

THE BIOSAFETY & BIOSECURITY NETWORK OF THAILAND (BSNT)

Prof. Prasert Auewarakul

In a time like this, when novel and dangerous diseases are constantly emerging in the region, capacity-building for diagnostic and research laboratories as well as for clinical facilities became an important issue in Thailand. Amidst the political turmoil of the country, these capacity-building processes are still ongoing and progress has been made in various aspects to ensure better preparedness for any future outbreaks. Along with improved laboratory capability for handling dangerous infectious agents and the emergence of highly virulent pathogens, biosafety and biosecurity issues became an important concern. Several partners, both academia and practitioners, are working together to raise awareness, understanding and commitment to biosafety and biosecurity in Thailand in order to provide better and safer working environments and ensure safety for the public.



BSNT & A-PBA committee members at the A-PBA Conference in Bangkok, 2008

Gathering a task force

Being aware of the emerging importance of biosafety, the Virology Association (Thailand) (VAT), decided to co-host an international conference "Biosafety Issues in Emerging and Re-Emerging Diseases" with the Asia-Pacific Biosafety Association (A-PBA) in March 5-7, 2008 in Bangkok. It was a successful meeting with more than 150 participants from over 14 countries sharing their experiences and ideas on biosafety issues.

As a commitment expressed in the conference, VAT decided to initiate a working group on biosafety with some financial support kindly provided by A-PBA. The first meeting of the working group was called to form BSNT (Biosafety and Biosecurity Network of Thailand) shortly after

the conference. Thirty-two attendees came to this meeting and together they founded BSNT. The founding members of BSNT were people from various sectors who showed great interest in biosafety. Thirteen were from universities, eight were from the Ministry of Public Health, six were from the National Institute of Animal Health, one was from the Engineering Institute of Thailand, and four were from Armed Forces Research Institute of Medical Sciences. The group comprised researchers, public health personnel, veterinary scientists, biosafety officers, and an engineer. The goals of BSNT were set as follows:

1. To promote biosafety and biosecurity knowledge for infectious disease prevention and control by conducting conferences, workshops and by

distributing information through various routes.

2. To increase the number of biosafety and biosecurity experts in Thailand who

IN THIS ISSUE:

Report on the Biosafety & Biosecurity Network of Thailand	...pg 1
4 th A-PBA Conference, Manila 2009	...pg 3
The Realization of Codes of Conduct in the Biosciences	...pg 7
1st Annual BACAC Conference a Huge Success	...pg 9
12 th EBSA Conference & Calendar of International Events	...pg 10
A-PBA's Biosafety Crossword Puzzle	...pg 11

can provide consultations and opinions on related issues.

3. To create biosafety and biosecurity recommendations and guidelines for Thailand.

Networking

BSNT was designed to work in close collaboration with A-PBA. A liaison (with Dr. Suda Louisirotrachanakul) was appointed to facilitate the collaboration. Dr. Chua Teck Mean, the president of A-PBA, joined the annual scientific meeting of VAT in November 2008 to give a talk on "Biosafety and Biosecurity: The Asia-Pacific Networking". In this VAT meeting, BSNT was officially announced and some VAT members became interested and joined BSNT. With A-PBA as a central hub, BSNT hopes to work with other groups in other countries in this region as a network for mutual benefit.

Accumulating expertise and resource persons

An initial task of BSNT is to accumulate expertise and resource persons in biosafety. This core group of experts will hopefully form a critical mass to drive activities, which will raise awareness and strengthen biosafety measures in the country.

In July 2008, a workshop on biosafety in BSL-3 was conducted at the Faculty of Science, Mahidol University, with support from VAT, Mahidol and Emory University. The workshop was aimed at training the trainers. Most of the trainees are VAT members and are now BSNT members as well. In addition, BSNT sent two members (Dr. Chonlapat Sukkasem and Dr. Sahapat Brasrak) to A-PBA-organized workshops in

Singapore in August 25 – September 5, 2008. These trainees provide a core group of resource persons, on which upcoming activities of BSNT will be relied upon.

Ongoing and future activities

1. National and International Biosafety conference and technical workshop.

In the very near future, BSNT will hold an annual biosafety conference and technical workshop to build a national network between government, universities, international organizations and private companies associated with the life sciences through this network.

