



Photo: Melchior de Bruin

AQUAVET® Information for 2019

AQUAVET®

Background Information

- ◆ *Need for trained veterinary professionals*
 - ◆ *contribute to the health/welfare of aquatic animals and their environment*
 - ◆ *Began in the spring of 1977*
- ◆ *Historically sponsored by*
 - ◆ *University of Pennsylvania*
 - ◆ *Cornell University*

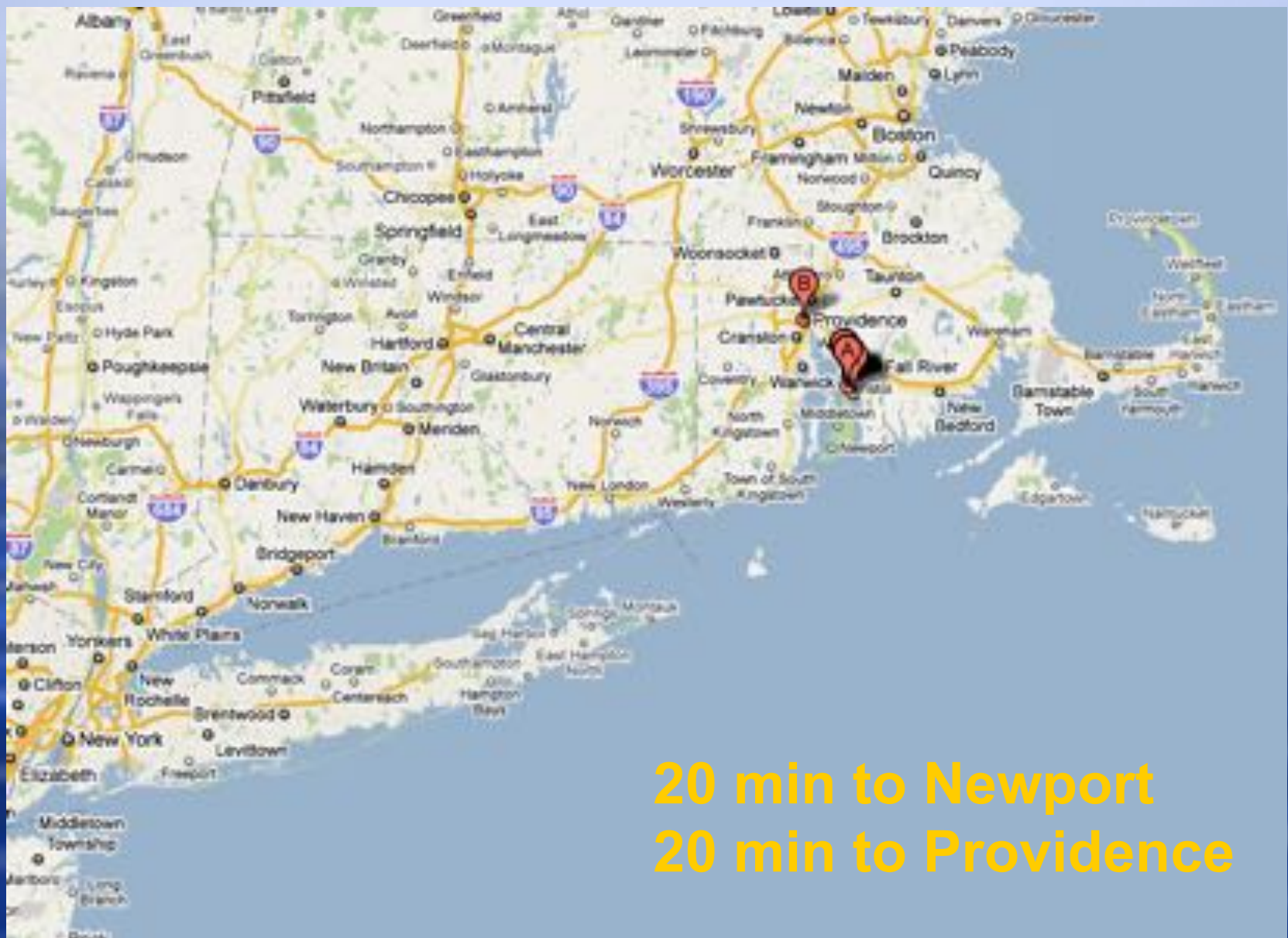
AQUAVET®

Course Information

- ◆ *Four opportunities*
 - ◆ **AQUAVET® I**
 - ◆ *Introduction to Aquatic Veterinary Medicine*
 - ◆ *4 week course*
 - ◆ **AQUAVET® II**
 - ◆ *Comparative Pathology of Aquatic Animals*
 - ◆ *2 week course*
 - ◆ **AQUAVET® III**
 - ◆ *Clinical Aspects of Captive Aquatic Animal Medicine*
 - ◆ *5 week course*
 - ◆ **AQUAVET® Summer fellowship**
 - ◆ *Usual Location: Fish Diagnostics Lab at Cornell*
 - ◆ *Usual Topic: a selected fish viral disease*
 - ◆ *Duration: 8 weeks*

