LIVESTOCK

AND

POULTRY

SCIENCES

INSTITUTE

D I R E C T O R Y

USDA, AGRICULTURAL RESEARCH SERVICE
10300 BALTIMORE AVENUE
BELTSVILLE, MARYLAND 20705-2350
(301)504-8431

(Revised January 1999)

LIVESTOCK AND POULTRY SCIENCES INSTITUTE
BELTSVILLE AGRICULTURAL RESEARCH CENTER, BARC-EAST
BELTSVILLE, MARYLAND 20705-2350

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LIVESTOCK AND POULTRY SCIENCES INSTITUTE

Dr. T. J. Sexton, Director
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Mission: The mission of the Livestock and Poultry Sciences Institute is to conduct research to increase production efficiency and profitability, and to improve the value and quality of livestock products.

The Institute is comprised of 8 laboratories and 4 service units:

Animal Improvement Programs Laboratory
Gene Evaluation and Mapping Laboratory
Germplasm and Gamete Physiology Laboratory
Growth Biology Laboratory
Immunology and Disease Resistance Laboratory
Meat Science Research Laboratory
Nutrient Conservation and Metabolism Laboratory
Parasite Biology and Epidemiology Laboratory

Biosystematics and National Parasite Collection Unit
Research Animal Services Unit
Veterinary Services Unit
Administrative Unit

ANIMAL IMPROVEMENT PROGRAMS LABORATORY
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
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Mission: The Animal Improvement Programs Laboratory conducts research to discover, test, and implement improved genetic evaluation techniques for economically important traits of dairy cattle and goats. Research is directed at genetic improvement of efficiency of yield traits (milk, fat, and protein) and nonyield traits that affect health, vigor, and profitability (longevity, conformation, reproductive efficiency, and mastitis resistance). Data are obtained through an industry wide dairy production testing and record keeping system and through breed registry societies. Genetic improvement is fostered nationally and internationally through 1) distribution of evaluations developed from these data, 2) technology transfer, and 3) collaboration with industry cooperators and university researchers. Technical coordination is provided for data standardization procedures, international comparison of dairy populations, and cooperative projects to improve evaluation systems in the United States and other countries.

Dr. H. Duane Norman
Research Leader
Supervisory Geneticist (Animal)
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Coordinates the research effort to improve genetic evaluation of dairy animals, operation of USDA-DHIA evaluation systems, and policy with industry cooperators. Supervises the editing system for the national research data base.

Dr. Rex L. Powell
Research Geneticist (Animal)
Bldg. 263, Room 105, BARC-East
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Investigates genetic evaluations across countries, including cooperation with the International Bull Evaluation Service and analysis of accuracy of those results. Investigates incorporation of records with extreme deviations into genetic evaluations.

Dr. Paul M. VanRaden
Research Geneticist (Animal)
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Determines economic values and procedures to
evaluate health and fitness traits. Develops stra
to include data from new test plans in genetic

evaluations. Provides new approaches to mon and control inbreeding. Derives improved procedures to analyze large data sets.

Dr. Curtis Van Tassell
Research Geneticist (Animal)
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Works jointly with the Gene Evaluation and Mapping Laboratory. Develops and implements methods to identify and estimate individual gene effects using genetic marker and genetic evaluation information in large dairy sire families. Estimates level of dominance genetic variance for yield traits.

Dr. George R. Wiggans
Research Geneticist (Animal)
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Develops a test-day model to improve genetic evaluations of yield traits. Conducts genetic evaluation of dairy goats. Advises on procedures to access the national data base and on distribution of evaluation information.

GENE EVALUATION AND MAPPING LABORATORY
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
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Mission: To develop knowledge of the structure and function of the genomes of livestock and poultry in order to improve their productive performance by improved efficiency of genetic selection and by insertion of new genetic material. Research in the laboratory utilizes the methods of molecular biology, genetic manipulation of embryos, and cell culture to study the expression of genes in physiological systems that regulate productivity. Transgenic animals are a primary tool for studying genes related to growth, disease resistance, and productivity of the mammary gland. Mapping techniques will be utilized to develop increased knowledge of the structure of the genome and to develop technology to select animals based on true genetic merit.