The conference will be held for 5 days to feature presentation of best biosafety / biosecurity practices amongst its members, standard, and training in biosafety and biosecurity. The annual biosafety conference and the technical workshop will be held for 2 and 3 days, respectively. This program has been designed for all personnel who work with potentially viable biological materials, including for example: microorganisms (of any risk level); cells or cell lines; tissue cultures; recombinant DNA, organisms, or viruses; animal blood, body fluids, or tissues; or animals. The main objective is to develop and provide supporting training materials and activities to ensure BSNT members are aware and informed of new issues and areas of research, to support the principle of continuous professional development for its members.

2. Provide recommendations.

One of BSNT's missions is to establish and communicate recommendations for future policy making in biosafety and biosecurity. Such recommendations will be based on a reference list of high containment laboratories with

respect to human, animal, zoonotic and plant pathogens and on an inventory of existing criteria, definitions and legal frameworks, applicable to these laboratories. These recommendations cover aspects of risk assessment and safety requirements needed for undertaking (a) laboratory work, (b) field trials and (c) commercial work, involving microorganisms and animals.

Guidelines for laboratory work specify the experiments to be categorized as belonging to different biosafety levels such as work bearing minimal risk, work bearing low risk, work bearing moderate risk and work bearing high risk and what precautionary measures should be taken to avert such risks.

3. Provide human resources and consultation.

BSNT will gather and develop knowledgeable personnel, who will provide consultations and practical advice on biosafety and biosecurity issues. The activities may in the future include laboratory (BSL-3) inspection and certification.

4. Provide a Biosafety and Biosecurity text book (in Thai).

This will serve to develop and update a systematic catalogue of biosafety and biosecurity measures based on the global and national standards and data.

5. Foster and leverage on government agencies to establish the National Biosafety and Biosecurity Guidelines for Biomedical laboratory.

This will be applicable to all research and development activities of modern biotechnology conducted in laboratories of the government research institutes, state enterprises, universities, international organizations located in Thailand, private companies or non-governmental organizations. It applies to laboratory and field trials, handling and use of all infectious agents that may have adverse effects and taking also into account risks to human health.

FOURTH ANNUAL ASIA-PACIFIC BIOSAFETY ASSOCIATION CONFERENCE *BIOSAFETY WITHOUT BORDERS*

29-30 April 2009

Hyatt Hotel and Casino Manila, Philippines

Extracted from Report by Dr. Edith Tria, Founding President of the Philippine Biosafety and Biosecurity Association (PhBBA)

With the theme *Biosafety Without Borders*, the Fourth Annual Asia-Pacific Biosafety Association (A-PBA) Conference attracted more than 260 participants from 19 countries. Government regulators, policy makers, academics, laboratory technicians, and members of professional associations from the Asia - Pacific region listened and exchanged information and experiences on biological safety and security. Several internationally - renowned biosafety experts and professionals attended the conference to speak on issues and challenges pertaining to global biosafety community, the Asian experiences in managing biosafety and containment technologies. This year's A-PBA conference was co-hosted by the Philippine Biosafety & Biosecurity Association, Inc. (PhBBA), with support from the Departments of Science and Technology, Health, and Agriculture; Temasek Life Sciences Laboratory.

Inaugural Session

Keynote speaker, Dr. Francisco Duque, Secretary of the



Dr Chua Teck Mean, President of A-PBA, giving the opening address

Philippine Department of Health, acknowledged the timely holding of the conference in light of the global H1N1 flu pandemic. He described how the Philippines' experiences in dealing with biological and potential bioterrorist threats have contributed to improved capabilities to manage biosafety and biosecurity through programs, policies and technical capacity. Relating to the

conference's theme, Dr. Duque said that international health security is easily threatened by the "weakest link", thereby stressing the importance of disseminating awareness and improving

capability for biosafety and biosecurity.

Session I: Global Biosafety

On *Global Biosafety*, A-PBA President Dr. Chua Teck Mean described how economies worldwide have been affected by global biological threats, how they responded and how a global cooperation is important to improve preparations for future threats of epidemics, in his talk on *Emergence of a Global Biosafety Community – Challenges and Strategies*.

Dr. Christopher Oxenford, Laboratory Specialist of the World Health Organization Regional Office, spoke about *Biosafety in the WHO Western Pacific Region*, the WHO training programs available and the available expertise in the region, which can be tapped by governments or institutions.

