Robert J. Eckroade, Secretary-Treasurer of A.A.A.P.
University of Pennsylvania, New Bolton Center
Kennett Square, PA 19348-1692
(215) 444-4282

AAAP WINTER NEWSLETTER **FEBRUARY 17, 1992**

ENCLOSURES FOR YOUR REVIEW

MESSAGE FROM THE PRESIDENT

Can you believe that half of our "AAAP Year" is already gone? I don't know if there is just more to do, I've become more inefficient, or time has speeded up. Regardless of the cause of the time disappearance perception, the calendar reminds me that it definitely has passed.

At this time it is appropriate to review where we are and what it is we can contribute to AAAP. The program for the 1992 meeting is well along and it looks like it will be another one packed with opportunities to learn from our colleagues. The symposium on biotechnology will help all of us better understand this rapidly developing area and how biotechnology can aid in the control and prevention of poultry diseases. The fledgling American College of Poultry Veterinarians continues to develop. An unexpected response has led to many of our members being identified as board eligible. They will be the first individuals to take the board examinations to become board certified as poultry veterinarians. The AAAP Foundation is soliciting contributions and it will be exciting to learn in Boston how successful this effort has been. The Association of Avian Technical Service Veterinarians has been formed to meet the special needs of this group within the AAAP. Committee activity has been ongoing. To cite a few specific examples, the committee charged with preparing the Poultry Disease Prevention Manual is making good progress toward the completion of this goal and, similarly, the education committee is working to finalize the AAAP Careers brochure and add new study sets to our educational offerings.

Opportunities continue to present themselves--often obvious as an opportunity, but sometimes cleverly disguised as a problem. The AAAP is a volunteer organization. One obvious opportunity is to contribute to the AAAP. A contribution to AAAP is, after all, a contribution to yourself because you are the AAAP. Give to yourself! Who could argue against that? Contributions may be in the form of a monetary contribution to the Foundation or a contribution of your time, energy and skills to the various projects in committees or the AAAP. How about contacting potential new members or preparing or contributing to a study set or other educational project? Nominations for awards are due soon--how about preparing a nomination for someone in AAAP that has special meaning to you? Assistance with preceptors is always a need. Yes, the year is half gone, but only half gone. If you have not already done so, determine now what your contribution to AAAP will be this year. There is still time to get it done.

1992 AVMA-AAAP MEETING IN BOSTON

The program for the IMPROVED DIAGNOSIS OF AVIAN DISEASES USING MOLECULAR BIOLOGY Symposium and the preliminary AVMA-Avian Medicine Scientific program is enclosed. The scientific program begins with the Symposium and the poster paper session on Sunday, August 2 and the platform papers on Monday, August 3 and goes through Wednesday noon. please note that dual sessions will be held again this year. All of these sessions will be held in the **BOSTON MARRIOTT HOTEL - COPLEY PLACE** not the convention center where the exhibits will be located.

Our **AWARDS LUNCHEON** will be held on Monday, August 3 from 12:30-2 in the Marriott Hotel adjacent to the meeting rooms. Luncheon tickets must be purchased from this office prior to the meeting. A special mailing will be done in May to remind you.

The AAAP Board of Directors will meet all day Friday, July 31 and Saturday, August 1 and again Wednesday morning. Any member having business to bring to the Board is welcome. Those members having special issues needing more time might consider contacting the Business Office by April 1, 1992 to schedule the issue on the agenda.

HOTEL RESERVATIONS IN BOSTON

Since the Avian Medicine program will be held in the Marriott Hotel it is the best place to stay, if money is no object! Now the bad news is, unlike last year, no economy hotels we can recommend are located nearby. Enclosed is the information available on the AVMA hotels. One additional possibility is the availability of 1-2 bedroom apartments, 1 1/2 - 4 1/2 blocks away from the Marriott. These require a weekly rental but may be cheaper at $650.00 - $750.00 per week. For more information on apartment rental contact AAA Corporate Rentals, 331 Beacon St, Boston, MA 02116, 800-487-5020, FAX 617-536-2440. In any case make your reservations NOW, you can always cancel later.

AVMA MEETING RESERVATION FORMS

AVMA meeting reservation forms are automatically mailed to all AVMA members in good standing and program participants. **ASSOCIATE MEMBERS OF AAAP AND NON AVMA MEMBERS SHOULD WRITE TO MR. SCHLAX TO OBTAIN REGISTRATION FORMS.**

Mr. Robert Schlax
Convention Manager
AVMA
1931 North Meacham Road
Suite 100
Schaumburg, IL 60173

AWARDS NOMINATIONS

Just another reminder to submit nominations for AAAP awards. Nominations are due by April 1, 1992.

OBITUARIES

Dr. John W. Dick passed away December 17, 1991. Dr. Dick had been with the faculty at Clemson University since 1972.

CONDOLENCES

We extend our sincere sympathy and understanding to Dr. Ben Pomeroy, whose wife Margaret passed away Friday, December 13, 1991.

A NOTE FROM ROSY

Just in case you are wondering why you received two programs complete with registration material for this years Western Poultry Disease Conference, we really wanted everyone to come to the meeting.

FOR YOUR INFORMATION

Dr. B.C. Easterday will serve on the U.S. Department of Agriculture's Advisory Committee on Foreign Animal and Poultry Diseases. This committee acts in an advisory capacity to the Secretary of Agriculture.

Craig Shergold is seven years old and suffering from terminal cancer. It is one of his wishes to be included in the Guiness Book of Records as having the largest number of business cards ever collected by one person. You may wish to send one of your business cards to Master Craig Shergold, 36 Shelby Road, Carshalton, London SM1 1LD ENGLAND.

TECHNICAL SERVICE VETERINARIANS FORM ASSOCIATION

About 20 veterinarians met in October to establish the association of Technical Service Veterinarians. This association is for veterinarians who work for allied industry and provide professional services to the poultry industry. The purposes of the group are to coordinate the efforts of technical service veterinarians, to foster professionalism, to provide scientific and educational services and to promote the role of the veterinarian in the poultry industry. Inquiries can be sent to Dr. Michael Morris, 111 Crestwood Court, Watkinsville, GA 30677. Phone (404) 769-9755.

ARCHIVES

Archives of the AAAP have been established at the Parks Library of Iowa State University (ISU). ISU's Department of Special Collections will organize and manage the archives. The initial contribution will be historical material which has been maintained by the AAAP Secretary-Treasurer; additional contributions from individuals will be appreciated. Contributions considered appropriate include: correspondence, meeting minutes, bylaws, publications (when authored by the organization), information on conferences and symposia, and photographs (when individuals are identified). Contributions may be sent directly to Manuscripts Curator, Department of Special Collections, 403 Parks Library, Iowaindustry. State University, Ames, IA 50011. The AAAP appreciates the efforts of Dr. Lee Grumbles and other History of Avian Medicine Committee members in establishing these archives.

RETIRED MEMBERS

Just a reminder that AAAP offers a status of retired membership for members and associate members who have retired from major gainful employment. Retired members are not required to pay dues but if they wish to continue to receive AVIAN DISEASES must pay $37.00 for the cost of publishing and mailing. Please request an application from the business office.

AVMA CONGRESSIONAL FELLOWSHIP WANTS YOU

AVMA members are invited to apply for AVMA Congressional Fellowships in Washington, DC. These full-time 1-year congressional staff positions will begin on approximately September 1, 1992. Applicants should demonstrate special

competence in an area of veterinary medicine, possess a broad professional background and exhibit strong interest in applying scientific knowledge toward the solution of societal problems. Candidates must be articulate, literate, adaptable and capable of working on a wide range of public policy problems. 1992-93 AVMA Congressional Fellows will receive a stipend of $35,000. Applicants should submit a letter of intent, a curriculum vitae, 2 letters of reference from professional colleagues and a personal statement that describes the candidate's qualifications, commitment to veterinary medicine and why the fellowship is desired. Personal statements may not exceed 750 words. Applicants must be AVMA members. Send applications to AVMA Congressional Fellowship, AVMA GRD, 1023 15th Street, NW, Washington, DC 20005. Additional information may be obtained from GRD staff at (800) 321-1473.

AVIAN BIOTECHNOLOGY FORUM

Presented by the Biotechnology Committee - AAAP No. 2-10\17\91

NEWS FROM THE COMMITTEE:

BIOTECHNOLOGY SYMPOSIUM - 1992.

The Biotech Committee had its' annual meeting at the Seattle AVMA conference and several items were discussed. Of particular interest is the upcoming Symposium on Improved Diagnosis of Avian Diseases Using Molecular Techniques in Boston in 1992. You will certainly hear more about this in the coming months and we are hopeful for a very successful and informative enterprise.

