Introductory Echocardiography
September 19-20, 2003

This course is designed to give the veterinary practitioner a basic understanding of small animal echocardiography. Major topics include ultrasound principles, normal cardiac anatomy and physiology, techniques for achieving quality results, videotape presentations of important diseases and hands-on scanning of normal dogs. Six hours of interactive sessions and 4 hours of scanning lab are included. Course enrollment limited to 9.

Prerequisite: none

Course instructors: Drs. Pyle, Abbott & Maclean

Tuition: $695

Contact hours: 10

Applied Ultrasonography Laboratory
November 7-8, 2003

This is a 100% scanning laboratory course designed to improve the technical and diagnostic skills of veterinary practitioners presently doing cardiac and abdominal ultrasound in small animals. Instructors perform appropriate live animal demonstrations and guide the registrants so that they can achieve comparable results. Dogs and cats will be scanned. Each registrant spends 5 hours doing echocardiography and 5 hours in abdominal ultrasonography. The course is limited to 8 registrants.

Prerequisite: An introductory course in cardiac and abdominal ultrasonography.

Course instructors: Drs. Pyle & Carrig

Tuition: $895

Contact hours: 10

Advanced Echocardiography
December 5-7, 2003

This course is designed for veterinary practitioners with experience in general cardiac scanning in small animals who would like to expand their skills to include pulse wave Doppler, continuous wave Doppler, color flow Doppler, special measurements and calculations and applying the Bernoulli equation to clinical cases. From the total of 21 contact hours, 7 are devoted to advanced scanning including dogs and cats with spontaneous disease. Videotape presentations of clinical cases using advanced echocardiographic features are a prominent aspect of the course. The course is limited to 5 veterinarians. A video tape on congenital and acquired problems is given to each participant.

Prerequisite: Introductory echocardiography course and sufficient clinical experience to perform a thorough two-dimensional and M-mode echocardiogram.

Course instructor: Dr. Pyle

Tuition: $1295

Contact hours: 21

We thank Aloka Ultrasound for their support in these courses.

Virginia Tech does not discriminate against employees, students, or applicants on the basis of race, sex, sexual orientation, disability, age, veteran status, national origin, religion, or political affiliation. Anyone having questions concerning discrimination should contact the Equal Opportunity/Affirmative Action Office.

If you are a person with a disability and require any auxiliary aids, services, or other accommodations for these courses, please discuss your accommodation needs with Wanda McAlexander at (540) 231-5242 or TDD 1 (800) 828-1120 at your earliest convenience.
**Introductory Echocardiography**

**September 19-20, 2003**

**Virginia-Maryland Regional College of Veterinary Medicine**

**Friday Afternoon**

12:00-12:30 Registration at VMRCVM
12:30-1:30 What is echocardiography and what are the essential principles veterinarians need to know to function in this area?
1:30-2:15 Echocardiographic characteristics of the normal cardiovascular system
2:15-2:45 The Equipment: What is needed and how does it function? What is 2-dimensional echo? What is M-mode echocardiography? What is pulse and continuous wave Doppler? What is color flow Doppler?
2:45-3:00 Coffee/Tea/Soda Break
3:00-5:00 Echocardiographic scanning laboratory using normal dogs
6:30-7:00 Reception at Donaldson Brown Center
7:00 Dinner at Donaldson Brown Center

**Saturday Morning**

7:30-8:00 Breakfast in the Commons of VMRCVM
8:00-9:30 Case discussions illustrating how echocardiography is used to recognize and treat heart disease
9:30-9:45 Coffee/Tea/Soda Break
9:45-10:30 Case oriented echocardiography continued
10:30-12:15 Exit Echocardiographic scanning laboratory
12:30-1:00 Lunch in the commons of VMRCVM

**Applied Ultrasonography Laboratory**

**November 7-8, 2003**

**Virginia-Maryland Regional College of Veterinary Medicine**

**Friday Afternoon**

12:00-12:30 Registration at VMRCVM
12:30-5:30 Scanning lab – Cardiac and Abdominal
6:30-7:00 Reception
7:00 Dinner at Donaldson Brown Center

**Saturday Morning**

7:30-8:00 Breakfast in the Commons of VMRCVM
8:00-1:00 Scanning lab – Cardiac and Abdominal
1:00 Lunch – and evaluations

**Advanced Echocardiography**

**December 5-7, 2003**

**Virginia-Maryland Regional College of Veterinary Medicine**

**Friday Afternoon**

11:30-12:00 Registration at Donaldson Brown Center
12:00-1:00 Lunch/introduction to the course with Dr. Pyle and registrants at Donaldson Brown Center
1:00-2:05 Normal cardiac anatomy and gross pathology of specific cardiac diseases; Correlation with echocardiographic findings
2:05-2:15 Web sites for cardiology – Heart Station
2:15-3:15 Physiologic dissection of the heart using pulse wave, continuous wave and color flow Doppler
3:15-3:45 Break & topic discussion
3:45-5:15 M-mode, 2-dimensional and Doppler measurements and calculations; Aliasing
5:15-6:00 Applying the Bernoulli equation to clinical cardiac problems

**Saturday**

8:00-10:30 Congenital/acquired heart disease; Videotapes of animals with congenital and acquired heart disease with emphasis on pulse wave, continuous wave and color flow Doppler
10:30-11:00 Break & topic discussion
11:00-1:00 Pulse wave, continuous wave and color flow Doppler imaging of normal dogs and cats
1:00-2:00 Lunch & topic discussion
2:00-5:00 Imaging animals with spontaneous heart disease
6:30-8:30 Dinner at Donaldson Brown Center

**Sunday**

8:30-9:00 Special cardiac calculations
9:00-10:00 Videotapes of heart disease
10:00-10:30 Break & topic discussion
10:30-12:30 A comprehensive echocardiographic study will be done by each registrant on a normal dog. This includes all M-mode, two dimensional and Doppler functions presented in the course.
12:30-1:30 Lunch, case discussion and course evaluations

**Location and Lodging**

All courses are held at the Virginia–Maryland Regional College of Veterinary Medicine on the campus of Virginia Tech. A limited number of lodging rooms are available on campus at the Donaldson Brown Hotel and Conference Center. To reserve a room, please call the Donaldson Brown Hotel toll free at (877) 200-3360 or (540) 231-5156, in advance of each course you are attending.

**How to Register**

The fees for these courses include registration for lectures and laboratories, course, reception and dinner, breakfast and lunch as noted, handouts and CE certificates. To register, complete and return the attached form by two weeks prior to the course. Advanced registration and payment is required to confirm your enrollment. Registration after this date should be confirmed with the Conference Registrar at (540) 231-5182 to verify space availability. Due to limited enrollment, be certain your registration has been confirmed prior to making airline reservations.

**Refund and Cancellation Policy**

Note: Payment of registration fees is required prior to program attendance. Registration will be processed when payment is received. Refund Policy: Requests for refunds will be honored when received seven calendar days prior to the program. However, another person may be substituted at any time for this program. A $25 administrative fee will be deducted for cancellations. In the unlikely event that this program is cancelled or postponed due to insufficient enrollments or unforeseen circumstances, the university will fully refund registration fees but cannot be held responsible for any other expenses, including cancellation or change charges assessed by airlines, hotels, travel agencies, or other organizations.

**For More Information**

For further information about course content, please contact Ms. Anne Clapsaddle, Virginia – Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA 24061 at (540) 231-5261 or e-mail: aclapsad@vt.edu