

**14<sup>th</sup> INTERNATIONAL SYMPOSIUM ON THE BIOSAFETY OF GENETICALLY MODIFIED ORGANISMS  
(ISBGM014)**

**Symposium theme: *Environmental Risk Assessment (ERA) of Genetically Modified Organisms (GMOs): Past, Present and Future***

**(Guadalajara, México, 4–8 June 2017)**

<b>Monday, 5 June (MORNING)</b>	
20'	Welcome addresses - Chair of the ISBGM014 Local Organising Committee (LOC) <b>Ariel Álvarez</b> , <i>Cinvestav Unidad Irapuato</i> (registered) - President of International Society of Biosafety Research (ISBR) <b>Alan Gray</b> , <i>Centre for Ecology and Hydrology (CEH)</i> (registered) - Student travel grant awards offered by the Agricultural Biotechnology Stewardship Technical Committee (ABSTC) <b>Pamela M Bachman</b> , <i>Monsanto</i> (registered)
20'	Challenges and opportunities: a Latin American perspective <b>Sol Ortiz García</b> , <i>Comisión Intersecretarial de Bioseguridad de los Organismos Genéticamente Modificados (CIBIOGEM)</i> (no abstract; registered)
<b>Plenary Session I: Advancing ERA of GMOs – Learning from the Past to Further Advance ERA</b> <i>Organisers: Sarah Davis, Canadian Food Inspection Agency (CFIA) &amp; Yann Devos, European Food Safety Authority (EFSA) (registered)</i>	
This session will review the weight of scientific evidence on environmental risks accumulated and familiarity gained with the deliberate release of GM plants into the environment over the last three decades, and build on this experience to further advance pre-market ERAs. Experience gained with the assessment of potential risks will be reviewed critically to assess: its scientific foundation; how potential adverse environmental effects may be best evaluated within the frame of current ERAs; and whether specific data requirements necessitate re-evaluation. Environmental risks associated with the cultivation of GM plants will also be put into the perspective of those of current agricultural systems, so as to contextualise ERAs more	
5'	Introduction
30'	Keynote: Environmental effects of GM crops: Findings of a National Academies of Sciences, Engineering and Medicine (US-NASEM) report <b>Fred Gould</b> , <i>North Carolina (NC) State University</i> (abstract submitted)
20'	Weeds or wimps? 30 years of experience from evolving ERA, deliberate release, experimental research, the development of theory, unintended free-living transgenic plants, unanticipated products – and a century of experience of non-engineered crops gone wild <b>Norman Ellstrand</b> , <i>University of California (UC)</i> (abstract submitted; registered)
<b>COFFEE BREAK</b>	
20'	Assessing effects of GM plants on valued non-target organisms <b>Jörg Romeis</b> , <i>Agroscope</i> (abstract submitted; registered)
20'	Modernizing risk assessment for GM crops – Learning from experience <b>Phil Macdonald</b> , <i>Canadian Food Inspection Agency (CFIA)</i> (abstract submitted) Co-author: Sarah Davis
20'	Resistance evolution in insect pests and weeds in GM crop systems <b>Nicholas P Storer</b> , <i>Dow AgroSciences</i> (abstract submitted; registered) Co-authors: Mark A Peterson, Dwain M Rule, Robert A Masters
45'	Panel discussion <b>Sarah Davis</b> , <i>Canadian Food Inspection Agency (CFIA)</i> (moderator)
<b>LUNCH</b>	

