
AMERICAN BIOLOGICAL SAFETY ASSOCIATION
ABSA
INTERNATIONAL
The Association for Biosafety and Biosecurity
61st Annual Biological Safety Conference
Charleston Convention Center • Charleston, South Carolina
October 12-17, 2018
www.absaconference.org
Preliminary Program

# ABSA International

ABSA International was founded in 1984 to promote biosafety as a scientific discipline and serve the growing needs of biosafety professionals throughout the world. The Association's goals are to establish the global standard for biological safety, to provide a professional association that represents the interests and needs of practitioners of biological safety, and to provide a forum for the continued and timely exchange of biosafety information. ABSA International accomplishes these goals through providing members and stakeholders expertise and resources through publications in the peer-reviewed journal *Applied Biosafety*, the ABSA International website, sponsoring an annual Biological Safety Conference, training programs to inform members of regulatory initiatives, hazard recognition and management issues, risk communications, current biosafety publications, meetings and seminars, e-mail updates, training opportunities, and employment opportunities. Additionally, ABSA International members receive "Members Only" web privileges where they have access to past issues of *Applied Biosafety*, and members can participate in a biosafety mentoring program.

**What is Biosafety?**
The concept of biological safety (or biosafety) has paralleled the development of the science of microbiology and its extension into new and related areas including tissue culture, recombinant DNA, animal studies, molecular biology, synthetic biology, and biotechnology. The knowledge and skill gained by microbiologists necessary to isolate, manipulate, and propagate pathogenic microorganisms required parallel development of containment principles, facility design, and practices and procedures to prevent occupational infections in the workplace or release of the organisms to the environment.

**What is a Biosafety Professional?**
A biosafety professional develops and participates in programs to promote safe microbiological practices, procedures, and proper use of containment equipment and facilities; stimulates responsible activities among workers; and provides advice on laboratory design.

**Core Purpose**
ABSA International is dedicated to promoting and expanding biological safety experience.

**Core Organizational Values**
Leading the profession
Collaboration and community
Promote biosafety as a scientific discipline
Absolute integrity
High standards of excellence

ABSA INTERNATIONAL
The Association for Biosafety and Biosecurity

**www.absaconference.org**

# 61st Annual Biological Safety Conference

**Special Event**
On Tuesday night come aboard the World War II's famous "Fighting Lady" USS Yorktown Aircraft Carrier at Patriots Point! Christened 75 years ago by former First Lady Eleanor Roosevelt, the USS Yorktown became Patriots Point Naval & Maritime Museum in 1976. Enjoy unmatched views of the Charleston harbor and city skyline from the flight deck while nibbling on appetizers. Exhibits will be open for you to learn about past life on board a Navy ship. A hickory-smoked feast with vegetarian options will be served in the Hangar Bay. Plan to join us at this historical venue for dinner, music, amazing displays, and great city views.

**Award Presentations**
Monday, 8:25 am—Arnold G. Wedum Memorial Lecture Award
Monday, 11:35 am—Robert I. Gross Student Award & Lecture
Tuesday, 8:05 am—Griffin Lecture Award
Tuesday, 11:00 am—Eagleson Lecture Award
Wednesday, 9:40 am—Richard Knudsen Award
Wednesday, 11:30 am—Arnold G. Wedum Distinguished Achievement Award
Wednesday, 11:30 am—Everett J. Hanel, Jr. Presidential Award
Wednesday, 11:30 am—John H. Richardson Special Recognition Award
Wednesday, 11:30 am—Scientific and Informational Poster Awards
Wednesday, 11:30 am—Hashimoto Award for Service and Honor
Wednesday, 11:30 am—Recognition of Certified Biosafety Professionals and Registered Biosafety Professionals

**Registration**
The Registration Desk will be open Friday through Wednesday from 7:00 am - 5:00 pm.

**New Member Reception**
The reception for new members will be held Sunday from 5:30 - 6:30 pm.

**Opening Reception**
The Opening Reception will be held Sunday from 6:30 - 8:30 pm in the Exhibit Hall.

**Hotel Information**
*Embassy Suites by Hilton*
5500 International Boulevard
North Charleston, SC 29418
phone 843-747-1882
room rate $172.00

*Hilton Garden Inn* (phone 843-308-9330, room rate $169.00)
*Hyatt Place* (phone 843-302-8600, room rate $159.00)
*Double Tree by Hilton Hotel* (phone 843-576-0300, room rate $169.00)
*Residence Inn* (phone 843-266-3434, room rate $159.00)

**Exhibit Hall**
The Exhibit Hall will be open on Sunday 6:30 - 8:30 pm for the Opening Reception and open on Monday and Tuesday during lunches and breaks.

**Once Again in 2018**
ABSA International will be offering "Exhibit Only" passes for those unable to attend the Scientific Program, but would like to preview the latest in biosafety and biosecurity products and services. For more information, please contact the ABSA International office at info@absa.org.

P.A.C.E.®

ABSA International has been approved as a provider of continuing education programs in clinical laboratory science by the American Society for Clinical Laboratory Sciences (ASCLS), Professional Acknowledgment for Continuing Education P.A.C.E.® program.

For each professional development courses, contact hours will be based on 60 minutes of instructional time for each P.A.C.E.® contact hour. The maximum number of P.A.C.E.® contact hours to be credited for half-day courses is 3.50 contact hours and for full-day courses is 7.50 contact hours. Attendees have the opportunity to earn up to 17.0 contact hours by attending the entire scientific program. Attendance rosters must be signed in for each attended session that credit is requested for and the P.A.C.E.® certificate of attendance must be certified by ABSA staff at the registration desk at the end of your time at the conference.

# Professional Development Courses

Visit www.absaconference.org for course availability.

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## Basic Level Courses

*For those new to the profession or need training in a particular topic.*

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The following are basic level courses unless otherwise noted next to the date and time.

**Friday, October 12, 2018, 8:00 am - 5:00 pm**

**1. Basic Risk Assessment**

*Chad Austin, PhD, University of Texas Health Science Center—Houston, Houston, TX*
*Anne-Sophie Brocard, PhD, RBP, CBSP, University of Texas Medical Branch—Galveston, Galveston, TX*
*Brandon Hatcher, PhD, GlaxoSmithKline, Vaccines R&D, Rockville, MD*
*Elizabeth Weirich, MS, CBSP, SM(NRCM), Centers for Disease Control and Prevention, Atlanta, GA*

Rapid scientific and technological advances continue to challenge the biosafety community in determining and establishing the appropriate practices and containment necessary to avoid exposure to the wide array of hazardous biological agents and materials found in the laboratory. This introductory course will provide an opportunity to incorporate the basic knowledge and skills necessary in order to perform risk assessments for working safely with pathogens (human and animal) and rDNA (genetically modified organisms or viral vectors). Using case studies, participants will work together to conduct risk assessments by determining the hazards involved; the appropriate questions to ask to address the potential risks associated with the intended activities; and make recommendations on appropriate containment and practices required to work safely. The conclusions of the groups will be presented.

**Objectives:**

- Identify and list determinants for assessing risk (host, environment, agent)
- Complete the steps of a risk assessment and determine steps to manage risk (mitigation)
- Identify resources and references for risk assessment/management

**Suggested Background:** Fundamentals of Biosafety
**Target Audience:** New Biosafety Professionals, Laboratory Workers

**Friday, October 12, 2018, 8:00 am - 5:00 pm**

**3. Shipping Infectious Substances Certification Course**

*Eric Cook, MPH, CBSP, Sandia National Laboratories, Albuquerque, NM*

This course is appropriate for those who have some experience with infectious substance handling or shipping, but may not have been certified within the past three years. The course utilizes group discussions and interactive exercises focused on the essential areas of infectious substance shipping. Participants will have the opportunity to mark, label, package, and complete documentation for a variety of infectious substances shipments (Category A, Category B, and Exempt Patient Specimens). Participants will review applicable regulations with a focus on IATA. This course is appropriate for those responsible for packaging, marking, and labeling shipments of all categories of infectious substances, dry ice, and liquid nitrogen. A final written certification exam will be administered—participants must score at least 80% in order to be certified.

**Objectives:**

- Using principles of risk assessment to classify biological materials for shipping purposes as either Category A, Category B, Exempt, or not regulated
- Demonstrate how to package, mark, label, and document shipments for infectious substances, Category A, Category B, and dry ice
- Complete a written exam to qualify for infectious substance shipping certification

**Suggested Background:** None
**Target Audience:** All Safety Professionals, Laboratory Workers, New Biosafety Professionals

**Saturday, October 13, 2018, 8:00 am - 5:00 pm *(Basic/Intermediate)***

**8. Laboratory Facility Programming and Design Best Practices**

*William Arndt, PhD, Sandia National Laboratories, Albuquerque, NM*
*Vibeke Halkjaer-Knudsen, PhD, Sandia National Laboratories, Albuquerque, NM*
*Jeffrey Owens, MPH, CBSP, SM(NRCM), CSP, Assoc. AIA, HDR, Inc., Atlanta, GA*

This course will offer an understanding of key principles underlying the programming and design of research and diagnostics laboratories. It is intended for architects, designers, and biosafety professionals desiring an increased awareness of the complexity and challenges associated with designing a laboratory. Participants will be introduced to

the laboratory design process as it relates to programming and pre-design, building zoning, operational efficiency, biosafety and biosecurity considerations, and flexible/expandable strategies. Participants will participate in guided discussions, develop diagrams to illustrate best practice concepts and analyze existing plans with respect to the design principles under discussion.