DIRECTORY.

Changes in the AVMA directory to include a legend to identify areas of biotechnology research were discussed. If you have not sent your name, address and areas of interest to be included in our directory, please do so. Send this information to the address below. Remember we are trying to keep definitions of "biotechnology" as broad as possible.

CALL FOR PROBES (AND OTHER REAGENTS).

We propose to begin a service for researchers in the field of avian biotechnology which will list needs and availability of biotechnology-related reagents, such as nucleic acid probes, monoclonals etc. We realize the proprietary problems with this effort, but still believe there are scientists willing to share specific reagents for the sake of research. If you have need of something you think someone may have or if you have something you think another investigator might use, send that information to the address below and we'll put it in the next Forum.

Send comments, questions or information to:

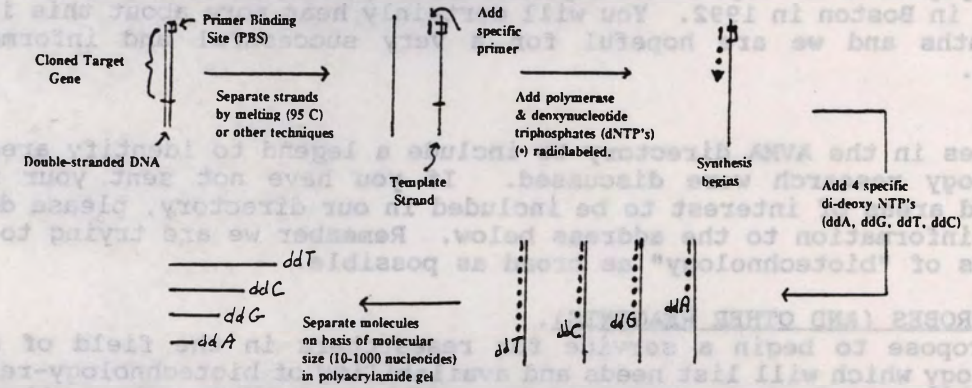
Mike Perdue
SEPRL
934 College Station Rd.
Athens, GA. 30605

MINIREVIEW

Using the Polymerase Chain Reaction (PCR) and nucleotide sequence analysis in identifying avian pathogens.

Two recently developed molecular techniques should someday find combined usefulness in the rapid identification of avian pathogens. In the mid 1970's, laboratories in the United States and in England simultaneously developed techniques for determining the nucleotide sequences of stretches of genes. At about the same time recombinant DNA technology was emerging, primarily in the U.S., allowing investigators to dissect long chromosomal DNAs down to manageable-sized pieces which could be inserted into vectors ("cloned"), amplified and then completely sequenced by the available techniques. Of the two procedures for sequencing cloned pieces of genes, the one developed in England in Dr. Fred Sangers' laboratory has emerged as the easiest and most widely employed today. Its' development resulted in a second Nobel prize for Sanger; today it is generally termed "Sanger sequencing, or di-deoxy sequencing". Illustrated below, the procedure employs a reaction in which DNA is being constantly synthesized from a "template" or unknown piece of DNA in the presence of 4 "poison" di-deoxy bases, which are missing an additional oxygen (hence di-deoxy). As a result wherever one of these is incorporated, the growing chain stops. The technique utilizes radioactive tagging and electrophoresis to identify the exact position on the chain where each poison base is inserted resulting in a defined sequence, which mirrors the template sequence.

FIGURE 1. SANGER "DI-DEOXY" SEQUENCING REACTION:



Commercially available instruments have been successfully produced which have automated many steps in the Sanger technique. Today, the investigator has merely to run the sequencing reaction, load the acrylamide gel and automation takes over resulting in simply a final product (sequence) within a few hours. The recent development of fluorescent-tagged primers and laser optics to identify specifically tagged primers during electrophoresis has made it possible to obtain nucleotide sequences of several thousand in length in a matter of hours.

Having obtained a sequence from the DNA (or RNA) it may be compared with other sequences, or further analyzed and characterized with a variety of molecular techniques. Tens of thousands of gene sequences have been published since the mid 1970's and have been catalogued in computer databases all over the world. As you are probably aware, a joint effort to sequence

the entire human genome has been recently undertaken. One reason such a project is now feasible has been the development of another molecular technique, the polymerase chain reaction (PCR). This technique was developed by scientists at the Cetus Corporation in California in the Mid-1980's. It is similar to Sanger sequencing in that a primer DNA is used and DNA is continuously synthesized using a polymerase, template and nucleotide precursors (Figure 2). The PCR is a rapid procedure for amplifying a specific sequence. As shown below, only a very low level of starting genetic material is needed. By employing successive cycles of priming, synthesis and melting, all in the same test tube, the starting sequence is doubled with each cycle. Following 30 cycles the starting material is amplified by an order of more than 10^8 yielding an easily detectible amount of information. The procedure was originally devised as a diagnostic aid based on this ability to detect and amplify such small amounts of genetic information.

FIGURE 2. THE POLYMERASE CHAIN REACTION:

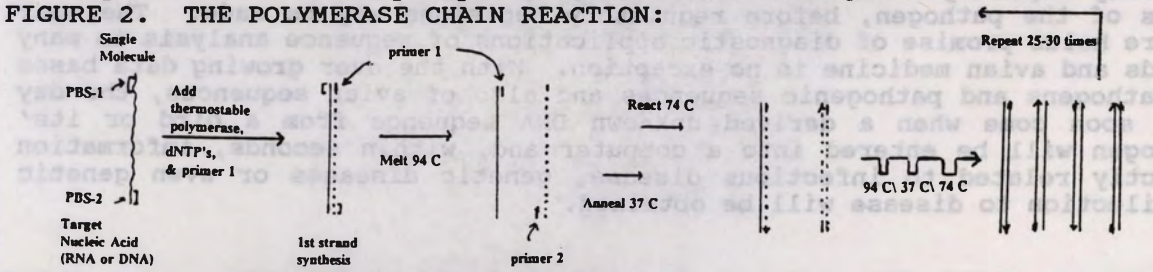
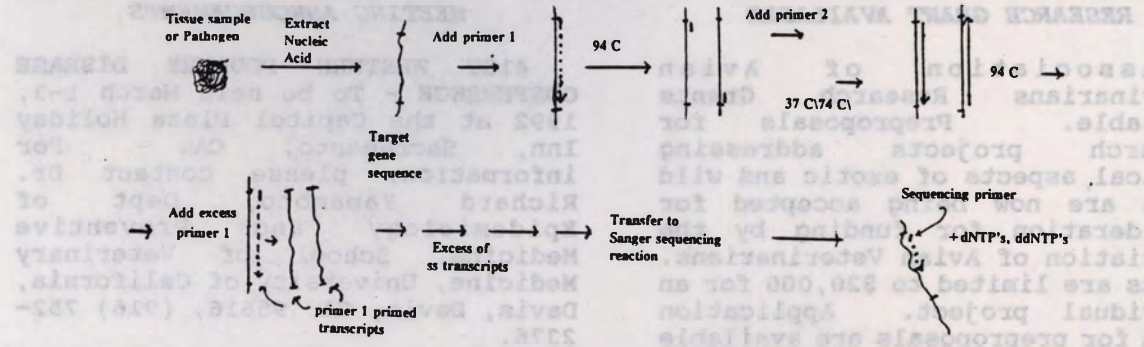


FIGURE 3. ASYMMETRIC AMPLIFICATION OF BY PCR FOR RAPID DIAGNOSTIC SEQUENCING:



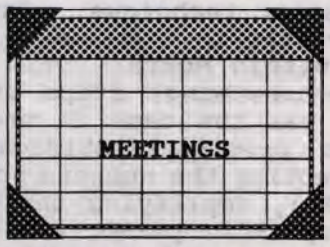
The PCR has enjoyed a variety of uses beyond diagnostic applications however. It has been adapted for both recombinant cloning and nucleotide sequence applications. The latter application is illustrated in Figure 3. Termed asymmetric amplification, one begins with an excess of one primer thus amplifying only one strand of the DNA in question. This then becomes the template strand for sequence analysis by the Sanger technique. Thus, the potential exists for amplifying a gene found directly in a tissue sample or swab to levels suitable for sequence analysis within hours. This can be accomplished without the intervening (and time-consuming) steps of first cloning the gene in question into a vector as was the case in the past. Given the vast and continuously growing databases, precise identification of an unknown pathogen then becomes a matter of extracting the nucleic acid from the sample (one may begin with either DNA or RNA), amplifying the gene in question by PCR, obtaining a sequence using a specific primer designed to sequence only from that particular gene. One problem with this approach is

in designing the correct primer for the assay. One must have a primer which will both identify an organism (i.e. prime from a conserved sequence common to all subsets of a common group) and provide useful sequence information for matching. That is, one must have an idea of what your to look for. However, that is generally the case with any diagnostic approach.

