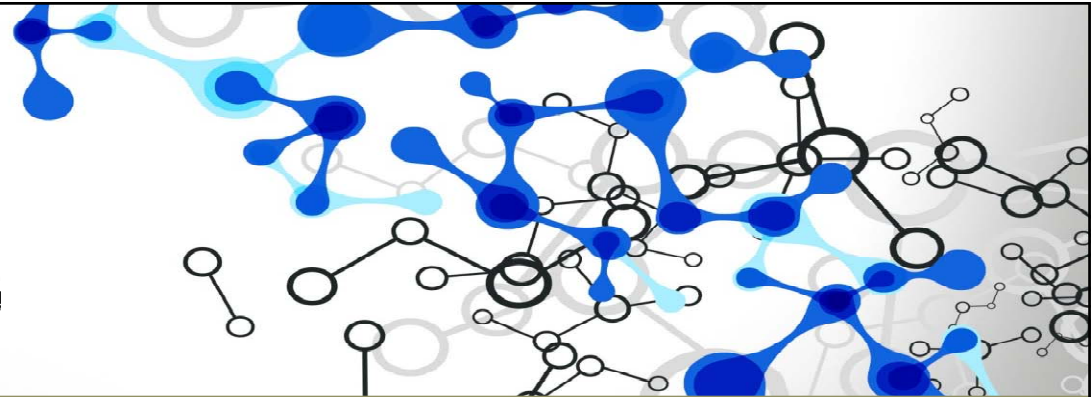




# IBCTR

INTERNATIONAL BIOLOGICAL  
and CHEMICAL THREAT REDUCTION



## Improving Biorisk Management Through Project Based Mentoring

### International Twinning Program

Eric Cook, MPH, CBSP

Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000. SAND2015-7285 M





# OUTLINE

- Background Information
  - Why Mentoring
- Twinning Project
  - Objectives
  - Timeline
- Outcomes
- Become a Mentor

**“MENTORING IS A BRAIN TO PICK, AN EAR TO  
LISTEN, AND A PUSH IN THE RIGHT DIRECTION.”**

**JOHN C. CROSBY**

© Lifehack Quotes

# WHY TWINNING?



Eilyn Fabregas, APHIS, USDA and Anissa  
Choikha, Institute Pasteur Tunis

# INTERNATIONAL TWINNING PROJECT



## OBJECTIVES

- Establish life-long working relationships, and develop a network of professional BRMAs (BSOs) throughout the world
- Plan and execute a BRM related project to benefit twin's institution or country
- Enhance the profession of biorisk management: Identify opportunities for improvement, collaboration and professional development
- Share best practices.

## UIC NEWS CENTER

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UIC NEWS | PEOPLE | UIC NEWS TOP STORY

Categories: Campus, Faculty

### Biological hazard specialist makes the world a safer place

Gary Wisby  
February 17, 2015



UIC-EHSO Health&Safety

Leo Njongmeta, senior biological safety specialist in the Environmental Health and Safety Office, is a mentor in the International Biological Threat Reduction Program.

Leo Njongmeta is helping make the world safer from deadly pathogens by spreading his expertise to developing countries.

A senior biological safety specialist in the Environmental Health and Safety Office, he's a mentor in the International Biological Threat Reduction Program at Sandia National Laboratories, based in Albuquerque, New Mexico.

"Sandia Labs is one of the institutions that gets funds from the U.S. State Department to execute global bio-risk management programs," Njongmeta said.

**MEDIA CONTACT**  
Gary Wisby  
312-413-7620  
gwisby@uic.edu

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# BENEFITS

## WESTERN TWINS

- global perspective in biosafety
- new opportunities to expand knowledge and experience
- return to the roots of biosafety
- develop and network with all the twins
- building partnerships and future collaboration with far reaching impact

## EASTERN TWINS

- develop new programs to benefit institutions and nations
- improve existing systems
- increase awareness of biosafety as a profession
- access to a professional network
- establish Biorisk management as a professional pursuit

“This has been the most rewarding experience of my biosafety career”



Melissa Morland, Biosafety Officer, UMB and Dr Mohamed Ben Moussa, Lab Director, Military Hospital of Tunis

“I’ve learned more about biosafety from being a twin than anything else ”



Dr. Betsy Matos, ISU Biosafety Officer, and Egyptian counterpart Dr. Emad Rizkalla



# TYPICAL TWINNING PROJECT TIMELINE



January 2015 Kick-off meeting  
*Sharm-El Sheikh, Egypt*



January 2015 – June 2015  
Project execution



July 2015 Wrap-up meeting  
*Amman, Jordan*



MENA II & III 28 July 2015 Amman , Jordan

# Why Project based?

A scenic view of a tropical bay with limestone karsts and turquoise water. The sky is clear blue, and the water is a vibrant turquoise. Several boats are visible in the bay, and the surrounding land is covered in lush green vegetation. The text is overlaid on the image in a yellow, sans-serif font.