**Objectives:**

- Summarize the critical information that must be gathered prior to the development of a laboratory facility design
- Describe how to assemble and synthesize pre-design information appropriate to the development of a laboratory facility
- Paraphrase the principles of good laboratory design, and methods for developing, analyzing, and improving them

**Suggested Background:** None
**Target Audience:** All Biosafety Professionals, Architects and Engineers less familiar with lab design

**Saturday, October 13, 2018, 8:00 am - 12:00 pm**

**10. Introduction to Biosafety in the Clinical Setting**

*Daniel Eisenman, PhD, RBP, CBSP, SM(NRCM), Advarra, Research Triangle Park, NC*
*Jamie Chalfin, BA, CCRP, Advarra, Cincinnati, OH*

The clinical setting poses a different environment and culture than research laboratories. This course provides foundations for applying biosafety concepts in the clinical setting. Topics will include common issues and lessons learned pertaining to: clinical facilities including pharmacies, laboratories, clinics, infusion areas, ORs and waste disposal facilities; PPE, disinfection, risk assessments and safety practices in the clinical setting; speaking biosafety to doctors, nursing staff, pharmacy staff, infection prevention and control, diagnostic microbiology lab personnel and hospital EHS staff; applying NIH Guidelines and the *BMBL* to the clinical setting; gaps in oversight of research safety for clinical trials. The course will close with a focus on clinical trials including: the role of an IRB and how it can overlap with an IBC; the process for investigational products to obtain FDA approval to be deemed as safe and effective therapeutics; and the evolving regulatory environment in the U.S. for biologics such as vaccines, regenerative medicines and gene therapy. The course is designed to be highly interactive with discussions, surveys, and team exercises.

**Objectives:**

- Apply biosafety principles in the clinical setting
- Perform risk assessments and identify gaps in occupational safety in the clinical setting
- Discuss the regulatory oversight for clinical trials and the developmental process for investigational products

**Suggested Background:** Fundamentals of Biosafety
**Target Audience:** All Safety Professionals, Laboratory Workers, Research Administrators and Clinical Professionals

**Saturday, October 13, 2018, 8:00 am - 12:00 pm**

**11. How to Respond to Emergency Scenarios in Biocontainment Laboratories**

*David Harbourt, PhD, RBP, CBSP, SM(NRCM), US Army Medical Research Institute of Infectious Disease, Fort Detrick, MD*
*David Cooke, MAIS, MAEM, Federal Law Enforcement Training Centers, Glynco, GA*

It is important for biosafety professionals to understand how to respond to emergency response situations that could affect operations in containment laboratories. Emergency situations can affect a wide range of facility operations (electrical failures, plumbing, heating/ventilation/air conditioning [HVAC], etc.) and often occur with little or no warning to the biosafety professionals, scientific staff, or support staff. Biosafety professionals need to be able to thoroughly understand how their facility and personnel function during normal operations in order to aid in preparation for significant events. In addition to understanding their facility and personnel, it is also vital for biosafety professionals to know who the key decision-makers are in their facility for situations that could potentially result in short- or long-term disruptions to operations. By understanding the critical information that is needed for the key decision-makers during emergency scenarios, biosafety professionals can help ensure that they are prepared when situations arise in the future. This course is intended to cover basic information of emergency response situations along with the key features of a containment laboratory that may be affected during an emergency situation. This course will go over the key aspects of an HVAC, building electrical design, and plumbing systems. This is not an engineering course—it is intended to be a brief overview so biosafety professionals understand the right questions to ask during emergency situations. The course will be separated into 5 sections covering critical information that needs to be understood: basics of emergency response; HVAC; plumbing; electrical failures; and potential occupational exposures. A series of case studies based on real-world emergency response situations and potential occupational exposures in biocontainment laboratories will be conducted.

**Objectives:**

- Describe the basics of emergency response and its relation to the decision-making process during an emergency response situation affecting biocontainment laboratory operations
- Restate who are the key decision-makers in your facility and who can authorize decisions that will make an impact
- Identify lessons learned after action reviews from case studies and potential occupational exposures and apply them to an incident response plan, if applicable

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment
**Target Audience:** All Safety Professionals, All Biosafety Professionals

**Saturday, October 13, 2018, 1:00 pm - 5:00 pm *(Basic/Intermediate)***

**12. An Evolving Culture: Biorisk Management in Clinical Laboratories**

*Danielle Daniely, PhD, RBP, Centers for Disease Control and Prevention, Atlanta, GA*
*Drew Fayram, MS, HLI, University of Iowa Research Park, Coralville, IA*
*Natasha Griffith, MS, Centers for Disease Control and Prevention, Atlanta, GA*
*Elizabeth Weirich, MS, CBSP, Centers for Disease Control and Prevention, Atlanta, GA*

Clinical laboratories are unique environments. Their operations differ from those of academic (teaching) and research laboratories since the hazards associated with diagnostic specimens are almost always initially unknown. Serving as the frontline of defense for healthcare and public health systems, these labs regularly encounter both routine and emerging/resurging infectious agents. Additionally, they often conduct high-volume, high-throughput diagnostic testing, and rely on the use of highly automated instruments and technologies. The traditional guidance for biosafety in a clinical laboratory emphasizes the use of BSL-2 facilities and standard precautions, however this may not be sufficient for all scenarios. Risk assessment is the foundation of every comprehensive biorisk management system, and is therefore just as important in clinical laboratories as in research laboratories where the hazards are generally better defined. However, due to the nature and breadth of work performed in clinical laboratories, the risk assessment process requires a unique approach. This course will promote a biorisk management style approach to biosafety in clinical laboratories, which emphasizes the importance of: conducting activity and laboratory specific risk assessments, implementing mitigation measures based on the risks that are specific to that particular clinical laboratory setting, and integrating a rigorous training and performance evaluation process that embraces continual assessment and improvement. Interactive activities and case studies will be used to reinforce the course concepts.

**Objectives:**

- Recall the basics of biosafety risk assessment and its essential role in a biorisk management program
- Identify the unique challenges to assessing risk in the clinical laboratory environment
- Perform a risk assessment on a diagnostic testing scenario and identify gaps based on the real-life scenario outcomes

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment, Micro/Molecular Biology 101, Principles & Practices of Biosafety
**Target Audience:** All Biosafety Professionals, Laboratory Workers, Clinical Laboratory Managers and Personnel/Professionals

**Sunday, October 14, 2018, 8:00 am - 12:00 pm**

**21. ABSL-2 on the Farm**

*Delena Mazzetti, MPH, RBP, University of Kentucky, Lexington, KY*
*Brandy Nelson, MS, CBSP, SM(NRCM), University of Kentucky, Lexington, KY*

Researchers and biosafety professionals at institutions involved with agricultural research are often challenged to provide biosafety guidance for large animal ABSL-2 work without clear guidelines or regulations. This course will provide a framework for working with large animal ABSL-2 research, discuss small animal ABSL-2 containment and how it relates to large animal ABSL-2 containment, describe the risk assessment process and how it differs from small animal ABSL-2 risk assessments, define challenges unique to working with large animals, examine differing facility designs and challenges associated with adapting to existing facilities, discuss large animal waste and carcass management options, and delve into specify case studies with hands on activities. Course will be broken up into four modules: ABSL-2 basics and risk assessment, large animal husbandry, waste and carcass management, facility design, and case studies.

**Objectives:**

- Describe basic principles of large animal BSL-2 research and containment
- Recognize differences between small animal and large animal BSL-2 containment and challenges unique to large animal containment
- Restate the ideal large animal BSL-2 containment facility design options and criteria

**Suggested Background:** Fundamentals of Biosafety, Principles & Practices of Biosafety
**Target Audience:** Experienced Biosafety Professionals, Animal Caretakers, All Safety Professionals, Farm and Animal Facility Managers, Supervisors, Technicians

**Sunday, October 14, 2018, 8:00 am - 12:00 pm**

**22. Conducting Institution Biosafety and Security Inspections**

*James Blaine, PhD, James Blaine, Ltd., Atlanta, GA*

The assessment of safety and security of an institution's biorisk requires a comprehensive inspection conducted at least annually and anytime there are major changes to the institution. The results of the inspection must be presented to all appropriate individuals and corrections to deficiencies are made through changes in policies and procedures. There must be follow-up to corrections to ensure the identified risk has been addressed. This course will cover the organization of an inspection; describing the preparation prior to and a detailed description of areas covered during an inspection. There will be a review of the facilities (including animal facilities) where work is conducted, where pathogens are stored, and the engineering facility support that is important. Emergency response planning, occupational health, personal competency evaluation, training, and personal reliability are critical elements to be reviewed. The course consists of a presentation on conducting a biosafety and security inspection punctuated by frequent scenarios for the participants to respond to and discuss that reinforce the points of the presentation. A detailed procedure manual for conducting safety and security inspections of biological institutions will be provided to participants as a reference to guide them in the application of course information upon their return to their institution.

**Objectives:**

- Organize and conduct a comprehensive biosafety and security inspection
- Access each element of the institution related to safety and security risk
- Apply results of the institution inspection to improve the institution bio-risk program and reduce risk

**Suggested Background:** Fundamentals of Biosafety

**Target Audience:** All Biosafety Professionals, International Biosafety Professionals

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## Intermediate Level Courses

*For those with basic knowledge or would like to learn more.*

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The following are intermediate level courses unless otherwise noted next to the date and time.

