunology. 16:187-196, 1992.

32. Casale, E., *M.A. Qureshi*, and J.C.H. Shih. Immunocytochemical and scanning electron microscopic studies of atherosclerosis in Japanese quail. Poultry Sci. 71:141-150, 1992.

33. *Qureshi, M.A*., and W.M. Hagler, Jr. Effect of fumonisin-B1 exposure on chicken macrophage functions *in vitro*. Poultry Sci. 71:104-112, 1992.

34. Ferket, P.R., and *M.A. Qureshi*. Performance and immunity of heat-stressed broilers fed vitamin and electrolyte treated drinking water. Poultry Sci. 71:88-97, 1992.

35. Miller, L, and *M.A. Qureshi*. Molecular changes associated with heat-shock treatment in avian mononuclear and lymphoid lineage cells. Poultry Sci. 71:473-481, 1992.

36. Miller, L., and *M.A. Qureshi*. Comparison of heat-shock and lipopolysaccharide induced protein changes and tumoricidal activity in chicken mononuclear cell line. Poultry Sci. 71:979-987, 1992.

37. Miller, L., and *M.A. Qureshi*. Heat-shock protein synthesis in chicken macrophages: Influence of *in vivo* and *in vitro* heat-shock, lead acetate and lipopolysaccharide. Poultry Sci. 71:988-998, 1992.

38. Liljequist, B., D. Weinstock, *M.A. Qureshi*, and J. Brake. Natural killer cell activity in male single comb White Leghorn and commercial broilers. Avian Immunology in Progress, F. Coudert (ed.), INRA Editions: Versailles, pp. 57-62, 1992.

39. Havenstein, G.B., L.B. Crittenden, J.N. Petitte, *M.A. Qureshi*, and D.N. Foster. Application of biotechnology in the poultry industry. Anim. Biotech. 3:15-36, 1992.

40. *Qureshi, M.A*. and R.L. Taylor, Jr. Analysis of macrophage function in Rous sarcoma-induced tumor regressor and progressor 6.*B* congenic chickens. Vet. Immunol. Immunopathol. 37:285-294, 1993.

41. *Qureshi, M.A*., J.N. Petitte, S.M. Laster, and R.R. Dietert. Avian macrophages: Contribution to cellular microenvironment and changes in effector functions following activation. Poultry Sci. 72:1280-1284, 1993.

42. Droke, E.A., J.W. Spears, T.T. Brown, Jr., and *M.A. Qureshi*. Influence of dietary zinc and dexamethasone on immune responses and resistance to *Pasteurella* *hemolytica* challenge in growing lambs. Nutrition Res. 13:1213-1226, 1993.

43. van Heugten, E., J.W. Spears, M.T. Coffey, E.G. Kegley, and *M.A. Qureshi*. The effect of methionine and aflatoxin on immune function in weanling pigs. J. Ani. Sci. 72:658-664, 1994.

44. *Qureshi, M.A.,* J.A. Marsh, R.R. Dietert, Y-J. Sung, C. Nicholas-Bolnet, and J.N. Petitte. Profiles of chicken macrophage effector functions. Poultry Sci. 73:1027-1034, 1994.

45. Kidd, M.T., *M.A. Qureshi*, P.R. Ferket, and L. Thomas. Dietary zinc-methionine enhances mononuclear-phagocytic function in young turkeys. Biol. Trace Element Res. 42:217-229, 1994.

46. Kidd, M.T., *M.A. Qureshi*, P.R. Ferket, and L. Thomas. Blood clearance of *E. coli* and evaluation of mononuclear phagocytic system as influenced by supplemental dietary zinc-methionine in young turkeys. Poultry Sci. 73:1381-1389, 1994.

47. *Qureshi, M.A*., and G.B. Havenstein. A comparison of the immune performance of a 1991 commercial broiler with a 1957 randombred strain when fed typical 1957 and 1991 type broiler diets. Poultry Sci. 73:1805-1812, 1994.

48. Ali, R. A*., M.A. Qureshi*, and F. McCorkle. Profile of chicken macrophage functions after exposure to catecholamines *in vitro*. Immunopharm. Immunotox. 16:611-625, 1994.