Dr. Vernon G. Pursel
Research Leader
Supv. Research Physiologist
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Transfer of genes into swine with potential to alter growth performance, milk composition, or disease susceptibility. Investigate culture, manipulation, and cryopreservation of pig gametes, embryos, and embryonic stem cells.

Dr. Melissa S. Ashwell
Research Geneticist
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Map genes related to reproductive traits in dairy cattle and identify molecular markers for economic trait loci.

Dr. A. V. Capuco
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Determine endocrine factors which are critical to growth and development of bovine mammary gland for maximum milk yield. Find ways to modify endocrine events during growth, pregnancy, and lactation to increase number and activity of mammary gland secretory cells.

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Dr. Kimiaki Maruyama
Research Physiologist
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Elucidate mechanisms regulating growth and development of turkeys. Investigate the expression of genes encoding myofibrillar proteins and myogenic determination factors.

Dr. Tad S. Sonstegard
Research Geneticist
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Develop highly polymorphic markers for chromosomal regions of the bovine genome identified to contain economic trail loci (ETL). Map positional candidates genes for ETL's that also effectively integrate the linkage, physical, and comparative maps of animal chromosomes.

Dr. Neil C. Talbot
Research Animal Scientist
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Develop methods to isolate and culture totipotent cells from embryos of cows, pigs, and sheep.

Dr. Robert J. Wall
Research Physiologist
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Alter the phenotype of cattle, sheep, and swine by introduction of foreign genes into early embryos. Determine factors which limit efficiency of producing transgenic animals.

Dr. Kevin Wells
Research Geneticist
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To develop an effective inducible system to precisely regulate expression of a transgene in transgenic animals.

GERMPLASM AND GAMETE PHYSIOLOGY LABORATORY
LIVESTOCK AND POULTRY SCIENCES INSTITUTE

BELTSVILLE, MD 20705-2350
TEL 301/504-8545 FAX 301/504-5123

Mission: The research mission of GGPL is to develop new knowledge and determine the means to improve the genetic, reproductive and productive efficiency of livestock and turkeys through fundamental research on germplasm and gametes. Studies are designed to: develop and improve methods for the short-term preservation and cryopreservation of swine and turkey spermatozoa in vitro; use the study of cellular, molecular and hormonal mechanisms to improve egg production in turkeys; improve fertilization rate through the study of follicular and occyte development in swine; identify factors that limit embryonic survival and fertility in the turkey and of sex predetermined embryos of livestock; determine mechanisms and developmental factors that will achieve effective cryopreservation of swine embryos; develop methods of effectively assessing sperm fertilizing capacity in vitro and develop and improve methods for gender preselection through flow cytometric separation of X and Y sperm based on DNA content. Give operational leadership to USDA-ARS Animal Hormone Program and the National Animal Germplasm Program Gene Bank.

Dr. Lawrence A. Johnson
Research Leader
Supv. Research Physiologist
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Sex preselection in mammals through separation of X/Y sperm by DNA; semen preservation and AI in swine.

Dr. Murray R. Bakst
Research Physiologist
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Determine factors regulating turkey oocyte maturation and factors regulating fertilization, and embryo development. AI of turkey semen.

Dr. John R. Dobrinsky
Research Physiologist
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Cryopreservation of embryos in swine and other animals. Use of vitrification to preserve embryos.

Dr. Ann M. Donoghue
Research Physiologist
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Preservation of turkey semen through liquid and cryogenic storage. Sperm quality assessment, physiology, and fertilization events.

Dr. H. David Guthrie
Research Physiologist
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Reproductive physiology and endocrinology. Investigate follicle maturation and expression of ovarian genes, and develop methods to control parturition in sows.

Dr. John A. Proudman
Research Physiologist
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Physiology of growth and reproduction of the turkey. Purify and characterize proteins important in the control of growth and reproduction. Identify endocrine changes which limit egg production in turkeys.