Logistics – AQUAVET® I & II

- ♦ ***Roger Williams University - Bristol, RI***
 - ♦ *Classrooms and labs*
 - ♦ *Library*
- ♦ ***Tuition*** *covers course work, housing and most meals*
- ♦ ***Housing*** – *suites with kitchen and 2 bedrooms*
 - ♦ *4 students per suite*
 - ♦ *roommate*
 - ♦ *no pets*
- ♦ ***Meals*** – *cafeteria meal plan*
 - ♦ *Breakfast, lunch, dinner*
 - ♦ *5-10 stations*

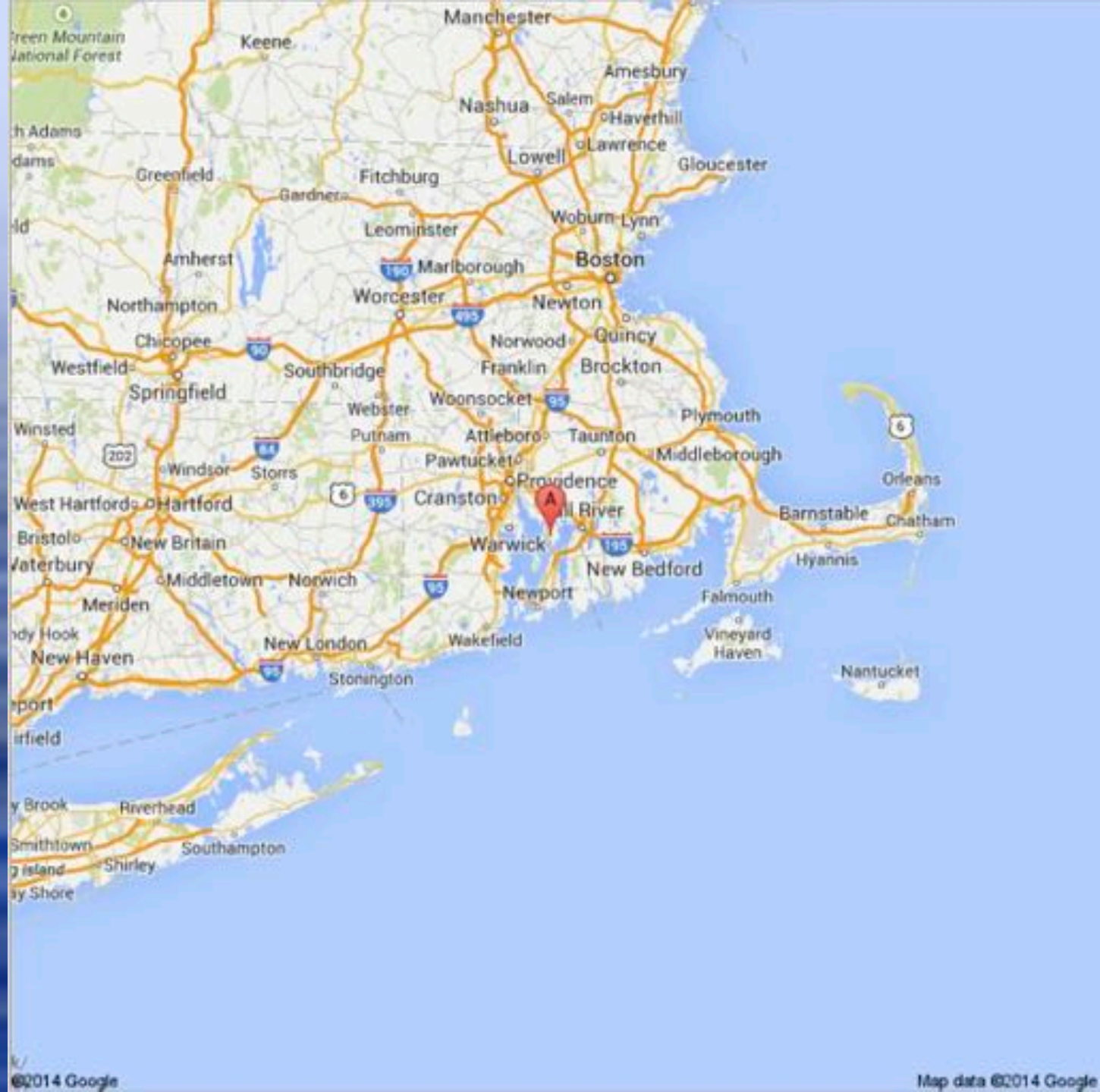


Location Bristol, R.I.