49. Kidd, M. T., W. M. Hagler, Jr. and *M. A. Qureshi*. Trichothecene mycotoxins depress the mononuclear phagocytic system of young turkeys. Immunopharm. Immunotox. 17:385-398, 1995.

50. *Qureshi, M.A*., R.A. Ali, I. Hussain, M.A. Brundage, and M.T. Kidd. Macrophage activation and functions as influenced by physiological, environmental and genetic factors in chickens. Ad. Avian Immunol. Res. Carfax Publishing Comp: 49-56, 1995.

51. *Qureshi, M. A*., M. T. Kidd and R. A. Ali. *Spirulina platensis* extract enhances chicken macrophage functions after *in vitro* exposure. J. Nutr. Immunol. 3:35-45, 1995.

52. Nicolas-Bolnet, C., *M. A. Qureshi*, J. A. Ciesynski, and R. L. Taylor, Jr. Avian hematopoiesis in response to avian cytokines. Poultry Sci. 74: 1970-1976, 1995.

53. *Qureshi, M. A*., J. D. Garlich, W. M. Hagler, Jr., and D. Weinstock. *Fusarium proliferatum* culture material alters several production and immune performance parameters in White Leghorn chickens. Immunopharm. Immunotox. 17:791-804, 1995.

54. *Qureshi, M. A*. Chicken macrophages: Practical implications towards animal and human health. J. Agromed. 2:77-81, 1995.

55. Dietert, R. R., A. Hedge, M. I. Luster*, M. A. Qureshi,* and M. Selgrade. Factors influencing indoor air quality, immunity and health. J. Inhalation Toxicol. 8:299-301, 1996.

56. Kidd, M. T., P. R. Ferket, and *M.A. Qureshi*. Zinc metabolism with special reference to its role in avian immunity. World's Poultry Sci. J. 52:309-324, l996.

57. *Qureshi, M. A*. and R. A. Ali. *Spirulina platensis* exposure enhances macrophage phagocytic function in cats. Immunopharm. Immunotoxicol. 18:457-463, l996.

58. *Qureshi, M. A*., J. D. Garlich, and M. T. Kidd. Dietary *Spirulina platensis* enhanced humoral and cell-mediated immune functions in chickens. Immunopharm. Immunotoxicol. 18:465-476, l996.

59. Kidd, M. T., *M. A. Qureshi,* W. M. Hagler, Jr., and R. Ali. T-2 Tetraol is cytotoxic to a chicken macrophage cell line. Poultry Sci. 76: 311-313, 1997.

60. Edens, F. W., C. R. Parkhurst, *M. A. Qureshi*, I. A. Casas, and G. B. Havenstein. Atypical *Escherichia coli* strains and their association with poult enteritis and mortality syndrome. Poultry Sci. 76:952-960, 1997.

61. *Qureshi, M. A.,* F. W. Edens, and G. B. Havenstein. Immune system dysfunction during exposure to poult enteritis and mortality syndrome agents. Poultry Sci. 76: 564-569, 1997.

62. Gore, A. B., and *M. A. Qureshi*. Enhancement of humoral and cellular immunity by vitamin E after embryonic exposure. Poultry Sci. 76:984-991, 1997.

63. Hussain, I., and *M. A. Qureshi*. Nitric oxide synthase and mRNA expression in chicken macrophages. Poultry Sci.76:1524-1530, 1997.

64. *Qureshi, M.A*., P. R. Ferket, and J. C. Fuller. Dietary β-hydroxy-β-methylbutyrate improves immune functions in young broilers. World’s Poultry Science, l996.

65. Edens, F. W., R. A. Qureshi, C. R. Parkhurst, *M. A. Qureshi*, G. B. Havenstein, and I. A. Casas. Characterization of two *Escherichia coli* strains associated with poult enteritis and mortality syndrome (PEMS). Poultry Sci. 76:1665-1673, 1997.

66. *Qureshi, M. A*. and A. B. Gore. Vitamin E exposure modulates prostaglandin and thromboxane production by avian cells of the mononuclear phagocytic system. Immunopharm. Immunotoxicol. 19:473-487, 1997.

