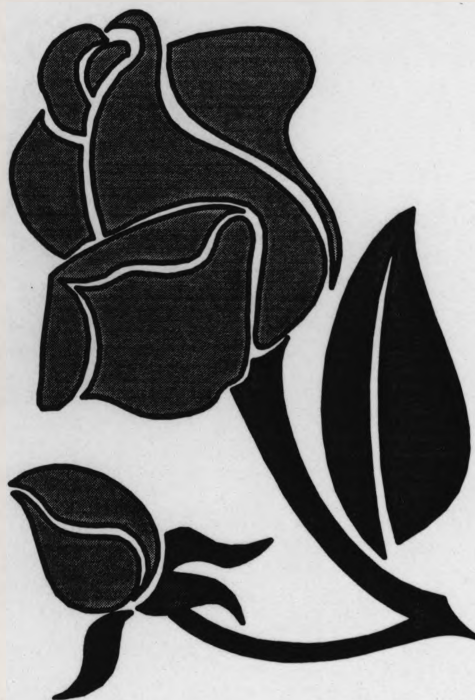
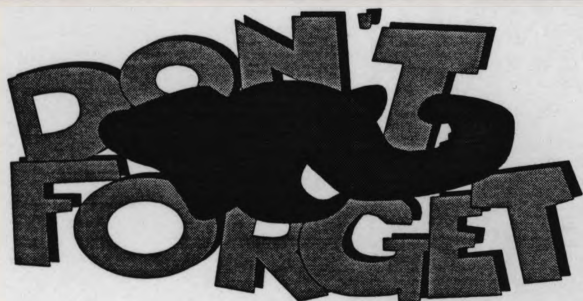


# ❖ AAAP SPRING NEWSLETTER ❖

Spring 1995



*The meetings of the AAAP Board of Directors, all day Friday, July 7 and Saturday, July 8 and again on Wednesday Morning in the Fayette Room of the Pittsburgh Vista. All members are welcome to attend.*

\*\*\*\*\*

*The AAAP Awards Luncheon on Monday, July 10. Tickets available from the business office.*

\*\*\*\*\*

*Members wishing to obtain continuing education certificates for the meeting must see Dr. Eckroade at the meeting.*

*The AAAP Business Meeting on Tuesday, July 11 at 10:00 am in the Allegheny 2 room at the Pittsburgh Vista.*

\*\*\*\*\*

*All AAAP functions will be held in the Pittsburgh Vista.*

## *AAAP Board to consider holding separate Annual Meeting in 1996*

*A subcommittee of the AAAP Board of Directors has considered the feasibility of holding our annual meeting separate from AVMA. Several changes in the handling of the Poultry Medicine Program have prompted us to consider making the change.*

*The proposal for an alternate meeting site would include a July meeting in one of 3 or 4 alternating regional cities where hotel and meeting costs could be controlled. It does not include meeting with any other group.*

*AAAP members who wish to voice their opinion on the possible meeting site change should be sure to: Attend the board meeting in Pittsburgh, Attend the annual meeting in Pittsburgh and contact their Regional Director to express their feeling on this issue.*

### inside...

1995 Annual Meeting Information  
1995 AAAP Committee Reports  
Meeting Announcements

1995 Symposium - Drugs and Therapeutics  
1995 Scientific Program  
1995 Committee Meetings



# COMMITTEE REPORTS

## Kenneth H. Eskelund Preceptorship:

**D**uring the past year, the Kenneth H. Eskelund Preceptorship Committee evaluated the applications of nine students and recommended providing preceptorships to six students. The committee would like to see more applicants, so they updated their mailing list for contact persons at each College of Veterinary Medicine. In some cases, they now have more than one person on the mailing list for a college. In order to acquire information about the quality of the preceptorship experience of each student, each student and host must now complete a short questionnaire at the completion of the preceptorship. This should help direct students in the future to locations which provide the best preceptorship experiences. Since the overall goal is to encourage veterinary students to choose a career in avian medicine, each student applicant is sent information for educational opportunities in avian medicine.

John Glisson, Chair

## Membership

**S**ince May 1, 1994, 31 regular members (17 domestic and 14 international), 17 associate members (15 domestic and 2 international), 7 domestic student members, and 24 international associate members have been added to our membership bringing our total membership to 1,064.

This year the membership committee has targeted student members by sending letters of invitation to veterinary schools and poultry science departments. We expect to see the results of these efforts during the next year.

In addition to recruiting new

members, the AAAP membership committee has actively participated in a joint venture with the AAAP Education Committee. Under the guidance of Dr. Andrea Miles (Education committee) we have produced a display for AAAP to be used at a variety of meetings including AVMA. This will allow our organization to educate others about what we are and do.

The membership committee would like to thank those members responsible for our increase in international members through their personal contacts, and the members of the AAAP membership committee for their dedicated efforts in contacting qualified applicants.

Jean Sander, Chair

## Reference Antisera:

**D**r. William Chase has been asked to take over the chair of the Reference Antisera Committee. The following are suggestions to be considered by the group in order to continue the progress made by this committee under the leadership of Dr. Sharon Hietala.

1. The Commercially available Avian Diagnostic Reagents list, discussed during the 1994 meeting, needs to be updated and made available to the general membership. There are several new companies now in the marketplace and several new tests available. It would be helpful for the AAAP membership to have a "one-stop shopping list" for these antisera and antigen needs.

2. As discussed in San Francisco, one of our least sophisticated techniques is Hemagglutination Inhibition (HI). When the committee interviewed various authorities on their techniques several noticeable differences were discovered. As an example: Beard uses 8-10 HA units and an incubation time of 37°C/1hr., while King uses 4 units and

room temperature for 30 minutes. If their results agree, then it doesn't matter how they arrive at them. The problem in our industry is that many times results do not agree. The suggested solution is:

- a. Several commercial companies will provide at a very nominal fee Newcastle Antiserum to any laboratory that wishes to standardize their HI. The serum will come from a large lot of several liters in volume. Dr. Pearson will coordinate the titration of this serum and send the USDA results with the sample.

- b. A protocol will be provided that will outline the exact testing method used to determine the provided titers. If the using laboratories are not able to duplicate the titer results they would be free to explore any differences in technique. There would be nothing official or regulatory in this concept. We would just all start with the same serum to titer. Dr. Pearson has graciously allowed the use of some of his capabilities to facilitate moving these samples to the various laboratories. If this works well, we could extend the concept to standardize other disease testing. Please let Dr. Chase know of your thoughts on these items.

William Chase, Chair

## Tumor Viruses:

**A** group "REV Task Force" led by Dr. Ken Takeshita of Arbor Acres Farms, Inc. and representing poultry biologics, poultry breeders, USDA-APHIS, and USDA-Avian Disease and Oncology laboratory met in January, 1995 to discuss the standardization of methods for testing live virus poultry vaccines for contamination with REV. The task force recommended that USDA should be involved in development of an action process to determine what REV testing needs to be done on biologics and what

regulations need to be implemented. In the mean time, concerned vaccine manufacturers should take in-house action to assure freedom of vaccines from REV contamination. Members of AAAP who are interested in this issue should contact Dr. Takeshita.

During the last year, several members of our committee noted an increased concern among broiler breeders regarding whether subgroup J ALV exists in flocks in the USA. There was also a concern regarding incidence of REV infection in chickens and turkeys.

At the committee meeting in Pittsburgh, a subcommittee will be formed to discuss plans to submit to the Board of Directors of AAAP a preproposal for a Tumor Viruses workshop/symposium. Several

members of the committee proposed the following issues to be addressed at the workshop: a) new trends in control of Marek's disease; b) new technology for differential diagnosis of avian lymphomas; c) epidemiology and control of avian leukosis virus in heavy breeds; and d) epidemiology and control of reticuloendotheliosis virus in chickens and turkeys. Members of AAAP are encouraged to submit any other items to the chairman of the Tumor Viruses Committee, Dr. Aly M. Fadly at USDA-ARS, Avian Disease and Oncology Lab, 3606 East Mount Hope road, East Lansing, MI 48823; telephone 517-337-6828; fax 517-337-6776.