Dr. He Changchui, Assistant Director-General and Regional Representative for Asia and the Pacific of the UN FAO



focused on the FAO-WHO initiatives on plant and animal health, including food safety, that support FAO's mission to increase food production. In his talk on *Biosafety in Food and Agriculture*, Dr. He emphasized the need for the evaluation of standards and for international participation in technical discussions.

Session II: The Asia Experience

Mr. David Lam, Senior Manager for Biological Safety of the Singapore General Hospital (SGH), on behalf of Dr Lynette Oon of SGH, spoke on *Avian or Swine Influenza – Next Pandemic?*, the history and evolution of influenza pandemics.

In *Pandemic Preparedness, Mitigation and Recovery*, Dr. Barbara Johnson, past President of the American Biological Society Association, described the US pandemic plan and the Pillars of the Canadian Pandemic Influenza Plan for the Health Sector. Her presentation included basic but important concepts such as maintaining fundamental services of hospitals and services to include electricity. She also emphasized the importance of public awareness of biosafety to minimize the risk of preventable accidents.

Dr. Samuel Animas, Chief of the Animal Health Division of the Bureau of Animal Industry, presented *The Philippine Experience on Ebola Reston Virus in Pigs and the Avian Influenza Preparedness Program*. Dr. Animas discussed the importance of risk communication – when, how, and to whom to impart the right information. He also underscored the importance of cohesively working with other government agencies, including the local government units.

In *Infection Prevention and Control Emergency and Preparedness (The Asia-Pacific Experience)*, Pete-Anne Zimmerman, Infection Prevention and Control Consultant of the WHO, spoke on how laboratory biosafety incidents can be the source of new outbreaks and tenets of infection control.

Session III: Asia-Pacific & Beyond – Facing the Biosafety Challenge as One Community

The third session comprised experiences-sharing of select Asia-Pacific countries, in particular, the

Philippines, Thailand, Singapore, China, Hong Kong, India, Kazakhstan, and the Southeast Asian region.

Learning experiences gleaned from each country's efforts in biosafety and biosecurity were shared by:

- Dr. Edith Tria, of the PhBBA;
- Dr. Chonlaphat Sukasem, Secretary of the Biosafety and Biosecurity Networking of Thailand (BSNT);
- Dr. Se Thoe Su Yun, Acting Head of the Biosafety Legislation Branch of the Singapore Ministry of Health;
- Dr. Wei Chan of the Office of Laboratory Management, Chinese Center for Disease Control and Prevention (CDC);

- Dr. Dewi Rowlands, Scientific Officer of the Laboratory Animal Services Centre, The Chinese University of Hong Kong;
- Dr. Pragya Yadav, Assistant Biosafety Officer of the National Institute of Virology, Indian Council of Medical Research;
- Dr. Dinara Turegeldiyeva, Senior Researcher at the Kazakh Science Center for Quarantine and Zoonotic Diseases Training Department; and
- Dr. Stuart Blacksell, Senior Microbiologist of the Mahidol-Oxford Tropical Medicine Research Unit, Mahidol University, Thailand.



Conference participants

Session IV: Managing Biosafety – The Challenges

Dr. Stefan Wagener, Scientific Director of the Biorisk Management, Public Health Agency of Canada, spoke on *Laboratory Biorisk Management Standard CWA 15793:2008 – Next Steps*. The CWA 15793:2008 is a biorisk management system adopted by consensus of participants from 24 countries. The Biorisk Management System is a framework of processes and procedures used to ensure that a laboratory can fulfil all tasks required to achieve its biosafety and biosecurity objectives. Dr. Wagener noted that an important feature of the Standard was that local problems can be addressed by local solutions.

Dr. Jennifer Gaudioso of Sandia National Laboratories and Dr. Mika Shigematsu of

the Japan National Institute of Infectious Diseases presented *BIORAM 2.0: A Tool for Implementing A Biosecurity Risk Assessment Methodology*. The BIORAM software provides a quantitative assessment of site specific biosafety and biosecurity risks in a given laboratory.

In *GMOs: Risk Assessment*, Dr. Barbara Johnson provided an overview of biosafety pertaining to genetically modified organisms (GMOs). Dr. Johnson

these incidents, in support of Singapore's aim of becoming a major biomedical hub.

Dr. Nina Gloriani, Dean of the College of Public Health of the University of the Philippines, presented the *Philippine Biosafety Framework for Genetically Modified Organisms*. She discussed the Philippine policies governing the use of GMOs and gave an overview of the principles of food and feed safety assessment of GM crops.

