The 4th edition of the WHO Laboratory Biosafety Manual and its supporting monographs adopt a risk- and evidence-based approach rather than a prescriptive approach. The goal of this new approach is ensuring biosafety and biosecurity measures are proportionate to the actual risks, locally relevant and sustainable. In lieu of defined biosafety levels, this new approach provides a minimum set of risk control measures to be implemented during any work with disease agents in the laboratory (i.e., core requirements), augmented by a set of options for heightened control measures that may need to be applied. This new risk-based approach requires individuals to apply knowledge and make sound judgements in the selection of appropriate risk-control measures that are achievable using the local resources available, are not overly restrictive, and enable the work to proceed safely and securely. In March 2021, the IFBA, in collaboration with their global network of biosafety associations, initiated the process of identifying priorities and tools needed to fill gaps in risk-based decision making and interpreting the new WHO manual’s approach. This roundtable will continue these discussions and panelists will explore solutions for measurable progress towards strengthening risk-based biosafety and biosecurity decision making.

<table>
<thead>
<tr>
<th>EDT, GMT-4</th>
<th>Monday, November 1, 2021</th>
<th>Tuesday, November 2, 2021</th>
<th>Wednesday, November 3, 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 am</td>
<td><strong>Roundtable 1 Discussion</strong>&lt;br&gt;(11:00am – 12:00pm)&lt;br&gt;Risk-based Biosafety &amp; Biosecurity&lt;br&gt;(60min live session)&lt;br&gt;&lt;br&gt;<strong>Moderator</strong>&lt;br&gt;Sacha Wallace-Sankarsingh, Caribbean Public Health Agency&lt;br&gt;&lt;br&gt;<strong>Panelists</strong>&lt;br&gt;Rukia Kibaya, Kenya Medical Research Institute&lt;br&gt;Viji Vijayan, Duke NUS Medical School, Singapore&lt;br&gt;Kazunobu Kojima, Global Infectious Hazards Preparedness, WHO</td>
<td><strong>Roundtable 2 Discussion</strong>&lt;br&gt;(11:00am – 12:00pm)&lt;br&gt;Engaging Policy Makers&lt;br&gt;(60min live session)&lt;br&gt;&lt;br&gt;<strong>Moderator</strong>&lt;br&gt;Hayley Severance, Global Biological Policy &amp; Programs, NTI Bio&lt;br&gt;&lt;br&gt;<strong>Panelists</strong>&lt;br&gt;Ludy Prapancha Suryantoro, World Health Emergency Preparedness, WHO&lt;br&gt;Plebian Medina, Biorisk Management Office, Research Institute for Tropic Medicine, Philippines&lt;br&gt;Talkmore Maruta, Biosafety &amp; Biosecurity Advisor, Africa CDC</td>
<td><strong>Roundtable 3 Discussion</strong>&lt;br&gt;(11:00am – 12:00pm)&lt;br&gt;Cultivating Biosafety Profession&lt;br&gt;(60min live session)&lt;br&gt;&lt;br&gt;<strong>Moderators</strong>&lt;br&gt;Luis Alberto Ochoa Carrera, Pandemic Tech&lt;br&gt;&lt;br&gt;<strong>Panelists</strong>&lt;br&gt;Eric Cook, International Twinning Program, Sandia National Laboratories&lt;br&gt;Aysen Gargili Keles, Biosafety &amp; Biosecurity MSc. Program, Marmara University, Turkey&lt;br&gt;Jonas Sandbrink, Future of Humanity Institute, UK</td>
</tr>
</tbody>
</table>

