Veterinary Pathology and Translational Research

The National Cancer Institute (NCI), Center for Cancer Research (CCR) has developed a Comparative Molecular Pathology Training Program incorporating education in veterinary medicine and pathology with training in human biomedical research designed to address translation of research findings from animal models to the clinical setting. The program is expected to help prepare interdisciplinary investigators for translational research teams of the future.

The Comparative Molecular Pathology Training Program encompasses three distinct yet interrelated approaches toward training that are designed to answer the specific needs of individuals at different stages of training and laboratory experience. Two components of the program,

NCI Graduate Scholars in Molecular Pathology (GSMP), Combined Diagnostic pathology and Ph.D. Training Support for DVMs, and

NCI Molecular Pathology Graduate Fellowship (MPGF), Ph.D. Training Support for DVM Pathologists after Residency,

are tailored for those with doctoral degrees in veterinary medicine and are intended to offer educational opportunity leading to a Ph.D. and eligibility for board certification in veterinary pathology.

The programs utilize graduate partnerships to offer combined training at both a university and the NIH. Following initial university training and graduate course work for up to two years at the university in either veterinary pathology or veterinary clinical pathology, students will transfer for an additional three years training in pathology and research within the intramural laboratories of the NCI, NIAID, NIDDK, or NHLBI. Opportunities for university faculty members to engage in collaborative research interactions with NIH scientists will be fostered whenever feasible.

Multidisciplinary training in:
- Veterinary pathology, including NHP and/or rodent pathology
- Human pathology
- Molecular biology
- Medical research

Funding support for trainees includes:
- Stipend
- Support for university tuition and fees
- Health insurance and other program support

Educational benefits for trainees include:
- Access to leading university clinical and graduate programs in comparative and experimental pathology
- National Cancer Institute molecular pathology training curriculum
- Research faculty and facilities of the National Institutes of Health - NCI, NIAID, NIDDK, NHLBI

Graduate Partnership Program Universities:

North Carolina State University – Program in Comparative Biomedical Sciences http://www.cvm.ncsu.edu/cbs/

Michigan State University – Program in Pathobiology and Diagnostic Investigation http://cvm.msu.edu/vetpath/index.htm

University of Illinois – Program in Comparative Pathology http://www.cvm.uiuc.edu/vp/

University of Maryland – Program in Veterinary Medical Sciences http://www.gradschool.umd.edu/catalog/programs/VMSC.html
The third component of the NCI Comparative Molecular Pathology Research Training Program, NCI Molecular Pathology and Cancer Research Training Award Program (MP-CRTA), is a non-degree training program open to all outstanding candidates with interest or experience in comparative pathology.

Pathology Training Course Curriculum

Partnership university departments and graduate committees define required didactic graduate courses and initial diagnostic pathology training experiences. The NCI phase of the program begins with a comprehensive interdisciplinary six-month training curriculum focused on comparative and molecular pathology. This connecting centerpiece of the program draws upon the strengths of the many board-certified veterinary pathologists at the NIH, the anatomic pathology training program for physicians in the NCI Laboratory of Pathology, and the research technologies core laboratories program within the CCR.

Research opportunities in this program are diverse and encompass a variety of disciplines, including:

- Cancer prevention
- Carcinogenesis
- Cell, stem cell and developmental biology
- Immunology
- Metastasis
- Molecular pathology
- Molecular targets
- Pathogenesis and animal models
- Vascular biology, disease and remodeling
- Infectious diseases
- Autoimmunity
- Asthma
- Allergy
- Bioterrorism
- Emerging infections
- Lipid metabolism
- Lung disease
- Hematologic diseases
- Diabetes
- Endocrine disorders
- Nutrition
- Digestive disease
- Renal diseases

NIH Faculty Participating:
http://ccr.nci.nih.gov/resources/training/mentors.asp

Application

Prospective Graduate Scholars in Molecular Pathology and Molecular Pathology Graduate Fellows are encouraged to apply on-line for acceptance to the NIH Graduate Partnerships Program at http://gpp.nih.gov, and separately and individually to each University Partner Graduate School by which the student wishes to be considered for graduate admission and pathology training. To be admitted to the program, students must be accepted by both the NIH and a partnership university graduate school. Programs are designed to begin on July 1 and provide up to 5 years support. Candidates must be U.S. citizens or U.S. permanent residents and have less than five years postdoctoral experience.

Partnership Directors

R. Mark Simpson, D.V.M., Ph.D., Diplomate A.C.V.P.
Comparative Molecular Pathology Unit
NCI Center for Cancer Research
Telephone: 301-435-7176
E-mail: ncimolpathol@mail.nih.gov

Jonathan S. Wiest, Ph.D.
Office of Training and Education
Office of the Director, NCI
Center for Cancer Research
Bethesda, Maryland 20892
Telephone: 301-451-9638
E-mail: wiestj@mail.nih.gov

Web pages:
http://ccr.cancer.gov/resources/training/default.asp
http://gpp.nih.gov/Applicants/ProspectiveStudents/MolecularPathology/