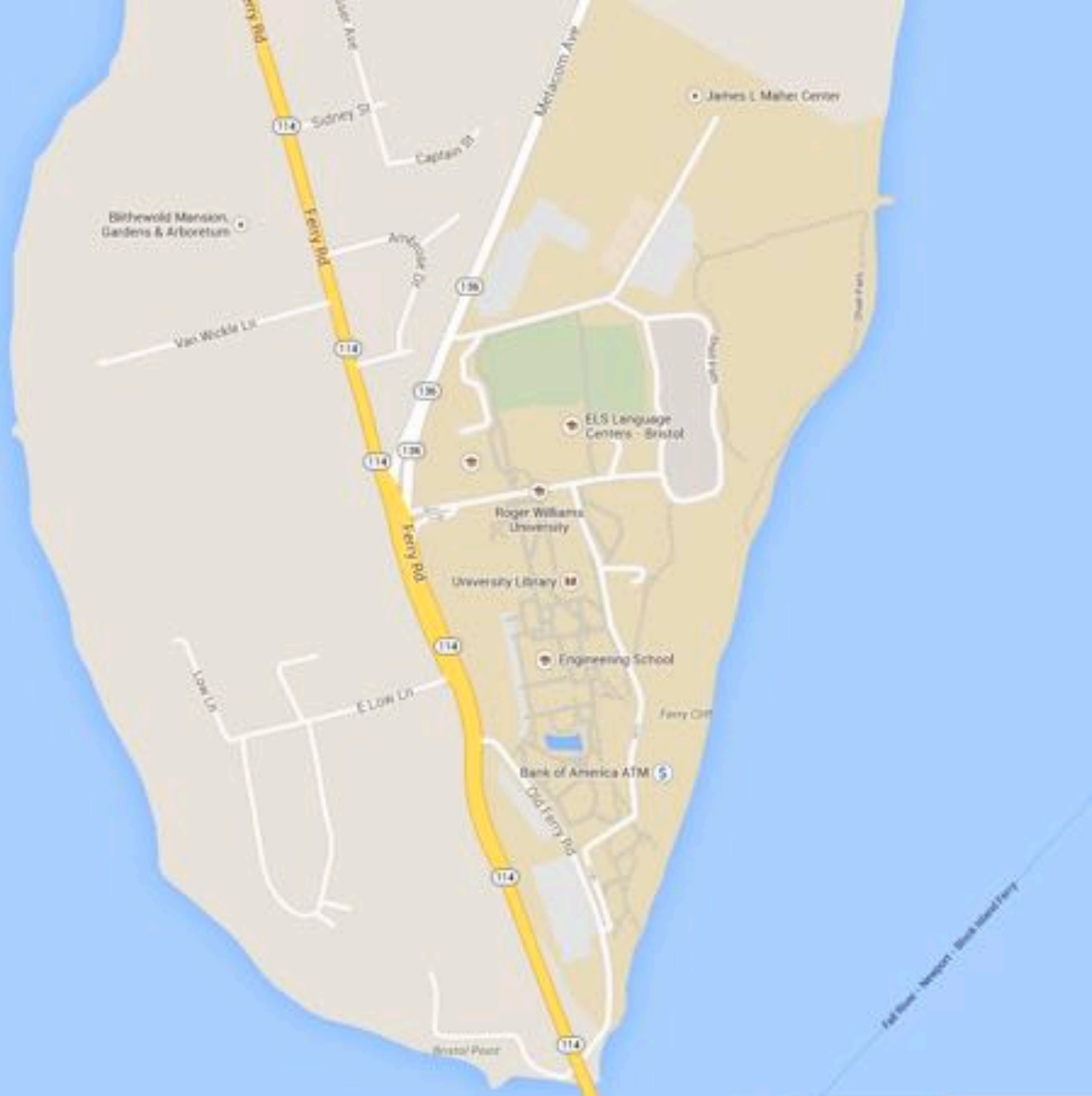
Bristol, R.I.

Just 1-1.5 hours to:

- Boston
- Mystic
- Barnstable



RWU Campus



RWU Campus







COURSES at RWU

AQUAVET® I:

An Introduction to Aquatic Veterinary Medicine

4 weeks: total immersion course

26 May to 22 June 2019

22-24 Students

Approx. 46 invited faculty

AQUAVET® II:

Comparative Pathology of Aquatic Animals

2 weeks: total immersion course

26 May to 8 June 2019

12-18 students

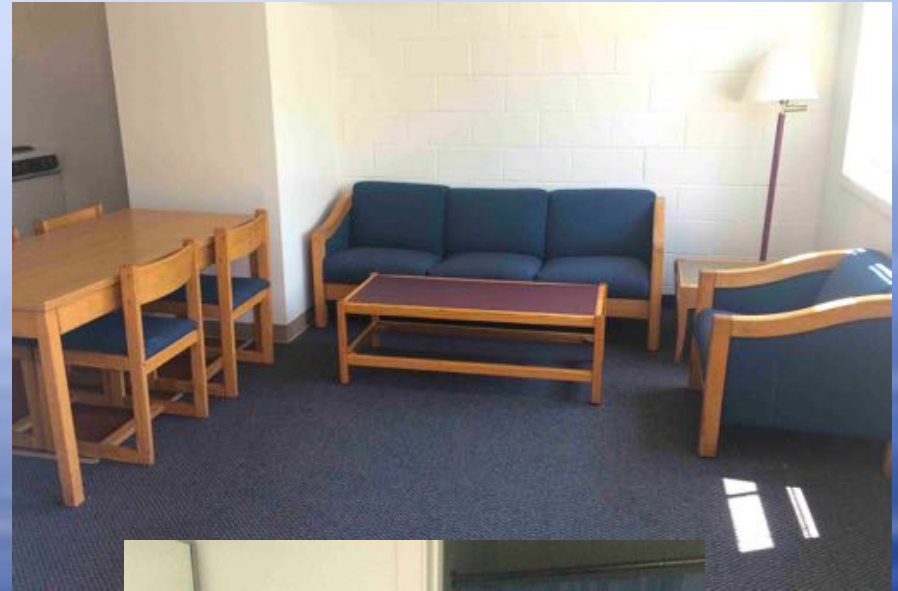
Approx. 15 invited faculty



Marine and Natural Sciences Building



Typical Dorm Room





AQUAVET® I 2018 Class in Woods Hole, MA
6-20-18

AQUAVET® I

Introduction to Aquatic Veterinary Medicine

- ♦ *Four weeks – begins May 26 and ends June 22*
- ♦ *Classes routinely five and one half days a week (and most evenings)*
- ♦ *Water Quality*
- ♦ *Invertebrates to marine mammals*
- ♦ *Lectures and laboratory sessions*
- ♦ *Student seminars*
- ♦ *Field trips*

AQUAVET® I

Introduction to Aquatic Veterinary Medicine

Invertebrates to marine mammals

- ♦ *Aquatic invertebrates*
- ♦ *Fish*
- ♦ *Amphibians and Reptiles*
- ♦ *Sea Turtles*
- ♦ *Aquatic Birds*
- ♦ *Marine Mammals*

AQUAVET® I

◆ *Field trips*

- ◆ *Intertidal Invertebrate Collecting*
- ◆ *Fish Hatchery*
- ◆ *Shellfish Hatchery*
- ◆ *Mystic Aquarium*
- ◆ *New England Aquarium*
- ◆ *Atlantis Marine World*
- ◆ *Riverhead Foundation for Marine Research and Preservation*
- ◆ *WHOI (Woods Hole Oceanographic Institute)*

AQUAVET® I

- ♦ ***Tuition for Students - \$2,425***
 - ♦ *Less \$200 from anonymous donor = \$2,225*
 - ♦ ***Includes***
 - ♦ *Tuition*
 - ♦ *Room and board (almost all meals) - 4 weeks*
- ♦ ***Required to attend class***
 - ♦ *Foundation covering 2/3 of cost*
- ♦ ***Credit Available – depending on school***
 - ♦ ***Evaluation based on***
 - ♦ *Participation in all aspects of the course*
 - ♦ *Especially student seminars*

AQUAVET® I Cost Comparisons

- ♦ **Tuition** - \$2,425 - \$200 = \$2,225
 - ♦ Compare:
 - ♦ **AQUAVET® I** – 4 weeks
 - ♦ about \$600/week - Includes
 - ♦ Tuition
 - ♦ Room and board (practically all meals)
 - ♦ **MarVet** – 2 weeks for about \$2,000
 - ♦ About \$1,000/week
 - ♦ Includes only some meals
 - ♦ **SeaVet** – about \$490 for 10 days
 - ♦ About \$345/week
 - ♦ Includes only some meals
 - ♦ Doesn't include housing



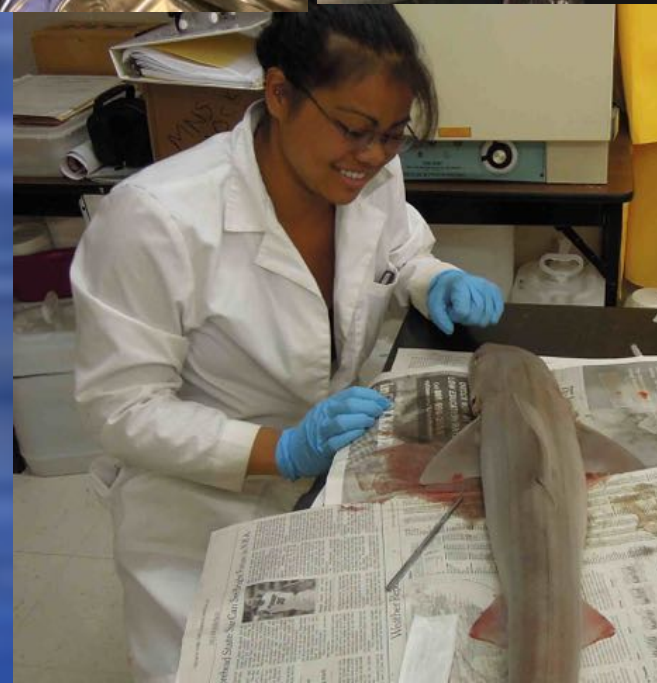
Scenes from AQUAVET® I



Scenes from AQUAVET® I



Scenes from AQUAVET® I



Scenes from AQUAVET® I



Scenes from AQUAVET® I

(photos – Robert Maze)



