

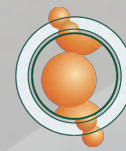
# FUNGAL IDENTIFICATION & ENUMERATION

DATES: JUNE 13TH — 15TH, 2012 (BEFORE THE [ASM GENERAL MEETING](#) IN SAN FRANCISCO)

INSTRUCTOR: DR. FLORENCE WU

LOCATION: AEMTEK TRAINING ROOM, 46309 WARM SPRINGS BLVD., FREMONT, CA 94539

COST: \$1,650 **SPECIAL 10% DISCOUNT AVAILABLE TO ALL ASM GENERAL MEETING ATTENDEES!**



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COST INCLUDES COURSE MATERIALS, LIGHT BREAKFAST, BREAK REFRESHMENTS AND CERTIFICATE OF ATTENDANCE  
CONTINUING EDUCATION CREDITS AVAILABLE THROUGH ACAC

- OBJECTIVES:**
- 1) Acquire essential knowledge and skills for fungal identification.
  - 2) Practice fungal sampling, isolation, culture and enumeration techniques.
  - 3) Gain proficiency in identifying the most common environmental fungi.

**WHO SHOULD ATTEND:** Any professionals in the environmental, food, and pharmaceutical industries that are interested in learning and performing fungal identification.

<b>WEDNESDAY, JUNE 13TH, 2012 (DAY 1)</b> <b>8:30 AM—5:00 PM</b>	
<b>8:00—8:30 AM</b>	<b>Welcome &amp; Continental Breakfast</b>
Lecture 1	Characteristics, Reproduction and Classification of Fungi
Lab Session 1	Fungal Sampling, Culturing and Isolation Techniques
<b>12:00—1:00 PM</b>	<b>Lunch (On Your Own)</b>
Lecture 2	Essential Skills for Fungal Identification and Introduction to Zygomycetes
Lab Session 2	Microscopy Techniques and Examination of Zygomycete Species
<b>4:30—5:00 PM</b>	Questions & Answers / Adjourn

<b>THURSDAY, JUNE 14TH, 2012 (DAY 2)</b> <b>8:30 AM—5:00 PM</b>	
<b>8:00—8:30 AM</b>	<b>Continental Breakfast</b>
Lecture 3	Characteristics, Classification and Important Species of Ascomycetes
Lab Session 3	Identification of Ascomycete Species and Diagnostic Keys
<b>12:00—1:00 PM</b>	<b>Lunch (On Your Own)</b>
Lecture 4	Characteristics, Classification and Important Species of Deuteromycetes
Lab Session 4	Microscopic Examination of Deuteromycete Fungi
<b>4:30—5:00 PM</b>	Questions & Answers / Adjourn

<b>FRIDAY, JUNE 15TH, 2012 (DAY 3)</b> <b>8:30 AM—3:00 PM</b>	
<b>8:00—8:30 AM</b>	<b>Continental Breakfast</b>
Lecture 5	<i>Aspergillus</i> , <i>Penicillium</i> and Other Common Species
Lab Session 5	Microscopic Examination of Common <i>Aspergillus</i> and <i>Penicillium</i> Species
<b>12:00—1:00 PM</b>	<b>Lunch (On Your Own)</b>
Lecture 6	Introduction to Basidiomycetes and Yeast
Lab Session 6	Demonstration of Fungal Enumeration Techniques
<b>2:30—3:00 PM</b>	Questions & Answers / Adjourn

## ABOUT THE INSTRUCTOR

**Dr. Florence Wu** is the Chief Scientific Officer and Principal Mycologist at AEMTEK, Inc. She has over 20 years of academic and work experience in mycology and microbiology. She earned a Ph.D. in mycology from the University of Tennessee, and has been performing fungal identification and microbiology analysis for academics, environmental, pharmaceutical, and food and beverage industries. In addition, Dr. Wu has published many scientific papers and book chapters, and has given many technical lectures and presentations. She currently holds the positions of Board Member, Adjunct Professor, and Research Associate at various institutions, and is an active member of several professional organizations, including the Indoor Air Quality Association, International Association for Food Protection, and Parenteral Drug Association.



# DETAILED WORKSHOP OUTLINE

For questions regarding course content, please contact  
Dr. Florence Wu at 510-979-1979, or e-mail her at  
[florence@aemtek.com](mailto:florence@aemtek.com).