**Monday, 5 June (AFTERNOON)**

	<p><b>Parallel Session I: Effects of vertical gene flow between GM plants and sexually compatible relatives – Dangerous liaisons?</b>  <i>Organisers: <b>Sol Ortiz García</b>, Comisión Intersecretarial de Bioseguridad de los Organismos Genéticamente Modificados (CIBIOGEM) (registered) &amp; <b>Yann Devos</b>, European Food Safety Authority (EFSA) (registered)</i></p>	<p><b>Parallel Session II: Types of evidence and efforts necessary to inform the safety assessment of unintended effects in GM plants</b>  <i>Organisers: <b>Sarah Davis</b>, Canadian Food Inspection Agency (CFIA) &amp; <b>Jörg Romeis</b>, Agroscope (registered)</i></p>	<p><b>Parallel Session III: Biosafety research, risk assessment experiences and capacity building in Latin America</b>  <i>Organisers: <b>Jaime Padilla</b>, AgroBio (registered) &amp; <b>Juan Manuel de la Fuente</b>, Monsanto</i></p>
<b>I</b>	<p>Gene flow between crops and their cross-compatible wild/weedy relatives is a well-documented phenomenon. Evidence indicates that 22 of the world's 25 most important crops exchange genes with their relatives. The consequences of such vertical gene flow are variable, and can be difficult to predict. Although crops and certain wild/weedy relatives have exchanged genes for centuries, the concern with GM plants is that the acquisition of transgenes by their relatives may alter their capacity for persistence or invasiveness, affecting their abundance, and potentially resulting in impacts on other organisms, the abiotic environment, biogeochemical cycles or ecosystem services. Depending on which plant and which transgenes are involved, and on the characteristics of the receiving environment, this may enable wild/weedy relatives to go extinct, exacerbate a weed problem, or to expand and invade new habitats. Although such dramatic outcomes are rarely observed, the persistence of crop genes in populations of wild/weedy relatives has been documented, with emerging evidence for introgression. This session will therefore consider the probability and consequences of transgene flow to wild/weed relatives, and means to mitigate gene flow, focusing on various GM plants. Participants to the session will share their views and experience gained with the deliberate release of GM plants into the environment over the last three decades. This information will then be used to determine the data that are necessary to characterise risk and clarify the risks that may arise from the cultivation of GM plants</p>		
<b>II</b>	<p>As GM plants intended for commercialisation were developed, procedures were introduced to ensure they were as safe for food, feed and the environment as their conventional counterparts. These procedures were developed to address two types of potential changes to be considered in a GM crop safety assessment: intended and unintended. An intended change occurs as a consequence of the introduced transgene altering the crops phenotype. An unintended change could also occur as a consequence of the gene insertion, from random mutations that take place during the transformation and tissue culture process, or from pleiotrophic effects. Unintended effects might have an impact on potential agronomic performance, but they do not necessarily pose safety threats for human health, animal health or the environment. After 20 years of regulatory oversight and commercial use of GM plants, no adverse unintended effects have been discovered during regulatory reviews. Consequently, a re-evaluation of the original premise is merited. The objectives of the session are to explore the types of information that are necessary to inform the safety assessment of unintended effects in GM plants, and to explore the opportunity for revised approaches. The session will conclude with a panel discussion with subject matter experts</p>		
<b>III</b>	<p>Latin America is a very contrasting region in terms of the use and development of GM plants. Both, Brazil and Argentina have been leaders in the growing of these plants, with Brazil being a Party to the Cartagena Protocol, while Argentina and Chile (together with the USA and Canada in the continent) have not signed the protocol and therefore are No-Parties. There are countries which currently import GMOs to be used for food and feed or processing, but do not allow local cultivation of these despite having legislation in place, while other countries have decided for a complete moratorium on the use of these materials. Also, there are instances where countries are still working on the establishment of a regulatory framework, while others that have such framework are unable to use the technology because of legal constraints such as lawsuits. Furthermore, there are wide differences in terms of capabilities for developing products of their own, therefore some countries see themselves as only recipients of this technology, while others have</p>		

	<p>begun to develop their own products, not only to address national problems, but also to compete with the large transnational companies and therefore avoiding the monopolic practices. Participants to the session will share their stories concerning regional or national experience with GMOs, and will set the framework to discuss the path to be followed that may best suit the needs and expectations of such a diverse group of countries, such that the challenges of the future may be solved, at least partially, by the use of a technology that so far has proven to be safe and reliable</p>		
5'	Introduction	Introduction	Introduction
20'	<p>When vertical gene flow matters  <b>Norman Ellstrand</b>,  <i>University of California (UC)</i>  (abstract submitted;  registered)</p>	<p>Experience gained on the assessment of unanticipated unintended changes in GM plants  <b>Wayne A Parrott</b>, <i>University of Georgia (UGA)</i>  (abstract submitted)</p>	<p>Argentina's experience on the regulated use of GM crops  <b>Martín Lema</b>, <i>Ministry of Agro-industry &amp; Quilmes National University</i>  (abstract submitted)</p>
20'	<p>Assessment of consequences associated with potential gene flow from transgenic maize to landraces  <b>Silverio García Lara</b>,  <i>Tecnológico de Monterrey</i>  Co-author: Juan Manuel de la Fuente Martínez  (abstract submitted)</p>	<p>Science informing policy – A study of insertional effects and implications on Canada's approach to environmental safety  <b>Cindy Pearson</b>, <i>Canadian Food Inspection Agency (CFIA)</i>  (abstract submitted)</p>	<p>The work of IICA and the status of Central American countries on biosafety  <b>Pedro J Rocha</b>, <i>Inter-American Institute for Cooperation on Agriculture (IICA)</i>  (abstract submitted)</p>
20'	<p>Potential for gene flow from transgenic maize (<i>Zea mays</i> L.) to eastern gamagrass (<i>Tripsacum dactyloides</i> L.)  <b>Duška Stojšin</b>, <i>Monsanto</i>  (registered)  Co-authors: Moon-Sub Lee, Eric Anderson, Marc McPherson, Baltazar Baltazar, Michael J Horak, Juan Manuel de la Fuente, Kungsheng Wu, James H Crowley, Lane Rayburn, DK Lee  (abstract submitted)</p>	<p>Unintended effects of gene insertions into plants and their impact on commercialisation as agricultural biotechnology products  <b>Laura S Privalle</b>, <i>Bayer</i>  (abstract submitted;  registered)</p>	<p>Brazil's experience on the regulated use of GM crops  <b>Flavio Finardi-Filho</b>,  <i>University of Sao Paulo</i>  (abstract submitted)</p>
20'	<p>Across time and space: Transgene flow between oilseed crops and weedy relatives  <b>Linda M Hall</b>, <i>University of Alberta</i> (registered)  Co-author: Hugh J Beckie  (abstract submitted)</p>	<p>Rodent feeding trials with whole food/feed – Summarising experiences from the EU-funded projects GRACE and GTWYST  <b>Joachim Schiemann</b>, <i>Julius Kühn-Institute (JKI)</i>  (registered)  Co-author: Ralf Wilhelm  (registered)  (abstract submitted)</p>	<p>CIAT GM research in Colombia to address agriculture sustainability and micronutrient malnutrition  <b>Joe Tohme</b>, <i>International Center for Tropical Agriculture (CIAT)</i>  Co-author: Paul Chavarriaga  (abstract submitted)</p>
<b>COFFEE BREAK</b>			
20'	<p>GM gene flow in sugar beet: Regulatory experience in the United States</p>	<p>The value of <i>in planta</i> data for the non-target risk assessment</p>	<p>An environmentally friendly GM technology to effectively decrease the use of fertilisers</p>