I hear and I Forget

I see and I Remember

I do and I Understand

- Confucius



# PROJECT RESULTS (POSTERS)



### Risk Assessment in Jordan

Ghaya Alwahdani, Laboratory Directorate/Ministry of Health Jordan  
Melissa Morland, University of Maryland, Baltimore

**Introduction**

- Jordan is a high risk country with 10 government hospitals.
- The Risk Manager for Jordan needs for the Laboratory Directorate at the Jordanian Ministry of Health.
- The JCR provides information on the current status of the country and program national health objectives.
- The Risk Manager (RM) is an environmental health officer.
- Each laboratory has a risk officer.
- Other relevant information: Number of personnel, Storage and treatment.
- Risk assessment is a systematic process of identifying hazards and assessing the magnitude and frequency of the potential hazards and the likelihood of occurrence of the hazards.
- There are two methods to assess the risk: qualitative and quantitative.
- Qualitative risk assessment is based on the experience of the assessors.

### Development of Biorisk Management Training Curriculum for Undergraduates at the Faculty of Medical Technology at the University of Tripoli

Omar Elahmer, National Centre for Disease Control, Libya  
Angela Birnbaum, Tulane University, USA

**Introduction**

- A one-day training curriculum was developed for undergraduate students at the Faculty of Medical Technology at the University of Tripoli.
- The curriculum covers the following topics: Biorisk Management, Biosafety, and Biosecurity.
- The training was conducted in two sessions, one in Tripoli and one in Benghazi.
- The curriculum was developed by a team of experts from the National Centre for Disease Control and Tulane University.

### Development and Implementation of a Comprehensive Emergency Response Plan for Biopharma (Rabat, Morocco)

Said Mouhi, Societe de Productions Biologiques et Pharmaceutiques Veterinaires, Biopharma  
Leo Njirigeto, Environmental Health and Safety Office, University of Illinois at Chicago

**Introduction**

- The purpose of this project was to develop and implement a comprehensive emergency response plan for Biopharma in Rabat, Morocco.
- The plan covers all potential hazards and provides clear instructions for employees in the event of an emergency.
- The plan was implemented in 2018 and has been successful in ensuring the safety of all employees.

### Implementat

**Introduction**

- The purpose of this project was to implement a comprehensive emergency response plan for Biopharma in Rabat, Morocco.
- The plan covers all potential hazards and provides clear instructions for employees in the event of an emergency.
- The plan was implemented in 2018 and has been successful in ensuring the safety of all employees.

### Development of a Biorisk Management System and Training in the Agricultural Research Center, Egypt

Mohamed Saad, PhD, Biosafety Officer, CLEVB, Agricultural Research Center, Egypt  
Melissa A. Morland, MBA, Biosafety Officer, University of Maryland, Baltimore, USA

**Introduction**

- The Agricultural Research Center (ARC) incorporates 14 research programs, being implemented by 16 Institutes, 13 Central Labs, 10 regional stations, 36 specific research stations, and 21 research administrations throughout Egypt and 4 research, extension and training centers of excellence.
- There are three branches of the ARC: Veterinary, Agriculture, and Insects.
- Only the veterinary branch of the ARC has an established biorisk management (BRM) program with several trained staff.
- This project includes a needs assessment to determine the needs of these two branches and expansion of the current BRM program in the veterinary branch to the other two branches.
- Gaining top management support and creating a BRM System from the very top will enhance biosafety and biosecurity throughout the organization.