The distinct advantage of the above protocol is that it <u>does</u> potentially allow rapid and simultaneous identification of an unknown and identification of a virulence-related sequence. It is becoming increasingly clear in avian diseases, particularly viral diseases, that pathogens may differ in virulence, based on very minor differences in nucleotide sequences. For example with highly virulent avian influenza and Newcastle disease viruses, dramatic differences in tissue tropism and lethality may be correlated with only a single nucleotide difference. Thus it becomes important not only to identify a pathogen but also to identify "pathogenic sequences" within the genes of the pathogen, before regulatory decisions may be made. The near future holds promise of diagnostic applications of sequence analysis in many fields and avian medicine is no exception. With the ever growing data bases of pathogens and pathogenic sequences and also of avian sequences, the day will soon come when a derived unknown DNA sequence from a bird or its' pathogen will be entered into a computer and, within seconds, information directly related to infectious disease, genetic diseases or even genetic predilection to disease will be obtained.

RESEARCH GRANT AVAILABLE

Association of Avian Veterinarians Research Grants Available. Preproposals for research projects addressing clinical aspects of exotic and wild birds are now being accepted for consideration for funding by the Association of Avian Veterinarians. grants are limited to $20,000 for an individual project. Application forms for preproposals are available from Adina Rae freedman, AAV Central Office, PO Box 811720, Boca Raton, FL 33481.



MEETING ANNOUNCEMENTS

41ST WESTERN POULTRY DISEASE CONFERENCE - To be held March 1-3, 1992 at the Capitol Plaza Holiday Inn, Sacramento, CA. For information, please contact Dr. Richard Yamamoto, Dept of Epidemiology and Preventive Medicine, School of Veterinary Medicine, University of California, Davis, Davis, CA 95616, (916) 752-2376.

THIRD INTERNATIONAL SYMPOSIUM ON AVIAN INFLUENZA - To be held May 27-29, 1992 at The University of Wisconsin-Madison, Madison, WI. The purpose of the symposium is to review what has happened in the past six years, to share the accumulated new knowledge, and to offer contingency plans for dealing with the localized outbreaks of mild disease and the next outbreak of highly pathogenic avian influenza, whenever and wherever it might occur. Papers are by invitation and

will fall under the major subject headings of World Status, Epidemiology, Pathogenicity Mechanisms and Markers, Diagnostic Prophylactic and Therapeutic Developments, and Control Philosophies. Registration fee (includes the Proceedings and most food service) $165.00 U.S. by April 1, 1992 and $200.00 U.S. after April 1, 1992. Send requests for registration and housing information to B.C. Easterday, Dean or Kathy Gilmore, Secretary, School of Veterinary Medicine, 2015 Linden Drive West, Madison, WI 53706. Phone (608) 263-6716. Fax (608) 263-6573.

WORKSHOP ON MODERN TECHNIQUES IN THE DIAGNOSIS AND CONTROL OF POULTRY DISEASES - The department of Avian and Aquatic Animal Medicine will offer a 2-week workshop for twenty poultry diagnosticians working in developing areas. The workshop will take place from June 29 to July 10, 1992 at Cornell University. To receive information, contact the organizers Dr. Benjamin Lucio or Dr. Syed Naqi, Dept of Avian and Aquatic Animal Medicine, College of Veterinary Medicine, Cornell University, Ithaca, NY 14853. Phone (607) 253-3365. Fax (607) 253-3369.

XIX WORLD'S POULTRY CONGRESS - To be held September 20-24, 1992 in Amsterdam, The Netherlands. Contact Congress Secretariat, C/O RAI, Organisatie Bureau Amsterdam bv Europaplein 12, 1078 GZ Amsterdam, The Netherlands. Contact: Jewel D. Cochran, Irvine Travel Service, Inc., 127 Northwestern Ave, West Lafayette, IN 47906. Phone (800) 227-7477.

XIII PANAMERICAN VETERINARY SCIENCES CONGRESS - To be held October 5-9, 1992 at the Diego Portales Convention Center in Santiago Chile. There will be simultaneous Spanish-English translation. Please contact XIII Congreso Panamericano De Ciencias veterinarias, Casilla 13384 - Correo 21, Santiago, Chile. Phone (56-2) 223-7087. Fax (56-2) 225-0136.

43RD NORTH CENTRAL AVIAN DISEASE CONFERENCE - To be held October 4-6, 1992 at the Holiday Inn International Airport, Minneapolis, MN. Please contact Dr. M.C. Kumar, Jennie-O Foods, Box 439, Atwater, MN 56209. See call for papers notice at end of newsletter.

JOINT CONFERENCE OF THE AMERICAN ASSOCIATION OF ZOO VETERINARIANS AND THE AMERICAN ASSOCIATION OF WILDLIFE VETERINARIANS - To be held November 15-19, 1992 at the Parc Oakland Hotel in Oakland, CA. Individuals interested in submitting a manuscript or participating in the program should contact Janis Joslin, Woodland Park Zoo, 5500 Phinney Avenue North, Seattle, WA 98103. Phone (206) 684-4873. Or David Jessup, International Wildlife Veterinary Service, Inc., PO Box 1413, Orangevale, CA 95622. Phone (916) 355-0124. The deadline for selection of participants is April 20, 1992 and manuscripts are due by May 18, 1992.

WVPA CONGRESS - To be held in August **1993** in Sydney, Australia. It is not too early to mark your calendar. Plan your trip now to embrace this scientific occasion and take advantage of the opportunities for the vacation of a lifetime. For information contact the chairman of the congress organizing committee: Paul Gilchrist, Biological Technology Transfer Pty Ltd., 76 Shepherd St., Chippendale, NSW 2008, Australia. Phone 612-3192229, Fax 612-6901570.

EDUCATIONAL OPPORTUNITIES

INTERNSHIP IN AVIAN MEDICINE - North Carolina State University, College of Veterinary Medicine is offering 2 internships in avian medicine. Production of poultry and eggs is the leading agricultural industry in North Carolina. The avian medicine intern program is designed to provide a broad experience for each intern in all facets of the poultry industry, with primary emphasis on the prevention, diagnosis, and treatment of poultry diseases. In addition, interns will gain experience in the postmortem diagnosis of pet and wild bird diseases. Avian medicine interns will participate in (1) the design, implementation, and reporting of field trials and research related to avian diseases and their management, (2) the application and interpretation of laboratory diagnostic technology eg. serology, microbiology, virology and histopathology, and (3) the use of computers for word processing, database management and statistical analysis. The avian medicine intern program makes use of resources at the College of Veterinary Medicine, NCSU Poultry Science Department and Poultry Extension Service, North Carolina Department of Agriculture Animal Disease Diagnostic Laboratories, and local poultry production facilities. Two interns are selected each year in accordance with guidelines of the Veterinary Internship/Residency Matching Program. Applicants must submit, via the matching program, a letter of intent, transcript(s) of university performance, curriculum vitae, and 2 letters of recommendation. Please contact Dr. Richard Ford, North Carolina State University, College of Veterinary Medicine, 4700 Hillsborough St, Raleigh, NC 27606 for more information. North Carolina State University is an affirmative action/equal opportunity employer.

RESIDENCY IN EXOTIC AND WILD AVIAN MEDICINE - The Department of Companion Animal and Special Species Medicine is pleased to offer a 2 year residency that will provide broad-based clinical training in the medicine and surgery of non-domestic birds (caged bird, gamebird, wild and zoological species) and will aid the candidate in preparation for board certification in the college of Zoological Medicine (avian emphasis) and other avian oriented boards when they are formed. Minimum requirements include a DVM or equivalent degree and a 1 year internship (in any discipline) or equivalent experience in private practice. Experience with avian species is preferred. Applicants must apply through the Veterinary Internship/Residency Matching Program. For application information write Dr. Richard Ford. Associate Dean for Services and Director of Internship and Residency Programs, North Carolina State University, College of Veterinary Medicine, 4700 Hillsborough St., Raleigh, NC 27606. For Specific information about the program, contact Dr. Keven Flammer, Associate Professor, NSCU, College of Veterinary Medicine, at the above address, or call (919) 829-4353. North Carolina State University does not discriminate on the basis of race, sex, or handicap and is an affirmative action, equal opportunity employer.