STUDENTS & FACULTY



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Not All Fun and Games

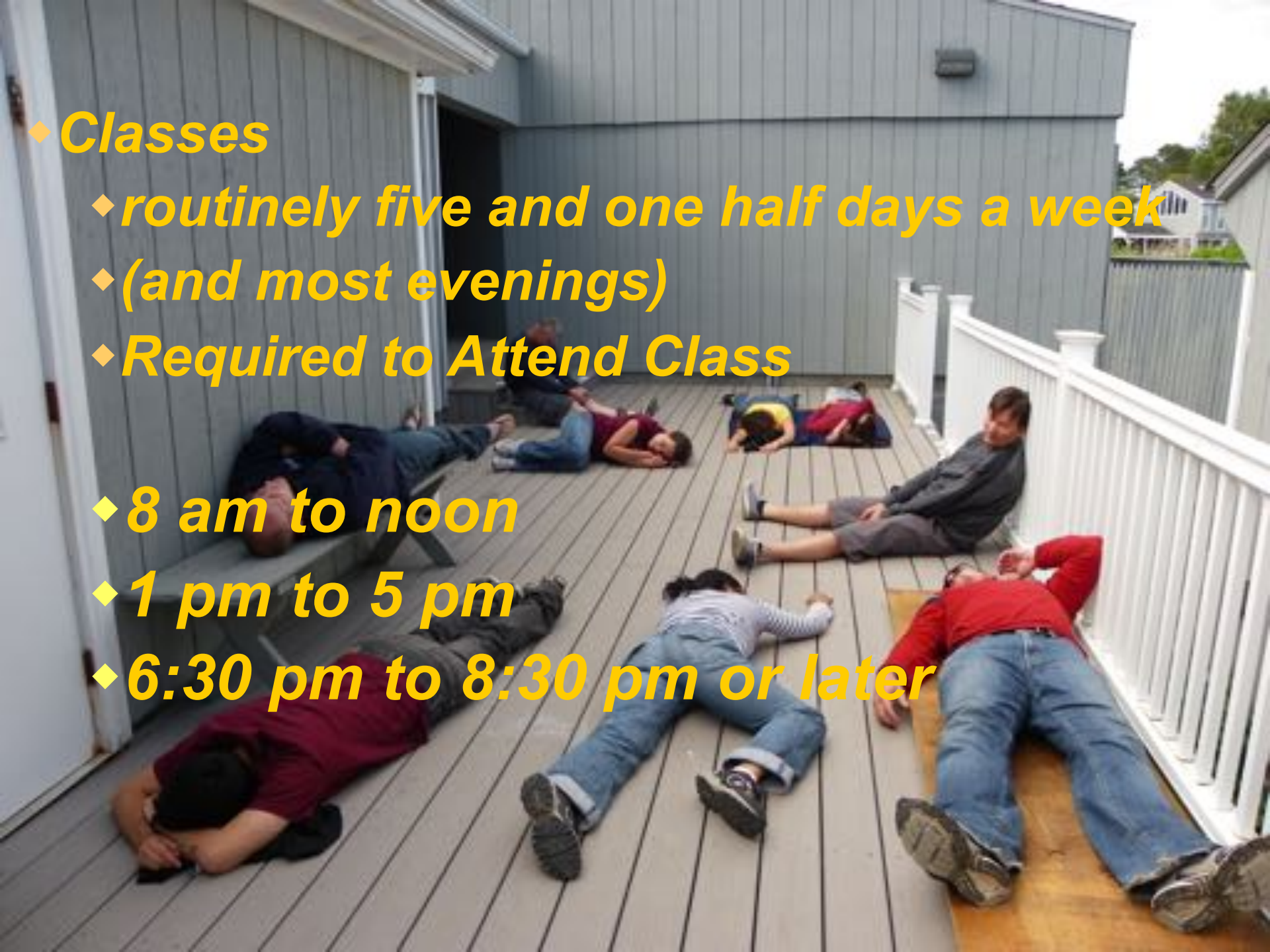
♦ ***Classes***

- ♦ ***routinely five and one half days a week***
- ♦ ***(and most evenings)***
- ♦ ***Required to Attend Class***

♦ ***8 am to noon***

♦ ***1 pm to 5 pm***

♦ ***6:30 pm to 8:30 pm or later***



AQUAVET® I

- ◆ ***Student seminars***
 - ◆ *25-30 minute*
 - ◆ *PowerPoint*
 - ◆ *Topics*
 - ◆ *Invertebrates to marine mammals*
 - ◆ *Marine plants*
 - ◆ *Ecology*
 - ◆ *prepare early*

Diving adaptations of sea turtles

Colin McDermott
University of Pennsylvania
School of Veterinary Medicine
Aquarist I
June 6 2008

Piping Plover

- Small shore bird:
 - Adults ~55 g and 6-6.5 inches tall
- Sandy-colored feathers with grayish-brown crowns and backs
- White foreheads
- Dark, incomplete rings encircle the necks
- Short, straight bills



Conservation of the Hawaiian Monk Seal

Monachus schauinslandi



<http://www.kauaimonkseal.com/Home.html>

<http://archives.starbulletin.com/2006/02/19/news/st20060219.html>

The American Paddlefish



www.pilotjournal.com/

Past, Present and Future

Ari Fustukjian

Amblyrhynchus cristatus

Galapagos Marine Iguana - Marine Iguana - Sea Iguana



Cassie Bolton
Aquavet I 2006
Kansas State University
cbolton@vet.ksu.edu

Natural History of the Octopus



Presented by
Alexandra Outlaw, D.V.M.