Dr. Elizabeth Rohonczy, National Manager of Animal Health of the Canadian Food Inspection Agency, described the various methods in dealing with animal carcass disposal, in *The Canadian Response to Reportable Avian Influenza*. At the same time, she emphasized that there is no single solution that can be applied to every situation, supporting the point that local problems can be solved by local solutions.

Session VII: Biosecurity, Bioethics & Biocontainment;

Session VIII: Supplementary Topics

Dr. Barbara Johnson, in *Developing a Gracious and Ethical Biological Research Community*, proposed that biosafety, chemical safety, scientific safety and ethics in the sciences should be introduced at high school level, before students even walk into a lab. Starting this training early in the sciences introduces this topic to students who, by requirement, may need to take basic sciences, but later go into other professions that influence the sciences, such as law, politics and government agencies that develop rules and regulations.

Dr. Arnaud Serfass of the Getinge Infection Control Life Science, Singapore, described the role of the sterilizer in primary and secondary containment barrier.

Dr. Remigio Olveda, Director of the Research Institute for Tropical Medicine (RITM), presented updates with the topic *Biorisk Assessment and Biosecurity Upgrades at the RITM, Philippines*, as well as the results of an initial BIORAM assessment.

Dr. Irma Makalinao, of University of the Philippines, spoke on the *Philippine Biosafety and Biosecurity Action Plan and the Human Security Act 2007*. Dr. Socorro Lupisan, Deputy Director of the RITM described *National Laboratory Biosafety and Biosecurity Action Plan* of the Philippines. Both Dr Irma and Dr Socorro emphasized that biosecurity is a multi-sectoral partnership of the health sector, academe, defence sector, and the local government units.



Conference participants

also discussed non-science issues such as public communication as an integral program for the safe conduct of work with GMOs, and enumerated the Components of a Framework for Safe Work with GMOs.

Major Esther Low, Incident Manager of the Singapore Civil Defence Force (SCDF), presented *Singapore's Emergency Response and Control for Containment Facilities – A National Perspective*. The SCDF deals with incidents arising from hazards of biological, chemical, nuclear, or radiological nature. Major Low outlined Singapore's readiness to deal efficiently with

Session VI: Animal Pathogens and Containment Challenges

Dr. Felix Gmuender, an OHS Auditor of Basler & Hofmann Singapore, illustrated containment challenges in his talk *What It Takes to Contain A Tiny Mosquito*. Dr. Gmuender's presentation provided a transition from containment of arthropods to that of larger animals, as discussed by Dr. Kathrin Summermatter, Deputy Director of the Swiss Institute of Virology and Immunoprophylaxis. in *Biosafety of Highly Contagious Animal Pathogens*. She also discussed the challenges of effectively communicating with the media on biosafety issues, and difficulties faced in modifying an existing facility.

Dr. Craig Reed of the International Centre for Infectious Diseases, in *The International Biosafety Working Group*, spoke on the organization's strategic objectives, which should support the promotion of biosafety through worldwide collaboration.

Mr. Theodore Traum's (Principal of WorldBioHazTec) discussed *The Current Challenges and Future Trends in Biocontainment Facilities*. Mr. Traum, an engineer, highlighted sustainability concerns, which include issues on funding and maintenance. This being especially difficult since maintenance does not effect a tangible return to the institution.

Dr. Michael Stephens, Head of Health of the Medical Research Council, in his presentation

Medical Research in Developing Country: an African Experience, illustrated how local problems were solved ingeniously by local solutions, as he recounted the his research experience in Gambia and the challenges faced by a developing country.

Dr. Thomas Binz, of *Biosafety – Europe* presented the European setting with regards to biosafety. Dr Binz recommended the harmonization of directives and the regular updating of classification of (pathogenic) microorganisms.

Mr. Saravanan Gunaratnam, Head of Safety & Health Management at the National University of Singapore (NUS), spoke on the systems approach to managing laboratory biosafety in NUS, a system that has been developed into a certification scheme used by NUS Singapore-based laboratories.

Ms. Soh Jin Lee, of BioSafety & Environment Coordinator at the Institut Pasteur Korea, discussed *BLS-3 Facility: From Set-Up to Management*, and shared her experience on how Institut Pasteur Korea set up their BLS-3 containment facility, as well as the Korean system for regulating such facilities.