DIAGNOSTIC AND RESEARCH ASSISTANTSHIP - The Schubot exotic bird Health Center and the Department of Veterinary Pathobiology of the Texas Veterinary Medical Center at Texas A&M University are offering a diagnostic and research assistantship for veterinarians with experience in avian medicine and interest in the study of diseases of pet, exotic,and wild birds. The successful applicant will be expected to complete a program of graduate study including coursework and research leading to candidacy for the PhD degree. Thesis research projects on a variety of infectious and noninfectious diseases of pet, exotic and wild bird species are available. The successful candidate will participate in the pet, exotic, and wild bird diagnostic service which currently attracts approximately 1500 diagnostic submissions per year. Gross and histological pathology, and diagnostic microbiology will be carried out under supervision of the personnel of the Avian Diagnostic Laboratory A degree in veterinary medicine (DVM, VMD, BVSc)is required. Starting salary depends upon qualifications and experience. Benefits include health insurance, vacation and paid holidays. Starting date for the position is immediate; applications will be accepted until suitable applicant is identified. Applicants for this position should send 1) resume, 2) academic transcripts, 3) GRE scores, 4) a letter describing interest in the field and career objectives, and 5) the names and current addresses and telephone numbers of at least three individuals who are familiar with your academic performance, aptitudes, and career goals. Potential applicants should contact Dr. David Graham, Schubot Exotic Bird Health Center, Texas Veterinary Medical Center, Texas A&M University, College Station, TX 77843-4467, or phone (409) 845-5941 for application materials.

PhD OPPORTUNITIES - The Institute for Animal Health, Compton, Nr. Newbury, Berkshire RG16 ONN, GREAT BRITAIN is accepting applications from students who have received, or expect to receive, a first or second class (upper division) honours degree for PhD opportunities. The topics are: Analysis of the Molecular interactions between coronavirus structural proteins; Virulence-associated genes in Salmonella; and study of influenza virus replication and assembly.

AVAILABLE PUBLICATIONS

PIGEON HEALTH AND DISEASES by Dr. David C. Tudor is available through Dr. David C. Tudor, 29 Station Road, Cranbury, NJ 08512 for $41.95 plus $2.00 postage plus $2.94 sales tax (total $46.89). Here, for the first time in a single source, veterinarians, pigeon fanciers, squab producers, ornithologists, diagnosticians and research workers can find information concerning pigeon diseases and breeding. Each disease is covered from 35 different aspects including: cause, history, signs, symptoms, diagnosis, prevention, control and treatment. One section covers nutritional diseases and feed formulations. Other subjects include genetic problems, crop milk, artificial insemination, hatching problems and pigeon breeders' lung disease.

ATLAS OF RADIOGRAPHIC ANATOMY AND DIAGNOSIS OF CAGE BIRDS by M.E. Krautwald, B. Tellhelm, G. Hummel, V. Kostka and E.F. Kaletz is available through Paul Parey Scientific Publishers, PO Box 1815, New York, NY 10156. It is approximately 320 pages including about 120 radiographs and 150 radiographic sketches and position drawing. Legends in English and German. Available December 1991, the book will cost $135.00 plus $7.75 postage and handling in the U.S. and $135.00 plus $15.00 postage and handling outside the U.S.

WANTED

The business office of AAAP is interested in obtaining several copies of AVIAN DISEASES volume 35, issue 2.

POSITIONS WANTED

Dr. Rodney Leon Reece, BVSc, MSc, MACVS, FACVSc, MRCVS and currently enrolled for a PhD is seeking a position in the U.S. Dr. Reece is currently a principal veterinary research officer at the Institute for Animal Health, Houghton Laboratory (a position that is being terminated). He is studying infectious stunting syndrome of chickens and related diseases. He is also responsible for supervising monitoring of the SPF flocks, and was Named Veterinary Surgeon. For several years he supervised the Histology unit, the Electron-microscopy unit, and 2 research projects with PhD graduates, and has been involved in several other projects at the laboratory. Dr. Reece can be contacted at Houghton Laboratory, Houghton, Huntingdon, PE17 2DA.

Dr. Paul Kerns is seeking a position in the poultry industry, especially in the production/technical service areas. He is currently completing a residency program at the University of Pennsylvania Laboratory of Avian Medicine and Pathology. This program has included formal training in poultry diseases, teaching medicine to the veterinary students, and presenting talks to service technicians. Through previous work and present coursework, Dr. Kerns has a good background in immunology. Duties also include service in the state diagnostic laboratory. This has included an extensive caseload in broilers and layers. Responsibilities also include extensive field casework to broiler and layer operations. Dr. Kerns can be contacted at 382 West Street Road, Kennett Square, PA 19348. Phone 215-444-4282.

Dr. Marsilia Lupescu, DMV, a veterinarian whose primary experience lies in the area of poultry management, medicine and pathology, which was practiced in Romania is now living in the U.S. and seeking a position here. Dr. Lupesca can be contacted at C/O Ioana Sonea, 1608 Blair, Lansing, MI 48910.

POSITIONS AVAILABLE

VIROLOGIST - Cornell University seeks candidates for a tenure track position in molecular virology. Appointment will be at the Assistant Professor level or at a higher level for exceptional candidates. The successful applicant will be expected to develop an independent competitively-funded research program and to teach veterinary and graduate students. We anticipate that the area of research will complement existing programs in the College, especially in viral oncology. Applicants should have a PhD and preferably a DVM or equivalent. Experience in molecular virology at the postdoctoral level is required. This position is part

of a major commitment to apply molecular approaches to animal health research. Applications including a curriculum vitae, outline of research interests and the names of three references should be sent to Dr. Roger J. Avery; Department of Microbiology, Immunology and Parasitology; College of Veterinary Medicine, 615 Veterinary Research Tower; Cornell University; Ithaca, NY 14853-6401. Screening of candidates will begin immediately and will continue until the position is filled. Telephone inquiries will be welcomed (607) 253-3400. Cornell University is an equal opportunity/affirmative action employer.

R & D ASSOCIATE SCIENTIST - Outstanding opportunity with a company located in the Southeastern portion of the U.S. that has an excellent reputation in the poultry industry and which continues to experience growth. Offers extensive cross training between departments (e.g. production, QA, R&D, sales, etc.), a relaxed work atmosphere, and a team-oriented environment. Future opportunities include supervisory and management positions both domestic and international. The ideal candidate should have a background in avian diseases (virology), a working knowledge in molecular biology, and be expert in tissue cultures. Education should include DVM with post-grad work or PhD in related field. Should be ambitious, service-oriented, and have a team attitude. Field and diagnostic experience helpful. Position will start out in a 6-month (approx) training mode to get familiar with all aspects of the company's operations. Afterwards will have 1-2 techs report to this position. Also, approx. 30% of time will be involved in molecular biology acting as liaison between this lab and a genetic lab in the northeast U.S. Offering a competitive compensation and benefit package, the company will pay interviewing and relocation expenses. For more information, please contact Rowan Longoria at (214) 258-5973. Snelling Personnel Services, Irving, TX.

CLINICAL INSTRUCTOR, EXOTIC AND WILD AVIAN MEDICINE - The Department of Companion Animal and Special Species Medicine is pleased to offer a faculty position (instructor level) in non-domestic avian medicine (encompassing caged bird, gamebird, wild, and zoological species). Duties will include managing avian cases in the teaching hospital and teaching veterinary students in conjunction with the avian clinician and resident. Some time will be allotted for professional development (specialty board preparation or research). This is a special two year position that will start in Spring or Summer, 1992. Minimum qualifications include a DVM degree and considerable experience in non-domestic avian medicine. Send cover letter stating reasons for interest, current resume, and 3 letters of recommendation to Dr. Keven Flammer, College of Veterinary Medicine, North Carolina State University, 4700 Hillsborough St., Raleigh, NC 27606, or call (919) 829-4353. North Carolina State University does not discriminate on the basis of race, sex or handicap and is an affirmative action, equal opportunity employer.

AAAP Respiratory Diseases Committee Survey of Reagents with Potential Use in the Diagnosis of Specific Avian Infectious Disease Agents

As indicated in the 1990-91 Respiratory Diseases Committee Report in the September 16, 1991, AAAP Newsletter, the new Respiratory Disease Committee was charged with developing a list of diagnostic

reagents, including polyclonal and monoclonal antibodies and nucleic acid sequences, which might be useful for diagnosis of avian infectious diseases. Many more potentially useful nucleic acid and antibody molecules have been described in recent years in Avian Diseases and other journals than have actually come to be routinely used for diagnosis of avian diseases. The Committee feels such a list would be of special interest and value in light of the Biotechnology Symposium to be presented at the 1992 Annual Meeting in Boston.