	<p><b>Subray Hegde, US</b>  <i>Department of Agriculture's Biotechnology Regulatory Services (USDA-BRS)</i>  Co-authors: John Turner, Sally McCammon  (<a href="#">abstract submitted</a>)</p>	<p><b>Jörg Romeis, Agroscope</b>  (<a href="#">registered</a>)  Co-author: Michael Meissle  (<a href="#">registered</a>)  (<a href="#">abstract submitted</a>)</p>	<p>and herbicides in agriculture  <b>Luis Herrera-Estrella,</b>  <i>Centro de Investigación y de Estudios Avanzados</i>  Co-author: Damar Lopez-Arredondo  (<a href="#">abstract submitted</a>)</p>
20'	<p>22 years and 22,979 trees later: Lessons from field-testing GM trees in the USA  <b>Amy L Klocko, Oregon State University (OSU)</b> (<a href="#">registered</a>)  Co-author: Steven H Strauss  (<a href="#">abstract submitted</a>)</p>	<p>Future avenues and developments: Omics technologies as part of risk assessment strategies  <b>Esther J Kok, RIKILT Wageningen University and Research (UR)</b>  (<a href="#">abstract submitted</a>)</p>	<p>The use of GM crops in México: Experiences in biosafety, institutional capacity, and the effect of regulations on the evolution of national policies  <b>Natalhie Beatriz Campos Reales Pineda, Comisión Intersecretarial de Bioseguridad de los Organismos Genéticamente Modificados (CIBIOGEM)</b>  Co-author: Sol Ortiz García  (<a href="#">abstract submitted</a>)</p>
20'	<p>Formulating and testing hypotheses about the likelihood of GM crops and hybrids becoming harmful weeds  <b>Alan Raybould, Syngenta Crop Protection</b>  (<a href="#">abstract submitted</a>; <a href="#">registered</a>)</p>	<p>Evaluating biotech potatoes, one variety at a time  <b>Susan Collinge, JR Simplot Company</b> (<a href="#">registered</a>)  Co-authors: Jeff Habig, Tracy Rood, Muffy Koch  (<a href="#">abstract submitted</a>)</p>	<p>Biosafety regulatory systems overseeing the use of GMOs in the Latin America and the Caribbean region  <b>Ayrton André Rosado Huaynasi, International Centre for Genetic Engineering and Biotechnology (ICGEB)</b>  (<a href="#">registered</a>)  Co-author: Wendy Craig  &lt;ABSTC selection&gt; (<a href="#">abstract submitted</a>)</p>
45'	<p>Panel discussion  <b>Alan Gray, Centre for Ecology and Hydrology (CEH)</b>  (moderator) (<a href="#">registered</a>)</p>	<p>Panel discussion  <b>Phil Macdonald, Canadian Food Inspection Agency (CFIA)</b>  (moderator)</p>	<p>Panel discussion  <b>Ariel Álvarez, Cinvestav Unidad Irapuato</b> (moderator)  (<a href="#">registered</a>)</p>
<b>Poster Session I (below)</b>			