## Lecture 1 – General Characteristics, Reproduction and Classification of Fungi

- General characteristics of fungi
- Definition of fungal structures
- Fungal reproduction and spores
- Classification and naming of fungi
- Proper handling of samples and fungal cultures

## Lecture 2 – Essential Skills for Fungal Identification and Introduction to Zygomycetes

- Diagnostic features for fungal identification
- Spore generating mechanism and its significance for identification
- How to use dichotomous keys as a tool for identification
- Useful and specific references for various industries
- Introduction to Zygomycetes

## Lecture 3 – Characteristics, Classification and Important Species of Ascomycetes

- General characteristics of Ascomycetes
- Definition and classification
- Growth and reproduction requirements
- Important environmental and containment species

## Lecture 4 – Characteristics, Classification and Important Species of Deuteromycetes

- General characteristics of Deuteromycetes
- Definition and classification
- Growth and reproduction requirements
- Important environmental and containment species

## Lecture 5 - *Aspergillus*, *Penicillium* and Other Common Species

- General characteristics of *Aspergillus* and *Penicillium*
- Definition and Identification
- Other common contaminant fungi

## Lecture 6 - Introduction to Basidiomycetes and Yeast

- Characteristics and classification of Basidiomycetes
- Introduction to yeast
- Options for yeast identification

## Lab Session 1 - Fungal Sampling, Culture and Isolation Techniques

- Product sampling strategies and methods
- Environmental sampling design and techniques
- Fungal culture preparation methods
- Growth requirements and media selection
- How to isolate fungi for identification

## Lab Session 2 – Microscopy Techniques and Examination of Zygomycete Species

- Calibration, use and maintenance of a microscope
- Introduction of mounting media
- Methods for making good microscopic slides
- Examination and description of important fungal structures
- Identification of Zygomycetes species

## Lab Session 3 – Identification of Ascomycete Species and Diagnostic Keys

- Examination of ascus and ascospores
- Microscopy of important Ascomycete species
- Use of important diagnostic keys

## Lab Session 4 – Microscopic Examination of Deuteromycete Fungi

- Ecology and occurrence
- Colony appearance observation
- Microscopic characteristics
- Examination of most common environmental molds

## Lab Session 5 – Microscopic Examination of Common *Aspergillus* and *Penicillium* Species

- Morphological characteristics for identification
- Classification and culture schemes
- Examination of important species
- Automated identification methods

## Lab Session 6 – Demonstration of Fungal Enumeration Techniques

- How to select suitable enumeration methods
- Direct plating, pour plating, and spread plate methods
- Pro and cons of commercially available enumeration methods



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- 3) **FAX:** 510-668-1980
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**SPECIAL 10% DISCOUNT AVAILABLE TO ALL ASM GENERAL MEETING ATTENDEES!**

**REGULAR PRICE: \$1,650**

**ASM DISCOUNTED PRICE: \$1,485!**

TO REGISTER FOR THE WORKSHOP AND RECEIVE THE SPECIAL ASM PRICING, PLEASE CONTACT MELISSA HUGHES AT 510-979-1979 (MON-FRI, 9AM-6PM PST) OR E-MAIL HER AT [MELISSA.HUGHES@AEMTEK.COM](mailto:Melissa.Hughes@AEMTEK.com).

**THIS DISCOUNTED PRICING IS NOT AVAILABLE ONLINE.**



# ATTENDEE REGISTRATION FORM

Fields marked with asterisk (\*) are required

**ATTENDEE INFORMATION** (Please print. Use one form for each person attending.)

First Name*	M.I.	Last Name*
Title*		
Company*		
Business Address*		
City*	State*	Zip Code*
Business Phone*	Ext.	Business Fax
E-mail Address*		

**WORKSHOP ATTENDING\***

**Fungal Identification and Enumeration**

**\$1,650.00**

**Total Amount Due\***

Wednesday, June 13th—Friday, June 15th, 2012

\$ \_\_\_\_\_

Cost includes course materials, light breakfast, break refreshments and certificate of attendance.

**METHOD OF PAYMENT\***

- Check** (Please remit payment to AEMTEK)
- Visa**
- MasterCard**
- Discover**
- American Express**

I am authorized to sign this Attendee Registration form on behalf of attending company and/or individual, and I have read and understand the Registration form and agree to be bound by all of its terms and conditions.

Signature\* \_\_\_\_\_

Date\* \_\_\_\_\_

Credit Card #
Date of Expiration
CCV # <small>(3-4 digit code located on front/back of card)</small>
Name as it appears on credit card
Billing Street Address
Billing City and Zip Code

**TERMS & CONDITIONS**

AEMTEK, Inc. reserves the right to determine eligibility of any company and/or individual to attend course, and reserves the right to reject or prohibit any company and/or individual, with or without giving cause. AEMTEK, Inc. also reserves the right to modify or cancel any training course or workshop. In the event of a cancellation, all attendees will be informed as soon as possible, and receive a full reimbursement of course fees only. Any refund requests received **at least 7 days** prior to the training course will be fully refunded, minus a processing fee. No refunds will be issued if notice is given less than 7 days prior to course. The attendee's registration may be transferred to a colleague with written notification.