GROWTH BIOLOGY LABORATORY
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Mission: The mission of the Growth Biology Laboratory is to: (1) examine pre- and post-translational genetic determinants that influence nutrient utilization for lean tissue deposition by livestock; (2) determine practical approaches to implement near-market technologies affecting fat:protein ratio into livestock production agriculture; (3) optimize and validate nondestructive techniques for the prediction of live animal composition; and (4) assess nutrient/management variables and metabolism modifiers on target animal health, well-being, product quality and safety.

Dr. John P. McMurtry
Acting Research Leader
Research Animal Scientist (Poultry)
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Biological action of insulin-like growth factors and other peptide hormones during avian embryogenesis and post-hatch growth. Peripheral control of feed intake. Development of avian peptide hormone assays.

Dr. Thomas J. Caperna
Research Biologist (Swine)
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Mechanisms of peptide hormone and growth factor action in swine. Characterization of protein hormone binding proteins in tissues. Develop methods to isolate and culture hepatic cells.

Dr. Theodore H. Elsasser
Research Animal Scientist
(Beef cattle)
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Biochemical and physiological mechanisms of action of growth promoters and growth related hormones affecting the production of livestock.

Dr. Alva D. Mitchell
Research Animal Scientist (Swine)
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Develop and validate image analysis for direct, nondestructive, determination of body composition in swine. Nutrient factors affecting anabolic actions of beta-adrenergic agonists.

Dr. Timothy Ramsey
Research Physiologist
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Manipulation of feedback mechanisms for regulation of feeding behavior in livestock. Endocrine and paracrine regulation of adipose tissue gene expression in swine.

Dr. Mark P. Richards
Research Animal Scientist (Poultry)
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Peripheral control of feed intake. Development of molecular techniques to assess tissue gene expression. Role of leptin in avian embryogenesis.

Dr. Robert W. Rosebrough
Research Animal Scientist (Poultry)
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Neuroendocrine control of appetite and energy metabolism in poultry. Regulation of lipid metabolism.

Dr. Norman C. Steele
Research Animal
Scientist (Swine)
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Interaction of nutrient and management factors on anabolic effects of growth hormone administration in swine. Factors affecting protein synthesis and degradation.

IMMUNOLOGY AND DISEASE RESISTANCE LABORATORY
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
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Mission: The mission of the Management Unit is to enhance animal health and to reduce the economic impact of animal parasitic and mastitic disease on the safety and health of consumers, and of parasite and mastitis associated production losses to the industry. The goals of the MU are to improve overall animal health, evaluate factors controlling the immunobiology of the host response to parasitic and mastitic diseases; protect consumers from zoonotic diseases in food or water caused by parasitic diseases; assess cytokines and other immune effector on neonatal immune system development or for prevention and control of parasitism and mastitis in farm animals; define mechanisms through which the parasite or bacterium modifies host physiology and controls pathogen induced stress; identify and map genes with useful immunologic properties or with effects on parasitic and mastitic disease resistance; develop unique immunologic and molecular diagnostic tools to identify infected animals and parasites in environmental samples; and develop methods that minimize production losses due to parasites and mastitis. This research will lead to improved animal health, and to reduced drug usage resulting in a lessening of drug resistant microorganisms and of drug residues in meat, milk and the environment, thus enhancing the sustainability of American agriculture.

Dr. Joan K. Lunney
Research Leader
Supv. Research Immunogeneticist
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Investigates immunologic and genetic factors that regulate swine responses to parasite infections in particular toxoplasmosis and trichinellosis. Determines effectiveness of vaccination for toxoplasmosis and defines immune factors which result in protective responses. Develops monoclonal antibodies and PCR reagents for swine cell-surface antigens and cytokines. Maps genes which regulate parasitic disease responses.

Dr. Ronald Fayer
Zoologist
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To elucidate he basic biology of Cryptosporidium species infectious for food animals and humans. To determine methods of detection, routes of transmission, methods of immunization and disinfection, and develop strategies for prevention and control.

Dr. Louis C. Gasbarre
Microbiologist
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email: lgasbarr@lpsi.barc.usda.gov

Defines the genetic basis of immune responses of cattle to parasitic infections; characterizes cellular immune responses of cattle with special emphasis on the role of cytokines; develops management programs that use host immunity to control parasite infection.