Aly Fadly, Chair



## Veterinary Licensing

**S**ince the last AAAP annual meeting, this committee has been very active with regard to a limited licensure proposal. In addition to receiving endorsements for this proposal from the AAAP and the ACPV, we finally received an endorsement in concept from the American Association of Veterinary State Boards (AAVSB). In January, Dr. Birch McMurray met with this committee to clarify any questions they had concerning the proposal. The AAVSB has appointed a committee to develop recommended language that could facilitate necessary legislative changes. They have targeted a completion date that will allow for a presentation at their annual meeting in Pittsburgh. Several members of the AAAP Veterinary Licensing Committee will contact previously identified veterinary state boards with these endorsements and the proposal to seek their reaction to our proposal.

Lanny Howell, Chair

## Nominations

**T**he nominations committee has started its deliberations on a slate of candidates for approval at the AVMA meeting in July. Independent nominations should be made by mail to Dr. Eckroade before June 12, 1995. Members making such nominations should ensure that their nominees are willing to stand, are committed to attending board meetings during their term of office and are able to find their own financial support to attend these meetings. For a President-Elect this implies three years attendance at the annual AVMA meetings.

Craig Riddell, Chair

## Biotechnology

**S**everal issues were addressed at the 1994 meeting at the ANA Hotel in San Francisco. The committee agreed to keep the name Biotechnology Committee because they felt it was descriptive of our mission and goals.

Although the potential for overlap exists with other AAAP committees, no overlap has been observed by members of our committee or the chairs of other AAAP committees. It was suggested that the biotechnology committee chair make sure that a liaison is appointed from the biotechnology committee to the reference antisera committee, education committee, and drugs and biologics committee. The AAAP board was consulted and agreed that this would be the best way to insure communication between these committees with potentially overlapping missions.

It was suggested that a list of PCR primers and sequences which are available through AAAP members be assembled. The conditions of their availability and for their use should also be included with this list. Further discussion on this topic is scheduled for our meeting in Pittsburgh.

Daral Jackwood, Chair

## Skeletal Diseases

**T**he overall incidence of leg problems in chickens, turkeys and game birds appears to be low. However, a secondary colibacillosis related purulent arthritis and osteomyelitis including femoral head necrosis in broilers have been observed in some regions. Osteomyelitis due to staphylococcosis has also been noticed in high incidences in some regions.

Long bone deformities such as tibial rotations, valgus and flat hocks with slipped tendons have also been noticed in some poultry operations. The etiology remains to be unknown.

Reports indicate that the incidence of tibial dyschondroplasia is still occurring with sporadic severity.

One of the major cause(s) of leg trim in some broiler processing plants is so-called "thick hock syndrome" or "pink hock syndrome". It is a tissue swelling at the proximal tibia having no apparent effect on locomotor of broilers. The trim is done under the "synovitis" category. Trauma or possibly a reovirus infection have been suspected as the etiology.

Cage layer fatigue is apparently still a problem in some layer industries.

Leg strength problems in commercial turkeys seem to be on the wane in general and not as large a total economic concern for growers unless nutrition (mineral composition) and farm management (high density and poorly managed reused litter materials) are compromised.

One of our committee members reported that in a recent study done at the Purdue University, it was found that turkeys that were raised on a fine form of particleboard residue as bedding materials demonstrated a lower (6.1%) incidence of leg deformities than those raised on coarse particleboard residue (9.5%). The highest incidence was in turkeys raised on hardwood shavings (15.2%).

Rotational deformities of long bones, especially the tibiotarsus in ratites, appear to be an important problem. Perhaps nutritional formulations and rapid rate of growth have influenced the incidences.

The committee encourages more research in the area of angular deformities and their etiologies in broilers. Since osteomyelitis remains to be a significant cause of trim, the committee encourages more research in the area of OM/green liver relationship

to help establish and make recommendation to FSIS regarding the handling of OM/green liver in turkeys in processing plants.

Yan Ghazikhanian, Chair

## History of Avian Medicine

Activities of the AAAP History Committee have included the following:

**Historical articles:** Based on AAAP Board approval, the following authors have accepted invitations to author articles for publication in Avian Diseases: Hitchner, early biologics labs; Cover, infectious laryngotracheitis; Fabricant, infectious bronchitis; Calnek, avian encephalomyelitis; Beard, avian influenza; Mayeda/Rosenwald, poultry medicine in California; Rosenwald, biologics quality control. Approval for two new articles by Lasher on infectious bursal disease and by Luginbuhl on SPF flocks is being sought. The committee has worked with the authors through the year and at least one manuscript is nearing completion.

**Archives:** Important early documents on the events surrounding the formation of AAAP have been submitted by Leland Grumbles and will be submitted to the archives. A poster highlighting some of these documents is being prepared by Witter and Shapiro for presentation at the Pittsburgh meeting. All AAAP members are requested to review their files for appropriate materials and contact the committee.

**Biographies:** The committee is continuing to develop a program to obtain biographical materials for prominent AAAP members and others who have contributed to avian medicine, past and present. It is planned that these biographies will be deposited in the archives. Details will be announced in the coming year.

Richard Witter, Chair

## Report of the Editor

Volume 38 (1994) of Avian Diseases was 927 pages, that included 94 articles, 16 Research Notes, 26 Case Reports and 2 Pet Bird Medicine Reports. This is a 22.5% decrease in the number of pages printed compared to Volume 37 (1993).

During the past year we received 181 new manuscripts. Approximately 10% of the manuscripts were rejected, 25% accepted and 57% were returned to the author(s) for revisions or additional information. Our final acceptance rate remains at approximately 75%.

The Editorial Board continues to do an outstanding job of expert manuscript review and deserves the full support and recognition of the membership.

Louis van der Heide, Editor

## Drugs and Therapeutics

The AAAP committee on drugs and therapeutics has been busy in 1994-95. The 1995 AAAP Symposium on Drugs and Therapeutics has been finalized. Several key issues have been placed before the Center of Veterinary Medicine (CVM). Veterinary compounding, Veterinary Feed Order, the Animal Medicinal drug Use Clarification Act (AMDUCA; Extra Label Drug Use Law), and flexible labeling are all important to the AAAP. AAAP has been represented at all of these meetings. I will summarize the proceedings of those meetings.

**Fluoroquinolone Use in Animals:** The AAAP (Dennis Wages and Mark Dekich) participated in the public hearings for fluoroquinolone use in animals. These hearings were before the Advisory Committee to the CVM and represented the views of many commodity, veterinary, industry and academic groups providing views and scientific data concerning human health and other safety issues concerning



the use of fluoroquinolones in animals. Even though there still seems to be some concern over their use in feed, the Advisory Committee recommended to CVM for their approval as therapeutics. Center for Disease Control (CDC) has responded to this recommendation and DVM has responded to CDC.

**Veterinary Feed Order (VFO):** CVM was concerned about the approval and use of new animal drugs in animal feed. They felt there was more control for new antibacterials approved for use in feed. This basically had support, in principle, by all veterinary and commodity groups, AHI, and AFIA. VFO has been approved by an ad hoc group of many commodity and industry organizations. VFO is intended to provide an alternative to prescription status of medicated feed drugs to avoid triggering state pharmacy laws. AAAP's concern was that with the Extra Label Drug Use Law signed, VFO draft may not be an appropriate action at this time. This would not probably impact integrators to any great degree.

**Flexible Labeling:** In order to streamline the approval process and increase the availability of therapeutic drugs, it has been recommended to CVM that a flexible labeling be approved in the drug approval process. That is, identify essential information for the label and initial drug approval. This information would include a dose range, safety data, and withdrawal information. This information would be essential information for approval, while efficacy, PK data, etc. not be involved in necessary data for approval. This has been received very well by CVM and supported by AAAP. It is also apparent that flexible labeling will decrease ELDU.