**Friday, October 12, 2018, 8:00 am - 5:00 pm**

**2. Animal Research + Biocontainment Facilities: Planning, Design, and Operation**

*Michael Clements, MBA, PE, WorkingBuildings, Atlanta, GA*
*Sarah Ziegler, PhD, RBP, Sarah Ziegler Consulting, San Antonio, TX*
*Jeffrey Zynda, Perkins and Will, Boston, MA*

This course will have a fresh look at industry best practices and provide a fundamental understanding of the terminology, concepts, processes, standards, numbers, types of equipment, and furniture (as applicable) involved in the planning and design of animal research and biocontainment labs including related mechanical, electrical, and plumbing systems. This course will start with the earliest programming and planning activities of a facility; risk assessments, major facility design considerations, and end with commissioning, operations, and root-cause analysis. The session will focus on risk- and operations-based decision-making for high-output facility design and modifications. This course is designed for those involved in the planning, design, construction, or operation of animal research and biocontainment laboratories including project managers, architects, facility engineers, construction engineers, facility managers, facility planners, biosafety professionals, EH&S personnel, veterinarians, and researchers employed at colleges and universities, medical facilities, pharmaceutical facilities, A/E/C firms, government health centers, and public health labs.

**Objectives:**

- Explain the use of a risk- and operations-based approach to facility design and renovation
- Describe right-size facilities and avoid operational bottlenecks
- Keep operations as simple as possible, while maintaining safety and security

**Suggested Background:** None

**Target Audience:** All Safety Professionals, New Biosafety Professionals, Laboratory Workers

**Friday, October 12, 2018, 8:00 am - 5:00 pm**

**4. The Essentials of Health and Safety at the Boundaries of Biosafety**

*Bruce Brown, DrPH CBSP, University of Texas—Southwestern Medical Center, Dallas, TX*
*Robert Emery, DrPH, CBSP, University of Texas Health Science Center—Houston, Houston, TX*
*Scott Patlovich, DrPH CBSP, University of Texas Health Science Center—Houston, Houston, TX*

In practice there is virtually no work setting where the occupational risks are limited solely to biological agents. Fire safety, occupational safety, and chemical safety risks are ubiquitous in laboratory and production settings, and sources of radiation can also be regularly encountered. Issues regarding insurance coverage and policy limitations can also arise. Given this diversity of possible risks, it is prudent for biosafety professionals to familiarize themselves with the essential aspects of these other specialty areas of loss control. This course is designed specifically to provide a baseline orientation to a series of parallel health and safety professions with which a biosafety professional commonly interacts. Each section begins with a discussion of the relative public health impact of each specialty area presented and ends with a description of the simple things a biosafety professional can do to assist in keeping the overall organization safe and compliant.

**Objectives:**

- Describe the five recognized steps of risk management process and why this is important for the biosafety profession
- Identify the basic elements of a fire and life system program, a chemical safety program, radiation safety program, and a comprehensive hazardous waste management program that can be easily accessed by a biosafety professional
- Summarize the risk represented by insider threats

**Suggested Background:** Fundamentals of Biosafety
**Target Audience:** All Safety Professionals, All Biosafety Professionals

**Saturday, October 13, 2018, 8:00 am - 5:00 pm**

**6. Emerging Technologies in Agricultural and Plant Sector: Biosafety and Biosecurity Challenges and Risk Management**

*Aparupa Sengupta, PhD, University of California—Merced, Merced, CA*
*Luis Alberto Ochoa Carrera, MS, Institute for Epidemiological Diagnosis and Reference (InDRE), Mexico City, Mexico*

Global food security and enhancement of food quality has been a pressing issue worldwide. Recent advent of powerful technologies in the bio-world (such as gene editing tool CRISPR) have the potential of bringing unprecedented global impact in different industries starting from novel bioenergy production and new therapeutic intervention in medical world to biodiversity conservation. In the agricultural sector, these technologies have contributed significantly towards food security, reduction in pesticide use and greenhouse gas emissions. Although extremely beneficial, these technologies are certainly not risk-free. They could be used for nefarious acts, such as bioweapon development or for creating new pathogenic organisms to render vaccines ineffective. These technologies may also have off-target effects, such as tumor suppressor gene silencing or potential of changing biodiversity and invasion and disruption of local agricultural system by exotic or transgenic species. Since, outbreak of diseases, bioweapons, and emerging technology transfer of knowledge knows no borders, the beneficial use of the technology can become challenging in terms of biosafety and biosecurity, if the risks are not understood and addressed appropriately. The goal of this course is to establish and integrate the basic concepts of biosafety/biosecurity applicable to agriculture and plant science including the new emerging technologies. In addition, this will present an integrative approach for multidisciplinary professionals from different countries to attain the optimal biosafety/biosecurity measures, when handling these tools-technologies.

**Objectives:**

- Identify the different aspects and regulations about agricultural and plant biosafety/biosecurity
- Evaluate and conduct a risk assessment of the potential impact of using emerging technologies and gene editing in agriculture and plant projects
- Recall importance and impact of biosecurity-biosecurity programs in the development of new emerging technologies and impact in society and the environment

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment, Micro/Molecular Biology 101
**Target Audience:** All Safety Professionals, Experienced Biosafety Professionals, Laboratory Workers

**Saturday, October 13, 2018, 8:00 am - 5:00 pm**

**7. Keeping it Going: Maintaining and Improving a Select Agent Program Over the Long-Term**

*Amy Vogler, PhD, RBP, Northern Arizona University, Flagstaff, AZ*
*Shelley Jones, MS, RBP, Northern Arizona University, Flagstaff, AZ*

Keeping a Select Agent program going can be difficult, especially in the face of ever-changing regulatory requirements (e.g., inactivation) and limited resources. Long-established procedures may suddenly become unacceptable, interrupting ongoing research, and frustrating laboratorians. Being prepared to deal with such changes is critical to maintaining a robust program. Anticipating future changes can prove even more advantageous, elevating a good program to a great program. A proactive approach can minimize the impact of new requirements and reduce duration

and frequency of "crises" sparked by sudden, unexpected requirements. This course will explore strategies for maintaining and improving an existing Select Agent program, including strategies for anticipating and responding to new regulatory requirements. Strategies will be based upon the instructors' experience with their institution's Select Agent BSL-3 program, which has received 5 or fewer minor observations in individual inspections over the last 6 years, including zero observations in their most recent inspection in January 2018. Topics will include effective oversight practices, meeting ongoing documentation requirements, strategies for smoothly implementing changes into an existing program, inspection preparation and response, and a detailed discussion of new inactivation requirements and implementation strategies. The course will consist of topical presentations followed by group discussions and activities aimed at facilitating application of presented strategies to participants' individual programs and providing a platform to capitalize on participants' collective Select Agent program experience.

**Objectives:**

- Identify strategies for efficiently maintaining a Select Agent program in good standing with ongoing requirements
- Identify strategies for preparing for and responding to regulatory inspections
- Describe the new inactivation requirements and identify successful strategies for compliance

**Suggested Background:** Building a Select Agent Program: Safety, Compliance, and Efficiency
**Target Audience:** All Safety Professionals, Select Agent Program Safety Professionals

**Saturday, October 13, 2018, 8:00 am - 5:00 pm**

**9. Gene Editing and Risk Assessment: Application to IBC Protocol Review**

*Jessica McCormick-Ell, PhD, RBP, CBSP, SM(NRCM), Rutgers University, Newark, NJ*

Gene editing technologies have been used for decades by scientists in the field of molecular genetics and recombinant DNA technology. Recently, with the discovery of CRISPR-Cas 9 gene editing, this field has expanded and the ease to manipulate genes has changed significantly. There are multiple methods for editing genes and many times they are used together. Biosafety officers, although experts in safety and bio-risk assessment, may need additional information in regards to the scientific and technical side of this new technology in order to understand the risks of a protocol more completely in order to provide adequate risk management recommendations. This course is designed to provide a brief, but detailed, overview of basic gene editing technologies such as plasmid based systems, RNA interference, viral vectors, CRISPR Cas9 technology, and gene drives. After brief discussion of these technologies, participants will review a proposed project as it may be presented to the IBC. They will be expected to review, discuss risks and benefits, and be able to propose alternative ways for the research to be conducted in a safer manner. The goal of this course is to provide participants with comprehensive background knowledge of various gene editing and recombinant DNA technologies commonly used so they will be able to ask pertinent questions during protocol review. Additional details about off-targeting issues and streamlined protocol exercises will be offered. The course has been modified to incorporate comments from the first offering last year.

**Objectives:**

- Describe the different types of gene editing technologies including viral vectors, RNAi and CRISPR/Cas9
- Explain why and how these technologies are used together in a research project
- Restate the topics and questions needed to assess the risks of gene editing research proposals

**Suggested Background:** Micro/Molecular Biology 101, Viral Vector
**Target Audience:** Experienced Biosafety Professionals

**Saturday, October 13, 2018, 1:00 pm - 5:00 pm**

**13. Case Studies in Biocontainment Emergencies**

*David Harbourt, PhD, RBP, CBSP, SM(NRCM), US Army Medical Research Institute of Infectious Disease, Fort Detrick, MD*

This course will focus solely on applying knowledge of emergency response, HVAC, plumbing, electrical issues and potential occupational exposures to select case studies. The expectation for this course is that the topics in the case studies have either been covered from attending the *How to Respond to Emergency Scenarios in Biocontainment Laboratories* course or in the individual's own professional experience. During the course, participants will evaluate 25 total different case studies covering each of these areas. Participants taking this course will work through a subset of case studies and proper courses of action will be developed through collaboration and group discussion.