Dr. A. J. Guidry
Research Dairy Scientist
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email:aguidry@lpsi.barc.usda.gov

Develop means of preventing Staphylococcus aureus adherence to bovine mammary epithelial cells. Develop vaccines against S. aureus. Determine the feasibility of producing transgenic animals that are resistant to mastitis.

Dr. James Higgins
Microbiologist
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Conducts applied research on sample preparation techniques, and molecular diagnostic assays, for the detection and identification of parasitic pathogens of livestock.

Dr. Mark C. Jenkins
Microbiologist
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Conducts basic and applied studies on protozoan diseases of food animals. Employs molecular and immunological techniques to develop diagnostic probes for identifying these parasites and for generating vaccines for combating coccidiosis of poultry and cryptosporidiosis and neosporosis of cattle.

Dr. Hyun S. Lillehoj
Microbiologist
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Investigates molecular and cellular mechanisms involved in genetic control of protective immunity to avian coccidia to develop immunological control strategies for avian coccidiosis. Develops molecular and cellular probes to assess cell-mediated immunity in chickens following recombinant coccidial antigen vaccination and natural infection. Studies the role of various T-lymphocyte subsets and cytokines in the development of protective anti-coccidial immunity. Identify microsatellite markers associated with disease resistance/susceptibility to avian coccidiosis.

Dr. M. J. Paape
Research Dairy Scientist
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Determination of events and substances which mobilize polymorphonuclear leukocytes to defend against mastitis infection. Find ways to stimulate this defense to more effectively combat infections.

Dr. Joseph F. Urban, Jr.

Supv. Microbiologist

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301/504-8765
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Studies parasitic diseases of swine, especially aspects of protective immunity, vaccine development, cytokine regulation of immunity and inflammation, and intestinal mucosal responses to infection. Investigates rodent models of immunity to parasites as a paradigm for responses of livestock.

Dr. Dante S. Zarlenga
Molecular Biologist
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email: dzarleng@lpsi.barc.usda.gov

Conducts research in the general area of molecular parasitology with a concentration on helminths of veterinary importance. Repetitive DNA sequences as well as specific gene sequences encoding antigens and are identified that can assist in diagnosis, protection and classification of parasites and parasitic infections. Research on the effects of parasite infection on host cytokine expression is also studied.

MEAT SCIENCE RESEARCH LABORATORY
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
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Mission: To conduct basic and applied research on beef, pork, lamb, and other animal products to enhance their quality and safety. To develop technology for evaluating, maintaining, and improving the quality of meat and meat products. To establish the nutritional composition of meat and meat products and to establish pre- and post-slaughter practices that enhance both the nutritional composition and quality. To develop information on the accumulation of residues of drugs and pesticides in meat and other animal products and to develop means for analyzing for such chemical residues.

Dr. Morse B. Solomon
Research Leader
Supv. Res. Food Technologist
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Develop hydrodynamic pressure technology and other newly emerging technologies that will improve the quality and food safety of meat products. Develop companion preservation, processing and cooking procedures necessary to fully achieve the value-added capabilities of hydrodynamic pressure technology. Regulation of growth and development of different biological slaughter animals for producing high lean/low fat meat, especially in relation to improving meat quality and compositional factors affecting the tenderness of meat.

Dr. Brad W. Berry
Research Food Technologist
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Sensory, cooking and instrumental texture properties of meat products, especially those subjected to the Hydrodyne process. Provides information to federal action-regulatory agencies regarding cooked color, product specifications and cooking methodology.

Dr. Art M. Spanier
Research Chemist
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Study the structure-function relationship of meat chemical components (predominantly proteins, peptides, and amino acids) as they relate to changes in meat quality during processing (postmortem aging) and other postmortem handling technologies (such as hydrodynamic pressure). Objective is to understand the factors affecting meat quality and use this information to develop rapid screening methods for assessing meat quality, as well as to develop high quality meat products.

NUTRIENT CONSERVATION AND METABOLISM LABORATORY

LIVESTOCK AND POULTRY SCIENCES INSTITUTE
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Mission: The mission of the Nutrient Conservation and Metabolism Laboratory is to increase the conservation of nutrients from production of milk and meat through a better understanding of ruminant metabolism. Scientists conduct research to: improve energy and protein supply from digestion by determining relationships between feed composition and microbial fermentation; maximize conservation of absorbed energy and protein by the visceral tissues, including the gut and liver, and the whole animal; and alter nutrient excretion for improved dairy manure management.

