



The University of Arizona

## 2009 Shrimp Pathology Short Course

### Disease Diagnosis and Control in Marine Shrimp Culture

June 1 – 12, 2009

Sponsored by The University of Arizona Department of Veterinary Science and Microbiology and in cooperation with the USDA Marine Shrimp Farming Program.

**Registration Information:** Registration is limited to 30.

**Deposit and Early Registration Deadline:** \$100 (USD) by April 1, 2009.

**To Apply:** Complete the application form indicating how you will be paying your \$100 deposit (Bank draft, Mastercard & Visa accepted) and send the form by mail, FAX or email.

**Mailing address:**

The University of Arizona  
Department of Veterinary Science & Microbiology  
Aquaculture Pathology Laboratory  
1117 E. Lowell Street, Room 102  
Tucson, Arizona 85721 USA  
Phone: 520-621-8414, 520-621-4438  
FAX: 520-621-4899  
Email: [ritar@email.arizona.edu](mailto:ritar@email.arizona.edu) or [dvl@email.arizona.edu](mailto:dvl@email.arizona.edu)

**Cost:**

\$1,500 (USD) if deposit received on or before April 1, 2009.

\$2,000 (USD) if deposit received on or after April 2, 2009.

**Note:** The University of Arizona reserves the right to cancel the course if participant pre-enrollment is less than 10. All deposits will be refunded if the course is cancelled. Deposit will be refunded if participant's cancellation is received on or before May 1, 2009. After this date, participant's deposit will not be refunded. No exceptions.

**Accommodations:**

Both single and double rooms are available at the nearby Sheraton Four Points Hotel at \$65.00 per night per room (price does not include the applicable taxes). On campus dormitory rooms are also available for \$27.00 per night for a single room and \$46.00 per night (\$23.00 per person) for a double room.

**International Travelers:**

Due to more stringent U.S. entry requirements, **allow a minimum of 4-6 months for visa processing.**

## Program

**Lectures:** At least two lectures are scheduled each day. The following topics will be covered:

1. Course introduction, purpose, scope and schedule.
2. Introduction to gross anatomy and normal histology.
3. White Spot Disease (WSSV).
4. The baculovirus and baculo-like virus disease including MBV, BP and BMN.
5. Infectious hypodermal and hematopoietic necrosis virus, hepatopancreatic virus and other parvovirus caused diseases.
6. Taura syndrome, Infectious myonecrosis, Yellowhead and other RNA virus caused diseases.
7. Bacterial, rickettsial and fungal diseases.
8. Surface fouling diseases.
9. Nutritional diseases.
10. Toxic and environmental disease syndromes.
11. Diseases of unknown or uncertain etiologies.
12. Parasitic diseases.
13. Methods of disease prevention and/or treatment.
14. New diagnostic procedures.

**Labs and Demonstrations:** Two lab sessions per day. Topics to be covered in the labs include:

1. Fixation procedures for routine histology.
2. Standard histological techniques.
3. Normal histology and post-mortem change of principal organs and tissues.
4. Wet mount diagnostic procedures.
5. PCR/RT-PCR and gene probes for diagnosis of viral diseases.
6. Antibody-based methods for diagnosis of viral diseases.
7. Isolation, culture, identification and antibiotic sensitivity of bacterial isolates.
8. Histopathology of viral, bacterial, rickettsial, fouling, parasitic, toxic and nutritional diseases.

### University Graduate Course Credit:

Three graduate credits are available for VSC565 (US Residents) through The University of Arizona Summer Session. For more information concerning University graduate studies application forms, enrollment fees and late fee deadlines, contact Rita Redman or Dr. Donald Lightner at The University of Arizona: office phone - (520) 621-8414, (520) 621-4438; or e-mail: [ritar@email.arizona.edu](mailto:ritar@email.arizona.edu) or [dvl@email.arizona.edu](mailto:dvl@email.arizona.edu).

### Lectures, Labs and Demonstrations:

By Staff from the Department of Veterinary Science and Microbiology  
D.V. Lightner, Ph.D.: Professor, Specialist in diseases of cultured shrimp  
C.R. Pantoja, Ph.D.: Associate Research Professor, Shrimp Pathologist  
K.Tang-Nelson, Ph.D.: Associate Research Professor, Molecular Virologist  
Sudheesh Ponnerassery, Ph.D.: Research Specialist Senior  
L.L. Mohny, M.S.: Microbiologist  
S.A. Navarro, B.S.: PCR techniques, Microbiologist  
R.M. Redman, H.T.: Histotechnologist

### Need more information?

Contact Rita Redman or Dr. Donald Lightner:  
The University of Arizona  
Department of Veterinary Science & Microbiology  
Aquaculture Pathology Laboratory  
1117 E. Lowell Street, Room 102  
Tucson, Arizona 85721 USA  
Phone: 520-621-8414, 520-621-4438; FAX: 520-621-4899  
Email: [ritar@email.arizona.edu](mailto:ritar@email.arizona.edu) or [dvl@email.arizona.edu](mailto:dvl@email.arizona.edu)

To apply, please fill out the following application form and send the form by mail, FAX or e-mail.

<b>The University of Arizona 2009 Shrimp Pathology Short Course Application Form</b>			
Name ( <input type="checkbox"/> Dr <input type="checkbox"/> Mr <input type="checkbox"/> Mrs <input type="checkbox"/> Ms) :			
Academic Degrees: <input type="checkbox"/> B.S. <input type="checkbox"/> M.S. <input type="checkbox"/> Ph.D <input type="checkbox"/> DVM <input type="checkbox"/> Other			
Field(s) of Study:			
Institution/ Company Name:			
Address:			
City	State	Country	Postal Code
Telephone number:		FAX number:	
E-mail address:			
<b>Important: Please provide your FAX number and/or e-mail address.</b>			
Lodging preference: <input type="checkbox"/> Sheraton Four Points <input type="checkbox"/> Dormitory <input type="checkbox"/> Other			
Arrival date:		Departure date:	
Will you be taking course VSC565 for graduate credit (USA participants)? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Application deposit of \$100 (USD) must be received by April 1, 2009 to receive discount on the Shrimp Pathology Short Course fees.</b>			
Check enclosed made payable to The University of Arizona <input type="checkbox"/> Yes <input type="checkbox"/> No			
Credit Cards accepted: <input type="checkbox"/> MasterCard <input type="checkbox"/> Visa			
Card number	Security code	Expiration date	
Signature:			
Fill out application form and send by email, mail or FAX to: The University of Arizona Department of Veterinary Science & Microbiology 1117 E. Lowell Street, Rm. 102 Tucson, Arizona 85721, USA FAX: 520-621-4899 Rita Redman or Dr. Donald Lightner - email: <a href="mailto:ritar@email.arizona.edu">ritar@email.arizona.edu</a> / <a href="mailto:dvl@email.arizona.edu">dvl@email.arizona.edu</a>			