**Objectives:**

- Describe the decision-making process during an emergency response situation
- Identify lessons learned from case studies and apply them to their own institute emergencies
- Apply timely decisions about complex issues facing biocontainment laboratory operations and personnel

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment, Biosafety Level 3-Design and Operations, How to Respond to Emergency Scenarios in Biocontainment Laboratories
**Target Audience:** All Safety Professionals, Experienced Biosafety Professionals

**Sunday, October 14, 2018, 8:00 am - 5:00 pm**

**15. Integrating Biosecurity into Biorisk Management Systems: A Threat Assessment Scenario-driven Approach**

*Ryan Burnette, PhD, Merrick and Company, Greenwood Village, CO*
*Don Callihan, PhD, Merrick and Company, Greenwood Village, CO*
*Lauren Richardson, DVM, Merrick and Company, Greenwood Village, CO*
*Chuck Tobin, CTM, At-Risk International, Boca Raton, FL*

Biorisk management programs should be implemented at any institution where the release, loss, or theft of biological material could result in serious negative consequences, such as harm to workers, the outside community, damage to institutional reputation, and/or financial/legal actions. This course provides biosafety and program managers with strategic and tactical approaches for creating an integrated approach that strengthens their biosecurity program as a complement to existing biorisk programs. Participants will be given hypothetical scenarios and work together to understand the differences between risk-based (biosafety) and threat-based (biosecurity) programs, as they contribute to system-wide concepts of threat and vulnerability. Participants will examine Five Pillars of Security (physical, personnel reliability, material control, transportation, and information security) to consider as a framework for building an integrated security program (ISP). The ISP model will be used to align security needs within biosafety programs that will enhance existing institutional safety and security systems. The ISP development will be augmented with templates on conducting threat assessments and vulnerability analyses, models for creating a biosecurity program, and strategies for integrating biosecurity functionality into biosafety programs. Participants will gain a comprehensive knowledge of the distinctions and intersections of biosafety and biosecurity, conducting threat assessments to complement to risk-based programs, building a biosecurity program framework, and ideas on steps to take at participant's respective institutions to improve and integrate their biosecurity programs.

**Objectives:**

- Describe the elements of risk-based (biosafety) and threat-based (biosecurity)programs fundamental to implementing a comprehensive biorisk management program
- Recognize threats and vulnerabilities to consider when protecting biological materials and other laboratory assets from unauthorized access, loss, theft, misuse, diversion, or intentional release
- Utilize Five Pillars of Security as a framework for recognizing gaps and opportunities for biosecurity program improvement

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment
**Target Audience:** All Biosafety Professionals, Biosecurity personnel

**Sunday, October 14, 2018, 8:00 am - 5:00 pm**

**16. Engineering For The Biosafety Professional Part II**

*Brynte Johnson, MS, RBP, CBSP, SM(NRCM), World BioHazTec Corporation, Rockville, MD*
*Juan Osorio, IE, World BioHazTec, Rockville, MD*

In follow up to "Engineering for the Biosafety Professional-Part I," this course demonstrates biocontainment engineering principles and their application to the proper operation and sustainability of a biocontainment laboratory. Included in the discussion will be concepts such as understanding various types of traditional HVAC design and emerging green design, comprehension of the purpose and information available from a building automation system, troubleshooting airflow reversals, understanding HVAC schematics, identifying redundancy needs, determining methodology for HVAC decontamination, deconstruction, and decommissioning. These basic concepts assist the biosafety professional in their interaction with facility personnel and designers of new construction, renovations, and ceasing of BSL-3 facilities operations using real-life examples and how they apply to biocontainment laboratories. More advanced engineering fundamentals will be discussed including HVAC sequence of operations, ventilation risk assessment, developing failure scenarios, integration of energy conservation into the laboratory and compliance to Testing and Performance Verification Methodologies for Ventilation Systems for BSL-3 and ABSL-3 Facilities (ANSI Z9.14). Group exercises will be conducted for practical application of principals presented. Building on "Engineering for the Biosafety Professional-Part I," this course will integrate examples that show cause and effect in real-life scenarios.

**Objectives:**

- Interpret HVAC schematics, understand the basics of HVAC control systems, and assess redundancy needs
- Develop HVAC failure scenarios, analyze test data and develop a risk assessment for an airflow reversal
- Paraphrase the methodology for troubleshooting HVAC systems

**Suggested Background:** Engineering for the Biosafety Professional—Part I
**Target Audience:** All Biosafety Professionals, Facilities Personnel

**Sunday, October 14, 2018, 8:00 am - 5:00 pm**

**17. Pathogen Inactivation Methods for Laboratory Applications**

*Christopher Sieradzki, PhD, RBP, Centers for Disease Control and Prevention, Atlanta, GA*
*Eduardo Gomez, PhD, RBP, CBSP, SM(NRCM), Centers for Disease Control and Prevention, Atlanta, GA*

Safe handling of highly infectious agents or toxins should be of paramount importance to every laboratory within both clinical and research settings. Consequently, the best alternative to manipulating and analyzing biohazardous materials (frequently requiring a high-containment environment) is effective inactivation of infectious agents or toxins rendering them safe for further laboratory analysis. The inactivation of biological materials intended for laboratory applications brings a challenge: although infectious properties of such samples are expected to be eliminated, at the same time, they should retain the integrity of target structures/molecules (peptides/nucleic acids, etc.) intended for analysis. This course addresses these challenges and provides a basic understanding of pathogen inactivation methods and their limitations deriving also from structures and properties of microorganisms and toxins. The course includes seven major topics: virion properties and microbial cell structures (eukaryotic/prokaryotic cells) as potential target sites for biocide action; physical (heat, radiation) inactivation and sterilization (filtration); mechanisms of biocide action and microbial resistance to biocides; toxin properties and inactivation of toxins; compatibility of inactivation methods with experimental laboratory assays; commercial nucleic acids/protein extraction kits as means of inactivation; and quality assurance and validation of inactivation methods. At the end of the course participants will be divided into workgroups and given hypothetical scenarios requiring the selection of appropriate inactivation methods.

**Objectives:**

- Describe principle characteristics of bacteria, fungi, and viruses that affect inactivation
- Compare and contrast different inactivation methods and their limitations
- Restate the applicability of inactivation methods specifically to experimental laboratory assays

**Suggested Background:** None
**Target Audience:** New Biosafety Professionals, Laboratory Workers, All Safety Professionals

**Sunday, October 14, 2018, 8:00 am - 5:00 pm**

**18. Articulating the Value of Your Biosafety Program**

*Robert Emery, DrPH, CBSP, University of Texas Health Science Center—Houston, Houston, TX*
*Scott Patlovich, DrPH CBSP, University of Texas Health Science Center—Houston, Houston, TX*

A recurrent challenge for biosafety professionals is the ability to garner necessary program resources. The basis for this difficulty is that on a good day in the world of biosafety "nothing happens," so upper management may not fully appreciate or understand all of the effort that went into making "nothing happen." Biosafety professionals experience difficulty in this regard because many in the profession have received intensive training in the biological sciences, but little or no training in the area of program management. This course will focus on key management techniques that can be used within biosafety programs to help improve stakeholder understanding of the program and activities, which in turn can result in the provision of necessary programmatic resources. Numerous real-world examples of successful applications of the techniques discussed will be displayed for review and discussion.

**Objectives:**

- Identify biosafety programmatic measures and metrics that can be easily captured and communicated
- Recall techniques used for displaying biosafety data in ways that others can readily understand and value
- Describe how basic safety and biosafety programs work together to avoid duplication of efforts and improve safety and client satisfaction levels

**Suggested Background:** None
**Target Audience:** All Safety Professionals, All Biosafety Professionals

**Sunday, October 14, 2018, 8:00 am - 12:00 pm**

**19. Practical Biosafety and Infection Control Considerations for Human Gene Transfer Studies**

*Edward David, MPH, RBP, Celgene Corporation, San Diego, CA*

This course will outline regulatory and safety challenges in conducting human gene transfer research and offer strategies to address them. The course will cover basic regulatory and risk assessment for human gene transfer studies, and expand on the practical aspects of conducting such studies including identifying key stakeholders such as the IBC, IRB, Infection Control, and Pharmacy, and how to coordinate safety activities between each group. The course will outline some of the differences between biosafety, infection control, and hazardous drug safety and how each can work together to achieve desired outcomes. The course will examine case studies that highlight some of the challenges one might encounter in the real world.