**AMDUCA:** AAAP (Dennis Wages) was represented at the AMDUCA public hearings of the Veterinary Medical Advisory Committee to hear information to support CVM in outlining regulations to enforce AMDUCA. AAAP concerns raised at

this meeting included: licensed vs. attending veterinarian; definition of "extra label", extra label feed antibiotics. It was also felt that AMDUCA, flexible labeling, and VFO should not be considered as separate issues.

Dennis Wages, Chair



## POULTRY HEALTH HANDBOOK

Fourth Edition

The Poultry Health Handbook, 4th Edition, completely revised, is now available. The new edition reflects an up-date on diseases in the older editions as well as additional diseases. Knowledge from current research, diagnostic laboratories and field experience has been incorporated. The book is available from Pennsylvania State University at a cost of \$ 20.00 per copy, postage and handling included. Payments by check or money order must be included with the order form. Telephone orders will be honored after receipt of payment. (Sorry, no credit cards.) Please send your order to: Agricultural Publications Distribution Center, Pennsylvania State Univ., 112, Ag Administration Building, University Park, PA 16802, Phone 814-865-6713

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# MEETINGS



**The 1995 Annual Conference of the American Association of Zoo Veterinarians** - will be held August 12-17 at the Kellogg Center in East Lansing, Michigan. The conference will include sessions on: Symposium on Ecosystem Health and Biodiversity; Symposium on Health in Wetland Ecosystems; Symposium on Health and Arid Ecosystems and a joint session on Zoo and Wildlife Conservation. The traditional sessions will include: The latest in disease testing; animal transport; mammals; avian/reptile; reproduction; and animal welfare/ethics. For further information, contact Dr. Wilbur Amand, 8400 W. Girard Ave, Philadelphia, PA 19104; Phone 215-387-9094; Fax 215-387-2165.

**The 1995 Poultry Science Association Annual Meeting** - will be held August 14-18 in Edmonton, Canada on the University of Alberta campus. Two symposiums are scheduled on the campus before the meeting begins. These include "Current Advances in Avian Embryology and Incubation." August 13-14 and "North American Symposium on Poultry Welfare," August 12-13. The National Poultry Extension Workshop is planned for Monday morning, followed by the Informal Nutrition Conference in the afternoon. For registration, exhibiting, housing and symposium information contact PSA Headquarters at 309 W. Clark Street, Champaign, IL 61820. Phone 217-356-3182 or fax 217-398-4119.

**The 16th Annual Conference and Expo of the Association of Avian Veterinarians** - will be held August 28-September 2 at the Adam's Mark Hotel in Philadelphia, Pennsylvania. Over 1,000 registrants and 50 exhibiting companies are expected.

Four new labs will be offered this year. They are Imaging Techniques, Introduction to Avian Surgery, Emergency Management and Parasitology. For more information, please contact the AAV Conference Office, 2121 S. Oneida St., Ste 325, Denver, CO 80224. Phone 303-756-8380, Fax 303-759-8861.

**World Veterinary Congress** - will be held in Yokohama, Japan on September 3-9, 1995. There will be a Symposium session entitled: recent advances in research of bacterial, viral and parasitic infections in birds. For information, contact Prof. E.F. Kaleta, Institut für Geflügelkrankheiten, Justus-Liebig-Universität Giessen, Germany. Phone 49-641-702-4865, Fax 49-641-201548.

**The second annual conference of the Association of Reptiles and Amphibian Veterinarians** - will be held October 26-29 at the Radisson Hotel, Sacramento, California. Tentative schedule of events: Scientific program on the most current information which includes nutritional research, new "full spectrum" bulbs, basic veterinary care and husbandry, and advanced medicine and reproduction; Wet labs and workshops which include surgical techniques, necropsy, anesthesia and restraint and amphibian medicine; and a Sacramento zoo trip. For conference registration and information, contact: Wilbur Amand, PO Box 605, 1 Smithbridge Road, Chester Heights, PA 19017, FAX 215-387-2165.

**Symposium on the Diagnosis of Salmonella Infections** - will be held on Tuesday, October 31 at the time of the joint meeting of the American Association of Veterinary Laboratory Diagnosticians and the 99th Annual meeting of the U.S. Animal Health Association (USAHA) in Reno, Nevada.

**The 5th International Symposium on Marek's Disease** - will be held in East Lansing, Michigan on September 7-11, 1996. The meeting is co-hosted by the Avian Disease and Oncology Laboratory and Michigan State University. For more information, contact Dr. R. L. Witter, USDA/ARS/ADOL, 3606 E. Mt. Hope Rd., East Lansing, MI 48823.

**The 11th Congress of the World Veterinary Poultry Association** - will be held August 19-23, 1997 in Budapest, Hungary. For more information, contact Congress Secretariat, Congress Bureau MOTESZ, H-1443 Budapest, Hungary. Phone 361-111-6687, Fax 361-183-7918.



## AVAILABLE POSITIONS

There are two Poultry Health and Food Safety positions available at UC-Davis, School of Veterinary Medicine. These positions, *Assistant Cooperative Extension Specialist* (50%) and *Assistant Veterinarian* (50%) are in the area of poultry health and food safety and are split between Veterinary Medicine Extension and the Department of Population Health and Reproduction, School of Veterinary Medicine. One position will be located on the Davis campus and the other will be at the Veterinary Medicine teaching and Research Center (VMTRC) at Tulare, CA. Applicants are encouraged to submit a single application indicating their interest in both positions. Requires a D.V.M. or equivalent veterinary degree. For more information contact Dr. Arthur Bickford, c/o Shirley Monaco-Kabrich, Veterinary Medicine Extension, University of California, Davis, CA 95616-8736, (916) 752-6895; FAX (916) 752-7563.

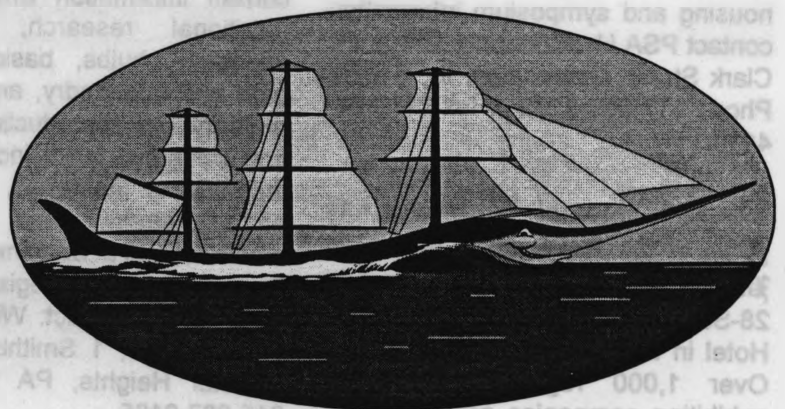
The University of California, Davis is an affirmative action/equal opportunity employer.

Solvay Animal Health, Inc., has an exciting *Scientist/Sr. Scientist* position in its Avian Product Development Group. Responsibilities will include managing 3-4 vaccine development projects in the areas of attenuated live, inactivated viral and/or bacterin combinations, developing challenge and evaluation systems for new and emerging Avian pathogens; working with Bio Production to help streamline production processes; providing marketing support to internal and external customers; maintaining strong relationship with Solvay/Duphar and NOH/Brussels; understanding of regulatory requirements for USDA, EU, Japan and other marketplaces plus knowledge of GMP's and GLP's. Requirements include a PhD and/or DVM with direct experience in the avian disease research area with 2-3 years post doctoral experience or several years experience in the biologics industry. Basic knowledge of the poultry health markets, tissue culture skills, understanding of vaccine formulations, understanding of regulatory processes and GLP's plus team building and computer skills necessary. If you have an interest in this position, please forward your resume in confidence to: Human Resources Administrator, Solvay Animal Health Inc., 1201 Northland Drive, Mendota Heights, MN 55120. Fax: (612) 681-3709

Equal Opportunity Employer

A position of *Research Veterinary Medical Officer*, GS-12/13, (\$42,641-\$50,705 per annum), USDA, Agricultural Research service (ARS), Southeast Poultry Research Laboratory, Athens, Georgia is available. The incumbent is responsible for developing new information and improving methods for diagnosis, control, and prevention of selected viral diseases of poultry. Special emphasis has been placed on avian influenza, which is a clinically variable disease caused by Type A influenza viruses that sporadically and unpredictably infects poultry. ARS invites Veterinarians with a Ph.D. in Microbiology or related Health Science and knowledge of Poultry Industry with emphasis on Poultry Health to apply. Knowledge of animal health and skill in molecular biological and virologic procedures and their application to solving disease problems are highly desirable traits. For information regarding the position requirements contact: Dr. David E. Swayne, Laboratory Director, USDA, ARS, Southeast Poultry Research Laboratory, Phone 706-546-3432. For information regarding the application requirements contact: Carol Gramlich, USDA, ARS, HRD, 6305 Ivy Lane, Room 341, Greenbelt, Maryland 20770-1435, Phone (301) 344-3377. Applicants MUST BE A U.S. CITIZEN. Applications must include announcement number: ARS-D5S-061 (S-5-003).