Closing

The host country is commended for its excellent scientists, great hospitality, and outstanding fellowship with visiting participants. Speakers and respective experts on biosafety and biosecurity are appreciated for availing themselves amidst busy schedules to share their experiences.

It is hoped that participants will “multiply” the knowledge learned from this conference by disseminating relevant biosecurity information to the wider public.



Some of our speakers and organizers

THE REALIZATION OF CODES OF CONDUCT IN THE BIOSCIENCES

Submitted by Dr Barbara Johnson & Dr Ling Ai Ee

What are the ethical issues faced in the biosafety and biosecurity? What tools do we have to address those issues? Can an Institutional Biosafety Committee help develop and codify Codes of Conduct at an Institutional level?

Optimally, biosafety, chemical safety, scientific safety and ethics in the sciences should be introduced as soon as people begin taking classes in biological sciences. An awareness of ethical issues strengthens and supports good societal norms. Starting this training early in science programs introduces this topic to those students who by requirement may need to take basic sciences, but later go into other professions that influence the sciences...like law,

politics and government agencies that develop rules and regulations.

What are ethics? A few definitions include:

- The process of determining right and wrong conduct.
- The principles of conduct governing an individual or group; concerns for what is right or wrong, good or bad.
- Principles and values which guide public and private behavior.
- Code of conduct based on respect for one's self, others, and your surroundings.

In the case of biological sciences we could look at ethics as choosing the right action and the greater

good. This involves developing a code of professional standards that contains aspects of fairness and duty to the profession and the general public.

Part of the role of the IBC is to review submissions from the perspective of biosafety and scientific merit, as well as, in some cases risks that may be posed by conducting the work. There is a process of weighing risk against benefit (societal risk as well as individual risk). It is in this process that science and ethics intersect. This intersection may be where institutes and organizations begin to develop Codes of Conduct. Below is an example of such a Code of Conduct issued by the Singapore Ministry of Health.

Code of Ethical Practice in Human Biomedical Research

- 1 The credibility of human biomedical research with society is dependent upon the maintenance of the highest ethical standards in its conduct. Research is ethically justifiable only if it is scientifically sound and does not expose research subjects to unwarranted discomfort or risks without likely benefit to the advancement of biomedical science. Research should also abide by accepted moral standards within the community and be carried out responsibly, in ways that respect and protect the research subjects, and maintain scientific integrity to promote trust and accountability.
- 2 Researchers have a personal and non-delegable responsibility to ensure the ethical conduct of their research. This Code lays down principles and standards for ethical practice in human biomedical research in Singapore. Researchers should use this Code as a yardstick for their conduct and behaviour. In addition, researchers should have an understanding of research ethics, develop the knowledge, skills and attitude needed to manage ethical conflicts, and to consult with colleagues, ethics committees and other experts when ethical issues arise.
- 3 Researchers are to uphold the principles¹ fundamental to the protection of human subjects. In general, researchers are expected to:
 - i. **Respect persons** as individuals:
 - (a) obtain fully informed consent from subjects who are autonomous;
 - (b) accord due protection to persons with diminished autonomy and who are vulnerable;
 - (c) protect subject privacy and maintain data confidentiality at all times;
 - ii. **Strive to promote the well-being and safety of human research subjects**, protecting them from unnecessary risks, and never let the goals of research undermine this priority;
 - iii. **Abide by local laws, regulations, guidelines** and commonly agreed standards of **good practice**² on the conduct of human biomedical research; *(continued on page 7)*



- iv. **Embody professionalism** by upholding integrity, openness, and a commitment to intellectual honesty in the conduct of research, and avoid any actual, potential or apparent conflict of interest;
- v. **Exercise responsible custodianship** of resources under their charge and be a responsible steward in the use and management of those resources;
- vi. **Treat all fellow researchers with dignity and respect**, and managing researchers under their supervision with care;
- vii. **Observe the Code** in all respects of their professional lives.

¹ The principles as presented in the Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research are Respect for persons, Beneficence and Justice.

² The primary emphasis for the conduct of research should be to ensure due process for validity and reproducibility, rather than to focus on the results of the research.