**Objectives:**

- Describe the regulatory framework for human gene transfer research and perform a risk assessment
- Identify key stakeholders for conduct of human gene transfer research and strategies to coordinate activities between them
- Summarize real world pitfalls for human gene transfer research through examination of case studies

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment, Principles & Practices of Biosafety
**Target Audience:** All Safety Professionals, All Biosafety Professionals

**Sunday, October 14, 2018, 8:00 am - 12:00 pm**

**20. Risk Assessment Considerations for Cutting Edge Fluorescent Microscopy Techniques: Intersection of Laser and Biosafety**

*Jennifer Goodnight, MS, CPH, ASP, EMT-B, Howard Hughes Medical Institute, Ashburn, VA*
*Larry Mendoza, MS, RBP, Virginia Commonwealth University, Richmond, VA*

From increased resolution to longer imaging sessions for live cell imaging to better in-vivo imaging techniques, the field of microscopy is rapidly changing. The types of fluorescent microscopes being developed today push the boundaries of physics, chemistry, and biology. In this course, we will discuss the importance of the advances in microscopy over the past few decades and how modern microscopes differ from traditional fluorescence microscopes. As these systems become commercially available, it will be important for safety professionals to understand the unique features of these microscopes and the integrated risk assessment approach needed to mitigate their hazards. We will discuss through lectures and case studies how to conduct a comprehensive risk assessment for new microscopy systems. We will cover laser safety basics including but not limited to: hazard assessment, selection of personal protective equipment, laser enclosures and curtains, signage, standard operating procedures, institutional policies, and relevant safety standards. We will also discuss considerations for biological hazards on these microscopes such as manipulation of the samples on the scopes, how to disinfect microscope parts, sample transport, signage, standard operating procedures, research collaborations, and room ventilation. Finally, we will discuss some of the other hazards associated with imaging techniques such as electrical, chemical, and other physical hazards.

**Objectives:**

- Describe the scientific value and importance of novel microscopy techniques as research tools
- Define the basic components of laser safety controls and procedures as they apply to research laboratories who utilize novel microscope systems
- Perform a comprehensive and integrative risk assessment for biohazardous work requiring imaging with novel fluorescent techniques and lab built imaging systems

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment, Principles & Practices of Biosafety
**Target Audience:** Laboratory Workers, All Safety Professionals, Experienced Biosafety Professionals, Core Imaging Facilities Staff

**Sunday, October 14, 2018, 1:00 pm - 5:00 pm**

**23. Gene Editing, Logic Gates, and Synthetic Biology in Human Gene Transfer**

*Daniel Kavanagh, PhD, WIRB-Copernicus Group, Brookline, MA*

Synthetic molecular biology involves the construction of novel artificial mechanisms to facilitate new biological functions. Some of these new mechanisms are now making their way into Human Gene Transfer (HGT) clinical trials, subject to the NIH Guidelines and requiring IBC review. The development of new synthetic biology techniques has been greatly accelerated by the advent of CRISPR and related gene-editing technologies. This course will cover cutting-edge examples of the application of synthetic biology in experimental clinical applications. Primary examples of such applications are found in the area of Chimeric Antigen Receptor (CAR) T cells. T cells bearing synthetic antigen receptors are designed to find and destroy cancer cells. What are the mechanisms that allow T cells to specifically target cancer cells without harming healthy tissue? What tools do researchers use to enhance on-target killing while avoiding off-target side effects? This course will review basic aspects of T cell signaling to allow for a discussion of how synthetic biology can be deployed on a molecular level to allow individual T cells to make logical decisions in the response to cancer. Additional discussions will look at other potential clinical applications such as creation of probiotic microbes. Interactive discussions will highlight how these new technologies are affecting biosafety activities at participants' home institutions, and how IBCs can prepare to review these protocols.

**Objectives:**

- Define the concepts of gene editing and synthetic biology
- Describe examples of the application of synthetic biology in the area of cancer immunotherapy
- Describe specific considerations for IBC review of gene transfer trials involving synthetic biology

**Suggested Background:** None
**Target Audience:** Experienced Biosafety Professionals, All Safety Professionals

**Sunday, October 14, 2018, 1:00 pm - 5:00 pm**

**26. Promoting Biosafety and Biosecurity Through Effective Governance**

*Kathryn Harris, PhD, RBP, National Institutes of Health, Bethesda, MD*
*Michelle McKinney, MS, CBSP, National Institutes of Health, Bethesda, MD*
*Kevin Ramkissoon, PhD, National Institutes of Health, Bethesda, MD*

Discussion of the importance of ensuring institutions have robust and comprehensive biosafety and biosecurity governance structures in place. The course will include an overview of the roles and responsibilities of institutions, Institutional Biosafety Committees (IBCs), and Institutional Review Entities (IREs) for biosafety and biosecurity oversight of research subject to the NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules and the U.S. Government Policy for the Institutional Oversight of Dual Use Research of Concern (DURC). Information will be provided about some of the tools and best practices institutions can employ to strengthen their biosafety and biosecurity programs. Participants will break into small groups to discuss how an incident occurring at an institution subject to the NIH Guidelines represents a failure to have adequate institutional biosafety oversight, resulting in significant problems. Participants should come prepared to engage in discussion, information sharing, and interactive Q&A with course instructors and other participants.

**Objectives:**

- Identify the activities of the Federal Experts Security Advisory Panel (FESAP) related to strengthening biosafety and biosecurity practices and oversight
- Describe the general responsibilities of institutions and Institutional Biosafety Committees (IBCs) for biosafety oversight of research subject to the NIH Guidelines
- Summarize the U.S. Government Policy for the Institutional Oversight of Dual Use Research of Concern (DURC), and the roles and responsibilities of institutions and Institutional Review Entity's (IREs)

**Suggested Background:** None
**Target Audience:** All Safety Professionals, All Biosafety Professionals

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## Advanced Level Courses

*For those with experience or are looking for a challenging course.*

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The following are advanced level courses unless otherwise noted next to the date and time.

**Saturday, October 13, 2018, 8:00 am - 5:00 pm**

**5. Advance BSL-3 Facility Operations**

*Miguel Grimaldo, University of Texas Medical Branch, Galveston, TX*
*J. Paul Jennette, MS, PE, RBP, CBSP, Cornell Universtiy College of Veterinary Medicine, Ithaca, NY*
*John Henneman, MS, RBP, Kansas State University, Manhattan, KS*

This course is a follow up to the BSL-3 Facility Operations and Management course. This advanced course will focus on detailed aspects of biocontainment operations of BSL-3, ABSL-3 and enhanced BSL-3 laboratories. It will cover developing risk assessments for biocontainment facilities; facility operations and maintenance SOPs; maintenance personnel training requirements; solid and liquid waste decontamination equipment, procedures, validations and cycle developments; area decontamination methodologies, procedures and validations; filtration systems and their validation and testing process; ventilation control methodologies and ventilation equipment configuration; facility testing during normal and failure conditions of the ventilation system; test documentation and record keeping.

**Objectives:**

- Explain the facility verification process in detail, including recommended test methodologies
- Identify methodologies for decontamination of areas, equipment, filters, and waste
- Restate the training requirements for facility personnel accessing the biocontainment areas and elements of biocontainment facility risk assessments

**Suggested Background:** Fundamentals of Biosafety, Biosafety Level 3-Design and Operations, Principles & Practices of Biosafety
**Target Audience:** All Safety Professionals, Experienced Biosafety Professionals

**Sunday, October 14, 2018, 8:00 am - 5:00 pm**

**14. Advanced Topics in Biocontainment Challenges in Agriculture Research**

*Nick Chaplinski, MS, RBP, USDA Agricultural Research Service, Athens, GA*
*Susan Harper, DVM, DACLAM, DACVPM, USDA Agricultural Research Service, Beltsville, MD*
*Joseph Kozlovac, MS, RBP, CBSP, SM(NRCM), USDA Agricultural Research Service, Beltsville, MD*
*Kirk Martin, DPM, CBSP, USDA Animal and Plant Health Inspection Service, Riverdale, MD*

Subject matter experts will review general biosafety, biocontainment, biosecurity, veterinary, and occupational health principles as they apply to agricultural research and that are relevant to consider in the design and performance of research activities involving agricultural species, pathogens, facilities, practices, and/or equipment. A major component of this course will include a series of interactive exercises, specifically designed to demonstrate unique challenges and hazards that are routinely encountered in agriculturally-based research, and then guide participants through the process of conducting an effective risk assessment and developing successful strategies to address potential worker safety, environmental, and public health concerns that are identified. Emphasis will be placed on the development of redundant (or multi layered) containment systems and the need for vigilance in continuously monitoring the adequacy of these controls to prevent accidental release of pathogens and/or pests into the surrounding community. The use of real world case studies will provide opportunities for discussion and exchange of ideas that reinforce practical application of knowledge, information, and concepts covered through formal presentations, and give participants actual experience in contributing to the development of environmentally safe and sound research practices and containment procedures.

**Objectives:**

- Describe the unique challenges and hazards that pertain to research involving agricultural species, pathogens, facilities, practices, and/or equipment
- Identify, assess, and manage risks encountered in agriculturally-based research activities
- Develop effective strategies to prevent the accidental release of agricultural pathogens and/or pests

**Suggested Background:** Introduction to Unique Biocontainment, Challenges in Agriculture Research
**Target Audience:** All Safety Professionals, Laboratory Workers, Veterinarians and Animal Caretaker Staff

**Sunday, October 14, 2018, 1:00 pm - 5:00 pm**

**24. HVAC Systems to Enhance BSL-3 Facility Performance**

*Daniel Frasier, PE, CCP, Cornerstone Commissioning, Inc., Boxford, MA*
*Daniel Cook, LEED AP, Cornerstone Commissioning, Inc., Exeter, NH*

Many features can be added to a BSL-3 laboratory HVAC system to increase its complexity, all with the purpose of improving the flexibility and resilience to function through a multitude of scenarios. The instructors of this course have discovered that complexity is rarely a good attribute for a BSL-3 HVAC system. In fact, in most cases, the simpler, the better, within reason. This course will present lessons learned in commissioning over 100 BSL-3 laboratory projects, including how to simplify the design, installation and operation to comply with industry best practices.