USDA is an Equal Employment Opportunity Employer





# AVAILABLE POSITIONS

— CONT.

The Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM), Maryland Campus, invites applications from qualified individuals for a 12-month tenure-track position in **Clinical Epidemiology**. Minimum qualifications: DVM or equivalent degree, and an advanced degree in epidemiology or preventive medicine. Candidates should show evidence of applied or basic research experience in epidemiologic aspects of disease or production problems in modern production systems in agriculture. Service responsibilities will include survey, problem solving and modelling of disease outbreaks and productivity problems in the poultry industry. Background in microbiology, immunology and environmental health is desirable to enable the candidate to integrate into a newly emerging, multidisciplinary approach to clinical investigation. Research will be independent of collaborative in nature and deal with basic and applied aspects of infectious diseases, disease ecology, diagnosis and management in broiler production.

Applications are also being accepted from qualified individuals for a 12-month tenure-track position in **Food Safety Epidemiology**. Minimum qualifications: DVM or equivalent degree, experience or advance training in public health, microbiology or poultry medicine. Candidates must be familiar with or have interest in expanding their field of expertise into poultry production and disease ecology in commercial poultry. Special consideration will be given to individuals with a desire to work in preharvest bacteriology of foodborne diseases, particularly the impact of management, environmental ecology and production practices on food safety. Individuals must be able to participate in a collaborative, newly expanding, multidisciplinary problem-solving team approach of basic and applied scientist addressing food safety, host and pathogen ecology, and environmental adequacy in disease pathogenesis.

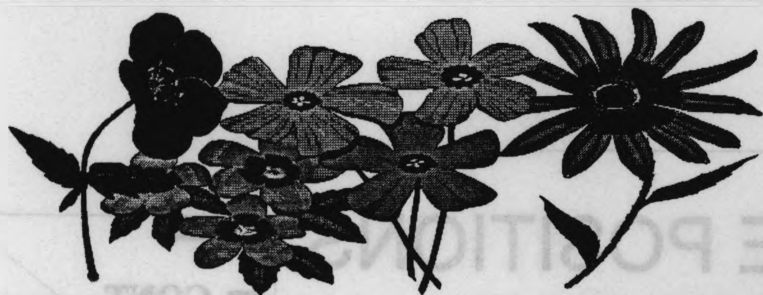
Teaching responsibilities for both positions will be limited to the didactic lectures and clinical rotations of professional veterinary students in the VMRCVM. Rank will be at the Assistant/Associate Professor level and salary will be commensurate with qualifications and experience. To apply, submit a letter of application, curriculum vitae, statement of career goals, and names of three references to Dr. Robert Dyer, Chair, Search Committee, VA-MD Regional College of Veterinary Medicine, University of Maryland, College Park, MD 20742-3711. Applications will be received until July 15, 1995 or until an acceptable candidate has been identified.

The University of Maryland is an Affirmative Action/Equal Opportunity employer.

The USDA, Agricultural Research Service, Avian Disease and Oncology Laboratory located at East Lansing, MI, is seeking a **Veterinary Medical Officer**, (GS 11/12/13), to lead research on the epidemiology and immunoprophylaxis of Marek's disease in chickens. This is a high priority research program which utilizes a team oriented, multidisciplinary approach and involves a strong interface with the poultry industry. The position requires a D.V.M. or an equivalent degree and at least 1 year of professional veterinary research experience. United States citizenship is required. A Ph.D. degree and/or equivalent professional veterinary research experience is required at grades 12/13. The position requires a working knowledge of pathology, virology and immunology and the skills to apply such knowledge to research and problem solving. Some knowledge of contemporary molecular biology and genetics is desirable. A working knowledge of management and disease control systems currently utilized in the poultry industry is also desirable but candidates without poultry experience will be considered. Planning and conducting long-range, integrated research programs, and to form productive collaborations with other scientists will be required of the selectee. The selectee will also need to interact with industry personnel to insure that planned research addresses practical problems. Interested persons should contact Dr. R.L. Witter, Avian Disease and Oncology Laboratory, 3606 East Mount Hope Road, East Lansing, MI 48823 (tel. 517-337-6828) for further information about the position. For information about application procedures, call 517-337-6825. Complete applications must be postmarked by June 12, 1995.

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### **Footedness and other Functional Assymetries in Parrots: Neuroanatomical Correlates and Behavioral Implications**

Peter J. Snyder, Ph.D.

The National Aviary in Pittsburgh  
and the Medical College of Pennsylvania & Hahneman University  
July 11th, 1995 at the National Aviary in Pittsburgh

*Parrots appear to be unique in their lateral preferences for limb use at the population level, directly comparable to handedness in humans. This talk will center on a review of the historical foundations of footedness studies in parrots, current research efforts by the National Aviary, and a wide array of questions that remain unanswered. Neuroanatomic and behavioral correlates will be considered, as will the functional roles from an evolutionary perspective, for the lateralization of the avian nervous system for the mediation of motor control, visual processing, sexual behavior, and memory functions. Tours of the aviary will begin at 6:30 and the talk will begin at 7:30. Please call (412) 323-7235 to register.*

*If you are a parrot owner, please help our research by contacting Dr. Peter Snyder, C/O National Aviary, Education Department, Allegheny Commons West, Pittsburgh, PA 15212 for a questionnaire.*

### **"THE BIOSCIENTIST AS AN EXPERT WITNESS"**

The personal experiences and conclusions about serving as an expert witness are recorded by Farrel R. Robinson, DVM, Ph.D. in his recently published manuscript. His informative insights are available as Supplement 1 of Volume 37 (1995) of *Veterinary and Human Toxicology*. The 40-page treatise may be purchased for \$15 (prepaid) from the Publication Office, Comparative Toxicology Laboratories, Kansas State University, Manhattan, K& 66506. Payment should be made to "Veterinary and Human Toxicology" and sent with the order.



### **REVISED GUIDELINES FOR POULTRY GENE NOMENCLATURE**

The Second International Workshop on Poultry Genome Mapping, meeting at the 1994 Conference of the International Society for Animal Genetics, and the Poultry Committee of the USDA, National Animal Genome Research Program have approved a new set of guidelines for poultry gene and allele symbols to replace the guidelines published by R.G. Somes Jr., *J. Heredity* 71:168-174, 1980. The new guidelines are a modification of the Human gene nomenclature guidelines (T.B. Shows et al., *Cytogenet. Cell Genet.* 46:11-28) and are designed to facilitate the naming of loci detected by molecular probes and electronic publication in on-line databases.

The complete draft of the guidelines can be accessed on World Wide Web. The Home Page Addresses are: <http://www.ri.bbsrc.ac.uk/chickmap/ChickMapHomePage.html> for the ChickMap Home Page, Roslin Institute, UK or <http://poultry.mph.msu.edu/> for the Department of Microbiology, Michigan State University. The Home Pages also provide access to CHICKGBASE, a chicken genome database, which will have a listing of old and new gene symbols. A World Wide Web browser, such as MOSAIC, is required for access. The guidelines can also be obtained by regular e-mail or by conventional mail from the address below.

