



Microrite, Inc. brings you this unique learning experience in Microbiology for Non-Microbiologists-E-Workshop; Part of Microrite's step-by-step E-Workshop series.

### **Microbiology for Non-Microbiologists E-Workshop**

Microbial contamination in regulated as well as some non-regulated products is a big concern. Many companies do not have the microbiology expertise in-house, and depend only on the contract laboratories for the microbiology testing. However, good microbial control cannot be attained without understanding the risk of microbial contamination. This 3 Part E-Workshop is developed for closing the knowledge gap for personnel who have little or no microbiology knowledge and are required to perform microbiology related functions.

This course will explain what contamination is all about, where microbial contamination comes from, how microorganisms grow, and how they can be controlled and monitored. All areas in manufacturing and cleanroom operations will be discussed. Additionally microbiological test methods and their application will be discussed.

#### **When?**

**September 25<sup>th</sup>, 26<sup>th</sup> & 27<sup>th</sup> 2018**

**10:30am to 12:30pm**

**Eastern Daylight Time**

#### **Which industries does this E-Workshop apply to?**

Pharmaceuticals, Biotechnology, Medical Device, Food, Beverages, Water, In Vitro Diagnostics, and Chemical Manufacturing industries

#### **Who will benefit:**

Quality Assurance, Quality Control, New Microbiology Analysts, Regulatory, Manufacturing, Validation, Facilities, Engineering, Materials, R&D, and Training Personnel

#### **Who will be teaching?**

**Ziva Abraham**, a known microbial contamination control expert and a trained mycologist, has educated industry on fungal identification for over a decade. Her understanding of the origin and behavior of mold makes her a well-respected investigator for mold contaminations.

Ziva has over 25 years of academic, research, clinical and industrial experience in Microbiology, and Quality Assurance. She has trained personnel from various industries in microbiology techniques and methods. Ziva has received her Master's Degree in Microbiology and has conducted research on developing Microbial Insecticides during her graduate studies working mainly with fungi. She has established clinical laboratory systems in Israel, and Microrite, Inc. a consulting company based in San Jose, CA that serves Pharmaceutical, Medical Device, In-Vitro Diagnostic and Biotechnology Companies.

Microrite focuses on helping companies with contamination control, microbiological quality control for sterile and non-sterile manufacturing, quality assurance, and validation.



## Microbiology for Non-Microbiologists - Part 1 Understanding Microorganisms

September 25<sup>th</sup>, 2018

Part 1 of the 3 day E-workshop on “microbiology for non-microbiologists” will focus on enabling attendees to grasp the concepts underlying the biology of microbes, the sources of their origin, their growth characteristics, techniques used to grow, and detect microbial contamination. Consequences of microbial contamination in healthcare, food and beverages, water, and even chemical manufacturing will be discussed.

### Part 1 of this E-Workshop will include:

- An understanding of the types of microorganisms
  - Bacteria
  - Yeast
  - Fungi
- Types of microorganisms
  - Mesophiles
  - Thermophiles and Thermotolerant
  - Psychrophiles and Psychrotolerant
  - Halophiles
- Where will one find each of these organisms? In cleanrooms? In manufacturing?
  - Where do these organisms come from?
  - Where will they proliferate in your facility, process, and product?
- Growth requirements
  - Media, temperature, and pH requirements
- Why some media are better than others for detecting, growing, and promoting sporulation
- Importance of understanding microbial contamination in pharmaceutical, device, IVD, and food industries
- **Homework**

“Microbes are our ancestors, we think fast, they adapt fast” (Z. Abraham 1998)

### Bug Facts:

1. There are more microbes on one person’s hand than there are people on the planet.
2. Microbes generate at least half the oxygen we breathe



## **Microbiology for Non-Microbiologists - Part 2** **Managing Microorganisms in Cleanroom, Production and Product**

**September 26<sup>th</sup>, 2018**

Managing microbial contamination in a regulated or even a non-regulated industry can be performed in three-stages, with the first stage used to assess the transfer of contamination from all of the sources within the facility. The second stage is used to assess contamination sources and proliferation of contamination in the process; while the third is used to evaluate the product's capability of controlling microbial growth. These methods can be used to assess and reduce microbial risk at the preliminary design stage of the cleanroom and associated manufacturing process, or retrospectively for an established manufacturing operation.