**Objectives:**

- Create a list of important BSL-3 HVAC system attributes
- Identify HVAC system elements that enhance the ability to meet BSL-3 requirements
- Develop a control strategy for optimizing HVAC system performance

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment, Biosafety Level 3-Design and Operations
**Target Audience:** Experienced Biosafety Professionals, All Safety Professionals, Facilities and User Staff

**Sunday, October 14, 2018, 1:00 pm - 5:00 pm**

**25. International Biocontainment Challenges *(Intermediate/Advanced)***

*Jeffrey Owens, MPH, CBSP, SM(NRCM), CSP, Assoc. AIA, HDR, Inc., Atlanta, GA*
*Natasha Griffith, MS, Centers for Disease Control and Prevention, Atlanta, GA*
*Vibeke Halkjaer-Knudsen, Sandia Natiional Laboratories, Albuquerque, NM*
*William Arndt, PhD, Sandia National Laboratories, Albuquerque, NM*

This course will begin with a brief review of the key principles underlying the design features of containment laboratories. Participants will be introduced to and have a discussion on the differences in prescriptive and performance based requirements. A discussion will be held on the common biocontainment challenges and shared experiences and challenges. In addition to examples provided by the instructors, participants will be able to learn from the experiences of everyone in the room and will help identify possible solutions to challenges shared by other participants. The course will include lecture, pictures of many examples of biocontainment challenges from around the world, and small group activities analyzing case studies and developing alternate solutions. The goal of this course is to give participants confidence in using critical thinking skills to tackle problems in biocontainment facilities in lower resource settings.

**Objectives:**

- Recognize key biocontainment design and operation challenges for institutions in lower resource countries
- Identify alternate solutions to meeting ventilation and waste disposal needs
- Understand the difference between prescriptive and performance based requirements and how to decide what risk mitigation measures that will be adequate and prudent in relation to exotic or endemic agents

**Suggested Background:** Fundamentals of Biosafety, Risk Assessment

**Target Audience:** All Safety Professionals, Laboratory Workers, Stakeholders in future refurbishment or new design of a facility

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## Opening Reception

The Opening Reception will be held on Sunday, October 14 from 6:30 - 8:30 pm in the Exhibit Hall.

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## Future Conferences

**62nd Annual Biological Safety Conference**
October 11-16, 2019
Memphis Convention Center, Memphis, TN

**63rd Annual Biological Safety Conference**
October 30-November 4, 2020
JW Marriott Phoenix Desert Ridge Resort & Spa, Phoenix, AZ

## Scientific Program

### Monday, October 15, 2018

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| 7:00 - 5:00 pm | Registration |
| 9:30 - 4:00 pm | Vendor Exhibits |
| 8:00 - 8:15 am | Welcome and ABSA International President's Address<br>Master of Ceremonies<br>Patrick Condreay, PhD, RBP, pc Biosafety Consulting Services, LLC, Carrboro, NC |
| 8:15 - 8:20 am | Local Arrangements Committee Welcome<br>Sylvie Blondelle, PhD, RBP, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA |
| 8:20 - 8:25 am | Scientific Program Committee Welcome<br>Betsy Matos, PhD, RBP, CBSP, Iowa State University, Ames, IA |
| **Session I** | **Arnold G. Wedum Memorial Lecture Award**<br>Introduction: Jessica McCormick-Ell, PhD, RBP, CBSP, Rutgers, The State University of New Jersey, New Brunswick, NJ |
| 8:25 - 9:25am | Microbes in Space<br>Kasthuri Venkateswaran, PhD, DAg, NASA—Jet Propulsion Laboratory, Pasadena, CA |
| **Session II** | **Emergency Response**<br>Moderator: Darlene Ward, RBP, Florida Atlantic University, Boca Raton, FL |
| 9:25 - 9:45 am | Biorisk Management Considerations for Non-Traditional Laboratories<br>Sharon E. Altmann, PhD, CBSP, MRIGlobal, Gaithersburg, MD |
| 9:45 - 10:05 am | Novel Exercise Technology to Improve Incident Response Readiness<br>Carrie McNeil, DVM, Sandia National Laboratories, Livermore, CA |
| 10:05 - 10:25 am | Transboundary or Emerging Disease Event: We are Here to Help<br>Betsy Matos, PhD, RBP, CBSP, Iowa State University, Ames, IA |
| 10:25 - 10:55 am | Exhibits, Posters, and Coffee Break |
| **Session III** | **Public Health**<br>Moderator: Anthony Troiano, PhD, RBP, Environmental Health & Engineering, Inc., Needham, MA |
| 10:55 - 11:15 am | Empowering Biosafety Officers: Association of Public Health Laboratories (APHL) Maintains Community of Practice<br>Michael Marsico, MS, Association of Public Health Laboratories, Silver Spring, MD |
| 11:15 - 11:35 am | Evolving Field of Biosciences: Global Biosecurity Risks and Management Strategies<br>Aparupa Sengupta, PhD, University of California—Merced, Merced CA |
| 11:35 - 12:00 pm | **Robert I. Gross Student Award & Lecture**<br>Outbreak Detection and Response: Country Prioritization Model for West Africa<br>Laurie Wallis, Sandia National Laboratories, Albuquerque, NM |
| 12:00 - 1:30 pm | Exhibits, Posters, and Lunch |
| **Session IV**<br>12:30 - 1:30 pm | **Poster Session**<br>*Presenters must be available during the session.* |
| **Session V** | **Polio**<br>Moderator: Dawn Wooley, PhD, RBP, CBSP, Wright State University, Dayton, OH |
| 1:30 - 1:50 pm | Sample Collections and Poliovirus Containment: What's the Connection?<br>Christy Myrick, PhD, RBP, Centers for Disease Control and Prevention, Atlanta, GA |

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| 1:50 - 2:10 pm | Poliovirus Containment for Non-Polio Facilities<br>Nicoletta Previsani, PhD, World Health Organization, Geneva, Switzerland |
| 2:10 - 2:30 pm | Supporting Containment Standards for Poliovirus After Eradication<br>Rocco Casagrande, PhD, Gryphon Scientific, Takoma Park, MD |
| **Session VI** | **Focus on High-Containment Biosafety**<br>Moderator: Betty Kupskay, MS, RBP, University of Minnesota, Minneapolis, MN |
| 2:30 - 2:50 pm | Aerosol Monitoring of ABSL-3 Spaces Housing Non-Human Primates Challenged with *Coxiella Burnettii*<br>David Harbourt, PhD, RBP, CBSP, US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD |
| 2:50 - 3:10 pm | A Pilot Study to Demonstrate the Need for Biosafety Training at the Institute of Sanitary Careers in Morocco<br>Tahar Bajjou, Mohammed V Military Teaching Hospital, Rabat, Morocco |
| 3:10 - 3:30 pm | The Department of Defense Response to Shipments of Incompletely Inactivated *Bacillus anthracis* Spores<br>Michael D. Chute, RBP, Department of Defense, Frederick, MD |
| 3:30 - 4:00 pm | Exhibits, Posters, and Coffee Break |
| **Session VII** | **Regulatory**<br>Moderator: Judy LaDuc, RBP, University of Massachusetts—Amherst, Amherst, MA |
| 4:00 - 4:20pm | Analysis of CDC Import Permit Program Inspections from 2013 to 2017<br>Thomas Cremer, PhD, Centers for Disease Control and Prevention, Atlanta, GA |
| 4:20 - 4:40 pm | Young v UPS: A Supreme Court Ruling with Applicability to Biosafety Laboratories<br>Casey Skvorc, PhD, JD, American Public University, Charles Town, WV |
| 4:40 - 5:00 pm | The Story Told by the Volatile Reporting of Incidents from Three Different Types of Laboratory Networks<br>Mika Shigematsu, MD, RBP, National Institute of Infectious Diseases, Tokyo, Japan |
| 5:00 - Close | **Members' Business Meeting**<br>*Door prizes will be awarded—must be present to win.* |

## Tuesday, October 16, 2018

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| 7:00 - 5:00 pm | Registration |
| 9:30 - 4:00 pm | Vendor Exhibits |
| 8:00 - 8:05 am | Welcome<br>Master of Ceremonies<br>Dee Zimmerman, Galveston, TX |
| **Session VIII** | **Griffin Lecture Award** |
| 8:05 - 8:20 am | Introduction: Caryl Griffin, MSN, MDiv, Elizabeth R. Griffin Research Foundation, Kingsport, TN |
| 8:20 - 9:20 am | All Appropriate Measures: Biosafety and Biosecurity in an Era of Global Health Threats<br>Julie Fischer, PhD, Georgetown University Medical Center, Washington, DC |
| **Session IX** | **Biosafety Hot Topics**<br>Moderator: Shelley Jones, MS, RBP, Northern Arizona University, Flagstaff, AZ |
| 9:20 - 9:40 am | Arthropod Containment Evaluation in an Academic Institution<br>Debra Sharpe, MPH, RBP, Sharpe Solutions International, Birmingham, AL |
| 9:40 - 10:00 am | An Overview of Field Research Safety Resources for Biosafety Professionals<br>Scott Patlovich, DrPH, CBSP, University of Texas Health Science Center—Houston, Houston, TX |
| 10:00 - 10:20 am | Risk Assessment and Reassessment in a Diagnostic Microbiology Lab<br>Lisa L. Steed, PhD, Medical University of South Carolina, Charleston, SC |