The Respiratory Diseases Committee plans to gather a listing of information about such reagent molecules with the aim of publishing the list in a future issue of the AAAP Newsletter and in the hope of stimulating more widespread diagnostic use of newly-developed reagents. The committee decided not to limit the survey only to reagents related to respiratory diseases, but to survey reagents relative to all avian diseases.

The Respiratory Diseases Committee asks all AAAP members and others who have nucleic acid sequences, polyclonal or monoclonal antibodies, or other reagents, or who know of useful commercially-available reagents, to provide that information to the Committee by filling out the questionnaire form on the next page. Please photocopy the blank questionnaire and complete one copy of it for each individual reagent.

Return completed questionnaires to Dr. James R. Andreasen, Jr., Veterinary Diagnostic Laboratory, Oregon State University, P.O. Box 429, Corvallis, Oregon 97339-0429.

The more widespread the response to this questionnaire, the greater the potential value of the results to our AAAP membership. The Respiratory Diseases Committee reminds you that by sharing information about the reagents in existence you are heeding the admonition given by AAAP President John Barnes to "do something for AAAP."

SURVEY OF REAGENTS WITH POTENTIAL USE IN THE DIAGNOSIS OF SPECIFIC AVIAN INFECTIOUS DISEASE AGENTS

Name: _____

Address: _____

_____

_____

Type of molecule: Nucleic acid sequence _____

Polyclonal Antibody ___ Monoclonal Antibody ___

Other _____

Indicate name or other reference for this molecule: _____

_____

Description of reagent: _____
(e.g. if an antibody, how produced, from what strain, species produced in, is it in form of serum, ascites fluid or hybridoma cells; if nucleic acid, from what strain, how produced, what form is it in, etc.)

_____

_____

_____

_____

_____

Proven diagnostic use: _____
(if any)

_____

Is this reagent available to be shared with others for diagnostic use? No ___ Yes ___ In what quantity? _____

If you cannot share, are you willing to accept diagnostic materials and perform tests using the reagent? No ___ Yes ___

What would be the approximate charge for such a test? _____

Call for Papers

The 43rd North Central Avian Disease Conference

Minneapolis, Minnesota
Holiday Inn International Airport
Oct 4, 5, & 6, 1992

Deadline for Receipt of Title and Paper Description
for the North Central Avian Disease Conference
May 1, 1992

An Acknowledgement Will be Sent by June 1, 1992

Deadline for Receipt of Proceedings Abstract July 31, 1992

Please use this form to submit your paper's title and brief description. Please mail or Fax to the NCACD Program Chairperson, Dr. M.C. Kumar.

Program Chairperson:

Dr. M.C. Kumar
Jennie-O Foods
Box 439
Atwater, MN 56209

Fax No. (612) 974-8893
(612) 231-7100

Secretary-Treasurer:

Dr. D.A. Halvorson
University of Minnesota
301 Vet Science Building
St. Paul, MN 55108

Phone (612) 625-5292
Fax (612) 625-5203

Please Type

Name _____

Address _____

_____

Affiliation _____

Phone _____

Proposed Title _____

Brief Description _____

_____

_____

_____

_____ Check here if this paper is to be presented by a graduate student competing for the B.S. Pomeroy Award. The B.S. Pomeroy Award (a plaque and $200) will be given for the best presentation by a graduate student.

SCIENTIFIC PROGRAM
AVMA/AVIAN MEDICINE SECTION - BOSTON, MA

SYMPOSIUM
IMPROVED DIAGNOSIS OF AVIAN DISEASES USING MOLECULAR BIOLOGY
SUNDAY, AUGUST 2, 1992

8:00 am Welcome
H. John Barnes, President AAAP.

8:05 am Contributions of molecular biology to the diagnosis of avian diseases: An overview.
D. J. Jackwood

Session 1: Nucleic Acid Probes and Hybridization Techniques

8:15 am Introduction to nucleic acid probes and hybridization techniques.
R. F. Silva

8:30 am Diagnosis of avian pox viruses using nucleic acid probes.
D. N. Tripathy

8:45 am Dot blot and in situ hybridization for the detection of infectious bursal disease viruses.
D. J. Jackwood

9:00 am Use of nucleotide sequencing to design probes for the detection of infectious bursal disease viruses.
F. S. B. Kibenge

9:15 am DNA oligonucleotide probes: Identification of Newcastle disease virus and potential diagnostic application.
J. C. Jarecki-Black

9:30 am Use of DNA probes to detect enterotoxigenic strains of *E. coli* isolated from turkeys.
M. M. Jensen

9:45 am Development of ELISA and DNA based methods for diagnosing avian coccidiosis.
M. C. Jenkins

10:00 **BREAK**

Session 2: The Polymerase Chain Reaction (PCR)

10:15 am Introduction to the polymerase chain reaction.
M. W. Jackwood

10:30 am Diagnosis of Marek's disease virus using PCR.
R. F. Silva

10:45 am Diagnosis of avian influenza using the polymerase chain reaction.
M. L. Perdue

11:00 am Diagnosis of infectious bronchitis virus using the polymerase chain reaction.
M. W. Jackwood

11:15 am Use of PCR to detect Lyme Borreliosis in avian tissues.
M. I. Khan

11:30 am Mycoplasma detection by polymerase chain reaction.
L. H. Lauerman Jr.

11:45 am Recent advances in PCR diagnostic applications.
C. E. Beisel

12:00 n **LUNCH BREAK**

Session 3: Monoclonal Antibodies

1:30 pm Introduction to monoclonal antibodies.
Y. M. Saif

1:45 pm In situ detection of infectious bursal disease virus using immunoperoxidase staining.
J. J. Giambrone

2:00 pm Monoclonal antibodies to Newcastle disease virus and infectious bursal disease virus and their use in the diagnosis of disease.
D. P. Lana

2:15 pm The use of monoclonal antibodies specific for Salmonella enteritidis as diagnostic and research reagents.
L. H. Keller

2:30 pm Detection of avian mycoplasmas using monoclonal antibodies.
V. S. Panangala

2:45 pm Diagnosis of immune dysfunction and immune suppression with anti-lymphocyte monoclonal antibodies.
H. S. Lillehoj

3:00 pm **BREAK**

Session 4: Practical Applications of Molecular Techniques
The Industry Perspective

3:15 pm Implementation of PCR technology for the diagnosis of mycoplasma infections.
P. Anderson

3:30 pm Application of molecular techniques in the veterinary diagnostic laboratory.
F. J. Hoerr

3:45 pm Applications of biotechnology in avian medicine.
A. W. Graybeal

4:00 pm **Concluding Remarks**
R. L. Witter

ORAL PRESENTATIONS

MONDAY	SESSION 1	SESSION 2
9:30 am	*David Halvorson* Influenza in commercial broiler breeders	*Eva Wallner-Pendleton* An investigation of excessive mortality in young poults
9:45 am	*Max Brugh* Evaluation of the pathogenicity potential of type A influenza viruses isolated from poultry	*Donna Carver* Risk factors associated with early poult mortality
10:00 am	*Richard Slemons* Biological properties and pathogenicity of influenza viruses in a 1-day-old chick model: differences in A/Chicken/Alabama/75 and two waterfowl-origin low pathogenic influenza viruses	*Chris Hayhow* Scanning electron and light microscopy of gut changes in turkey
10:15 am	*David Swayne* Differences in pathogenicity of influenza virus A/Chicken/Alabama/75 (HN) in commercial laying-type, SPF laying-type and broiler-type chickens	*Mari Thouvenelle* The pathophysiology of astrovirus infection in hatching turkeys
10:30 am	**BREAK**	**BREAK**
11:00 am	*Jeffrey LeJeune* Molecular studies on infectious bronchitis virus	*Darrell Trampel* The effect of bacitracin on turkey poult performance in the presence and absence of stunting syndrome
11:15 am	*Ellen Collisson* Genomic analyses of the U.S. strains of infectious bronchitis virus	*Galestan Ghazikhanian* Streptococcus bovis infection in turkey poults
11:30 am	*Jack Gelb* Comparison of S-1 gene sequences of the spike peplomer of different infectious bronchitis virus serotypes	*Elie Barbour* Protection in turkeys against colisepticemia by enterotoxic and invasive virulence components of escherichia coli
11:45 am	*Richard Jones* Observations on trypsin-sensitive avian reoviruses	*Eric Gonder* Control of an F-strain Mycoplasma gallisepticum outbreak in a series of turkey breeder flocks