67. Edens, F. W., K. A. Joyce, C. R. Parkhurst, G. B. Havenstein, and *M. A. Qureshi*. Effects of litter moisture and brooding temperature on growth and livability of turkey poults experiencing poult enteritis and mortality syndrome. Poultry Sci. 77:411-415,1998.

68. Doerfler, R. E., F. W. Edens, C. R. Parkhurst, G. B. Havenstein, and *M. A. Qureshi*. Hypothermia, hypoglycemia and hypothyrosis associated with poult enteritis and mortality syndrome. Poultry Sci. 77:1103-1109, 1998.

69. *Qureshi, M. A.,* J. Brake, P. B. Hamilton, W. M. Hagler, Jr. and S. Nesheim. Dietary exposure of broiler breeders to aflatoxin results in immune dysfunction in progeny chicks. Poultry Sci. 77:812-819, 1998.

70. Hussain, I., and *M. A. Qureshi*. The expression and regulation of inducible nitric oxide synthase gene differ in macrophages from chickens of different genetic background. Vet. Immunol. Immunopathol. 61:317-329, 1998.

71. Aslam, S.M., J.D. Garlich, and *M. A. Qureshi*. Vitamin D deficiency alters the immune responses of broiler chicks. Poultry Sci., 77:842-849, 1998.

72. *Qureshi, M. A*., I. Hussain, and C. L. Heggen. Understanding immunology in disease development and control. Poultry Sci. 77:1126-1129, 1998.

73. *Qureshi, M. A.*  Role of macrophages in avian health and disease. Poultry Sci. 77:978-982, 1998.

74. Heggen, C. L*., M. A. Qureshi*, F. W. Edens, H. J. Barnes, and G. B. Havenstein. Alterations in the lymphocytic and mononuclear phagocytic systems of turkey poults associated with exposure to poult enteritis and mortality syndrome. Avian Dis. 42:711-720, 1998.

75. *Qureshi, M. A.,* M. A. Brundage, and P. B. Hamilton. 4β, 15-Diacetoxyscripenol induces cytotoxicity and alterations in phagocytic and Fc-receptor expression functions in chicken macrophages *in vitro*. Immunopharm. Immunotox., 20: 541-553, 1998.

76. Schat, K. A., C. Heggen, and *M. A. Qureshi*. Isolation of unusual viruses from turkeys affected with poult enteritis and mortality syndrome. First International Symposium on Turkey Diseases. Ed. H. M. Hafez, German Vet. Med. Soc., GieBen. Pp 223-227, 1998.

77. Cieszynski, J. A*., M. A. Qureshi*, and R. L. Taylor, Jr. Calcium role in chicken IL-1 secretion. Poultry Sci. 78:70-74, 1999.

78. Peterson, A. L., *M. A. Qureshi*, P. R. Ferket, and J. C. Fuller. *In vitro* exposure with β-hydroxy-β-methylbutyrae enhances chicken macrophage growth and function. Vet. Immunol. Immunopathol. 67:67-78, 1999.

79. *Qureshi, M. A*., C. H. Hill, and C. L. Heggen. Vanadium stimulates immunological responses of chicks. Vet. Immunol. Immunopathol. 68:61-71, 1999

80. Peterson, A. L., *M. A. Qureshi*, P. R. Ferket, and J. C. Fuller, Jr. Enhancement of cellular and humoral immunity in young broilers by the dietary supplementation of β-hydroxy-β-methylbutyrate. Immunopharm. Immunotox. 21:307-330, 1999.

81. Heggen, C. L., *M. A. Qureshi*, F. W. Edens, and H. J. Barnes. Alterations in macrophage-produced cytokines and nitrite associated with poult enteritis and mortality syndrome. Avian Dis. 44:59-65, 2000.

82. Doerfler, R. E., L. D. Cain, F. W. Edens, C. R. Parkhurst, *M. A. Qureshi*, and G. B. Havenstein. D-Xylose absorption as a measurement of malabsorption in poult enteritis and mortality syndrome. Poultry Sci. 79:656-660, 2000.