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| 10:25 - 10:55 am | Exhibits, Posters, and Coffee Break |
| **Session X**<br>11:00 - 12:00 pm | **Eagleson Lecture Award**<br>Introduction: Mary Ann Sondrini, Eagleson Institute, Sanford, ME<br>Using Viruses to Select for Reduced Virulence of Bacterial Pathogens in Human Patients<br>Paul Turner, PhD, Yale University, New Haven, CT |
| 12:00 - 1:30 pm | Exhibits, Posters, and Lunch |
| **Session XI**<br>12:30 - 1:30 pm | **Poster Session**<br>*Presenters must be available during the session.* |
| **Session XII** | **Behavior Enhancing Compliance**<br>Moderator: Maya Nair, RBP, University of North Texas Health Science Center, Fort Worth, TX |
| 1:30 - 1:50 pm | Biosafety in Microbiology Teaching Laboratories<br>Emilie Descamps, PhD, Scientific Institute of Public Health (WIV-ISP), Brussels, Belgium |
| 1:50 - 2:10 pm | Canada's Biosecurity Oversight, Strengthening Biosecurity Risk Assessment<br>Genevieve Lacroix, Public Health Agency of Canada, Ottawa, Ontario, Canada |
| 2:10 - 2:30 pm | Development, Implementation, and Utility of a Survey-based Laboratory Safety Management Tool<br>M. Shannon Keckler, PhD, Centers for Disease Control and Prevention, Atlanta, GA |
| 2:30 - 3:00 pm | Exhibits, Posters, and Coffee Break |
| **Session XIII** | **Training**<br>Moderator: Sarah DiFurio, MS, RBP, Tennessee Tech University, Cookeville, TN |
| 3:00 - 3:20 pm | Effective Biosafety and Biosecurity Training for Maintenance and Security Personnel<br>Molly S. Stitt-Fischer, PhD, CBSP, SM(NRCM), University of Pittsburgh, Pittsburgh, PA |
| 3:20 - 3:40 pm | ABSA Education & Curriculum Task Force: Survey Results and Analysis and Current Initiatives<br>Brandy Nelson, CBSP, University of Kentucky, Lexington, KY |
| 3:40 - 4:00 pm | Small Actions Bigger Impact: Training Brings in House Solution for Biosafety Issues<br>Saeed Khan, Dow University of Health Sciences, Karachi, Pakistan |
| 4:00 - 4:20 pm | Laboratory-acquired Infections and Exposure Routes: The Known, The Probable, and the Possible<br>Benjamin Fontes, MPH, CBSP, Yale University, New Haven, CT |
| 4:20 - 4:30 pm | Question and Answer |
| 6:00 - 10:00 pm | **Banquet at the USS Yorktown** |

## Wednesday, October 17, 2018

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| 7:00 - 5:00 pm | Registration |
| 8:15 - 8:20 am | Welcome<br>Master of Ceremonies<br>President-Elect: TBD |
| **Session XIV**<br>8:20 - 9:20 am | **Invited Speaker**<br>Introduction: Kalpana Rengarajan, PhD, JM, RBP, Emory University, Atlanta, GA<br>Global Testbeds for Biosafety and Biosecurity Policy<br>Megan Palmer, PhD, Stanford University, Stanford, CA |
| 9:20 - 9:40 am | **Coffee Break** |
| **Session XV**<br>9:40 - 10:05 am | **Richard Knudsen Award**<br>Introduction: Francine Rogers, ALM, MS, CBSP, SM(NRCM), Boston, MA<br>Title: TBD<br>Speaker: TBD |

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| **Session XVI** | **Biosafety Program Management**<br>Moderator: Frank Novembre, PhD, RBP, Baylor Scott & White Research Institute, Temple TX |
| 10:05 - 10:25 am | Moving Biorisk Management from Individual Heroics to Institutional Excellence<br>LouAnn C. Burnett, CBSP, Sandia National Laboratories, Albuquerque, NM |
| 10:25 - 10:50 am | How Threat Management Compliments a Biorisk Program and Contributes to a Culture of Responsibility in Biological Laboratories<br>Patricia Delarosa, PhD, RBP, CBSP, US Department of Health & Human Services, Washington, DC |
| 10:50 - 11:10 am | 2018 Biosafety Month: ABSA International Responses to Members' Needs<br>Eric Rouse, MS, University of Kentucky, Lexington, KY |
| 11:10 - 11:30 am | Case Studies in Personnel Suitability and Their Wider Application to the Research Community<br>Kathryn F. Board, University of Pittsburgh, Pittsburgh, PA |
| 11:30 - 1:30 pm | **Honor Awards and Special Recognition Luncheon**<br>Presenter: Patrick Condreay, PhD, RBP, pc Biosafety Consulting Services, LLC, Carrboro, NC<br>Arnold G. Wedum Distinguished Achievement Award<br>Everett J. Hanel, Jr. Presidential Award<br>John H. Richardson Special Recognition Award<br>Scientific and Informational Poster Awards<br>Hashimoto Award for Service and Honor<br>Recognition of Certified Biosafety Professionals and Registered Biosafety Professionals<br>Presenters: Thomas P. Boyle, RBP, Rowan University, Stratford, NJ<br>Susan Cook, PhD, CBSP, Washington University in St. Louis, St. Louis, MO |
| **Session XVII** | **Biosafety Issues Associated with the Use of Laboratory Animals for Studying Emerging or Re-emerging Infectious Pathogens**<br>Moderator: Esmeralda Meyer, MD, JM, RBP, Emory University, Atlanta, GA |
| 1:30 - 1:40 pm | AAALAC's Perspective on the Use of Novel Microbial Pathogens in Laboratory Animals<br>Gary Borkowski, DVM, DACLAM, AAALAC International, Frederick, MD |
| 1:40 - 1:50 pm | Laboratory-acquired Infections Associated with the Use of Emerging or Re-emerging Microbial Pathogens in Laboratory Animals<br>Karen Byers, MS, RBP, CBSP, Dana-Farber Cancer Institute, Boston, MA |
| 1:50 - 2:00 pm | Training for Research, Veterinary, or Ancillary Personnel When Using Emerging Infectious Pathogens in Laboratory Animals<br>Nicole Duffee, DVM, PhD, American Association for Laboratory Animal Science, Memphis, TN |
| 2:00 - 2:30 pm | Panel Question and Answer |
| **Session XVIII** | **Agent Inactivation**<br>Moderator: Claudia Gentry-Weeks, PhD, CBSP, Colorado State University, Fort Collins, CO |
| 2:30 - 2:50 pm | Decontamination of High-Containment Facilities by Peroxyacetic Acid Dry Fogging and the Failure of Commercial Spore Carriers<br>Jan Schinköthe, Friedrich-Loeffler Institute, Greifswald-Insel Riems, Germany |
| 2:50 - 3:10 pm | Review of Necessary Practices for EPA Submission of a Hospital Disinfectant Using Good Laboratory Practices (GLP)<br>Helen Paxton, St. Francis Healthcare, Wilmington, DE |
| 3:10 - 3:30 pm | Chlorine Dioxide Decontamination of Older Buildings—Is Dust Really an Issue?<br>Shane Riddell, CSIRO—Australian Animal Health Laboratory, Geelong, Australia |
| 3:30 - 3:50 pm | Coffee Break |
| **Session XIV** | **Equipment in the Lab**<br>Moderator: Allison Liljedahl, CBSP, University of California—Berkeley, Berkeley, CA |
| 3:50 - 4:10 pm | BSC Mythbusters: Does Heat Really Affect My Protection?<br>Kara F. Held, Baker, Sanford, ME |
| 4:10 - 4:30 pm | Centrifuge Biosafety or as My Rotor Turns<br>Brian Petuch, RBP, CBSP, Merck & Company, Inc., West Point, PA |
| 4:30 - 4:50 pm | Validating Autoclave Cycles for Carcass Disposal in ABSL-2/3 Containment Laboratories<br>Rebecca McGirr, MS, RBP, Duke University, Durham, NC |
| 4:50 pm | **Close of Conference**<br>Master of Ceremonies<br>President-Elect: TBD |

# USDA ARS 5th International Biosafety & Biocontainment Symposium:

## Biorisk and Facility Challenges in Agriculture

## February 11-14, 2019

## Hilton Baltimore • Baltimore, Maryland

USDA Agricultural Research Service

### Featuring

- Valuable presymposium courses
- 2½ days of scientific presentations
- Exhibits showcasing the latest agricultural biosafety, biosecurity, and biocontainment products and services
- Network with professionals from the biosafety, biosecurity, and scientific research industries, organizations, and agencies

arssymposium.absa.org

Managing Partner

ABSA INTERNATIONAL
*The Association for Biosafety and Biosecurity*

# Registration Form
## 61st Annual Biological Safety Conference
## October 12-17, 2018

❑ ABSA International Member ID Number: _____ ❑ Nonmember

Last Name: _____ First Name: _____

Organization: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ E-mail: _____

Emergency Contact: _____

Phone: _____

| Conference Fees | through 9/20 | 9/21 - onsite | Amount |
|---|---|---|---|
| ABSA International Member | $740 | $790 | $ _____ |
| Nonmember | $980 | $1,030 | $ _____ |
| Member of ABSA International Affiliate | $860 | $910 | $ _____ |
| *discount code:* _____ | | | |
| One-day Member (day _____) | $260 | $300 | $ _____ |
| One-day Nonmember (day _____) | $360 | $400 | $ _____ |
| Emeritus Member | $370 | $420 | $ _____ |
| **2018 Individual Dues ($210)** | | | $_____ |
| Exhibit Only pass on Monday ($25 each) | | | $_____ |
| Exhibit Only pass on Tuesday ($25 each) | | | $_____ |
| Additional lunch tickets ($30 each) | | | $_____ |
| Additional banquet tickets ($140 each) | | | $_____ |
| Additional Opening Reception tickets ($90 each) | | | $_____ |
| **Total from course(s):** | | | $_____ |
| **Total amount enclosed or to be charged:** | | | $_____ |

**Registration includes:** breaks, lunches, Opening Reception, and banquet. One-day registration does not include the banquet.