## Tuesday, 6 June (MORNING)

	<p><b>Plenary Session II: Advancing ERA of GMOs – Present Challenges</b>  <i>Organisers: <b>Mònica García-Alonso</b>, Estel Consult Ltd (registered) &amp; <b>Jörg Romeis</b>, Agroscope (registered)</i></p> <p>Pre-market ERA is an important analytical scientific tool that helps regulatory decision-making. Robust ERAs begin with an explicit problem formulation where plausible and relevant exposure scenarios and the potential adverse effects from those exposures are identified. Risk is then characterised by testing specific hypotheses about the likelihood and severity of adverse effects. Although significant advances have been made, ERA of GMOs faces a number of challenges. Potential avenues to overcome some of these challenges and further increase coherence in the ERA methodology will be considered, focusing on: the ecosystem services approach to make protection goals operational; problem formulation to enhance the relevance of ERA studies; quality criteria to warrant the reliability of ERA studies; data harmonisation and transportability to ensure consistent and coherent generation and use of scientific data across regulatory jurisdictions; and approaches to ensure ERAs remain proportionate to the level of risk or uncertainty</p>
5'	Introduction
30'	Keynote: Science and values in governing GMOs: Facts, fictions, and fantasies <b>Sheila Jasanoff</b> , <i>Harvard University</i> (abstract submitted)
20'	Assessment of environmental risks to ecosystem services. Where are we now, and where are we going? <b>Lorraine Maltby</b> , <i>University of Sheffield</i> (abstract submitted)
20'	Problem formulation: Identifying data that are relevant to ERA <b>Alan Raybould</b> , <i>Syngenta Crop Protection</i> (abstract submitted; registered)
20'	Development of a construct-based risk assessment framework for GM crops <b>Clara Rubinstein</b> , <i>Monsanto</i> (abstract submitted; registered) Co-author: Carmen Enriqueta Vicién (registered)
	<b>COFFEE BREAK</b>
20'	When science meets policy: The undoing of the Guidance on risk assessment developed under the Cartagena Protocol for biosafety <b>Karen Hokanson</b> , <i>University of Minnesota (UM)</i> (abstract submitted; registered)
20'	Beyond the OECD Blue Book: Building consensus on Environmental Considerations for risk/safety assessment for the release of transgenic plants <b>Sarah Davis</b> , <i>Canadian Food Inspection Agency (CFIA)</i> (abstract submitted)
20'	Identifying surrogate environments to facilitate data transportability for ERA <b>Andrew Roberts</b> , <i>International Life Sciences Institute (ILSI) Research Foundation</i> (abstract submitted; registered)
45'	Panel discussion <b>Mònica García-Alonso</b> , <i>Estel Consult Ltd</i> (moderator) (registered)
	<b>LUNCH</b>

**Tuesday, 6 June (AFTERNOON)**

	<p><b>Parallel Session IV: ERA vs. ecological research – The relevance of a good problem formulation to ensure that gathered data are useful for ERA</b>  <i>Organisers: <b>Wendy Craig</b>, International Centre for Genetic Engineering and Biotechnology (ICGEB) &amp; <b>Mònica García-Alonso</b>, Estel Consult Ltd (registered)</i></p>	<p><b>Parallel Session V: Plant genome-editing – Any novel features to consider for ERA and regulation?</b>  <i>Organisers: <b>Nina Duensing</b>, Federal Office of Consumer Protection and Food Safety (BVL) (registered) &amp; <b>Detlef Bartsch</b>, Federal Office of Consumer Protection and Food Safety (BVL) (registered) &amp; <b>Thorben Sprink</b>, Julius Kühn-Institute (JKI) (registered)</i></p>	<p><b>Parallel Session VI: GMOs in IPM</b>  <i>Organisers: <b>Jennifer Anderson</b>, DuPont Pioneer (registered) &amp; <b>Michael Meissle</b>, Agroscope (registered)</i></p>
<p align="center"><b>IV</b></p>	<p>Every deployment of a GMO can trigger hundreds of imaginable risks in the minds of stakeholders (e.g. applicants, regulators, academia, the wider public, etc.). The use of problem formulation assists the identification of significant risks to important and valued resources, and as a consequence, helps direct the generation and analysis of high-quality data relating to the identified risks. In addition, when a transparent and inclusive approach is taken with regard to problem formulation, consistent, thorough and efficient ERAs are promoted, which in turn leads to the identification of key areas for ecological research relevant to GMO use. Moreover, such an approach, when communicated to stakeholders, helps the wider understanding of how the scope of each ERA was determined and which data were key to the conclusions. The use of problem formulation therefore helps ensure that each ERA is successful and effective. In this session, it will be demonstrated how the use of problem formulation can help drive ERA and related ecological research to be more focused on significant risks</p>		
<p align="center"><b>V</b></p>	<p>New genome editing techniques (e.g., TALEN, Zinc Finger) open the gate to a so far unknown spatially and functionally precise surgery of genes to the end of a controlled mutagenesis. Moreover, even entire genes can be placed into the genome at desired loci using these techniques. At the same time decisions on whether organisms created by these developments do require legal regulation lags behind in numerous jurisdictions. The progress on genome editing may challenge both risk assessment and regulation: There is a need to balance the public's need for food, feed and environmental safety and the costs for developers, growers, shippers and processors, without wasting resources in a proportionate way. This session will bring together developers, risk assessors and regulators to promote a knowledge-based discussion by summarising technological developments of the last years, identifying knowledge gaps, analysing scenarios for the introduction of selected edited organisms in the environment, and creating awareness about benefits and risks of the new techniques by connecting regulatory approaches, ethical aspects and decision-making</p>		
<p align="center"><b>VI</b></p>	<p>As the global population continues to expand, utilising an integrated approach to pest management will be important for food security and agricultural sustainability. GM crops with resistance to insects, tolerance to herbicides, and enhanced agronomic performance can contribute as an important set of tools in a diversified integrated pest management (IPM) plan. Current developments in IPM and in insect resistance management (IRM) will be highlighted. The purpose of this symposium is to provide a venue for scientists from academia, private organizations, public research institutes, and industry to present innovative research in the development of robust IPM plans. A series of presentations will be followed by a panel discussion, highlighting advancements in the field and discussing the role of agricultural biotechnology in IPM development</p>		
<p align="center">5'</p>	<p align="center">Introduction</p>	<p align="center">Introduction</p>	<p align="center">Introduction</p>
<p align="center">20'</p>	<p>An introduction to problem formulation  <b>Wendy Craig</b>, <i>International Centre for Genetic Engineering and</i></p>	<p>What is unique about genome editing?  <b>Wayne A Parrott</b>, <i>University of Georgia (UGA)</i> (abstract submitted)</p>	<p>The principles of Integrated Pest Management – How do GM crops fit?  <b>Michael Meissle</b>, <i>Agroscope</i> (abstract submitted);</p>