12:00 n	*Nahla El-Mahdy* Production of monoclonal antibodies against avian reoviruses and screening using suspension ELISA assay	*Dennis Wages* Eff production drop in turkey breeders
12:15 pm	*Terence Pertile* Immunohistochemical localization of T lymphocyte and macrophage subpopulations in viral arthritis	*James Guy* Characterization of a flavivirus-like virus isolated from turkeys experiencing egg-drop syndrome
12:30 pm	**AAAP AWARDS LUNCHEON**	**AAAP AWARDS LUNCHEON**
2:00 pm	*Pedro Villegas* Pathogenesis of the VG/GA strains of newcastle	*Jean-Pierre Vaillancourt* Cyanosis as a cause of condemnation in tom turkeys
2:15 pm	*Judy Jarecki-Black* Identification of NDV-infected avian tissue by an oligonucleotide probe	*Douglas Anderson* Actinomyces pyogenes as a primary etiology of osteomyelitis in commercial turkey operations
2:30 pm	*Jamil Ahmad* Characterization of a new modified live virus vaccine that protects chickens against newcastle disease by in ovo injection	*Karen Wright* Turkey osteomyelitis complex national survey
2:45 pm	*Deoki Tripathy* Specific genomic probes for differentiation of fowlpox and laryngotracheitis viruses	*Teresa Morishita* A prospective epidemiological study of pyogranulomatous typhlitis and hepatitis in market turkeys
3:00 pm	**BREAK**	**BREAK**
3:30 pm	*Richard Jones* Infection of chickens with turkey rhinotracheitis-like viruses	*Colin Baxter-Jones* A Mycoplasma iowae eradication programme in a primary turkey breeding operation
3:45 pm	*Martin Smeltzer* Clinical and epidemiological features of TRT infection in a broiler breeder flock	*Martine Boulianne* Sudden death syndrome of heavy turkeys: a cardiovascular disorder
4:00 pm	*Davis Myers* An overview of the serodiagnosis and epidemiology of avian pneumovirus infection, an emerging disease of poultry	*W. Peden* Immunoblot analysis of turkey response to multiple aspergillus fumigatus antigens

4:15 pm	*James Davis* Runting and stunting syndrome in North Georgia broiler chickens associated with an avian nephritis virus and an avian enterovirus	*Patricia Brown* Comparison of serology, antigen capture and culture for the diagnosis of avian chlamydiosis in turkeys
4:30 pm	*John Rosenberger* The frequency of isolation and characterization of chicken anemia agent (CAA) obtained from chickens produced in different geographical areas in the United States	*Bruce Homer* Comparison of immunological and cytochemical staining techniques for identification of chlamydia psittaci in formalin-fixed tissues
4:45 pm	*John Brown* Effect of so-called chicken anemia agent maternal antibody of chick serologic conversion to viruses in the field	*H. John Barnes* A longitudinal study of natural Mycoplasma synoviae infection of commercial turkey flocks prior to and following depopulation, clean-up and disinfection of the farms
5:00 pm	*Benjamin Lucio-Martinez* Immune tolerance in chickens infected with chicken infectious anemia virus (CIAV) through the egg	*Martin Blankfard* Interpretation of Mycoplasma Serologic Results
5:15 pm	*Mark Goodwin* Runting and stunting syndrome: Transmission of disease to broiler chickens, and diagnostic pathology	*David Ley* Antibodies to a membrane of Mycoplasma gallsepticum inhibit growth and attachment of the bacterium
TUESDAY	**SESSION 1**	**SESSION 2**
9:30 am	*Conrad Pope* The probable pathogenesis of increased mortality (to include "spiking") in young broiler aged chickens from the Delmarva peninsula during calendar year 1990	*John Dohms* Identification, cloning and sequencing of the pulative cytadhesin gene of Mycoplasma gallisepticum
9:45 am	*H. Shivaprasad* Neuromuscular disease associated with suspected lasolacid toxicity in broilers	*Lloyd Lauerman* Evaluation of primers selected from 16S rRNA for Mycoplasma synoviae polymerase chain reaction

10:00 am	*Frederic Hoerr* Comparative mycotoxicology of Fusarium moniliforme in broiler chickens	*Martin Ficken* Breeder turkey hens seropositive and culture negative for Mycoplasma synoviae
10:15	*Thomas Brown* Oral administration of purified Fumonisin B to broiler chicks pathology and performance data	*Arnold Rosenwald* Archives-searching the past to solve present or future
10:30	**AAAP BUSINESS MEETING**	**AAAP BUSINESS MEETING**
12:30 pm	**LUNCH**	**LUNCH**
1:30 PM	*Robert Goodhope* A description study of cellulitis in Saskatchewan broiler chickens	*M. Suresh* Effect of induced immunodeficiency on the pathogenesis of hemorrhagic enteritis (HE) in turkeys
1:45 pm	*Jean Sander* Case Report - A case of suspected arsenical keratosis in broiler breeders housed with pressure treated slats	*Jagdev Sharma* Protective efficacy and immunodepressive potential of cell culture-propagated and spleen homogenate hemorrhagic enteritis virus vaccines of turkeys
2:00 pm	*Daniel Weinstock* Study of squamous cell carcinoma in broiler chickens: An ecological approach	*Shantha Kodihalli* Avian influenza subunit vaccine for turkeys
2:15 pm	*Dennis Wages* Clinical efficacy of Danoflozacin in the therapy of E. coli airsacculitis in broilers	*Olufemi Fatunmbi* Influence of immunoregulin (propionibacterium acnes) on the efficacy of avian influenza oil-emulsion vaccine in turkeys
2:30 pm	*Lisa Nolan* Complement resistance as a virulence determinant in an Avian Escherichia coli	*Richard Witter* A search for novel pathotypes of Marek's disease virus
2:45 pm	*Cheryl Shiver* Efficacy of ts-11 Mycoplasma gallisepticum vaccination in broilers	*Mona Aly* Influence of serotype 2 Marek's disease vaccine virus on the development of reticuloendotheliosis virus-induced B and T cell lymphomas in chickens
3:00 pm	**BREAK**	**BREAK**

3:30 pm	*Richard Julian* Peripheral neuropathy causing "range paralysis" in leghorn pullets	*Lucy Volpini* Differential effects of various conditioned media on early and late stages of latency in Marek's disease
3:45 pm	*John Glisson* The carrier state of Pasteurella multocida in immunized chickens	*Martin Sevoian* The inhibitory influence (in vivo and in vitro of avian lymphokines (JMV-1)) on avian and mammalian pathogens
4:00 pm	*Charles Kelleher* Efficacy of an enzyme-linked immunosorbent assay (ELISA) to detect antibody to Pasteurella multocida	*Amrut Bhogle* Marek's disease virus antigens in JMV-1 transformed non-producer cell-line supernatant
4:15 pm	*David Rives* An outbreak of fowl cholera in commercial muscovy ducks	*Keyvan Nazerian* Expression of Marek's disease virus genes in fowlpox virus
4:30 pm	*Victoria Bowes* Muscovy duck mortality associated with an unidentified intracellular parasite	*Lucy Lee* Expression in Baculovirus of a major Marek's disease virus gene encoding proteins involved in transformation
4:45 pm	*Charles Howe Jr.* Case report - Salt omission from a layer diet	*Karel Schat* Detection of retrovirus sequences in budgerigars with tumors
5:00 pm	*Richard Meinersmann* Adjuvancy of toxin from vibrio cholerae in chickens	*A. Fadly* Role of contact and congenital transmission of endogenous virus-21 (EV21) in the susceptibility of chickens to avian leukosis virus infection and tumors
5:15 pm	*Amer Silim* Why use egg-yolk rather than serum for antibody monitoring: Our experience in the last four years	*Michael Ratcliffe* High frequency retroviral transformation of chicken T cells expressing either B or γδ T cell receptors

WEDNESDAY	SESSION 1	SESSION 2
9:30 am	*Roy Montgomery* A comparison of the Gland of Harder response and the histology of head associated lymphoid tissue (HALT) in chickens and turkeys	*Robin Morgan* A herpesvirus of turkeys recombinant vaccine expressing the Newcastle disease virus fusion protein protects chickens from Newcastle and Marek's Diseases
9:45 am	*Ching Ching Wu* Identification of infectious bursal disease virus by direct sequencing of amplified cDNA	*Hyun Lillehoj* Contrasting effects of dexamethasone on avian immune system and on disease susceptibility to E. acervulina
10:00 am	*Renee Fisk* Expression of a portion of the infectious bursal disease virus VP2 gene in E. coli	*Timothy Miller* Immune chicken splenocytes reduce Eimeria tenella development in in vitro culture
10:15 am	*David Snyder* Identification and characterization of the host cell receptor for infectious bursal disease virus	*Daryll Emery* Formic acid as a viable alternative to formaldehyde in poultry house disinfection
10:30 am	**BREAK**	**BREAK**
11:00 am	*Hashim Ghori* Screening for Salmonella SP from seven (7) egg type (commercial) breeder flocks: A three (3) year study	*David Shapiro* Control measures for Mycoplasmosis in an integrated poultry operation
11:15 am	*Robert Porter Jr.* Induced molting increases the severity of intestinal Salmonella enteritidis infection in adult laying hens of varying age	*Robert Owen* Some aspects of the pathophysiology of broiler pulmonary hypertension syndrome
11:30 am	*Linda Keller* Tracking Salmonella enteritidis through the ovarian tissue of laying hens with specific monoclonal antibodies	*Seyed Mirsalimi* Pathophysiology of pulmonary hypertension-induced ascites: Comparison of meat-type and egg-type chickens