Dr. Theron S. Rumsey
Acting Research Leader
Research Animal Scientist
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Improve efficiency of protein production and energy use through endocrine manipulation of metabolism specifically as it relates to the use of estrogenic growth promoters and modulation of the thyroid axis.

Dr. Ransom L. Baldwin, VI
Research Animal Scientist
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Quantitative assessment of ruminant gut tissue energy metabolism. Tissue energy metabolism and mechanisms of cell growth and differentiation as affected by whole animal nutritional status and physiological state.

Dr. Alan M. Lefcourt
Biomedical Engineer
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Investigation of nutrient flow into animal waste and management of animal waste to identify and reduce nutrient losses.

Dr. Kyle R. McLeod
Research Animal Scientist
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Visceral energy dynamics and interconnection with the hormonal plexus through the quantitative determination of nutrient flux across splanchnic organs.

Dr. James B. Reeves, III
Research Chemist
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Improvement of methods for determining the composition and value of dairy manure with respect to nitrogen content and use as fertilizer.
Improvement of methods for determining composition and digestibility of ruminant feedstuffs.

PARASITE BIOLOGY AND EPIDEMIOLOGY LABORATORY
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
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Mission: The mission of the Parasite Biology and Epidemiology Laboratory is to reduce the economic cost of parasitism in livestock and poultry and to reduce the risk of transmission of parasite zoonoses to humans. Emphasis is placed on developing integrated control programs for important parasitic diseases. Research includes basic and applied studies on (1) mechanisms of parasite transmission, the infection process, parasite development and parasite-host interactions; (2) the development of novel methods for parasite control such as parasite vaccines and non-chemical anti-parasitics; (3) the diagnosis and control of livestock parasites transmissible to humans; and (4) control of tick populations transmitting Lyme disease..

Dr. H. Ray Gamble
Research Leader
Supervisory Zoologist
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Studies the biology and epidemiology of zoonotic parasites of swine and the goal of defining production systems which reduce the risk of animal infection; develops tools to detect zoonotic parasite infection in swine; evaluates postharvest processes which inactivate zoonotic parasites in swine.

Dr. Patricia C. Allen
Research Chemist
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Studies biochemical, physiological, and immunological mechanisms for coccidia-induced metabolic changes in avian tissues which lead to nutrient malabsorption and reduced growth and weight gain. Investigates dietary modulations of coccidia infections. Develops methods for biological control of the black-legged tick, vector of Lyme disease.

Dr. Patricia C. Augustine
Microbiologist
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Investigates mechanisms of cell invasion by sporozoites of avian coccidia. Studies effects of anticoccidial drugs and natural products on coccidiosis and turkey coccidia. Assesses impact of prior or concurrent infection on the behavior of the coccidia. Conducts basic research on Neospora.

Dr. John F. Carroll
Research Entomologist
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Investigates methods of suppressing populations of the black-legged tick (deer tick), vector of the pathogen causing Lyme disease. Studies host-finding behavior and ecology of the black-legged tick, as they relate to tick control.

Dr. Harry D. Danforth
Microbiologist
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Studies immunity to and control of avian coccidiosis. Initiates strategies to improve efficiency of live oocyst vaccines. Determines degree of anticoccidial efficacy against field isolates of coccidia. Isolates and characterizes coccidial antigens and evaluates their potential for use in vaccines. Uses hybridoma antibodies and electron microscopy to determine the interaction of coccidial antigens with the host immune system. Evaluates natural products for control of avian coccidiosis.

Dr. Jitender P. Dubey
Microbiologist
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301/504-8128
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Develops procedures to render meat and meat products safe from Toxoplasma-infection through diagnosis, epidemiology and on-farm control programs. Develops a vaccine to prevent Toxoplasma-induced abortion in livestock. Develops methods for the diagnosis and control of Neospora in domestic animals.