	<i>Biotechnology (ICGEB)</i> (abstract submitted)		registered)
20'	Regulatory use of problem formulation – GM mustard <b>Vibja Ahuja</b> , <i>Biotech Consortium India Limited</i> (abstract submitted)	ERA challenges associated with genome-edited crops from a public risk assessor perspective <b>Thorben Sprink</b> , <i>Julius Kühn-Institute (JKI)</i> (registered) Co-author: Ralf Wilhelm (registered) (abstract submitted)	The role and value of regulation of IPM programs for <i>Bt</i> -crops <b>Graham Head</b> , <i>Monsanto</i> Co-author: Samuel Martinelli (abstract submitted)
20'	Taking stock of the ERA of GM higher plants <b>Patrick Rüdelsheim</b> , <i>Perseus</i> (registered) Co-author: Greet Smets (abstract submitted)	CRISPR-Cas gene editing and similarities to conventional breeding outcomes: A product developer perspective <b>Maria Fedorova</b> , <i>DuPont Pioneer</i> (abstract submitted; registered)	Implementing best practices to complement biotech resistance management guidelines <b>Timothy Dennehy</b> , <i>Bayer</i> Co-author: Clinton D Pilcher (abstract submitted)
20'	The use of a problem formulation approach to focus the nutritional assessment of food and feed originating from a novel GM crop <b>Phil Brune</b> , <i>Syngenta Crop Protection</i> (abstract submitted; registered)	Regulatory challenges: Technology-based vs. product-based regulations and potential impact on product monitoring <b>Martín Lema</b> , <i>Ministry of Agro-industry &amp; Quilmes National University</i> (abstract submitted)	Implementing IPM for <i>Bt</i> -eggplant: Meeting the challenges or dreaming the impossible dream? <b>Anthony M Shelton</b> , <i>Cornell University</i> Co-authors: Joseph E Huesing, Gour Pada Das, Desiree M Hautea (registered), Karen E Hokanson (registered), Srinivas Parimi, Vijay Paranjape, Nicholas P Storer, Arif Hossain (abstract submitted)
<b>COFFEE BREAK</b>			
20'	For GM breeding stacks, crop composition and transgene expression are predicted by the single component events <b>Rod Herman</b> , <i>Dow AgroSciences</i> (registered) Co-authors: Satyalinga Gampala, Brandon J Fast, Kimberly Richey, Zhifang Gao, Greg Bradfish (abstract submitted)	Preparing for future biotechnology products – Perspectives on the National Academies of Sciences, Engineering and Medicine (US-NASEM) report <b>Jeffrey D Wolt</b> , <i>Iowa State University (ISU)</i> (abstract submitted)	Implementing IPM for bean golden mosaic virus in common bean in Brazil <b>Josias Correa de Faria</b> , <i>Embrapa Rice and Beans</i> Co-authors: Thiago Thiago Lívio Pessoa Oliveira de Souza, Eliane Dias Quintela (abstract submitted)
20'	The use of problem formulation in Mexico <b>Sol Ortiz García</b> , <i>Comisión</i>	<b>World Café session</b> – Three interactive table discussions (each of 20') on	IPM and weed management for the future <b>Michael DK Owen</b> , <i>Iowa</i>