Ministry of Health

Code of Ethical Practice in Human Biomedical Research

Apr 09

COMMITTEE TO DEVELOP THE CODE OF ETHICAL PRACTICE IN HUMAN BIOMEDICAL RESEARCH

Chairman

A/Prof Chin Jing Jih
Senior Consultant, Geriatric Medicine Department
Tan Tock Seng Hospital

Members

Dr Aw Swee Eng
Director, Department of Clinical Research & Chairman, Institutional Review Board,
Singapore General Hospital

A/Prof Chong Siow Ann
Vice Chairman, Medical Board (Research), Institute of Mental Health

A/Prof Goh Lee Gan
President
College of Family Physicians Singapore

Dr Martin L Hibberd
Senior Group Leader/ Associate Director, Infectious Diseases
Genome Institute of Singapore, Agency for Science, Technology and Research

Prof Ho Lai Yun
Immediate Past Master
Academy of Medicine

Prof Lee Hin Peng
Department of Epidemiology and Public Health
Yong Loo Lin School of Medicine, National University of Singapore

A/Prof Ren Ee Chee
Principal Investigator
Singapore Immunology Network, Agency for Science, Technology and Research

Dr Eugene Fidelis Soh
Executive Director, Research & Development Office
National Healthcare Group

A/Prof Yoon Ho Sup
School of Biological Sciences
Nanyang Technological University



1ST ANNUAL BACAC CONFERENCE A HUGE SUCCESS Maureen Ellis

The first annual conference of the Biosafety Association for Central Asia and the Caucasus (BACAC) was successfully held in Almaty, Kazakhstan from May 18-20, 2009. The conference, entitled *Biosafety and Bacterial / Viral Zoonotic Diseases*, brought together 180 scientists and biosafety professionals from 15 countries in the region including Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, Georgia, Azerbaijan, Mongolia, Armenia, Turkmenistan, Pakistan and Ukraine.

Dr. Chua (pictured on the right), President of A-PBA, delivered the keynote address and outlined the need to address biosafety challenges on a global scale. Two members of the A-PBA Executive Committee (Barbara Johnson & Maureen Ellis) presented pre-conference workshops on Risk Assessment, Biosafety Cabinets, and BSL-3 Facilities in addition to conference presentations.

Following the conference, the Association held its first meeting and elections with over 90 members in attendance.

The BACAC would like to extend its thanks to the A-PBA for providing continued mentorship and guidance and look forward to continued collaboration in the years to come.



INTERNATIONAL CALENDER OF EVENTS

13th International Veterinary Biosafety Workshop

October 2009 in Ames, Iowa
Program and exact details to be advised

Website: <http://www.vetbiosafety.org/>

October 18-21, 2009

American Biological Safety Association (ABSA) 52nd Annual Conference

Hyatt Regency Miami, Miami, Florida, USA
Contact: 847-949-1517; Fax: 847-566-4580;

E-mail: absa@absa.org;

Webpage: www.absa.org

November 8-12, 2009

American Association for Laboratory Animal Science (AALAS) 60th National Meeting
Denver, Colorado, USA

Contact: http://nationalmeeting.aalas.org/future_sites.asp

12TH EBSA ANNUAL CONFERENCE Stockholm, Sweden, 15 to 17 June 2008

Dr F. Gmuender

EBSA-President Heather Sheeley was happy to welcome 286 delegates and 142 workshop participants to the 2009 conference.

The seven pre-conference workshops covered the following topics:

- Running a BSL2 environment in a safe way – a practical approach
- Biorisk assessment
- A practical guide to transport, export and import of biological materials and GMOs
- BSL3 containment principles and facility design
- Biosafety audits and inspections – a basic course
- Biosafety in laboratory animal facilities
- Biosafety professional and its counterparts

On the first day of the conference, the following presentations were given in the morning:

- European Plant Protection Organization: Plant pathogens and quarantine
- Developments in animal biosafety
- Microbiological activities at the European centre for Disease Prevention and Control in Stockholm
- Gene Therapy – bench to bedside – the healthcare perspective

In the afternoon, seven break-out sessions were offered that revolve around burning issues in biosafety and biosecurity:

- Laboratory biosecurity: perception and reality
- Bioethics, Code of conduct and academic freedom
- Bridging the gap between paperwork and practice: increasing the effectiveness of written risk assessments and operating procedures



- EBSA's initiative on Biosafety Professional Competence: steps on the road towards a certified profession
- Animal by-products
- Incident reporting and investigation
- CWA 15793 up-date and next steps

The afternoon programme continued with topics that are important to the biosafety practitioners, and laboratory designers:

- Is the *Staphylococcus aureus* - carrier status of staff members responsible for the *S. aureus* contaminations on laboratory surfaces?
- Evolution of the biosafety containment landscape in Singapore and the adjacent region
- Coping with biosafety in extreme field conditions

The conference dinner at the Museum of Modern Arts offered a variety of local delights and a beautiful view on Stockholm harbour, which the delegates enjoyed under the slowly setting sun.