Koi Herpesvirus

May 27, 2004
Isadora Marion

Manatee Biology



Barbara Carver
NCSU College of Veterinary Medicine
Aquavet I
March 30, 2006

AQUAVET® II 2018

Roger Williams University Campus - Bristol, RI



AQUAVET® II

Comparative Pathology of Aquatic Animals

FOCUS

Pathology and Pathogenesis of diseases

- of important
aquatic invertebrates and fish
- biomedical research models
- cultured species

AQUAVET® II

Comparative Pathology of Aquatic Animals

- ◆ *Prerequisites: AQUAVET® I or equivalent*
- ◆ *Two Weeks – May 26 to June 8*
- ◆ *Classes 5.5 days a week and most evenings*

- ◆ *Lectures, slide review, and occasional wet labs*
 - ◆ *Primarily Fish and Invertebrates*
 - ◆ *Comparative Anatomy*
 - ◆ *Parasites*
 - ◆ *Bacterial, Viral and Fungal Diseases*
 - ◆ *Toxicology*
 - ◆ *Histopathology*

AQUAVET® II

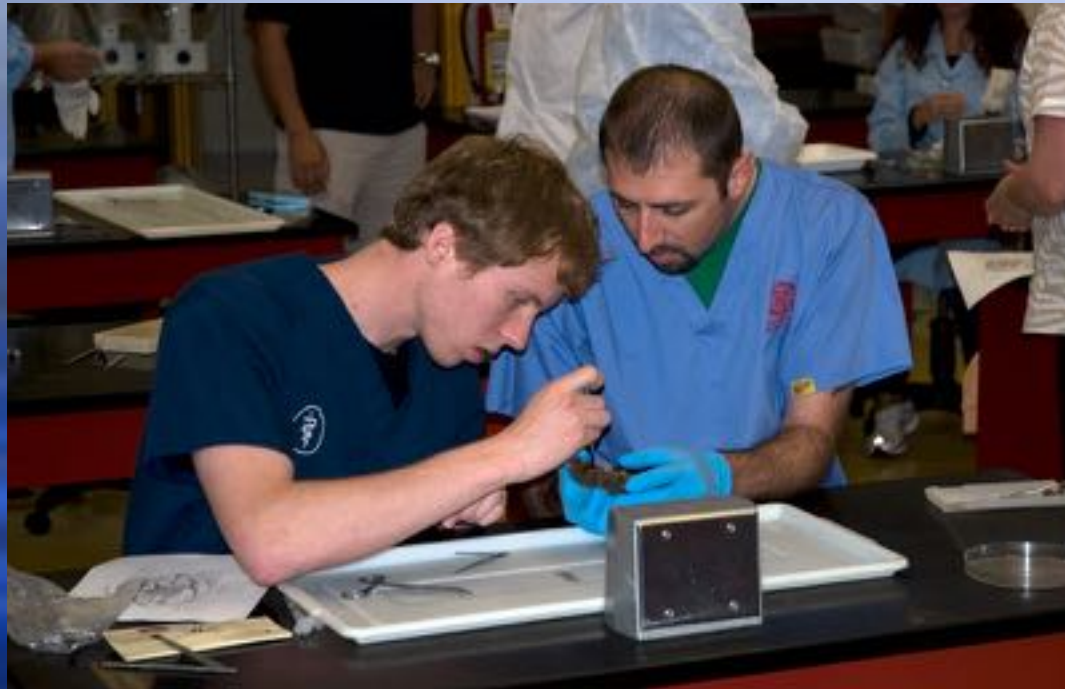
- ◆ *Student Tuition - \$1,475*
 - ◆ *Includes course instruction and room and board*
- ◆ *Required to Attend Classes*
 - ◆ *Foundation covering 2/3 of cost*
- ◆ *Course Credit possible*
 - ◆ *Depends on school requirements*
- ◆ *Evaluation*
 - ◆ *Based on class participation*