	<i>Intersecretarial de Bioseguridad de los Organismos Genéticamente Modificados (CIBIOGEM)</i> (abstract submitted; registered)	novel features to consider for plant genome editing, focusing on challenges (participants, who will be divided into three separate groups, will be switching from one Table to the other each 20')  Café table 1: ERA – Novel demands? <b>Thorben Sprink</b> , <i>Julius Kühn-Institute (JKI)</i> (abstract submitted; registered)	<i>State University (ISU)</i> (abstract submitted; registered)
20'	Using expert panels and problem formulation to inform risk assessments for gene flow from GM crops to wild relatives <b>Karen Hokanson</b> , <i>University of Minnesota (UM)</i> (registered) Co-authors: Norman C Ellstrand, Alan Raybould (abstract submitted)	Café table 2: Monitoring – Detection and identification of new products/traits after placing on the market <b>Nina Duensing</b> , <i>Federal Office of Consumer Protection and Food Safety (BVL)</i> (abstract submitted; registered)	Implementing IPM for cotton in Arizona and Mexico <b>Peter Ellsworth</b> , <i>University of Arizona (UA)</i> Co-author: Steven E Naranjo (abstract submitted)
45'	Panel discussion <b>Alan Gray</b> , <i>Centre for Ecology and Hydrology (CEH)</i> (moderator) (registered)	Café table 3: Global harmonisation of regulation <b>Detlef Bartsch</b> , <i>Federal Office of Consumer Protection and Food Safety (BVL)</i> (registered) Co-authors: Georg Leggewie, Thorben Sprink (abstract submitted)  Panel discussion <b>Detlef Bartsch</b> , <i>Federal Office of Consumer Protection and Food Safety (BVL)</i> (moderator) (registered)	Panel discussion <b>Jennifer Anderson</b> , <i>DuPont Pioneer</i> (registered) & <b>Michael Meissle</b> , <i>Agroscope</i> (moderators) (registered)



	<p><b>Pecha Kucha Session</b>  <i>Organisers: <b>Mònica García-Alonso</b>, Estel Consult Ltd (registered) &amp; <b>Sol Ortiz García</b>, Comisión Intersecretarial de Bioseguridad de los Organismos Genéticamente Modificados (CIBIOGEM) (registered)</i></p> <p>This session is designed to provide research students with a chance to give a short presentation based on their posters at ISBGM014. Ten to twelve posters among those received will be selected. Authors will be invited to make a five minute presentation using a maximum of five slides. No time for questions will be given. After all the presentations are delivered, those willing to get more information on the posters will have the chance to do so during the poster session</p>
5'	Introduction
5'	Safety is innate in late blight resistant potatoes <b>Aaron Rowland</b> , JR Simplot Company Co-author: Jeff Habig
5'	Risk assessment of GM potato with the <i>erf</i> gene for bacterial wilt resistance in Uruguay <b>Federico Boschi</b> , National Seed Institute Co-authors: Francisco Vilaró, Sara Murchio, Claudia Schwartzman, Cyril Zipfel, Marco Dalla Rizza
5'	The risk assessment of Cry1Ie protein on <i>Chrysoperla sinica</i> larvae <b>Kanglai He</b> , Chinese Academy of Agricultural Sciences (CAAS) (registered) Co-author: Xinxin Gao
5'	Levels of Cry1Ac protein in herbivorous and predatory arthropods in <i>Bt</i> -soybean <b>Young-Joong Kim</b> , Seoul National University (registered) <ABSTC selection>
5'	The interplay of gene editing regulation and social impacts <b>Agustina Whelan</b> , Ministry of Agro-industry Co-author: Martín Lema
5'	Impact assessment of genome editing in plants <b>Dominik Modrzejewski</b> , Julius Kühn-Institute (JKI) (registered) Co-authors: Joachim Schiemann (registered), Ralf Wilhelm (registered), Frank Hartung, Thorben Sprink, Dörthe Krause <ABSTC selection>
5'	Alternate hosts of eggplant fruit and shoot borer, <i>Leucinodes orbonalis</i> Guenee in the Philippines: Implications for resistance management with <i>Bt</i> -eggplant <b>Lourdes D Taylo</b> , University of the Philippines Los Baños (registered) Co-author: Desiree M Hautea (registered) <SABC winner>
5'	New biotechnologies and innovation: A challenge for the Mexican regulatory system <b>Diana Priscilla Bonilla Ruelas</b> , Instituto Tecnológico y de Estudios Superiores Monterrey Co-author: Luis Antonio Ventura Martínez
5'	Inspired eyes: The current biotechnology legislation in the international landscape from a student's perspective <b>Eliel Ignacio Villegas Félix</b> , Instituto Tecnológico y de Estudios Superiores de Monterrey Co-authors: Luis Francisco García, Daniel Gómez Dominguez
5'	Establishing biodiversity damage resulting from GMOs <b>Claudia Colmenarez Ortiz</b> , Ghent University (registered) <ABSTC selection>
5'	Readiness of the Nigerian public for the introduction of GM crops into the food market <b>Oluwakemi Hannah Oladipo</b> , National Biotechnology Development Agency (registered) <ABSTC selection>
5'	Public awareness and the Asian BCH roadmap: The Philippines experience <b>Julieta Fe L Estacio</b> , National Committee on Biosafety of The Philippines Co-author: Katherine Soriano
	<b>Poster Session II (below)</b>