On the second day, the conference started with regulatory and inspection issues:

- Developments at the EU level
- UK regulations following Pirbright incident
- Biosafety and biosecurity in France – inspection procedures and outcomes

This was followed by a wide range of applied-biosafety topics:

- HEPA filter decontamination and testing
- HEPA filter testing - a comparison of the standard DOP and biological tracer methods
- Validation of decontamination autoclaves
- Alternatives to formaldehyde fumigation – Efficacy, safety and ease of use
- How sealed is sealed?
- Mars Sample Return - Sample Receiving Facility (MSR/SRF)

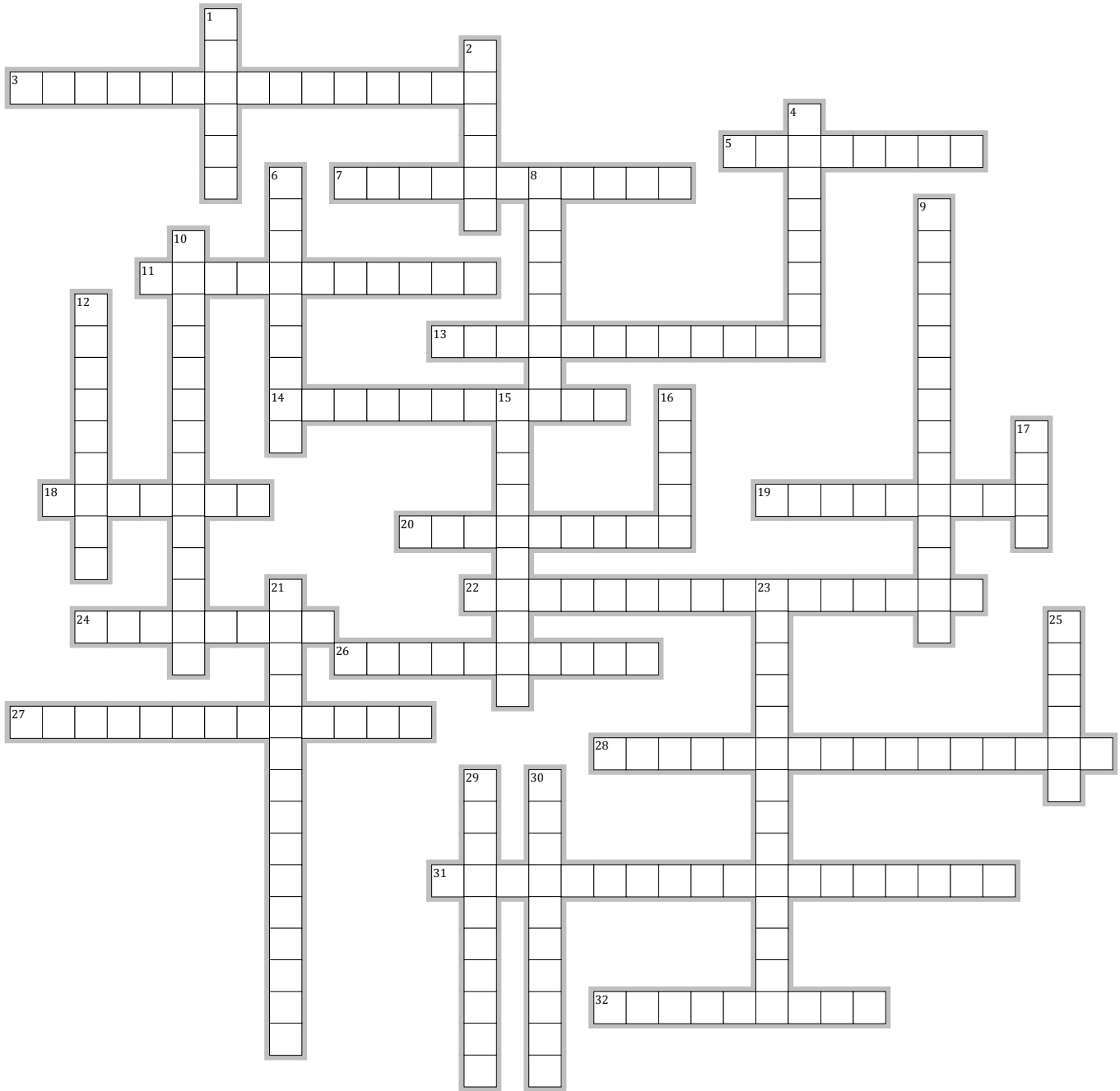
The closing remarks by the new President Ingegerd Kallings from Sweden concluded a most successful EBSA conference, with many memorable and high-level oral and poster presentations. All details can be found at: www.ebsaweb.eu