### **Part 2 of this E-Workshop will include:**

- **Managing microorganisms in the cleanroom**
  - Cleanroom design consideration for sterile and non-sterile products - An overview
  - Cleanroom maintenance
  - Personnel and material flows
  - Cleaning and disinfection - critical for managing microbial contamination
  - Monitoring - a preventive measure
- **Managing microorganisms in production**
  - Managing raw material contamination
  - Managing water and added gases
  - Equipment design
  - Cleaning and drying of equipment and parts
  - Containers and closures
  - In-process testing
- **Managing microorganisms in the product**
  - PH
  - Antimicrobials / preservative
  - Storage
  - Shipping
- **Homework**



## Microbiology for Non-Microbiologists - Part 3 Testing microorganisms in cleanroom and product

September 27<sup>th</sup>, 2018

In order to ensure the product is free of objectionable organisms; monitoring and testing the environment, process, and product is crucial. For regulated industries there are defined guidelines; however, many of the tests can also be used to prevent, and monitor contamination levels in a facility, process or product to avoid cost or health related implications.

### Part 3 of this E-Workshop will include:

- Testing microorganisms in cleanrooms
  - Environmental monitoring
  - Compressed air and gas testing
  - Water testing
  
- Product testing
  - Sterility testing for aseptically manufactured products
  - Sterility testing for terminally sterilized product
  - Pre-sterilization bioburden testing
  - Bioburden testing methods and techniques
  - Water testing
  - Antimicrobial / preservative testing
  - Microbial limits testing for non-sterile products
  - Endotoxin testing
  - When water activity testing can be used?
  - Subtle differences in compendial testing for microbial tests

### Bug Facts:

1. If you get a handful of soil from your garden, you'll be holding hundreds if not thousands of different kinds of microbes. In a single teaspoon of soil there will be 1 billion bacteria, 120,000 fungi & 25,000 algae
2. Microbiology's disciplines overlap possibly more than any other field of science. Its fields can be classified through taxonomical means, as well as broken down into pure or applied science. Microbiology also has fields with practical applications, such as medical microbiology, pharmaceutical, industrial, agricultural, and more. Each of the various practical fields offers unique benefits to society!



**REGISTRATION FORM**

**Microbiology for Non-Microbiologists E-Workshop**

<b>Personal Information of One Registrant</b>	
Last Name:      Mr. Ms. Dr.	First Name:
Job Title:	Organization:
Mailing Address:	
Telephone:	
Email:	
<b>Fee: (see fee structure below)</b>	
<input type="radio"/> <b>\$675 per person</b>	
<p><b>Method of Payment: Credit Card and Check payments only. Attendees can register and make payments on Microrite’s website-<a href="http://www.microrite.com">www.microrite.com</a> or complete this form and fax to 408-445-1236. Check payments must be cleared before the webinar date. If you have any questions regarding payment methods feel free to contact Microrite at 408-445-0507 or send your enquiry to <a href="mailto:info@microrite.com">info@microrite.com</a>.</b></p>	
<p>Confirmation of registration will be sent via email. For credit card payment on website, a payment receipt will be considered as confirmation of registration. For credit card information faxed to Microrite an email confirmation will be sent with a copy of payment receipt. Please call 408-445-0507 in due time if confirmation is not received after payment. Webinar cancellation must be received 3 business days prior to the E-Workshop less a 10% service fee, cancellation requests will be accepted via email only. All refund requests must be made by the organizations primary contact or credit card holder. Refunds will be credited to the original credit card used to purchase the E-Workshop.</p>	



**Microbiology for Non-Microbiologists E-Workshop**

Additional Attendees		
	First and Last Name	Email
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		



**Microbiology for Non-Microbiologists E-Workshop**

Choose One (Place X) ▶	<input type="checkbox"/> VISA	<input type="checkbox"/> Master Card	<input type="checkbox"/> American Express
Card Holder's Name ▶			
Address of Card Holder:	Enter firm address for corporate card or personal address for personal card		
Street:			
City/State:			
Zip Code:			
Country:			
Contact Ph No & Email:			
Card Number:			
Expiration(Month/Year):			
Amount (US Dollars):			
Signature:			
Name of Attendee(s)			
Referred by:	Kindly note the name of the company or person that referred you to this workshop. We would like to thank them.		

**AT MICRORITE WE TEACH! NOT SPEAK**