❑ Dietary Restrictions: _____

Registration is not complete without payment or credit card information. Purchase Orders are not accepted. Check must be made payable to "ABSA International" and bank drafted in U.S. dollars or it will be returned.

❑ Visa ❑ MasterCard ❑ American Express ❑ Check Enclosed

Card #: _____ Exp. Date: _____

Signature: _____

Cardholder's Name (print): _____

Course space is limited. No course substitutions or changes prior to the conference. Please visit the ABSA International website at www.absaconference.org for course availability and online registration. Mail to: ABSA International, 1200 Allanson Road, Mundelein, IL 60060-3808 or fax to 847-566-4580. **Registration forms must be faxed to the ABSA International Office to receive the Affiliate Member discount**.

## Professional Development Courses

| Friday, October 12, 2018 | Member | Nonmember | Amount |
|---|---|---|---|
| 1. Basic Risk Assessment | $595 | $645 | $_____ |
| 2. Animal Research + Biocontainment Facilities | $595 | $645 | $_____ |
| 3. Shipping Certification Course | $595 | $645 | $_____ |
| 4. The Essentials of Health and Safety at the Boundaries of Biosafety | $595 | $645 | $_____ |
| **Saturday, October 13, 2018** | | | |
| 5. Advanced BSL-3 Facility Operations | $595 | $645 | $_____ |
| 6. Emerging Technologies in Agriculture and Plant Sector | $595 | $645 | $_____ |
| 7. Keeping it Going: Keeping and Maintaining a Select Agent Program | $595 | $645 | $_____ |
| 8. Lab Facility Programming and Design | $595 | $645 | $_____ |
| 9. Gene Editing and Risk Assessment | $595 | $645 | $_____ |
| 10. Intro to Biosafety in the Clinical Setting | $350 | $400 | $_____ |
| 11. How to Respond to Emergency Scenarios | $350 | $400 | $_____ |
| 12. An Evolving Culture: Biorisk Management in Clinical Laboratories | $350 | $400 | $_____ |
| 13. Case Studies in Biocontainment Emergencies | $350 | $400 | $_____ |
| **Sunday, October 14, 2018** | | | |
| 14. Advanced Topics in Biocontainment in Agriculture Research | $595 | $645 | $_____ |
| 15. Integrating Biosecurity into Biorisk Management Systems | $595 | $645 | $_____ |
| 16. Engineering for the Biosafety Professional—Part II | $595 | $645 | $_____ |
| 17. Pathogen Inactivation Methods for Laboratory Applications | $595 | $645 | $_____ |
| 18. Articulating the Value of Your Biosafety Program | $595 | $645 | $_____ |
| 19. Practical Biosafety and Infection Control Considerations | $350 | $400 | $_____ |
| 20. Risk Assessment Considerations | $350 | $400 | $_____ |
| 21. ABSL-2 on the Farm | $350 | $400 | $_____ |
| 22. Conducting Institution Biosafety and Security Inspections | $350 | $400 | $_____ |
| 23. Gene Editing Logic Gates & Synthetic Biology in Human Gene Transfer | $350 | $400 | $_____ |
| 24. HVAC Systems to Enhance BSL-3 Facility Performance | $350 | $400 | $_____ |
| 25. International Biocontainment Challenges | $350 | $400 | $_____ |
| 26. Promoting Biosafety and Biosecurity through Effective Governance | $350 | $400 | $_____ |

**Registration for two 4-hour courses on the same day will include lunch.**

**Conference Cancellation Policy:** Cancellations received before September 3, 2018—85% refund; cancellations received between September 3 - September 17, 2018—50% refund; cancellations received after September 17, 2018—no refund.

# Share your biosafety resources!

## AVAILABLE RESOURCES

### GENERAL BIOSAFETY
Serves as a starting template for Biosafety Professionals

### ANIMAL BIOSAFETY
Videos describing the procedures animal handlers should follow when working at ABSL-1, -2, or -3

### BLOODBORNE PATHOGENS
Starting point for administrators creating a BBP Exposure Control Program

## ABSA International
## Training Tools/Resources Committee

ABSA International's Training Tools/Resources Committee is soliciting submissions via the ABSA International website. Our goal is to provide tools, templates, and resources to those who provide training in biosafety or closely-related areas.

**You may contribute by:**

1. **Sending us resources you are willing to share here.** These can be placed on the public site for full access or on the members-only area for access only by ABSA members. Your content will be reviewed prior to posting.
2. **Letting us know what types of resources you might find useful.** The Training Tools/Resources Committee will gather suggestions and look into what resources are currently available as well as make recommendations for development of appropriate tools.
3. **Submitting feedback with the user evaluation form for each resource you use.**

ABSA International, 1200 Allanson Road, Mundelein, IL 60060-3808
Phone: 1-866-425-1385 (toll free) Fax: 847-566-4580 E-mail: info@absa.org

WWW.ABSA.ORG

ABSA INTERNATIONAL
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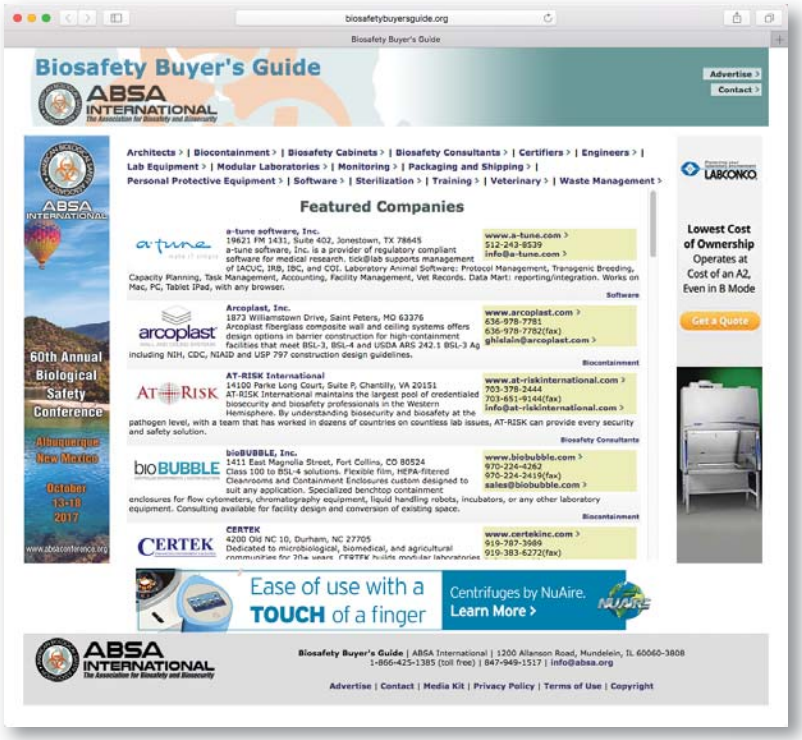
# Biosafety Buyer's Guide
# www.biosafetybuyersguide.org

ABSA International launched the Biosafety Buyer's Guide to connect supplier partners with members and biosafety professionals. The Guide features biosafety and biosecurity related companies, services, and consultants. The Biosafety Buyer's Guide offers biosafety professionals easy access to ABSA International's partners' products and services. The Guide offers Basic Listings (company contact information), Highlighted Listings (company contact information and logo), and Banner Ads. Listings and Banners are posted for 12 months.




## Categories

- Architects
- Biocontainment
- Biodecontamination
- Biosafety Cabinets
- Biosafety Consultants
- Certifiers
- Decontamination
- Engineers
- Lab Equipment
- Modular Laboratories
- Monitoring
- Packaging and Shipping
- Personal Protective Equipment
- Software
- Sterilization
- Training
- Veterinary
- Waste Management

**To add your products or services to the Biosafety Buyer's Guide, contact Karen Savage at karen@absaoffice.org.**
**Download an application at http://biosafetybuyersguide.org/pdf/ABSA_BiosafetyBuyersGuideApplication.pdf.**

**ABSA International • 1200 Allanson Road • Mundelein, IL 60060-3808**
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# 61st Annual Biological Safety Conference

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