The International Poultry Gene Nomenclature Committee consists of: James Bitgood, USA, David Burt, UK, Lyman B. Crittenden, USA, F. Abel Ponce de Leon, USA, Michele Tixier-Boichard, France.

Authors and journal editors are strongly encouraged to adopt the new nomenclature guidelines. Comments and suggestions are welcome.

Lyman B. Crittenden, USDA, Avian Disease and Oncology Laboratory, 3606 East Mount Hope Road, East Lansing, MI 48823 USA: e-mail: [crittend@pilot.msu.edu](mailto:crittend@pilot.msu.edu)

**SYMPOSIUM - DRUGS AND THERAPEUTICS FOR POULTRY***Allegheny 2***SUNDAY**

- 8:00 am Introduction of symposium and organizing committee - Dr. Dennis Wages
- 8:05 am Welcome - Dr. Oscar Fletcher
- 8:15 am Current activities of the Center for Veterinary Medicine - Dr. Steven Sundlof
- 9:15 am The animal health industry and the Center for Veterinary Medicine - Dr. Martin Terry
- 9:45 am The Center for Veterinary Medicine: Outside looking in - Dr. Dick McCapes
- 10:05 am BREAK
- 10:20 am Antibiotic use in the turkey industry - Dr. Peter Poss
- 10:40 am Antibiotic use in the laying hen industry - Dr. Kenton Kreager
- 11:00 am Antibiotic use in the broiler industry - Dr. Tom Holder
- 11:20 am Pharmacology of drug compounding - Dr. Jim Riviere
- 12:05 pm LUNCH
- 1:30 pm Antibiotic resistance patterns - Dr. Doug Waltman
- 2:10 pm Pharmacokinetics of the tetracyclines - Dr. Terhune
- 2:30 pm Pharmacokinetics of the fluoroquinolones - Dr. John Glisson
- 2:50 pm Pharmacokinetics of macrolides and aminoglycosides - Dr. Gordon Brumbaugh
- 3:10 pm Pharmacokinetics of the sulfonamides - Dr. Messersmith
- 3:30 pm Antibiotic sensitivity theory and interpretation - Dr. Doug Waltman
- 3:50 pm The future of antibiotic use in poultry - Dr. Greg Stewart
- 4:30 pm Adjournment - Dr. Dennis Wages



## POULTRY ORAL PROGRAM

Session 1 will be held in Allegheny 2

Session 2 will be held in Allegheny 3

<b>MONDAY</b>	<b>SESSION 1 TURKEYS</b>	<b>SESSION 2 CHICKENS</b>
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8:30 am	The effect of inappropriate incubation temperature on hatchability and leg problems in young poults. Gorica Rajcic-Spasojevic, Dave P. Boesch, Radivoje M. Spasojevic	withdrawn
8:45 am	Natural and experimental infection of turkeys with paramyxovirus-7. Y. Saif, Ram Moyhan, Dennis Senne, David Swayne	Antimicrobial resistance and epidemiology of <i>Escherichia coli</i> populations in broiler breeder chickens. Carol Ginns
9:00 am	Hemorrhagic enteritis virus induced immunomodulation in turkeys. M. Suresh, Jagdev M. Sharma	Antibiotic susceptibility of enteric spirochetes from chickens and rheas. Darrell Trampel, Joann M. Kinyon, Neil S. Jensen
9:15 am	A hemorrhagic enteritis (HE) - like syndrome observed in turkeys vaccinated with a commercially available, cell cultured HE vaccine. F. Pierson, Fidelis Hegngi, Geoff K. Saunders, Kenneth N. Opengart	The pathogenesis of a field isolate of <i>Listeria monocytogenes</i> 4B in chickens. Patricia Wakenell, Andre Ziegler
9:30 am	Hemorrhagic enteritis-associated egg production drop in breeder turkey hens. Nicholas Primm, Colin Baxter-Jones	We can not eliminate <i>E. colisepticaemia</i> , but we can minimize losses in poultry. Sami Lutfi
9:45 am	Egg-production drops in turkeys associated with western encephalitis virus. Hugo Medina, George Cooper, Peter Woolcock	Cellulitis - an emerging disease? Deborah Carr, David A. Halvorson, Daniel Shaw, Bret S. Rings, Don Roepke

10:00 am **BREAK****BREAK**

10:30 am Epidemiology of turkey viral hepatitis. H. Shivaprasad, G. Cooper, P.R. Woolcock, A. Bickford, M. McFarland, R. P. Chin

An observational prospective study on cellulitis comparing high to low incidence farms. Martine Boulianne, Marie-Andree Fredette, Serge Messier

10:45 am Viral hepatitis, enteritis and pancreatitis in turkey poults: electron microscopy and reproduction of disease. Peter Woolcock, H.L. Shivaprasad, Michael McFarland

A prospective study on abdominal scratches and cellulitis in broiler chickens. Abdelhamid Elfadil, Jean-Pierre Vaillancourt, Carlton Gyles

11:00 am Vitamin A influence on tracheal lesions and heat shock protein responses to *Bordetella avium* infection in poults. Frank Edens

Preliminary information on the pathogenicity in chickens of gram positive bacteria isolated from meat and bone meal, feed and the environment. Robert Norton, Dustan F. Clark, Robert F. Wideman, John K. Skeeles

11:15 am Effective sanitation of turkey drinking water. David Rives

Diagnosis of eastern equine encephalitis by immunohistochemistry and virus isolation in two flocks of Michigan ringneck pheasants. Susan Williams, Richard M. Fulton, John S. Patterson, Willie M. Reed

11:30 am Cholera-like disease in commercial and breeder turkeys of unclear etiology. Kenneth Opengart, F. William Pierson, George Blackwell. Gabriel Meza

Pathological lesions associated with characterized *P. multocida* isolates from raptors. Teresa Morishita, Dale L. Brooks, Dwight C. Hirsh, Linda J. Lowenstine



11:45 am	A gram negative bacteria associated with unilateral pneumonia and high mortality in California turkey breeder flocks. Morella DeRosa, Robert Droual, Richard P. Chin, Richard L. Walker	Microbicidal activity of avian heterophil granule antimicrobial peptides. Barry Harmon, Ellen W. Evans, Gwen Beach, Mark W. Jackwood, Kristi M. Moore, John R. Glisson
NOON-2:00	<b>AWARDS LUNCHEON</b> Westmoreland Room	<b>AWARDS LUNCHEON</b> Westmoreland Room
	<b>TURKEYS</b>	<b>CHICKENS-Bacterial diseases</b>
2:00 pm	Gangrenous dermatitis in commercial toms. Timothy Cummings, Donald Roepke	Mice populations and their association with <i>Salmonella enteritidis</i> contamination on chicken layer farms. David Henzler, William M. Sischo, II. M. Opitz, Scott H. Hurd, Wayne D. Schlosser
2:15 pm	Practical field studies on turkey newcastle vaccination. Steven Clark	<i>Salmonella enteritidis</i> colonization of developing versus freshly laid chicken eggs. Linda Keller
2:30 pm	Tibial infarcts in turkeys. Ahmed Mutalib, William R. Maslan	Intestinal colonization and organ invasion in chicks experimentally infected with <i>Salmonella enteritidis</i> phage type 4 and other phage types isolated from poultry in the U.S. Richard Gast
2:45 pm	The vertical transmission of <i>Mycoplasma iowae</i> in commercial turkeys resulting in chondrodystrophy. R. Shannon Jennings, H. John Barnes	Colonization and invasion of chicken lymphoid cells by virulent and avirulent <i>S. typhimurium</i> strains. Jubril Hassan, Roy Curtiss, III
3:00 pm	Chortetracycline treatment for <i>Mycoplasma synoviae</i> in market toms. Brigetta Allen	A definitive analysis of the media used to isolate <i>Salmonella</i> from environmental sources. W. Waltman, Alice M. hom, Christine Prikle, Crissie Boyd

3:15 pm

## BREAK

## BREAK

3:45 pm

Pathology of experimental aspergillosis in turkeys. Robert Kunkle, Richard B. Rimler

Detection and quantitation of infectious bursal disease virus sequency by competitive polymerase chain reaction. C.C. Wu, T. Lin, A. Akin

4:00 pm

Etiology of early respiratory syndrome (swollen head syndrome) in turkeys in Minnesota. Radivoje Spasojevic, John A Newman, Daniel P. Shaw

Pathogenic *M. gallisepticum* infection in a flock of broiler breeders. Rich Sharpton, Jr., Laddie Munger, David Ley

4:15 pm

Acute enteritis in turkey poults: effects of 6 in vitro decontamination techniques on subsequent pathogenicity in poults. Tom Brown, Don R. Howell, Jr.