83. Doerfler, R. E., F. W. Edens, J. P. McMurtry, *M. A. Qureshi*, C. R. Parkhurst and G. B. Havenstein. Influence of Biochrome on the response of metabolic hormones in PEMS-infected poults. Poultry Sci. 79:661-668, 2000.

84. Yu, M., R. N. Dearth, *M. A. Qureshi*, and Y. M. Saif. Viral agents associated with poult enteritis and mortality syndrome: The role of a small round virus and turkey coronavirus. Avian Dis. 44:297-304, 2000.

85. Kidd, M. T., *M. A. Qureshi*, P. R. Ferket, and L. N. Thomas. Turkey hen zinc source affects progeny immunity and disease resistance. J. Appl. Poultry Res. 9:414-423, 2000.

86. *Qureshi, M. A*., M. Yu, and Y. M. Saif. A novel small round virus induces poult enteritis and mortality syndrome and associated immune alterations. Avian Dis. 44:275-283, 2000.

87. *Qureshi, M. A*., C. L. Heggen, and I. Hussain. Avian macrophage: Effector functions in health and disease. Develop. Comp. Immunol. 24:103-119, 2000.

88. *Qureshi, M. A*., R. A. Ali, L. N. Thomas, R. N. Baloch, and W. E. Briles. Alloantigen systems *L* and *P* influence phagocytic function independent of the major histocompatibility complex (*B*) in chickens. Poultry Sci. 79:1271-1275, 2000.

89. Al-Batshan, H. A., S. I. Al-Mufarrej, A. A. Al-Homaidan, and *M. A. Qureshi*. Enhancement of chicken macrophage phagocytic function and nitrite production by dietary *Spirulina platensis*. Immunopharm. Immunotox. 23:281-289, 2001.

90. Pisenti, J.M., M.E. Delany, R.L. Taylor, Jr., U.K. Abbott, H. Abplanalp, J.A. Arthur, M.R. Bakst, C. Baxter-Jones, J.J. Bitgood, F. Fradley, K.M. Cheng, R.R. Dietert, J.B. Dodgson, A. Donoghue, E. Emsley, R. Etches, R.R. Frahm, A.A. Grunder, R.J. Gerrits, P.F. Goetinck, S.J. Lamont, G.R. Martin, P.E. McGuire, G.P. Moberg, L.J. Pierro, C.O. Qualset*, M. A. Qureshi*, F. Schultz, and B.W. Wilson. Avian genetic resources at risk: An assessment and proposal for conservation of genetic stocks in the USA and Canada. Report No. 20, University of California Division of Agriculture and Natural Resources, Genetic Resources Conservation Program, Davis, CA. *Poultry and Avian Biology Reviews* 12 (no. 1 & 2):1-102, 2001.

91. *Qureshi, M. A*., Y. M. Saif, C. L. Heggen-Peay, F. W. Edens and G. B. Havenstein. Induction of functional defects in macrophages by a Poult Enteritis and Mortality Syndrome-Associated Turkey Astrovirus. Avian Dis. 45:853-861, 2001.

92. Dil, N., and *M. A. Qureshi*. Differential expression of inducible nitric oxide synthase is associated with differential Toll-like receptor-4 expression in chicken macrophages from different genetic backgrounds. Vet. Immunol. Immunopathol., 84:191-207, 2002.

93. Heggen-Peay, C. L., *M. A. Qureshi*, F. W. Edens, B. Sherry, P. S. Wakenell, P. H. O’Connell and K. A. Schat. Isolation of a Reovirus from Poult Enteritis and Mortality Syndrome (PEMS) and its pathogenicity in turkey poults. Avian Dis. 46:32-47, 2002.

94. Roy, R. D., F. W. Edens, C. R. Parkhurst, *M. A. Qureshi*, and G. B. Havenstein. Influence of a propionic acid feed additive on performance of turkey poults with experimentally-induced poult enteritis and mortality syndrome. Poultry Sci. 81:951-957, 2002.