11:45 am	*Jubril Hassan* The effects of breeder vaccination on the immunity of chicks against salmonella infection	*Bryan Mayeda* Pathogenesis studies of 2 intractable osteoporosis episodes and of a cloacal prolapse episode on a 1 million hen capacity layer chicken farm in Northern California
12:00 n	*Samuel Charles* Immunogenicity of lipid-conjugated protein vaccines against Salmonella enteritidis infection	
12:15 pm	*Dennis Senne* Composting of poultry carcasses: An economical and effective method for carcass disposal and disease control	

POSTERS

Mark Bland
Monitoring poultry farm workers using formaldehyde disinfectant

Elie Barbour
Impact of different Salmonella enteritidis vaccines on levels of yolk antibodies and egg production in chicken layers

Donna Maslak
Cell mediated immune responses of the head-associated lymphoid tissues and peripheral blood lymphocytes of the chicken

Donald Waldrip
Coryza-like syndrome in broiler breeders

Cheong-up Choi
Quantitation of specific soluble antigens from hemorrhagic enteritis and marble spleen disease viruses

Alex Bermudez
Effects of Fumonisin B containing fusarium moniliforme culture material on turkey poults

George Rowland
Bone loss in leghorns associated with acute disuse

Lois Bichler
Control of salmonella infection in turkeys by the use of volatile fatty acids

Jean Petter
In vivo comparison of Salmonella enteritidis isolates in mature chickens

Lloyd Spencer
Studies on the salmonella carrier state in broiler chickens

James Davis
Virus isolation accuracy - An evaluation of nine laboratories involved in poultry diagnostics

Ping Ren
Growth factors in embryonal chicken bone and in tibial dyschondroplasia of broilers

Helen Anne Hudson
Skeletal dynamics of the white leghorn laying hen

James Davis
The establishment of normal blood chemistry reference values for specific pathogen free (SPF) leghorn and commercial broiler chickens using the Kodak ektachem DT system

James Andreasen
Heterophil chemotaxis in healthy chickens and in chickens with field infection of staphylococcal tenosynovitis/osteomyelitis

Christiane Soine
Detection of chicken infectious anemia by polymerase chain reaction

Ariel Ortiz
A comparison of the infectivity of live vs lyophilized "F" strain M. gallisepticum

Barbara Sneath
Use of a reporter gene to study transplantation of Marek's disease cell lines in chickens

Mark Goodwin
The changing rates of anemia and polycythemia in clinically ill Georgia broilers: 1988-89 vs 1990

Steven Palmieri
Molecular characterization of the Villegas-Glisson (VG/GA) isolate of Newcastle disease virus

Sherrill Davison
Evaluation of disinfectants against Salmonella enteritidis

John Latimer
Stability of the hemagglutinin gene from the A/ck/pa/1370/83 isolate of Avian influenza a mixed virus population

Hashim Ghori
A survey of Salmonella pullorum infection in backyard flocks in Arkansas: A two (2) year study

David Swayne
Experimental intestinal disease in chickens produced by oral inoculation with a chicken-origin cecal spirochete

Sandra Cloud
Correlation of alterations in the avian lymphoid cell subpopulations with in vitro and in vivo immune responses following inoculation with chicken anemia virus and/or infectious bursal disease virus

Lance Christensen
Immunogenicity of a fowlpox/bursal disease viral recombinant

Jean-Pierre Vaillancourt
Field study on airsacculitis in male turkeys during winter

Jean-Pierre Vaillancourt
Evolution of condemnation rates in turkeys in Ontario (1982-1992)

Jean-Pierre Vaillancourt
A multi-approach/multi-purpose learning system for the study of commercial poultry production and diseases

Masakazu Matsumoto
Maternal antibody against IBDV: Estimation of serum antibodies in chicks by determining egg yolk antibody in broiler eggs

Hyuk Moo Kwon
Restriction enzyme analysis of polymerase chain reaction amplified S1 glycoprotein genes of different infectious bronchitis virus serotypes

Robert Nordgren
Effect of complex carbohydrates on the efficacy of Herpes virus of turkeys vaccines following very virulent Marek's disease virus challenge

Douglas Anderson
Ischemic necrosis of the skin in commercial turkeys due to Mycoplasma synoviae

John Brown
What is the cost of CAA to the broiler industry in Georgia

William Derieux
Incidence, clinical signs and histopathological lesions in pen reared pheasants and chukar partridges infected with Eastern Equine Encephalitis

Marcel Elissalde
Comparison of the effect of the trichothecene mycotoxins diacetotoxyscirpenol (DAS) and T-2 toxin (T-2) on salmonella challenged broiler chicks

Billy Hargis
Bursal anti-steroidogenic peptide (BASP) - possible endocrine role for neonatal bursa of fabricius protection in the chick

Pamela Hargis
Effects of dietary manipulation of Omega-3 fatty acid content in table eggs on production parameters and hepatic lipidosis in leghorn hens

Kenneth Henderson
Characterization of VP2 epitopes from infectious bursal disease virus expressed in baculovirus

Calvin Keeler
A recombinant fowlpox virus protects chickens against challenge by infectious laryngotracheitis virus (ILTV)

Daniel King
Western blot analyses of antibody induced by Newcastle disease virus (NDV) whole virus or subunit vaccines or NDV infection

Elizabeth Laudert
Comparative tissue trophism pattern of avian influenza virus infections in turkey poults and mallard ducklings

Danny Magee
Reproducing a stunting condition in chickens

Sudhir Reddy
Infectious bursal disease virus: virus-lymphocyte interactions in vitro

Delin Ren
A simple immunological assay for detection of Marek's disease virus serotype-1 specific antibodies

Ridha Rekid
Phenotypic and genotypic characterization of avian reovirus isolates from Quebec

Jean Sander
Lactobacillus fermentation for the stabilization of field dead poultry prior to rendering

H. Opitz
Essentials of a successful Salmonella enteritidis control program

Teresa Sperry Tucker
Characterization of lymphocyte depletion in the thymus and spleen of chicken anemia agent infected chickens

Darren Straub
A new microwave detoeing procedure for domestic poultry

Dexin Sui
Marek's disease virus gene encoding a glycoprotein homologous to that of human herpes viruses

Thomas Toth
Dose/response relationship and duration of response in stimulating avian respiratory phagocytes by avirulent Pasteurella multocida

Daral Jackwood
Dot blot and in situ hybridization for the detection of infectious bursal disease viruses

Joseph Giambrone
In situ detection of infectious bursal disease virus using immunoperoxidase staining

Hyun Lillehoj
Diagnosis of immune dysfunction and immune suppression with anti-lymphocyte monoclonal antibodies

Marcus Jensen
Use of DNA probes to detect enteroloxigenic strains of E. coli isolated from turkeys

Frederick Kibenge
Use of nucleotide sequencing to design probes for the detection of infectious bursal disease viruses

Judy Jarecki-Black
DNA oligonucleotide probes: Identification of Newcastle disease virus and potential diagnostic application

Linda Keller
The use of monoclonal antibodies specific for Salmonella enteritidis as diagnostic and research reagents

Michael Perdue
Diagnosis of avian diseases using PCR technology: Diagnosis of avian influenza

Lloyd Lauerman
Mycoplasma detection by polymerase chain reaction

Mark Jackwood
Diagnosis of infectious bronchitis virus using the polymerase chain reaction

Frederic Hoerr
Application of molecular techniques in the veterinary diagnostic laboratory

Christopher Beisel
Recent advances in PCR diagnostic applications

Mark Jenkins
Development of ELISA and DNA based methods for diagnosing avian coccidiosis

Mazhar Khan
Use of PCR to detect Lyme borreliosis in avian tissues

Dolores Lana
Monoclonal antibodies to Newcastle disease virus and infectious bursal disease virus and their use in the diagnosis of disease