Mycoplasma survey in North Carolina commercial egg layers. Laddie Munger, Kenneth G. Keenum

4:30 pm

Use of sentinels to detect infectious diseases characterized by stunting and mortality in commercial turkey flocks. H. John Barnes, James S. Guy, David V. Fernandez

Effect of polyvalent inactivated vaccine type on the incidence of false positive rapid serum plate test reactions for MG & MS. Hector Cervantes

4:45 pm

Diagnosis and prevention of chicken infectious anemia in an integrated broiler operation. Richard Chin, Chinta M. Larnichhane, H. L. Shivaprasad

Isolation of *Mycoplasma gallisepticum* from an outbreak of conjunctivitis in house finches. David Ley, J. Edward Berkhoff, Judith M. McLaren

5:00 pm

A case-control study of infectious laryngotracheitis in broiler chickens in the Niagara Peninsula. Jean-Pierre Vaillancourt, S. Wayne Martin, David Alves, Robert Hampson, Marina Brash, Elizabeth Black

Evaluation of pathogenicity of *Mycoplasma gallisepticum* isolated from a house finch in chickens and turkeys. Patrick Pilkington, Kathy S. Turner, Tom P. Brown, Stan Kleven



5:15 pm	Laryngotracheitis (LT) lung lesions in roasters and broilers associated with dual LT-infectious bronchitis (IB) viral Infections. Conrad Pope, Mariano Salem, Edwin M. Odor, Marcella V. Murphy	<i>Mycoplasma gallisepticum</i> diagnosis using nucleic acid sequence data from putative cytoadhesin genes. John Dohns, Calvin L. KEeler, Linda L. Hnatow, Bruce F. Kingham
<b>TUESDAY</b>	<b>CHICKENS - Viral Diseases</b>	<b>CHICKENS - Mycoplasma &amp; Immunity</b>
8:30 am	Clinical and laboratory observations regarding the diagnosis of infectious laryngotracheitis in broilers. Hector Cervantes, James S Guy	Virulence and tissue tropism of <i>Mycoplasma synoviae</i> in broiler chickens. Susan Lockaby, Frederic J. Hoerr, Lloyd H. Lauerman, Stan Kleven
8:45 am	A naturally occurring neuropathy of chickens not associated with Marek's disease. Richard Witter, Larry Bacon	Comparison between polymerase chain reaction and standard diagnostic procedures for avian mycoplasmas. Kathy Turner, Stan Kleven
9:00 am	The use of CVI988-CR6 vaccine in combination with HVT and SB1 to reduce Marek's condemnations in heavy broilers. G. Thomas Holder	Efficacy of <i>Mycoplasma gallisepticum</i> and laryngotracheitis vaccines when given simultaneously in 6 week old leghorns. Rick Phillips, John Glisson
9:15 am	Viral proventriculitis in chickens. Mark Goodwin, Kenneth Latimer, Frank D. Niagro, E. Craig Player	withdrawn
9:30 am	Research update: pathogenicity studies of arenavirus-like particles from chickens. James Davis, Anthony E. Castro, Juan C. De La Torre, Brett M. Connolly, H. John Barnes	withdrawn

- 9:45 am The differences between articular gout and visceral gout in chickens (birds). H. Shivaprasad
- Characterization of chicken monoclonal antibody that blocks the sporozoite invasion of host lymphocytes. Hyun Lillehoj, Kazumi Sasai
- 10:00 am **AAAP BUSINESS MEETING** **AAAP BUSINESS MEETING**
- CHICKENS** **Immunity**
- 1:30 pm Vitamin D3 deficiency in laying hens. David Halvorson, Daniel Shaw
- Maternal immunity to *Pasteurella anatipestifer* infection in ducks and its effect on active immunization. Tirath Sandhu
- 1:45 pm Pathology of tendon lesions identified in meat-type chickens during processing. Frederic Hoerr
- Variation in lymphoblastogenesis, susceptibility to marble spleen disease virus and humoral response of ring-necked pheasant strains. Scott Fitzgerald, Lori S. Kunze, Amy Richard, Willie M. Reed
- 2:00 pm withdrawn
- Immunomodulating effects of avian recombinant cytokines. Kemal Karaca, Barbara Winslow, Mark Cochran, Sudhir Reddy, Jagdev Sharma
- 2:15 pm Hatchery influence on tibial torsal rotation in roaster breed chickens. Mac Terzich
- Immunization of chickens with gene (DNA) vaccines. Calvin Keeler, Jr., David J. Poulsen, Dean R. Thureen
- 2:30 pm Effect of hypoxic incubation on pulmonary vascular development in chickens from fast and slow-growing lines using morphometric analysis. Joan Jeffrey, H. Wayne Sampson, John D. Williams. Luis A. Martinez, Ted W. Odom
- In vitro expression of the hexon protein of hemorrhagic enteritis virus in a fowlpox virus vector. Carol Cardona, Willie Reed, Keyvan Nazerian



2:45 pm withdrawn

Analysis of baculovirus-expressed infectious bursal disease viral proteins. Jody Dybing, Daral Jackwood

3:00 pm Blood volume of male line and female line meat type chickens in respect to ascites syndrome. Seyed Mirsalimi, Mohamad Zendeh Rooh Kerman, Mohamed Moafi

Vaccination of SPF leghorn chickens with a plasmid vector containing the S1 glycoprotein gene of infectious bronchitis virus. Mark Jackwood, Deborah A. Hilt, Kristi M. Moore

3:15 pm

**BREAK**

**BREAK**

**CHICKENS & OTHER**

**Immunity**

3:45 pm Relationship of intestinal "necrotic cellular debris" of broilers and possible etiological factors, e.g. biogenic amines. Robert Keirs, William R. Maslin

Protection against Newcastle and Marek's disease by in ovo administration of an HVT based recombinant vaccine. Sudhir Reddy, Nandakumar D. Reddy, Stephanie Cook, Martha Wild, Roger Schwartz, Jagdev Sharma

4:00 pm Epidemiology of gangliosidiosis in emus. Alex Bermudez, Gayle C. Johnson, Kunihiko Suzuki

Genetically altered infectious laryngotracheitis virus vaccine. Deoki Tripathy, William M. Schnitzlein, Roger Winans, Steven Ellsworth

4:15 pm Studies on a transmissible disease of the bursa of fabricius of ducks. Joan Smyth, M. Stewart McNulty

Pathogenicity of three variant strains of infectious bronchitis virus isolated from commercial layers and broilers. Eileen Yonzon, Mark W. Jackwood, Tom P. Brown

4:30 pm Comparison between HPLC and a fully quantitative ELISA for rapid field detection of the anticoccidial semduramicin in feed. Fernando Lozano, Tom Garner

Analysis of the S1 gene of monoclonal antibody neutralization-resistant mutants of infectious bronchitis virus. Kristi Moore, Mark W. Jackwood