**Roundtable 1 Discussion - “Risk-Based Biosafety and Biosecurity”**
Monday November 1st 11:00am-12:00pm EDT (GMT-4)

The 4th edition of the WHO Laboratory Biosafety Manual and its supporting monographs adopt a risk- and evidence-based approach rather than a prescriptive approach. The goal of this new approach is ensuring biosafety and biosecurity measures are proportionate to the actual risks, locally relevant and sustainable. In lieu of defined biosafety levels, this new approach provides a minimum set of risk control measures to be implemented during any work with disease agents in the laboratory (i.e., core requirements), augmented by a set of options for heightened control measures that may need to be applied. This new risk-based approach requires individuals to apply knowledge and make sound judgements in the selection of appropriate risk-control measures that are achievable using the local resources available, are not overly restrictive, and enable the work to proceed safely and securely. In March 2021, the IFBA, in collaboration with their global network of biosafety associations, initiated the process of identifying priorities and tools needed to fill gaps in risk-based decision making and interpreting the new WHO manual’s approach. This roundtable will continue these discussions and panelists will explore solutions for measurable progress towards strengthening risk-based biosafety and biosecurity decision making.
Moderator
Sacha Wallace-Sankarsingh, Caribbean Public Health Agency

Ms. Sacha Wallace-Sankarsingh, MSc, MPH (International Public Health), is the Biorisk Manager at the Caribbean Public Health Agency headquarters in Port-of-Spain, Trinidad and Tobago. A national of Guyana, she has over 15 years of experience working with medical and public health laboratories at a national and regional level in the Caribbean Community (CARICOM). Her work has included managing the biosafety and biosecurity programme in the CARPHA Medical Microbiology Laboratory and working with 26 Member States to improve national and regional capacities for health security. Sacha’s passion has seen her lead multiple laboratory biosafety/biosecurity capacity building initiatives and advocating with multisectoral stakeholders for national laboratory quality, and biosafety and biosecurity policies. At the international level, Sacha is a member to the Board of Directors of the International Federation of Biosafety Associations and recently concluded her role as CARPHA’s representative as Chair, Global Health Security Agenda Action Package Prevent 3 for the period 2020 – 2021.

Panelists
Rukia Kibaya, Kenya Medical Research Institute

Ms. Rukia Kibaya is a Senior Research Officer at the Kenya Medical Research Institute and newly appointed Laboratory Director of the Meru Aroha Cancer Center. She is an IFBA Certified Professional and an active member of Biorisk Management Association of Kenya. Over the years Ms. Kibaya has assisted with the development of Kenya’s national biosafety curriculum and delivered numerous train-the-trainer programs in biosafety, biosecurity and risk assessment. She has vast experience in strengthening biomedical laboratories towards accreditation including the development of risk-based solutions for biorisk management programs. Ms. Kibaya continues to be a champion for biosafety and biosecurity in Kenya and East Africa.

Viji Vijayan, Duke NUS Medical School, Singapore

Dr. Vijayan’s holds dual appointment in Duke-NUS Graduate Medical Schools as the Assistant Dean of Safety, Health and Emergency Management and Director Research Operations. She represents Singapore in many national and international initiatives including training on setting up biorisk management programs that are locally relevant and risk-based. She obtained a Master’s in Human Factors and Systems Safety in Lund University. Dr. Vijayan passion lies in making management and workers understand that safety is not an elusive attribute, but simply the way we work every day. Her experience as a laboratory worker and in upper management gives her a unique vantage point to see both the big picture and the local issues faced by the workers.

Kazunobu Kojima, Global Infectious Hazards Preparedness, World Health Organization

Dr Kojima graduated from Hokkaido University School of Medicine in Sapporo, Japan and obtained his PhD from Sapporo Medical University in infectious disease epidemiology. He was an Assistant Professor at its Medical School, with particular research interests in rotavirus and poliovirus, including long-term field experience in Myanmar’s polio eradication initiative. Dr Kojima has been in service to WHO for 18 years, starting as Regional laboratory coordinator at WHO Western Pacific Regional Office in Manila. He then moved to WHO Lyon Office and Headquarters in Geneva where he continues as the Scientist charged with the responsibility for biosafety and laboratory biosecurity, including variola virus (smallpox) repository inspection and transportation of infectious substances.
Roundtable 2 Discussion - “Engaging Policy Makers”
Tuesday November 2nd  11:00am-12:00pm EDT (GMT-4)

