



National Institutes of Health
National Institute of
Environmental Health Sciences
Mail Drop B3-06
P. O. Box 12233
Research Triangle Park, NC 27709

***Student Veterinary Pathology Externship
Cellular and Molecular Pathology Branch
National Toxicology Program (NTP) and
National Institute of Environmental Health Sciences (NIEHS)
Research Triangle Park, North Carolina***

The NIEHS externship is designed for veterinary or pre-veterinary undergraduate students to work directly with veterinary clinical and anatomic pathologists within National Toxicology Program (NTP) and National Institute of Environmental Health Sciences (NIEHS) as well as visit area pathologists working in various other pathology careers such as academia, industry, and diagnostic laboratories. The externship can be catered to meet the student's interests/goals and provide for experiences in research and diagnostic pathology of rodents. Externships can be arranged for 1 to 12 weeks and offer exposure to a variety of pathology activities including participation in the NTP pathology peer reviews, research, and visits to the North Carolina State University College of Veterinary Medicine, Glaxo-Smith-Kline pharmaceutical company, Integrated Laboratory Systems, Inc., MRI facilities of the Duke Center for In Vivo Microscopy, and/or the Environmental Protection Agency (EPA) research laboratories. Each extern will be assigned to a senior NIEHS pathologist as a primary mentor who will coordinate the activities of the externship.

The NIEHS employs at least 10 veterinary pathologists, working in areas of toxicologic pathology and research. Research projects are ongoing in areas of molecular carcinogenesis, toxicological pathology, toxicogenomics utilizing investigative techniques such as microarray gene expression analysis, real time RT-PCR, magnetic resonance imagery (MRI) microscopy, in situ hybridization, electron microscopy, and immunohistochemistry. The RTP area is home to more than 70 veterinary pathologists who are employed at various institutions including academia (such as University of North Carolina, North Carolina State University, and Duke), private industry (GlaxoSmithKline, Experimental Pathology Laboratories, Pathology Associates International, and Integrated Laboratory Services), veterinary diagnostic laboratories (Rollins Animal Disease Diagnostic Labs and Antech Diagnostics), and other government agencies (such as Environmental Protection Agency). In addition, the NIEHS has a strong program in laboratory animal medicine with five board certified (ACLAM) laboratory animal veterinarians and a recently established training program in laboratory animal medicine. Depending upon the duration of the externship and the interests of the extern, small research projects will be encouraged, some possibly leading to co-authorship and/or presentations. The goal is to be

complete an appropriate, mutually agreeable project while also learning the variety of roles that veterinary pathologists play at NIEHS and various other RTP area institutions.

Some relevant web sites are:

National Toxicology Program <http://ntp-server.niehs.nih.gov/>

Cellular and Molecular Pathology Branch (CMPB)
<http://www.niehs.nih.gov/research/atniehs/labs/lep/>

Possible funding opportunities for externships:

1. The American College of Veterinary Pathologists (ACVP) awards Scholarship Money to veterinary students, the details of which can be found at ACVP Website (<http://www.acvp.org/training/extern.php>)
2. NIEHS Summers of Discovery program (<http://www.niehs.nih.gov/summers/>)
Paid research positions for undergraduate, graduate, or professional students are available at all NIH institutes, including NIEHS. The Summers of Discovery Program provides an excellent research experience. Applications are generally due in February (check website for exact date).

The coordinator is:

Ms. Charle League

Coordinator, Summers of Discovery and Special Programs
NIEHS/NIH (B2-06)

P.O. Box 12233 -or- 111 T.W. Alexander Drive (Room B-234)

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Contact information regarding externships can be obtained from:

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