A-PBA's Biosafety Crossword #1

Maureen Ellis

How well do you know your biosafety terms? This crossword can serve as a fun refresher or a training tool in your laboratory. It's less threatening than a test! Go ahead, try it!



Clues on next page.

Across

3. This should be posted at the entrance to the containment laboratory
5. All biosafety specialists should receive lots of this
7. A tool used to check inward directional airflow
11. Pathogen accountability is one aspect of this
13. Laboratory personnel working with Hepatitis should receive this
14. This can either be primary or secondary
18. Generated from sloppy microbiology techniques
19. Microorganism hazard categories
20. An essential element of pathogen accountability
22. HEPA filters, sealed ductwork, effluent decontamination and epoxy surfaces are examples of this
24. These microorganisms can infect humans and animals
26. This can be 99.99% efficient in capturing microorganisms
27. This should be performed yearly for biosafety cabinets
28. Use this to contain aerosols
31. Always verify this before entering the containment laboratory
32. This device is uses heat and pressure to decontaminate waste

Down

1. These should be disposed of in a puncture-proof container
2. These should be worn when working with infectious materials
4. A microorganism causing disease
6. A device used to prevent two doors from opening simultaneously
8. This can result in a laboratory acquired infection
9. Biosafety cabinets, animal containment caging and glove boxes are all examples of this
10. The first step in biosafety
12. You should do this to your benchtop at the end of everyday
15. Check this gauge before entering containment
16. Often used for benchtops
17. A type of respirator
21. This should be prepared and adopted as policy for all containment laboratories
23. There are 4 of these used to describe microbiology laboratories
25. All penetrations through the containment perimeter should be this
29. A process to decontaminate large rooms
30. These can be used for centrifuging highly infectious microorganisms

Answers will be posted at www.a-pba.org

A-PBA Committee Members

President	Dr Chua Teck Mean, Head Biorisk Management and Collaboration, Corporate Services Temasek Life Sciences Laboratory
Vice President	Mr David Lam, Senior Manager, Biological Safety Singapore General Hospital
Secretary	Ms. Chook Mee Lan, Head (Facilities Services) & Biosafety Manager Temasek Life Sciences Laboratory
Vice Secretary	Dr Barbara Johnson, Barbara Johnson and Associates, LLC
Treasurer	Mr Syam Kumar Prabhakaran, Senior Manager, Safety and Infrastructure, National University of Singapore
Committee Members	Dr Edith S. Tria, President, PBBA, San Lazaro Hospital Dept of Health Ms Kuan Pei Pei, Senior Safety & Health Executive, National University of Singapore Mrs Maureen Ellis, Senior Biosafety Officer, Dept Foreign Affairs Dr Stuart Blacksell, Biosafety & Biocontainment Manager, Mahidol-Oxford Tropical, Medicine Research Unit Ms Cindy Goh Joo Eng, Senior Manager, Singapore General Hospital

Editorial Team

Dr Barbara Johnson (Editor), Biosafety / Biosecurity Consultant;
Mrs Maureen Ellis, Senior Biosafety Officer, Dept Foreign Affairs
Dr Felix Gmuender, RBP, Basler & Hofmann, Singapore
Ms Kam Wai Kuen, Senior Manager for Workplace Health & Safety, Safety Network, Singapore General Hospital;
Ms Lin Yueh Nuo, Virology Branch, Agri-food & Veterinary Authority of Singapore;
Dr Lynette Oon, Senior Consultant Microbiologist, Department of Pathology, Singapore General Hospital;
Dr Se-Thoe Su Yun, Deputy Head, Biosafety Branch, Operations Group, Ministry of Health (Singapore).