Scenes from AQUAVET® II

AQUAVET® II - Lots of Microscope Work





Several Wet Labs in AQUAVET® II



Whale Watch



Finback Whale

Humpback Whale



Finback Whale



Photo: Melchior de Bruin



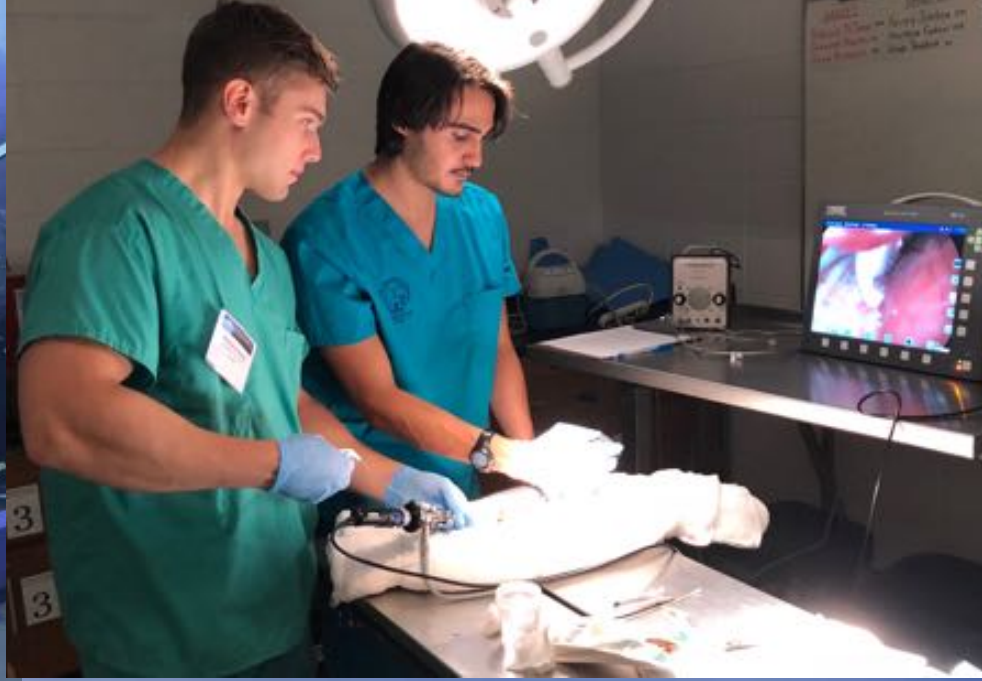
Free Time





AQUAVET® Summer Fellowship

- ♦ *Research project under guidance of AQUAVET® faculty*
- ♦ *8 week duration (July and August)*
- ♦ *Aquaculture Based Project (funding requirement)*
- ♦ *Limited positions – usually 1*
- ♦ *Pays stipend of \$3,800 after finishing all 8 weeks*
- ♦ *Publication often generated at the end of project*



AQUAVET®III 2018
Concludes at Dolphinaris in Cozumel, México



AQUAVET® III

♦ **3 Venues**

- ♦ *Georgia Aquarium, Atlanta, GA*
- ♦ *University of Georgia, Athens, GA*
- ♦ *Dolphinaris Facilities, Cancún, México*

♦ **Dates**

- ♦ *June 24^{3rd} to July 28th - 5 weeks*

♦ **15 credits**

♦ **Evaluation based on**

- ♦ *Participation in all aspects of the course*
- ♦ *Also Case Reports*

AQUAVET® III

- ♦ *Prerequisites*

- ♦ *AQUAVET® I – or equivalent*

- ♦ *Class Size*

- ♦ *6-8 students*

- ♦ *Not Included*

- ♦ *Transportation to and from Atlanta*
- ♦ *Airfare to Cancún and from Cozumel*
- ♦ *Some meals*

AQUAVET® III



- ◆ **Georgia Aquarium**

- ◆ *2 Weeks – Mon through Sat*

- ◆ *2-4 hours lecture per day*

- ◆ *Hands on care with veterinary staff*

- ◆ *Marine Mammals – Belugas, Pinnipeds, Dolphins, Otters*
- ◆ *Largest Tank in USA – one of largest in the World*
- ◆ *Fish including Elasmobranchs – Whale Sharks, Manta Rays*
- ◆ *Penguins and other birds*
- ◆ *Sea Turtles, Crocodilians and other reptiles*





Morning Rounds











AQUAVET® III

- ◆ *University of Georgia*
 - ◆ *3rd week*
 - ◆ *AM lectures*
 - ◆ *PM Endoscopy*
 - ◆ *Turtles*
 - ◆ *Fish*
 - ◆ *Fish Surgery*
 - ◆ *Lectures and Student Case Reports*





AQUAVET® III

- ◆ ***Student Case Reports***
 - ◆ *Aquarium Cases*
 - ◆ *55 minutes*
 - ◆ *PowerPoint*
 - ◆ *Preparation – first 2 weeks*
 - ◆ *Presentation – 3rd week*

AQUAVET® III



- ◆ ***Dolphinaris***

- ◆ ***Dolphin Medicine Only – 3 species***
- ◆ ***2 Weeks – Mon through Sat***
- ◆ ***3 Venues***
 - ◆ ***Cancún***
 - ◆ ***Playa del Carmen***
 - ◆ ***Cozumel***
- ◆ ***Days are a mix of lectures and hands-on activities***

AQUAVET® III - Cancún



AQUAVET® III



◆ *Dolphinaris*

◆ *Sampling of Lecture Topics*

- ◆ *Dolphin Medicine and Physiology*
- ◆ *Nutrition*
- ◆ *Reproduction*
- ◆ *Importance of Training*
- ◆ *Endoscopy*
- ◆ *Ultrasound*
- ◆ *Hematology and Cytology*

AQUAVET® III

- ◆ *Dolphinaris*
 - ◆ *Sampling of Hands On Training*
 - ◆ *Blood Collection and Hematology*
 - ◆ *Chuff Collection and Cytology*
 - ◆ *Semen Collection and Analysis*
 - ◆ *Endoscopy*
 - ◆ *Ultrasound*