Dr. Raymond H. Fetterer
Zoologist
Bldg. 1040, Rm. 206, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8762
email: rfettere@lpsi.barc.usda.gov

Conducts research on parasite physiology and biochemistry, particularly related to enzymes as targets for novel controls. Studies the impact of coccidia infections in chickens on muscle metabolism in order to develop new methods for assessing impact of treatments.

Dr. Dolores E. Hill
Research Parasitologist
Bldg. 1040, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8770
email: dhill@lpsi.barc.usda.gov

Conducts research on the molecular genetics of parasites of food animals using various biochemical methods including recombinant DNA techniques to identify and classify parasites and to develop diagnostic probes. Develops methods for the biological control of the black-legged tick, vector of Lyme disease.

Ms. Marcia L. Rhoads
Research Chemist
Bldg. 1040, Rm. 204, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8761
email: mrhoads@lpsi.barc.usda.gov

Studies biochemical, immunological and physiological functions, and developmental regulation of cuticular and secretory components of helminth parasites; purifies and characterizes enzymes and enzyme inhibitors; isolates antigens for immunization and diagnostic purposes.

BIOSYSTEMATIC AND NATIONAL PARASITE COLLECTION UNIT
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
BELTSVILLE, MARYLAND 20705-2350
FAX 301/504-8979

Mission: Develop new information on the identification, classification and distribution of parasites of animals, especially those of veterinary and medical importance, applying modern systematics methodology and theory to the analysis of comparative morphological, biochemical and molecular data. The U.S. National parasite Collection is accumulated and maintained to support the research of the Laboratory and serves as a primary resource for biodiversity research nationally and internationally.

Dr. J. Ralph Lichtenfels
Research Leader
Supv. Zoologist
Bldg. 1180, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8444
email: rlichten@lpsi.barc.usda.gov

Provides leadership for the Laboratory. Conducts research on the systematics and identification of nematode parasites of animals. Curates National Parasite Collection.

Dr. Eric P. Hoberg
Zoologist
Bldg. 1180, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8588
email: ehoberg@lpsi.barc.usda.gov

Conducts research on the systematics and classification of helminth parasites of animals. Obtains and prepares specimens for DNA systematics. Provides leadership in data analysis and for biodiversity issues.

RESEARCH ANIMAL SERVICES UNIT
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
BELTSVILLE, MARYLAND 20705-2350
FAX 301/504-8746

Mission: This unit provides technical expertise and animal care services for all experimental animals which include cattle, swine, sheep, poultry and laboratory animals.

Mr. Keith Hummel, Manager
Research Animal Services
Bldg. 177C, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-9243
email: khummel@lpsi.barc.usda.gov

Manages the acquisition, assignment, day-to-day care and disposition of the Beltsville Agricultural Research Center's research animal herds and flocks, including the efficient use of personnel, funding supplies, equipment, facilities, property, and other related resources. Directs and oversees the implementation of animal and flock health care objectives, projects the programs identified by the Beltsville Agricultural Research Center Animal Health Care Committees and the Veterinary Services staff. Maintains a population of disease-free animals for research purposes.

VETERINARY SERVICES UNIT
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
BELTSVILLE, MARYLAND 20705-2350
FAX 301/504-8746

Mission: This unit is responsible for care and welfare of all experimental animals at the Beltsville Agricultural Research Center and provides program guidance for health, quarantine, and other regulations.

Dr. Ben Stroud
Veterinary Medical Officer
Bldg. 177C, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-9081 or 9243
email: bstroud@lpsi.barc.usda.gov

Provides program support to scientists conducting studies with or involving all species of animals by diagnosis of pathological conditions, plans and initiates therapy, develops and carries out health programs, performs routine and experimental surgery as needed or requested, and provides reproductive and obstetrical care. Administers Federal and State regulations related to the purchase, sale, and transport of domestic animals; carries out the federal and State testing for herd certification; carries out mandatory regulations regarding laboratory animals covered under Public Law 89-544.

ADMINISTRATIVE UNIT
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
BELTSVILLE, MARYLAND 20705-2350
FAX 301/504-8696

Mission: Provides administrative support services to LPSI management units.