95. Heggen-Peay, C. L., M. A. Cheema, R. A. Ali, K. A. Schat and *M. A. Qureshi*. Interactions of Poult Enteritis and Mortality Syndrome-associated reovirus with various cell types *in vitro*. Poultry Sci. 81:1661-1667, 2002.

96. Dil, N. and  *M. A. Qureshi*. Involvement of LPS related receptors and nuclear factor Kappa-B in differential expression of inducible nitric oxide synthase in chicken macrophages from different genetic backgrounds. Vet. Immunol. Immunopathol. 88:149-161, 2002.

97. Dil, N. and *M. A. Qureshi*. Interleukin-1β does not contribute to genetic strain-based differences in iNOS expression and activity in chicken macrophages. Develop. Comp. Immunol. 27:137-146, 2003.

98. Guo, Y., R. A. Ali, and *M. A. Qureshi*. The influence of β-Glucan on immune responses in broiler chicks. Immunopharm. Immunotox., 25:461-472, 2003.

99. Havenstein, G. B., P. R. Ferket, and *M. A. Qureshi*. Growth, livability and feed conversion of 1957 versus 2001 broilers when fed representative 1957 and 2001 broiler diets. Poultry Sci. 82:1500-1508, 2003. **(Note: This and the companion paper below were designated as “citation classics” by the Poultry Science Association in 2014; ranked #23 amongst over 20,000 papers published in *Poultry Science*)**

100. Havenstein, G. B., P. R. Ferket, and *M. A. Qureshi*. Carcass composition and yield of 1957 versus 2001 broilers when fed representative 1957 and 2001 broiler diets. Poultry Sci. 82:1509-1518, 2003.

101. Cheema, M. A., *M. A. Qureshi*, and G. B. Havenstein. A comparison of the immune performance of a 2001 commercial broiler with a 1957 randombred broiler strain when fed representative 1957 and 2001 broiler diets. Poultry Sci. 82:1519-1529, 2003.

102. Cheema, M. A., *M. A. Qureshi* and G. B. Havenstein. A comparison of the immune profile of commercial broiler strains when raised on marginal and high protein diets. Int. J. Poultry Sci. 2:300-312, 2003.

103. Fathi, M. M., R. A. Ali and *M. A. Qureshi*. Comparison of immune responses of inducible nitric oxide synthase (iNOS) hyper-and hypo-responsive genotypes of chickens. Int. J. Poultry Sci. 2:280-286, 2003.

104. Van Heugten, E., J. W. Spears, E. B. Kegley, J. D. Ward and *M. A. Qureshi*. Effects of organic forms of zinc on growth performance, tissue zinc distribution and immune response of weanling pigs. J. Anim. Sci. 81:2063-2071, 2003.

105. Heggen-Peay, C. L., and *M. A. Qureshi*. Immunological aspects of poult enteritis and mortality syndrome. Vet. Bull. 73: 23-26, 2003.

106. Fasina, Y. O., J. D. Garlich, H. L. Classen, P. R. Ferket, G. B. Havenstein, J. L. Grimes, *M. A.* *Qureshi* and V. L. Christensen. Response of turkey poults to soybean lectin levels typically encountered in commercial diets. 1. Effect on growth and nutrient digestibility. Poultry Sci. 83:1559-1571, 2003.

107. *Qureshi, M. A*., Y. Guo, and Z. Ahmed. Immune enhancement by β1,3/1,6-glucan: A possible alternative to the use of antibiotics in poultry. In: Turkey Production: Balance act between consumer protection, animal welfare and economic aspects. Ed. Hafez, H. M. Verlag Ulmer, pp. 70-83, 2003.

108. El-Hadri, L., J. D. Garlich, *M. A. Qureshi*, P. R. Ferket and N. Odetallah. Glucose and electrolyte supplementation of drinking water improve immune responses of poults with inanition. Poultry Sci. 83:803-809, 2004.

109. *Qureshi, M. A*., R. Ali, M. A. Cheema, Z. Ahmed, and H. Roth. Immunmilch feeding increases growth and immune responses in broiler chicks. Int. J. Poultry Sci. 3:305-312, 2004.