AQUAVET® III

- ◆ *Dolphinaris*
 - ◆ *Sampling of Hands On Training*
 - ◆ *Blood Collection and Hematology*
 - ◆ *Chuff Collection and Cytology*
 - ◆ *Semen Collection and Analysis*
 - ◆ *Endoscopy*
 - ◆ *Ultrasound*





**Learning to do
dolphin examinations
in a beautiful
location.**



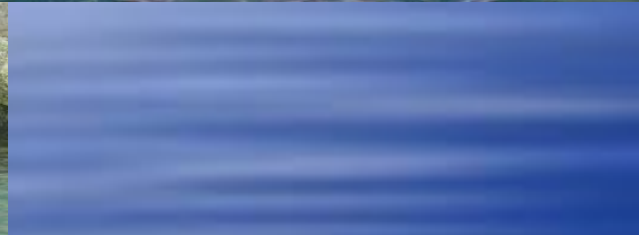
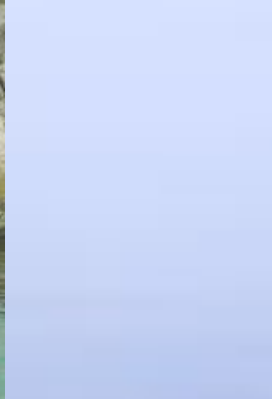
**Learning some
training techniques.**



Learning to process and analyze biological samples.



**Learning ultrasound,
first in the lab and
then in the pool.**



3 days in the water doing ultrasound



**Learning how to use
a flexible endoscope.**



Not all Work and No Play



*Post Training Session
July 2017
AQUAVET III Class
with Carlos and Juan
Dolphinaris, Cancun, Mexico*



AQUAVET® III

- ♦ ***Tuition*** - \$3,900 (\$4,950 Non-student)
Includes
 - ♦ *Tuition*
 - ♦ *Room and majority of board - 5 weeks*
- ♦ ***Tuition*** - \$3,900 (\$4,950 Non-student)
 - ♦ *\$8,900 is actual tuition (which doesn't cover all costs)*
 - ♦ *\$5,000 paid by anonymous donors*
 - ♦ *Additional funds paid by anonymous foundation*
 - ♦ *(to help keep tuition and expenses lower)*
- ♦ ***Course Credit Available***
 - ♦ ***Evaluation based on***
 - ♦ *Participation in all aspects of the course*
 - ♦ *Also Case Reports*

APPLICATION PROCESS

Application forms www.aquavet.org

Down-load the application form

MS Word and pdf

Please Submit **Electronically**

APPLICATIONS DUE 15 Jan 2019

APPLICATION PROCESS

What you must submit:

1. The completed application form
2. OFFICIAL Undergraduate transcripts
3. OFFICIAL Veterinary school transcripts

NOTE: “OFFICIAL” means they are sent directly to the director by the university. We cannot accept transcripts sent by the students. Most are done electronically these days.

APPLICATION PROCESS

NOTES:

- If applying for more than one course, need to submit application for each, however, only one set of transcripts
- If applying for a second year (e.g. AQV2 or AQV3), only the updated veterinary school transcript is required (and application)
- Veterinary school transcript must include recent work (fall of the year before application due)
- CV accepted but NOT required
- Letters of recommendation accepted but NOT required
- Transcripts must be official copies sent directly to the director
 - Transcripts should be sent electronically by the university to the director
 - Paper transcripts are problematic, but IF NECESSARY will be accepted at director's address

APPLICATION PROCESS

Where to submit:

Should be electronic: aquavetmail@gmail.com

If transcripts must be sent by mail:

Donald W. Stremme, V.M.D.
AQUAVET® Director
Cornell University
College of Veterinary Medicine
Microbiology and Immunology
C5181 Vet Medical Center
Ithaca, NY 14853



APPLICATION PROCESS

- ♦ *Applications due Jan 15, 2019*
- ♦ *Application forms - website*
 - ♦ *Via E-mail as PDF file preferred*
- ♦ ***Essay** - highlight any aquatic experience*
 - ♦ *Can be separate word document*
 - ♦ *This is most important part of your application*
- ♦ *Acceptance to the program*
 - ♦ *Competitive Basis*
 - ♦ *Announced in February*

APPLICATION PROCESS

The application process is competitive

What does the admission committee look for?

An indication that you will use the information in the future

What have you done in the past in the aquatic sciences
and/or aquatic animal medicine.....
and/or even other exotic animal work

Formal courses

Other courses

Paid and volunteer work experience

Other: e.g. hobbies (keep aquarium fish)

Membership: IAAAM, WAVMA, AAFV, AAZV, ARAV, etc.

Application form, essay –

Why you think you will benefit from the course.

Probably the most important part of the application.

Follow the instructions regarding length of your essay.

Proof read it.

Further information

- ♦ Website www.aquavet.org
- ♦ *Contact Information*

Donald W. Stremme, VMD
(609) 350-3044
aquavetmail@gmail.com