Ms. Kathy van't Hoff, Management Analyst
Bldg. 307, Rm. 130, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8065
email: kathyv@lpsi.barc.usda.gov

This unit is responsible for the budget, accounting, and contracting activities for LPSI.

POSTDOCTORAL AND VISITING SCIENTISTS
LIVESTOCK AND POULTRY SCIENCES INSTITUTE
BELTSVILLE, MARYLAND 20750-2350

Gene Evaluation and Mapping Laboratory

Dr. Karen Moore
Research Associate
Bldg. 211, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8800
email: kmoore@lpsi.barc.usda.gov

Determine the role of milk proteins by developing whey acidic protein (WAP) deficient mice and alpha casein deficient mice using homologous recombination in embry stem cells. Future experiments will utilize thee endogenc milk gene promoters to produce foreign proteins in the m using knockin technology.

Germplasm & Gamete Physiology Laboratory

Dr. Wesley Garrett
Research Associate
Building 200, Rm. 4/17, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-9104/7413
email: wgarrett@lpsi.barc.usda.gov

Confocal microscopy associated with research on embryos, sperm, ovaries, and the genome.

Dr. Serdia O. Mack
Visiting Scientist
Bldg. 200, Rm. 4, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-9104
email: **smack@ac.howard.edu**

Gene expression in mammalian gonads.

Growth Biology Laboratory

Dr. Christopher Ashwell
Research Molecular Biologist
Bldg. 201, Rm. 5, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-5061
email: cashwell@lpsi.barc.usda.gov

Research and development work on factors controlling feed intake in major livestock species.

Dr. Dianne Wray-Cahen
Research Associate
Bldg. 200, Rm. 207, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8760
email: dianew@lpsi.barc.usda.gov

Investigations on the role of growth modifiers in the regulation of energy metabolism in swine.

Immunology and Disease Resistance Laboratory

Dr. Kang Duk Choi
Molecular Biologist
Bldg. 1043, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8771
email: kchoi@lpsi.barc.usda.gov

Develop vaccines of preventing avian coccidia by recombinant DNA and immunological techniques. Studies molecular and immunological characteristics of avian coccidia for the development of anti-coccidial vaccines. Clone and express avian cytokines and coccidial genes. Develop new *in vitro* immunological techniques to assess cell-mediated immunity of chickens.

Dr. Gloria Solano-Aguilar
Research Associate
Bldg. 1045, Rm. 9, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8373
email: gsolano@lpsi.barc.usda.gov

Assesses swine immune responses to toxoplasmosis. Uses immunologic and molecular techniques to quantitate cells and cytokines which stimulate protective immunity. Evaluates responses of vaccinated swine to identify the best vaccine candidates and potential subunit antigens.

Dr. Kenji Ishiwata
Visiting Scientist
Bldg. 1040, Rm. 7, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20750-2350
301/504-87556
email: **ishiwata@lpsi.barc.usda.gov**

Conducts research on intestinal immune responses to parasitic infections related to protective immunity, especially the role of mucins and mucosal lymphocyte populations. Develops rodent models of infection with nematode parasites to compare with similar infectious swine.

Dr. Tine de Marez
Research Associate
Bldg. 1002, BARC-East

10300 Baltimore Avenue
Beltsville MD d 20705-2350
301/504-8364

email: **tdemarez@lpsi.barc.usda.gov**

Investigates the immune response of cattle to Ostertagia ostertagi infections. Uses immunologic and molecular techniques to identify parasite substances which are potential immunomodulators in cattle.

Dr. Lisa Schopf
Research Associate
Bldg. 1040, Rm. 5, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8765
email: lschopf@lpsi.barc.usda.gov

Studies the role of cytokines in gastrointestinal nematode infections. Elucidates the mechanisms of protective immunity using immunologic and molecular techniques. Utilizes rodent models to study host/parasite
interactions and applies this knowledge to parasitic pathogens of livestock.

Dr. Cheol Yun
Visiting Scientist
Bldg. 1043, Rm. 107, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8771
email: cheolyun@lpsi.barc.usda.gov

Works on avian immunity mainly focusing on changes of cytokines in coccidiosis.