### Development of a Modular Laboratory Emergency Response Tool for Regional Public Health Laboratories in Egypt

Walaa Mohamed Kandeel, Ministry of Health, Central Public Health Laboratories, Albeheira Governate, Egypt  
Benjamin Fontes, Yale University, New Haven, CT USA  
Dalal Manier El Sayed, Project Supervisor Ministry of Health, Central Public Health Laboratories, Egypt

**Introduction**

- The purpose of this project was to develop a modular laboratory emergency response tool for regional public health laboratories in Egypt.
- The tool provides a clear and concise guide for laboratory staff in the event of an emergency.
- The tool was implemented in 2018 and has been successful in ensuring the safety of all employees.

### Background

- The general health laboratories in the Kingdom of Saudi Arabia are facing a number of challenges.
- The purpose of this project was to develop a modular laboratory emergency response tool for regional public health laboratories in Egypt.
- The tool provides a clear and concise guide for laboratory staff in the event of an emergency.
- The tool was implemented in 2018 and has been successful in ensuring the safety of all employees.

### Conclusions

- The 5-day training course successfully increased trainees' perception of biosafety, biosecurity, and personal reliability.
- Top management support and the organizational structure will enhance biosafety and biosecurity throughout the ARC.
- Additional staff training is needed to increase staff awareness.

**Next Steps**

- Develop a Biosafety Manual for ARC.
- Develop organizational wide BRM policy.
- Expand Biosafety Committee review to organizational wide.
- Risk Assessment and Mitigation Plan.
- Additional laboratory staff training.
- Evaluate and monitor BRM system to make continuous improvements.

### Conclusions

- The project was successful in ensuring the safety of all employees.
- The tool provides a clear and concise guide for laboratory staff in the event of an emergency.
- The tool was implemented in 2018 and has been successful in ensuring the safety of all employees.

### Objectives

- To establish a BRM System for the Agricultural Research Center to include veterinary, agricultural, and insect institutes.
- Establishment of a biorisk management structure, job descriptions and responsibilities.
- Train newly identified biosafety officers by January 2016.

### Results

- 16 new biosafety officers trained during 5-day course.
- A new BRM organizational structure was developed for the entire ARC.

**Self Perception of BRM**

**Perception of Staff Knowledge of BRM**

### Project Summary

- Develop a modular laboratory emergency response tool for regional public health laboratories in Egypt.
- The tool provides a clear and concise guide for laboratory staff in the event of an emergency.
- The tool was implemented in 2018 and has been successful in ensuring the safety of all employees.

### Deliverables

- Receive Top Management support for Organizational Wide BRM.
- Conduct Needs Assessment.
- Conduct perceptual safety survey of Biosafety Advisors.
- Develop training curriculum and training plan to train up to 25 biosafety advisors.
- Conduct post-training perceptual safety survey.

### Acknowledgements

- Sandia National Laboratories
- U.S. Department of State, Bioscience Engagement Program
- University of Maryland, Baltimore
- Agricultural Research Center, Egypt
- CLEVB, Egypt

### Average Response Rates of Pre- and Post-Evaluation Questions

### Methodology and Results

- Methodology: A risk assessment tool was developed for Jordanian picture of our Risk Assessment.
- Results: The tool provides a clear and concise guide for laboratory staff in the event of an emergency.
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### Average Improvement of Awareness for 19 Evaluation Questions

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# OUTCOMES

- 7 rounds of twinning have been held to date.
- 51 Eastern twins from the following countries have participated: Kenya, Uganda, Mali, Jordan, Morocco, Tunisia, Algeria, Libya, Egypt, Somalia, Iraq, and Yemen.
- 22 Western twins, all members of ABSA from the US, Canada and Great Britain have served as mentors.
- 45 projects related to both biosafety and biosecurity completed
- Six posters have been presented at past ABSA conferences.
- Six additional posters will be presented today

# How are twins selected?

Work with sponsors to identify priority countries and laboratories



US Department of State  
Biosecurity Engagement Program



# What Makes a Good Twin?

- Communication
- Kindness, patience, enthusiasm
- Communication
- Organized
- Communication
- Interest in learning new things
- Expert knowledge but doesn't know everything
- Willing to share and connect with a wide network

## Conclusions – Project Based Mentoring

- Provides a vehicle for creating life-long partnerships and networks
- Increases the knowledge, skills, abilities of all involved
- Enhances the profession of biosafety/biosecurity;
- Creates tools and resources that can benefit not only institutions and countries beginning to embrace biorisk management concepts but everyone in the biosafety profession.



THANK YOU!