**Wednesday, 7 June (MORNING)**

	<b>Parallel Session VII: ERA of RNAi-based GM plants &amp; data transportability</b> <i>Organisers: <b>Pamela M Bachman</b>, Monsanto (registered) &amp; <b>Joachim Schiemann</b>, Julius Kühn-Institute (JKI) (registered) (Submitted presentations)</i>	<b>Parallel Session VIII: ERA studies/tools</b> <i>Organisers: <b>Adinda De Schrijver</b>, Scientific Institute of Public Health (pending confirmation) &amp; <b>Michael Meissle</b>, Agroscope (registered) (Submitted presentations)</i>	<b>Parallel Session IX: Regulatory issues &amp; data requirements</b> <i>Organisers: <b>Christine Tibelius</b>, Canadian Food Inspection Agency (CFIA) (confirmed) &amp; <b>Karen Hokanson</b>, University of Minnesota (UM) (registered) (Submitted presentations)</i>
5'	Introduction	Introduction	Introduction
25' (including 5' Q&A)	Safety assessment for potatoes with traits based upon RNA interference <b>Jeffrey Habig</b> , <i>JR Simplot Company</i> Co-author: Aaron Rowland	<i>Bt</i> -rice in China – Focusing the non-target risk assessment <b>Yunhe Li</b> , <i>Chinese Academy of Agricultural Sciences (CAAS)</i> (registered) Co-authors: Michael Meissle, Jörg Romeis (registered)	Suppression gene drives for non-insect pests and conservation biology <b>Allison Snow</b> , <i>Ohio State University (OSU)</i> (registered)
25' (including 5' Q&A)	Assessing the impact of transgenic RNAi plants on non-target organisms: Current knowledge and future directions <b>Xuguo Zhou</b> , <i>University of Kentucky (UKY)</i> Co-author: Blair D Siegfried	Resistance risk assessment of target pests to <i>Bt</i> -rice in China <b>Lanzhi Han</b> , <i>Chinese Academy of Agricultural Sciences (CAAS)</i> Co-author: Yufa Peng	Draft ERA of a hypothetical gene drive <i>Aedes aegypti</i> for population suppression <b>Paulo Paes De Andrade</b> , <i>Universidade Federal de Campina Grande</i> Co-authors: Amaro de Lira Castro Neto, Marília Andreza da Silva Ferreira
25' (including 5' Q&A)	Environmental fate of an insecticidal, double-stranded RNA in two Brazilian soils <b>Daniella PV Braga</b> , <i>Monsanto</i> (registered) Co-authors: Marcela ES Joaquim, Marcia OMA José, Joshua R Fischer, Fatima Zapata, Changjian Jiang, Gustavo G Belchior, Geraldo U Berger (registered)	Biosafety aspects in the pre-commercialisation phase of developing GM sugarcane in South Africa <b>Sandy Snyman</b> , <i>South African Sugarcane Research Institute (SASRI)</i> (registered) Co-authors: M Gouse, L Potgieter, S Siebert, Johnnie Van Den Berg	Regulating gene drives: Are African regulators up to the task? <b>Olalekan Akinbo</b> , <i>NEPAD African Biosafety Network of Expertise (ABNE)</i> Co-author: Diran Makinde
25' (including 5' Q&A)	ERA of RNAi-based crops in Argentina <b>Germán Ceizel Borella</b> , <i>Ministry of Agro-industry</i> Co-author: Agustina Whelan <b>&lt;PENDING&gt;</b>	Non-pesticidal R-proteins: A case study of late blight protected potato <b>Cathy Zhong</b> , <i>JR Simplot Company</i> (registered) Co-author: Jeff Habig	ERA: Does science matters? <b>Marlene Keese</b> , <i>Therapeutic Goods Administration (TGA)</i> Co-author: Paul Keese
<b>COFFEE BREAK</b>			
25' (including 5' Q&A)	The recent tendency in the ERA of GM crops in Japan <b>Ryo Ohsawa</b> , <i>University of Tsukuba</i> (registered)	Can systematic reviews inform GMO risk assessment and risk management? <b>Ralf Wilhelm</b> , <i>Julius Kühn-</i>	Refining data requirements for risk assessments of GM plants <b>Heidi Mitchell</b> , <i>Office of the Gene Technology Regulator</i>