Dr. Luis Jauregui
Visiting Scientist
Bldg. 1045, Rm. 9, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8373
email: jauregui@lpsi.barc.usda.gov

Develops assays to detect swine cytokines and cell subsets from peripheral blood and other lymphocyte populations from mucosal tissues of normal and parasite infected pigs. Standardizes PCR-based molecular techniques for the characterization of the kinetics of Toxoplasma gondii infection in swine. Compares genetically defined pigs for their responses to Toxoplasma gondii infection and identifies genetic factors that enhance resistance against this parasite.

Dr. Terezinha Padilha, VisitingScientist
Bldg. 1040, Rm. 105, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8465
email: tpadilha@lpsi.barc.usda.gov

Conducts research on the role of host genetics on resistance/susceptibility to nematode infection in cattle. Uses molecular techniques to quantitate cytokines. Develops control program for gastrointestinal nematodes of cattle in tropical regions.

Tonya K. Nelson
PhD Student
Bldg. 173, Rm. 102A, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301-504-8330

email: msmlstud@lpsi.barc.usda.gov

Investigates the presence and role of reactive nitrogen species in the bovine mammary gland.

Dr. Jiangtao Zhu
Visiting Scientist
Bldg. 1043, Rm. 107, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301-504-8771
email: jameszhu@lpsi.barc.usda.gov

Defines the cytokine profile in the mammary gland during inflammation due to various causes. Conduct studies designed to identify microsatellite DNA markers that are associated with coccidiosis resistance and susceptibility in broiler chickens. Analyze chicken genotypes and coccidiosis phenotypes to determine the association between the DNA markers and disease resistance to coccidiosis.

Meat Science Research Laboratory

Dr. George F. Fries (retired)
Research Animal Scientist (Collaborator)
Bldg. 201, Rm. 4, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-9198
email: fries@lpsi.barc.usda.gov

Models transport of persistent toxic chemicals, with emphasis on dioxins, through animal production systems to foods. Provides information to federal and state action-regulatory agencies on human exposure to these compounds.

Dr. William A. Moats (retired)
Research Chemist (Collaborator)
Bldg. 201, Rm. 204, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-7003
email: wmoats@lpsi.barc.usda.gov

Development of specific chemical methods for drug and antibiotic residues in tissues and biological fluids of food-producing animals. Comparison of chemical methods with bioassays and other screening methods.

Dr. Anisha Williams-Campbell
Postdoctoral Research Associate
Bldg. 201, Rm. 8. BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8996
email: **acampbel@lpsi.barc.usda.gov**

Evaluate the microflora of meat products subjected to the Hydrodyne process. Identify the effect, if any of the process on microorganisms, specifically pathogens such as *Escherichia coli* 0157:H7. Investigate the effect of GRAS compounds combined with the Hydrodyne method on the spoilage process of fresh refrigerated meats. Provide information on food safety implications of the Hydrodyne method.

Dr. Zvi Holzer
Visiting Scientist
Bldg. 201, Rm. 100B, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8402

email:zholzer@lpsi.barc.usda.gov

Nutritional and hormonal growth regulation for the production of qualify beef, especially rich in contributory components in the prevention of cardiovascular diseases. Improving the eating and safety quality of ritualistic harvested meat (kashrut, halal) by means of newly emerging technologies (e.g., hydrodynamic pressure).

Nutrient Conservation and Metabolism Laboratory

Dr. Jo Ann S. Van Kessel
Postdoctoral Research Associate
Bldg. 200, Rm. 123, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8287/7192
email: jkessel@lpsi.barc.usda.gov

Plan availability of nutrients (primarily nitrogen) in dairy manure. Quantification and characterization of dairy manure nitrogen. Evaluation and development of on-farm rapid methods of manure analysis**.**

Parasite Biology and Epidemiology Laboratory

Dr. Susan Liddell
Postdoctoral Research Associate
Bldg. 1040, BARC-East
10300 Baltimore Avenue
Beltsville, MD 20705-2350
301/504-8054
email: sliddell@lpsi.barc.usda.gov

Develops serology-based and polymerase chain reaction-based diagnostic assays for Neospora caninum using molecular biological techniques.