While there has been significant progress in the development of national biosafety and biosecurity policy frameworks, there is an increasing awareness these policies do not succeed or fail on their own merits; rather their progress is dependent upon the process of implementation (i.e., turning policy into practice). The space between the government’s motivation behind the passage of new legislation and how that intent is translated into reality becomes an implementation gap when that policy remains on paper only or is implemented poorly. In addition to government accountability and funding investments, implementation is highly dependent on having a good understanding of what happens on, or close to, the front line. Engaging front-line biosafety professionals on policy development, tapping into the experiences of the global community of biosafety professionals through region-to-region networks, and building crucial links between front-line biosafety professionals and their national governments are all key elements of bridging the implementation gap. During this roundtable, panelists will discuss top-down and bottom-up approaches to narrowing the divide between front line and policymaking groups such that global biosafety & biosecurity initiatives are translated into national policies and result in local action that is sustainable over the long-term – in short, that policy failure is avoided.

Moderator
Hayley Severance, Senior Director for Global Biological Policy and Programs, NTI Bio

Hayley Anne Severance serves as the senior director for the Global Biological Policy and Programs team (NTI | bio). Severance joined NTI as senior program officer in May 2018. She previously served as a senior policy advisor in the Office of the Deputy Assistant Secretary of Defense for Countering Weapons of Mass Destruction, where she developed strategic policy guidance for the Cooperative Threat Reduction’s Cooperative Biological Engagement Program and led the Department’s efforts to advance the U.S. commitment under the Global Health Security Agenda. Ms. Severance holds an Masters of Public Health in Infectious Disease Epidemiology and is an alumna of the Emerging Leaders in Biosecurity Initiative Fellowship.

Panelists
Ludy Suryantoro, Multisectoral Engagement for Health Security, World Health Organization

Mr. Ludy Suryantoro has over 15 years of experience in high level diplomacy and policy for health security particularly on pandemic preparedness. He has previously worked at the secretariat of the Global Agreement of Tariff and Trade (GATT) for the Marrakesh roundtable and for the secretariat of the Group of Fifteen (G15). In 1999 he joined the WHO and served with the health security cluster in 2003 during the SARS outbreak. From 2010 to 2016 he served as the Senior political advisor to the Assistant Director General for Health Security. Currently, as the Head of Multisectoral Engagement, he is responsible for the Strategic Partnership for health security by strengthening and advancing the multisectoral collaboration and partnership for country health emergency preparedness.
Plebeian Medina currently serves as the Supervising Science Research Specialist within the Research Institute for Tropical Medicine’s Biorisk Management Office, Philippines. He successfully implemented RITM’s Biorisk Management Program promoting risk assessment based-mitigation as the key for effective and rational biological risk management programs. Currently he is a part of the RITM/WHO joint Laboratory Assessment Team and the RITM’s Technical Representative for the Department of Health licensing requirements for COVID-19 laboratories. As a certified biosafety professional and certified biosafety officer, he continues to assist medical technologists across the Philippines in responding to the COVID-19 pandemic by raising awareness, conducting hands on and online training, and hosting a biosafety webinar series.

Talkmore Maruta, Senior Biosafety & Biosecurity Advisor, Africa CDC

Dr Maruta is a Public Health Medical Laboratory Scientist with BSc degree in Medical Laboratory Sciences, Masters in Public Health, Masters Business Administration and PhD in Public Health. He is currently studying for a Masters in International Affairs and Diplomacy. Dr. Maruta has vast regional and international experience in laboratory system strengthening, disease surveillance, epidemic preparedness and response, and biosafety and biosecurity. His experience spans the Africa, Caribbean and South-East Asia Regions where he has closely worked with over 30 Ministries of Health while working with renowned organizations like Clinton Health Access Initiative, Foundation for Innovative New Diagnostics, African Society for Laboratory Medicine and the East Central and Southern Africa Health Community. At Africa CDC he coordinates the Regional Biosafety and Biosecurity Initiative.