110. *Qureshi, M. A*. Ancillary Scientists Symposium: Conservation of avian genetic resources: Current opportunities and challenges – An Introduction. Poultry Sci. 85:198-199, 2005.

111. Siegel, P. B., and *M. A. Qureshi*. Conservation of avian genetic resources: Current opportunities and challenges – A Summary. Poultry Sci. 85:255-257, 2005.

112. Green, R. D., *M. A. Qureshi*, and J. A. Long. Charting the road map for long-term USDA efforts in agricultural animal genomics: summary of the USDA animal genomics workshop – September 2004. A web publication, 2006. <http://www.ars.usda.gov/SP2UserFiles/Program/101/AnimalGenomicsWorkshop/USDAGenomicsWkshpSept04--SummaryReport.pdf>

113. Havenstein, G. B., P. R. Ferket, J. L. Grimes, *M. A. Qureshi*, and K. E. Nestor. Comparison of the performance of 1966 vs. 2003-type turkeys when fed representative 1966 and 2003 turkey diets. 1. Growth rate, livability, and feed conversion. Poultry Sci. 86:232-240, 2007.

114. Cheema, M. A., *M. A. Qureshi*, G. B. Havenstein, P. R. Ferket, and K. E. Nestor. A comparison of the immune response of 2003 commercial turkey and a 1966 random bred strain when fed representative 2003 and 1966 turkey diets. Poultry Sci. 86:241-248, 2007.

115. Green, R. D., *M. A. Qureshi*, J. A. Long, P. J. Burfening, D. L. Hamernik. Identifying the future needs for long-term USDA efforts in agricultural animal genomics. Int. J. Biol. Sci. 3:114-120, 2007.

**Abstracts:**

I have published **138 abstract** of my research work presented at various national and international scientific venues. These abstract are citable with available references.

## BOOK CHAPTERS

1. Dietert, R.R., *M.A. Qureshi*, W.C. Gause, K.A. Trembicki, and J.A. Marsh. Detection of a macrophage population in the thyroids of Obese strain chickens using monoclonal antibodies. In: Proceedings, Avian Immunology Meetings. (Eds.) W.T. Weber and D.L. Ewert. Alan R. Liss, Inc., NY, Pages 109‑123, 1986.

2. Dietert, R.R., K.A. Golemboski, S.E. Bloom, and *M.A. Qureshi*. The avian macrophage in cellular immunity. In: "Avian cellular Immunology" J.M. Sharma (ed.); CRC Press, Inc., Boca Raton, FL, Pages 71-95, 1991.

3. *Qureshi, M.A.* and R. R. Dietert. Bacterial uptake and killing by macrophage. In: "Modern Methods in Immunotoxicology." G. R. Burleson, J. Dean and A. Munson (eds.) John Wiley & Sons, Inc., NY, Vol. 2, Pages 119-131, 1995.

4. *Qureshi, M. A.,* S. T. Ball, and S. Sureshwaran. Addressing current and future agricultural workforce needs to meet societal challenges – A USDA vision. In “Agricultural Higher Education in the 21st Century”. I. Romagosa, M. Navarro, S. Heath, and A. Lopez-Francos (ed.). Options mediterraneennes publishers. Spain. Pages 195-204, 2015.

5. *Qureshi, M. A.,* S. T. Ball, and S. Sureshwaran. Challenges and opportunities in meeting agricultural workforce. The Proceedings of XXV World’s Poultry Congress 2016, Pages 289-296, 2016.

**EXTENSION/CONFERENCE PROCEEDINGS AND POPULAR PRESS PUBLICATIONS**

1. *Qureshi, M.A*. Chicken macrophages: Interaction with bacterial and toxicological factors. Breakthrough; Agri. Extension Service, Dept. Poultry Sci., NCSU. 13:1, 1989.

2. Ferket, P.R., and *M.A. Qureshi.* Effect of vitamin stress packs on broiler performance and immunity. Proc. BASF Tech. Com. Symp., Atlanta, GA. Nutr. Conf. 13:18-41, 1990.