- 4:45 pm Evaluation of variability among two commercial poultry ELISA systems. Daniel Lindsey, Patricia D. Andrews, David L. Kreider, Ronald W. McNew, John K. Skeeles
- 5:00 pm Role of macrophages in virus-induced immunosuppression in chickens. Jagdev Sharma, Terence Pertile, Kemal Karaca, I.J. Kim
- 5:15 pm Detection of function-association molecules on chicken NK cells and their role in target cell lysis. Denise Bounous, Donald E. Evan, Randolph L. Brooks, Mark A. Goodwin
- 5:15 pm Evaluation of a commercial quail pox vaccine in the control of "variant" fowl pox virus infections. Willie Reed, Olufemi O. Fatunmbi
- 5:00 pm Evaluation of multiple vaccination strategies in layer-type chickens by infectious laryngotracheitis virus challenge. Richard Fulton, Donna L. Schrader, Willie M. Reed
- 5:15 pm Development of immunity to fowl cholera in turkeys. LeRoy Olson
- Wednesday**      **Avian Tumor Viruses**      **Viral Diseases**
- 8:30 am Reed Rumsey Award Winner
- 8:45 am Identification of a small subunit of ribonucleotide reductase gene of Marek's disease virus essential for replication. Lucy Lee
- 8:30 am Reed Rumsey Winner
- 8:45 am Characterization of H5N2 avian influenza viruses isolated from chickens in Mexico. Dennis Senne, Robert G. Webster, Eduardo Rivera Cruz, Brundaban Panigrahy
- 9:00 am Effect of insertion and deletion mutations on oncogenesis and horizontal spread of the RBIB strain of Marek's disease virus. Robin Morgan, Mark Parcells, Amy S. Anderson, Jennifer Kent
- 9:00 am Virologic and pathobiologic aspects of experimental infections with H5N2 Mexican avian influenza viruses of low and high pathogenicity. D. Swayne, M. Perdue, M. Brugh, M. Gay, A. Toscano
- 9:15 am The role of open reading frame L1 of Marek's disease virus in latency and transformation. Karel Schat, Guus Koch, Bart J. L. Hooft van Iddekinge
- 9:15 am Pathogenesis of ratite-origin influenza virus infections in chickens. Richard Slemons, William L. Fischbach, Sally A. Goclan

9:30 am	Class I, MHC-restricted, cytotoxic T lymphocyte response to avian leukosis virus using target cells expressing MHC Class I CDNA using an ALV vector. Eileen Thacker, Janet E. Fulton, Henry D. Hunt	Is the pigeon susceptible to avian influenza? Brundaban Panigrahy, Dennis A. Senne, Janice C. Pederson, Amy L. Shafer, James E. Pearson
9:45 am	Detection and characterization of lymphokines and protective antigens in the supernatant of JMV-1 lymphoblastoid cell-line. Martin Sevoian, Amrut Bhogle	Evaluation of pigeon Newcastle disease virus isolates. Daniel King
10:00 am	<b>BREAK</b>	<b>BREAK</b>
	<b>Avian tumor viruses IBD, POX REO</b>	<b>Viral diseases CAV and DVE</b>
10:30 am	Avian leukosis virus testing of SPF flocks. Stephen Muir	Detection of chicken infectious anemia virus antibodies utilizing a competitive ELISA. Phyllis Tyrrell, Valerie L. Leathers
10:45 am	Comparative evaluation of three methods for detection of reticuloendotheliosis virus as a contaminant in a live-virus vaccine of poultry. Aly fadly, Richard L. Witter	Evaluation of incidence of chicken anemia virus (CAV) in thymic tissues by MTT assay and molecular biology techniques. Jayanti Dash, John Kirk Skeeles, Lisa Newberry
11:00 am	Detection of infectious bursal disease virus using PCR-RFLP. Holly Sellers, Pedro Villegas, Mark W. Jackwood	Characterization of chicken anemia virus infection in SPF chickens using DNA based PCR test. Mazhar Khan, Tom Frederickson, Amin A. Fadl, Ted Girshick
11:15 am	Polymerase chain reaction (PCR) for diagnosis of fowlpox. Deoki Tripathy	Studies on the pathogenesis of CAV infection in 3-week-old birds and on the interaction of CAV with adenoviruses and reoviruses. Joan Smyth, Francis McNeilly, Deborah Moffitt, M. Stewart McNulty



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|----------|--|---|
| 11:30 am | An agar gel enzyme assay (AGEA) for detection of antibodies to poxvirus in chicken and turkey sera. Olufemi Fatunmbi, Willie Reed    | Results of vaccination of breeders with a live attenuated "chicken anemia virus" vaccine. Aristoteles Malo, Carla Schrier, Wouter Steenhuizen, Eric Jagt              |
| 11:45 am | Assessment of reovirus infection in SPF chickens using a cDNA reovirus probe. Tom Fredericksen, Ted Girshick, Amin Fadl, Mahzer Khan | Evaluation of inactivated duck herpesvirus vaccine to induce protection against challenge with virulent domestic and wild duck virus enteritis isolates. Samia Shawky |

### POULTRY POSTER PROGRAM

#### Allegheny 1

1. Richard Witter and David Shapiro: The early days of AAAP and Avian Medicine.
2. Jean Sander: An interactive computer program for teaching poultry diseases.
3. Jeanne Brugere-Picoux, Martine Boulianne, Jean-Pierre Vaillancourt, Amer Silim: Avian epidemiological, clinical, microbiological and pathological post-graduate training: a cooperative international french spoken approach.
4. Richard Julian: Salt (sodium) poisoning in chickens.
5. James Andreasen, Jr. Claire B. Andreasen, Anita E. Sonn, Donald C. Robeson: Effect of hemolysis on poultry serum chemistries.
6. Gloria Avellaneda, Pedro Villegas: Serological survey of chicken anemia virus in Columbia.
7. Robert Droual, Richard Chin, Janet Moore, Scott Fitzgerald: Necrotic enteritis in a turkey flock associated with hemorrhagic enteritis.
8. Marie-Andree Fredette, Martine Boulianne, Serge Messier: Cellulitis in broiler chicken: a two year retrospective study.
9. John McCarty, Tom P. Brown, John R. Glisson: Broiler bursa histopathological evaluation: a comparison of health vs.vaccination programs.
10. Seyed Mirsalimi, Sadegh Rahbari, Mohamad Moafi: The effect of mint plant on prevention of coccidiosis.

11. Terence Pertile, Kemal Karaca, Jagdev M. Sharma, Mary M. Walser: Nitric oxide prevents in vitro reovirus replication.
12. Gireesh Rajashekara, Kakambi V. Nagaraja, Samuel D. Charles, Sally L. Noll, David A. Halvorson: Role of excessive levels of iron in water on *E. coli* infection in turkey poults.
13. Jean Sander, Nick Dale, Lloyd Bennett, Tiande Cal: Biogenic amines in recycled poultry carcasses.
14. Nathaniel Tablante, Jean-Pierre Vaillancourt, S. Wayne Martin, Mohamed Shouhri: Temporo-spatial distribution of cannibalism in a 20,000 egg-layer flock.
15. Eric Willingham, Jean E. Sander, Stephan G. Thayer, Jeanna L. Wilson: Investigation of bacterial resistance to hatchery disinfectants and the effect of yolk sac contamination on chick quality.
16. Tom Brown, Kathy S. Turner, Don R. Howell, Jr.: Detection of *Mycoplasma gallisepticum* by polymerase chain reaction in formalin-fixed tracheal swabs and histologic sections.
17. Llyod Lauerman, Jo Closser, Sherry L. Thomassy: Identification of avian mycoplasmas using restriction fragment length polymorphism analysis.
18. Valerie Leathers, Kathy Esty, Phyllis Tyrrell: Detection of antibodies against *Mycoplasma gallisepticum*, *Mycoplasma synoviae* and *Mycoplasma meleagridis* in turkey sera with ELISA.
19. Judith McLaren, David H. Ley, J. Edward Berkhoff, Alan P. Avakian: Immune response in chickens to *Mycoplasma gallisepticum* membrane proteins incorporated into immunostimulating complexes.
20. Pratik Singh, John A. Newman: Characterization of a 41-kilodalton immunogenic protein of *Mycoplasma iowae*.
21. Phyllis Tyrrell: Detection of *Mycoplasma iowae* and *Mycoplasma meleagridis* utilizing PCR and synthetic DNA probes.
22. Tom Brown, John A. Smith, Don R. Howell: Spiking mortality in broilers: effects of vaccination of broiler chicks.
23. Manuel Colemanares, Manuel Trivino, Ruben Bolivar: Cryptosporidiosis in stunting chickens.
24. James Guy, John Barnes, Michele Hawk: Interaction of enteric viruses and cryptosporidium Spp. in the pathogenesis.