Roundtable 3 Discussion - “Cultivating the Biosafety & Biosecurity Profession”
Wednesday November 3rd 11:00am-12:00pm EDT (GMT-4)

A knowledgeable and capable biosafety officer, whether a full-time employee or part-time responsibility, is a foundational element for an organization’s biosafety and biosecurity program. The COVID-19 pandemic has placed a significant demand on the biosafety and biosecurity profession and many countries face an overall shortage of these specialized individuals. Working on the frontlines, and often behind the scenes, the profession remains largely unknown to students interested in pursuing a career in sciences who are steered toward more visible career paths. In a recent IFBA survey, young scientists asked to provide their experiences related to diversity, equity, and inclusion in their workplaces, said that “the lack of a degree program specifically in biosafety leads to skilled and experienced biosafety professionals being undervalued by those holding doctorate degrees in adjacent fields”. Formalizing a biosafety career path within the higher education system is a key priority for cultivating a diverse and future biosafety workforce. This roundtable will provide an opportunity for panelists and participants to identify approaches for formalizing careers in the field of biosafety and biosecurity. Discussions will also focus on supporting young scientists/youth and providing them with tools and resources to establish a career within, and/or transition into, the biosafety and biosecurity workforce.
**Moderator**

**Luis Alberto Ochoa Carrera, Senior Advisor, PandemicTech**

Mr. Ochoa currently serves as the High-Containment Lab Safety Manager at Michigan State University and as Senior Advisor for PandemicTech, a virtual incubator that enables innovative approaches to confronting infectious disease threats. Previously he worked as Director, Epidemiological Surveillance and Research Laboratory Network, Mexican Institute for Social Security and BSL-3 Lab Coordinator, National Reference Laboratory in Mexico. He received a Master’s Degree in Public Health Management and is an IFBA Certified Professional. As a Past President of AMEXBIO, he has strengthened the network between biosafety professionals in the region. Mr. Ochoa has served as a mentor of Sandia’s International Twinning Project and the Next Generation Global Health Security Network as the Biosafety-Biosecurity Working Group Coordinator.

**Panelists**

**Eric Cook, Sandia National Laboratories**

Eric Cook is a Principal Member of the Technical Staff in the Global Chemical and Biological Security (GCBS) group at Sandia National Laboratories. He serves as one of the program’s lead trainers and manager of the International Twinning Program. Eric served as the Biosafety Officer for Dartmouth College in Hanover, NH for five years where he managed the Biosafety Program and Institutional Biosafety Committee. Prior to working at Dartmouth, Eric was an Assistant Biosafety Officer at the Massachusetts Institute of Technology for six years. While at MIT, Eric completed his Master’s Degree in Public Health at Boston University. He is certified by the National Registry of Certified Microbiologists as a Specialist Microbiologist in Biological Safety Microbiology and by the American Biological Safety Association as a Certified Biological Safety Professional.

**Aysen Gargili Keles, Biosafety & Biosecurity MSc. Program, Marmara University, Turkey**

Aysen Gargili Keleş received her Ph.D. from Istanbul University Health Sciences Institute. She worked as research assistant and associate professor at the Veterinary Faculty and as a professor at Cerrahpaşa School of Medicine. She also studied at Gifu University Faculty of Medicine in Japan, ICGEB in India, Ludwig Maximillien Universität-Tropical Diseases Institute in Germany, and at the University of Texas Medical Branch-Galveston National Laboratory in the USA as a postdoc scholar and visiting scientist. She has duties in the editorial and referee boards of eminent journals, she is a member of the Turkish Microbiology Society and European Biological Safety Association. Currently she serves as Head of the Basic Health Sciences Department and Vice Dean at the Faculty of Health Sciences and is founder and director of the Biosafety and Biosecurity Masters Program of Marmara University.

**Jonas Sandbrink, Future of Humanity Institute, UK**

Jonas Sandbrink is a biosecurity researcher at the Future of Humanity Institute and medical student at the University of Oxford. Jonas’ research interests include the dual-use potential of life sciences research and biotechnology, as well as fast response countermeasures including vaccine platforms. He was part of the winning team of the 2020 NextGen Biosecurity Competition. Jonas previously completed a BA Hons in Medical Sciences with a focus on viral and bacterial disease, as well as vaccinology.