Robert Silva
Diagnosis of Marek's disease virus using PCT

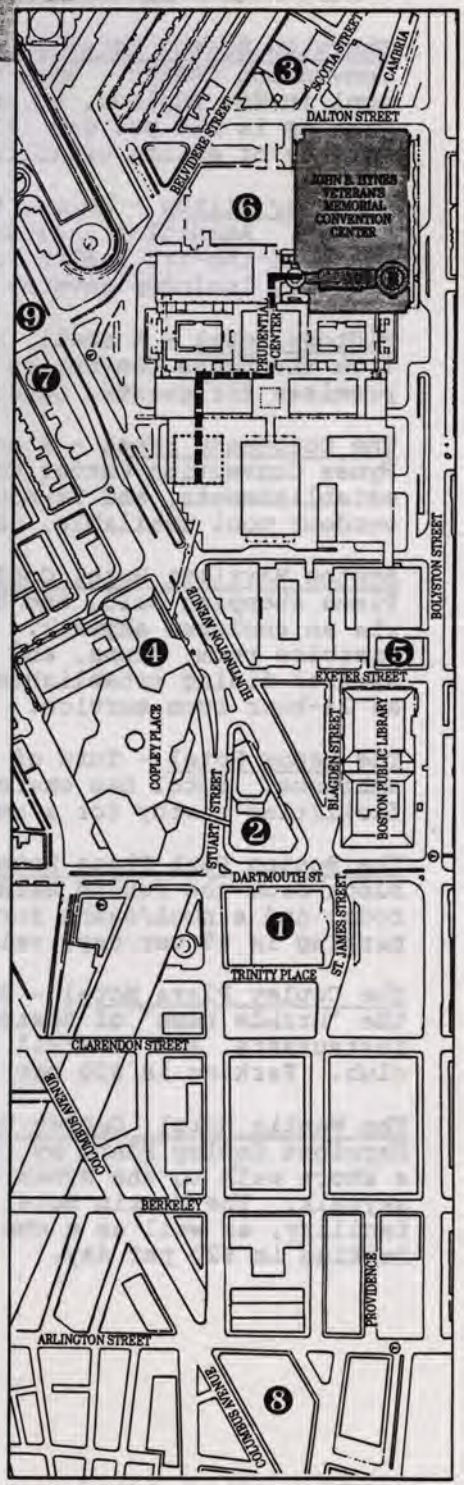
Robert Silva
Introduction to nucleic acid hybridization

Deoki Tripathy
Diagnosis of avian pox viruses using nucleic acid probes

OFFICIAL HOTELS

	ROOM RATES			
	SINGLE	DOUBLE	TRIPLE	QUAD
1. THE COPLEY PLAZA HOTEL 138 St. James Avenue (617) 267-5300	$147.00	$161.00	---	---
2. WESTIN HOTEL, COPLEY PLACE (Co-Headquarters/ Allied Groups) 10 Huntington Avenue (617) 262-9600	$136.00	$154.00	---	---
3. BACK BAY HILTON 40 Dalton Street (617) 236-1100	$133.00	$148.00	---	---
4. BOSTON MARRIOTT HOTEL -COPLEY PLACE (Co-Headquarters/Allied Groups) 110 Huntington Avenue (617) 236-5800	$133.00	$148.00	$163.00	$178.00
5. THE LENOX HOTEL 710 Boylston Street (617) 536-5300	$130.00	$150.00	---	---
6. SHERATON BOSTON HOTEL & TOWERS Headquarters Main Building Executive Towers 39 Dalton Street (617) 236-2000	 $118.00 $185.00	 $128.00 $200.00	 $148.00 ---	 $168.00 ---
7. COLONNADE HOTEL 120 Huntington Avenue (617) 424-7000	$103.00	$103.00	---	---
8. THE BOSTON PARK PLAZA HOTEL & TOWERS* 64 Arlington Street at Park Plaza (617)426-2000	$100.00	$100.00	$120.00	$140.00
9. MIDTOWN HOTEL 220 Huntington Avenue (617) 262-1000	$89.00	$99.00	$109.00	$119.00

1. COPLEY PLAZA HOTEL
2. WESTIN HOTEL, COPLEY PLACE
3. BACK BAY HILTON
4. BOSTON MARRIOTT HOTEL COPLEY PLACE
5. THE LENOX HOTEL
6. SHERATON BOSTON HOTEL & TOWERS
7. COLONNADE HOTEL
8. THE BOSTON PARK PLAZA HOTEL & TOWERS
9. MIDTOWN HOTEL



MAP NOT SHOWN TO SCALE

* Shuttle busing provided (Schedule to be posted)
Rates do not include 9.7% tax.
If credit card information is not provided or if a deposit check is not received 14 days prior to arrival, hotels reserve the right to release the attendee's reservation.

Sheraton Boston Hotel & Towers - Adjacent to the Hynes Convention Center. Amenities include the largest indoor heated pool in New England, as well a health club with jacuzzi. Parking is $16 per day ($17 for non-guests). Facility hosts a variety of eating establishments.

Back Bay Hilton - Across the street from the Hynes Convention Center. Amenities include an indoor pool and a state-of-the-art health facility. Parking is $15 per day. Facility includes several eating establishments.

Midtown Hotel - A small, budget hotel that is just a short walk from the Hynes Convention Center. Free covered parking on premises for guests. Outdoor swimming pool.

The Colonnade Hotel - A short walk across the street from the Hynes Convention Center Complex. Amenities include two eating establishments, and 24-hour room service. Fitness room and outdoor pool available. Parking is $15 per day.

Boston Marriott Hotel Copley Place - Connected to the Copley Place shopping mall, and the Hynes Convention Center Complex via an enclosed skywalk. Amenities include indoor pool, exercise room, sauna, and massage room. Facility boasts of several dining establishments, including a sushi bar, as well as 24-hour room service. Parking is $17 per day.

The Lenox Hotel - Turn of the century hotel with traditional ambiance. Hotel has exercise room, with sauna and pool facilities nearby for a small fee. Parking is $16 per day.

The Boston Park Plaza Hotel - Built in 1927, this hotel is one block from the Public Gardens. Amenities include an exercise room, and a pool/sauna for a small fee at a nearby spa. Self parking is $9 per day; valet parking is $14 per day.

The Copley Plaza Hotel - Built in 1912, this hotel is known as the 'Grande Dame' of Boston. The hotel includes three restaurants, and cocktail lounges, and use of a nearby health club. Parking is $20 per day.

The Westin Hotel, Copley Place - Connected to the Boston Marriott Copley Place by the Copley Place shopping mall. Only a short walk to the Hynes Convention Center via an enclosed skywalk. The Westin Hotel is equipped with a full health club facility, as well as a choice of eating establishments. Parking is $20 per day.

HOUSING APPLICATION FORM

AMERICAN VETERINARY MEDICAL ASSOCIATION
129TH ANNUAL MEETING • BOSTON, MASSACHUSETTS
AUGUST 1 - 5, 1992

Complete this form **and** return to:

AVMA HOUSING
c/o: GBCVB
Prudential Tower
P.O. Box 490, Suite 400
Boston, MA 02199

RESERVATIONS MUST BE RECEIVED BY THE HOUSING BUREAU BY JUNE 26, 1992

Please print or type all information, abbreviating if necessary. If more than one room is required, this form may be photocopied.

SEND CONFIRMATION TO:

First Name _____ M.I. _____ Last Name _____

Affiliation _____

Street Address or P.O. Box Number _____

City _____ State _____ US Zip Code _____

Country _____ Area Code _____ Daytime Phone Number _____

ARRIVAL:

Date _____ Time _____ AM PM

DEPARTURE:

Date _____ Time _____ AM PM

TYPE OF ACCOMMODATIONS: (please check required room type)

SINGLE	DOUBLE	DOUBLE/DOUBLE	TRIPLE	QUAD
1 Person – 1 Bed	2 People – 1 Bed	2 People – 2 Beds	3 People – 2 Dbl. Beds	4 People – 2 Dbl. Beds

HOTEL PREFERENCE:

Preferences assigned in order received. If requested rate not available, the next available rate will be assigned.

1st _____ 2nd _____

3rd _____ 4th _____

Preferred Rate $ _____ Special Needs: _____

ROOM GUARANTEE INFORMATION

All hotels must be guaranteed. Please complete credit card information requested below, or send a check directly to the hotel upon receipt of the official hotel confirmation. **Do not send checks to the Housing Bureau; if received, they will be returned.**

Name as it appears on card _____

Card Type _____ Card No. _____ Exp. Date _____

Authorized Signature **X** _____

ROOM MATES: (Name all occupants)

NAME: _____ NAME: _____
ADDRESS: _____ ADDRESS: _____
_____ _____
NAME: _____ NAME: _____
ADDRESS: _____ ADDRESS: _____
_____ _____

Housing inquiries and changes only: (617)536-9028