3. Ferket, P.R., *M.A. Qureshi,* J.D. Garlich, and K.K. Krueger. Turkey breeder age and progeny performance. Leg weakness and immune function. Proc. 17th. Ann. Carolina Poult. Nutr. Conf. Charlotte, NC. Pp. 36-40, 1990.

4. *Qureshi, M.A.* Modulation of chicken macrophage functions by genetic and environmental factors. Proc. 40th Ann. Natl. Breed. Roundtable. Pp. 63-81, 1991.

5. Petitte, J.N., and *M.A. Qureshi.* Sources of avian cell lines. Magazin. University of Guelph, Canada. 1:8-10, 1991.

6. Ferket, P. R., *M. A. Qureshi*, and J. D. Garlich. Breeder hen age affects progeny performance. Turkeys 14th Technical Turkey Conference. May 1-2, Buxton, Derbyshire, England, 1991.

7. Ferket, P.R., and *M.A. Qureshi*. Vitamins in the drinking water beneficial to heat-stressed broilers. American Soybean Association, Animal Nutrition Research Highlights. June issue: 3, 1992.

8. Miller, L. *M. A. Qureshi,* and G. S. Davis. Heat shock proteins help protect birds from stress. Poultry Times 39. No. 13:3, 1992.

9. *Qureshi, M. A.,* and W.M. Hagler, Jr. Fumonisin-B1 may reduce resistance to bacterial infections. American Soybean Association, Animal Nutrition Research Highlights. June issue: 4-5, 1992.

10. Garlich, J. D., *M. A. Qureshi*, P. R. Ferket, and S. M. Aslam. Immune system modulation by dietary calcium. Proc. XIX World’s Poultry Congress, Amsterdam, September 20-24, 1992.

11. Ferket, P. R., *M. A. Qureshi*, J. D. Garlich, D. V. Rives, and M. T. Kidd. Vitamin E and performance, immunity, and meat quality of turkeys. Proc. 20th Ann. Carolina Poultry Nutrition Conf. Charlotte, NC. Pages 1-21, 1993.

12. Kidd, M. T., P. R. Ferket, and *M. A. Qureshi.* Effect of zinc-amino acid complex on immune function. Proc. 20th Ann. Carolina Poultry Nutrition Conf. Charlotte, NC pages 22-28., 1993

13. *Qureshi, M.A.* and M.T. Kidd. Impact of immune status on the metabolism of broilers and turkeys. Proc. 11th Ann. Biokyowa Amino Acid Council Meetings. Oct. 4-6, St. Louis, MO, Pp. 1-15, 1994.

14. *Qureshi, M.A.,* R.A. Ali, and R.L. Hunter. Immunomodulatory effects of *Spirulina* *platensis* supplementation in chickens. Proc. 44th Western Poultry Disease Conference, Sacramento, CA, Pp. 117-121, 1995.

15. Ferket, P. R., *M. A. Qureshi*, J. D. Garlich, D. V. Rives, and M. T. Kidd. Vitamin E affects performance, immunity and meat quality. World Poultry, 11:10-15, 1995.

16. *Qureshi, M. A.* Genetic basis of immune response in chickens. In: Proceedings, Watt Publishing Poultry Group, "Breed X Nutrition Interrelationships", Watt Publishing, Mount Morris, IL, Pp1-23, 1996.

17. Edens, F. W., *M. A. Qureshi,* C. R. Parkhurst, I. A. Casas, and G. B. Havenstein. Involvement of atypical *Escherichia coli* strains in turkey health. Proc. 20th. Tech. Turkey Conf. April 17-18, Cheshire, England, 20:49-88, 1997.

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.

1. 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.

1. 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.
2. Davis, G. S., and *M. A. Qureshi.* PrimaLac affects immune function of Bobwhites. Wildlife Harvest, Vol. 28 (5):54-56, 1997.
3. Davis, G. S., and *M. A. Qureshi.* Immune function in Bobwhile quail may be enhanced by direct fed-microbials. The Game Bird Bulletin, Vol.XXX(1): 1-6, 1997.
4. 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 technico sombre 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, Itlay, 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, paged: 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.