25. Thomas Bryan, Richard M. Fulton, Thomas A. Hooper, Tsang L. Lin, Robert E. Porter, Mary M. Woodruff, Ching C. Wu: Diagnostic experiences with turkey coronaviral enteritis.
26. Tom Brown, William H. Emory, Don Howell, Jr.: Acute enteritis in turkey poults: chickens and cattle as subclinical carriers.
27. Margo Holland, Robert F. Silva: Identification and characterization of HVT latency-associated transcripts.
28. Ping Wu, Dexin Sui, Lucy Lee: Characterizations of Marek's disease virus glycoprotein gp62.
29. Lisa Nolan, David L. Berryhill, Dawn M. Doetkott, Catherine W. Giddings: Plasmid-mediated complement resistance in avian *Escherichia coli*.
30. Alberto Back, Kakambi V. Nagaraja, Iftikhar Hassain, Vaithianathan Sivanandan, David A. Halvorson: Influence of live Newcastle disease vaccine and HE splenic vaccine on *E. coli* pathogenesis.
31. Masakazu Matsumoto, Donald D. Chen: Qualitative and quantitative differences in LPS-related components produced by various strains of *Pasteurella multocida*.
32. Andrea Miles, H. John Barnes: Factors affecting *E. coli* clearance in turkeys.
33. A. Singh Dhillon: Colibacillosis in commercial caged layers.
34. Francene van Sambeek, Birch L. McMurray, R. Kenny page: An air sampling study on the effects of downtime on decreasing bacterial loads in broiler houses.
35. Jeffrey Kula, Carey L. Quarles, Linda M. Pote: Efficacy of Aviax (semduramicin sodium) in combination with virginiamycin and roxarsone.
36. J. Lloyd Spencer, James R. Chambers, H. Wayne Modler, Edward R. Farnworth: Competitive exclusion of Salmonella in chickens fed vermicompost and complex carbohydrates.
37. Akbar Ali, Donald Lee Reynolds: Propagation of group D rotaviruses in-vitro: a liposome mediated approach.
38. Masoudreza Shapouri, Marieme Kane, Max Arella, Amer Silim: Cloning, sequencing and expression of S1 gene of avian reovirus S1133 strain.
39. Amer Silim, Masoudreza S. Shapouri: Replication of avian reovirus in turkey macrophage cultures.



40. Vaithianathan Sivanandan, Chandrathilaka K. Perera, Sagar M. Goyal, Kakambi V. Nagaraja, David A. Halvorson: Type specific dot blot ELISA to detect avian influenza virus.
41. Lisa Newberry, John K. Skeeles, Ronald W. McNew: Serum chemistry profiles of turkeys following acute virulent hemorrhagic enteritis virus challenge.
42. James Andreasen, Jr., Ferhat Abbas: Diagnostic techniques for infectious laryngotracheitis.
43. Chinta Lamichane: ELISA for the detection of antibody to chicken anemia virus.
44. Simon Shane, Elizabeth J. Wilson: Defining buying decisions for poultry vaccines.
45. Alan Avakian: Newcastle disease virus-antiserum complex vaccines administered to SPF and broiler chickens.
46. Cheong-up Choi., Kakambi V. Nagaraja, Gireesh Rajashekara: Transfection of group II avian adenovirus DNA into cell culture using liposome.
47. Eid Haddad, Lisa A. Newberry, Craig E. Whitfill, Alan P. Avakian, Catherine A. Ricks, John K. Skeeles: Safety and efficacy of a novel avian tenosynovitis vaccine prepared by complexing the virus with reovirus antisera and administered in ovo to 18-day-old SPF embryos.
48. Kakambi Nagaraja, Iftikhar Hussain, Cheong-up Choi, Vaithaianathan Sivanandan, David A. Halvorson: Maternal antibody and its interference with efficacy of splenic cell culture haemorrhagic enteritis vaccine.
49. Withdrew
50. Robert Porter, Terry L. Bowersock, Kinam Park: Use of biodegradable microspheres for the oral immunization of chickens.
51. Martin Sevoian, Kesuo Fan, Denis Gonzales: The production, characterization, and adaptation of a naturally-occurring biodegradable polymer as a controlled biological delivery system.
52. Daral Jackwood, Renee J. Jackwood: Development and use of an ELISA for the identification of antibodies to variant strains of infectious bursal disease viruses.
53. Changed to oral presentation
54. Tsang Long Lin, Ching Ching Wu, Robert W. Keirs: Infectious bursal disease virus in non-vaccinated broilers.

55. Mark Goodwin, Kenneth S. Latimer, E. Craig Player, Frank D. Niagro, Raymond P. Campagnoli: Polyomavirus inclusions in chicken cecal epithelium.

56. Mark Goodwin: Esophageal and proventricular cryptosporidiosis in a chicken.

**AMERICAN ASSOCIATION OF AVIAN PATHOLOGISTS  
COMMITTEE MEETINGS, VISTA HOTEL, PITTSBURGH, PA**

**FRIDAY, JULY 7**

8:00 AM-5:00 PM

Board of Director's Meeting  
*Fayette Room*

**SATURDAY, JULY 8**

8:00 AM-5:00 PM

Board of Director's Meeting  
*Fayette Room*

8:00 AM-10:00 AM

Drugs and Therapeutics Committee  
*Westmoreland E Room*

9:00 AM-5:00 PM

Diseases of Poultry Editorial Committee  
*Crawford W Room*

10:00 AM-11:00 AM

USAHA Liaison Committee  
*Washington Room*

2:00 PM-4:00 PM

Biologics Committee  
*Westmoreland E Room*

5:00 PM-6:00 PM

Veterinary Licensing Committee  
*Crawford W Room*

5:30 PM-6:30 PM

Audit Committee  
*Washington Room*

5:30 PM-7:30 PM

Respiratory Diseases Committee  
*Westmoreland E Room*

5:30 PM-8:00 PM

Enteric Diseases Committee  
*Butler W Room*

**SUNDAY, JULY 9**

7:30 AM-9:00 AM

Memorial Fund Committee  
*Butler W Room*

**MONDAY, JULY 10**

7:00 AM-8:30 AM

Education Committee  
*Butler E Room*

**MONDAY, JULY 10 Cont.**

7:30 AM-8:30 AM

Biotechnology Committee

8:00 AM-9:00 AM

*Armstrong Room*

8:00 AM-9:00 AM

Georgia MAM Alumni

8:00 AM-9:30 AM

*Cambria W Room*

8:00 AM-9:30 AM

Avian Disease Editorial Board

*Somerset E Room*

History of Avian Medicine Committee

*Butler W Room***NOON-2:00 PM**

AVMA Liaison Committee

*Somerset E Room*

5:30 PM-6:30 PM

**AAAP Awards Luncheon***Westmoreland*

5:30 PM-6:30 PM

Reference Antisera Committee

*Washington Room*

5:30 PM-7:00 PM

Tumor Virus Committee

*Butler E Room*

5:45 PM-6:45 PM

Diseases of Pet Birds Committee

*Armstrong Room*

6:00 PM-7:00 PM

Disease Reporting and Nomenclature Com

*Butler W Room*

Toxic, Infectious &amp; Misc Dis Committee

*Somerset Room***TUESDAY, JULY 11**

7:00 AM-8:30 AM

Foodsafety &amp; Dis of Public Hlth Signif Com

*Westmoreland C, W Room*

7:30 AM-8:30 AM

Preceptorship Committee

*Somerset E Room*

7:30 AM-8:30 AM

Epidemiology Committee

*Armstrong Room*

7:30 AM-8:30 AM

Computer &amp; Electronic Inform. Interest Gr.

*Cambria W*

7:30 AM-9:00 AM

Diseases of Wild Birds Committee

*Somerset W Room***WEDNESDAY, JULY 12**

7:00 AM-11:00 AM

Board of Director's Meeting

*Fayette Room*