		<i>Institute (JKI) (registered)</i> Co-authors: Joachim Schiemann ( <i>registered</i> ), Christian Kohl, GRACE team	<i>(OGTR)</i> Co-authors: Brian Weir, Andrea Robold, Peter Thygesen
25' (including 5' Q&A)	Data transportability of non-target arthropod field data for GM traits across crops and geographies <b>Peter Asimwe</b> , <i>Monsanto (registered)</i> Co-authors: Aqeel Ahmad, Adam Schapaugh, Changjian Jiang	Use of species sensitivity distributions to characterise hazard for insect control traits <b>Chad Boeckman</b> , <i>DuPont Pioneer (registered)</i>	Transgenic <i>Agrostis stolonifera</i> : Gene flow, establishment and abandonment <b>Carol Mallory-Smith</b> , <i>Oregon State University</i> Co-author: Maria Zapiola ( <i>registered</i> )
25' (including 5' Q&A)	Data transportability of confined field trials from cultivation country to import country <b>Shuichi Nakai</b> , <i>Monsanto</i> Co-author: Seiichiro Yamane	Interactions between stacked <i>Bt</i> -maize and herbivorous aphids and spider mites <b>Yinghua Shu</b> , <i>South China Agricultural University (registered)</i> Co-authors: Jianwu Wang ( <i>registered</i> ), Jörg Romeis ( <i>registered</i> ), Michael Meissle	The limited value of agronomic and phenotypic characterisation for the risk assessment of GM crops intended for import in the EU <b>Lieselot Bertho</b> , <i>Monsanto</i> Co-authors: EuropaBio ERA Working Group
25' (including 5' Q&A)	Evaluating the transportability of ecological risk assessment on transgenic crops to associated breeding stacks <b>Justin McDonald</b> , <i>Syngenta (registered)</i>	Characterisation of the differences between natural <i>Bt</i> -toxins and commercialised GMO <i>Bt</i> -toxins <b>Jonathan Latham</b> , <i>Bioscience Resource Project</i> Co-authors: Angelika Hilbeck, Madeleine Love	Future introductions of GM microbial biocontrol agents in the EU – Is current legislation and risk assessment fit for purpose? <b>Boet Glandorf</b> , <i>National Institute of Public Health and the Environment (RIVM) (registered)</i> Co-authors: Jacqueline Scheepmaker, Petra Hogervorst
<b>LUNCH</b>			
<b>AFTERNOON</b>			
OR	FIELD EXCURSION		
	GENERAL ASSEMBLY OF ISBR MEMBERS		
	SOCIAL EVENT		

**Thursday, 8 June (MORNING)**

<b>Thursday, 8 June (MORNING)</b>			
	<p><b>Parallel Session X: Gene drive and GM insects for pest control</b>  <i>Organisers: <b>Anthony Shelton</b>, Cornell University &amp; <b>Andrew Roberts</b>, International Life Sciences Institute (ILSI) Research Foundation</i></p>	<p><b>Parallel Session XI: Biosafety and ERA of GM algae</b>  <i>Organiser: <b>Tomal Dattaroy</b>, Reliance Industries Ltd (registered)</i></p>	<p><b>Parallel Session XII: Capacities for the risk assessment of GMOs: Challenges to build sustainable systems</b>  <i>Organiser: <b>Carmen Enriqueta Vicién</b>, Universidad de Buenos Aires (registered)</i></p>
<b>X</b>	<p>The use of GM insects for pest control has long been under consideration, but is now moving to practical applications. The development of new molecular technologies, including gene drive systems, have led to an increase in interest and engagement around GM insects for public health, agriculture and conservation biology. This session will examine some of the recent and on-going investigations into the use of GM insects, including gene drive systems, and their potentially novel biosafety considerations, as well as providing an overview of potential applications of gene drive and more traditional GM technologies for use in pest control</p>		
<b>XI</b>	<p>There is a lot of research both at the academic level as well as by the industry on the use of unicellular eukaryotic algae and cyanobacteria for alternative biofuels and for food, feed and nutritional supplements. These organisms provide a source of renewable energy and can harness the sunlight by the use of one of the most common metabolic processes, i.e., photosynthesis. Research is aimed at use of GM algae and cyanobacteria for trait development and therefore, poses a challenge for ERA and biosafety. The objective of this session is to get the stakeholders to brainstorm towards formulating a regulatory framework and the guidelines for large scale cultivation of GM algae and cyanobacteria. Ideas on assessing the environmental risks involved both in open raceway ponds, as well as in contained photobioreactors will be discussed. The session aims at discussing ERA considerations for the deliberate and accidental releases of GM algae into the environment, whether current ERA approaches are applicable and where fine-tuning may be required. This session will serve as a platform for bringing together the key people from algal research as well as the biosafety experts. It will assist in the long term goal of setting the path forward for commercial exploitation of the outcome of such research</p>		
<b>XII</b>	<p>Risk assessment is a dynamic, scientific exercise that requires significant technical capacity. In most countries, this is not a formal specialisation option. Therefore, only practice and experience make professional risk assessors and this is long term process that may take between three and five years. The need for skilled, functional risk assessment bodies demands a continued effort and commitment from regulatory agencies, if sustainability of the regulatory systems is to be achieved. The lack of formal procedures to train and update risk assessors on the criteria to be applied, the high rotation in some cases, or the lack of experienced professionals in others, can be challenging. Capacity building initiatives with different approaches have been implemented in many countries over the years, supported by diverse governmental and nongovernmental organisations. Some of these programs were aimed to build in-country capacities, also encouraging active participation of country experts in international fora. Inclusive discussions are critical to develop consensus on scientific criteria, conceptual tools and common standards that enable evidence-based risk assessment and regulations, ultimately facilitating greater harmonisation among countries and regions. The purpose of this session is to present several experiences regarding strengthening and follow-up of risk assessment capacities in regulatory systems around the world, in order to learn from past experiences and exchange ideas for the development of self-sustainable systems in the future</p>		
5'	Introduction	Introduction	Introduction
20'	<p>Trialing gene drives to control invasive species: The what, where and how?  <b>Tim Harvey-Samuel</b>, Pirbright Institute                      Co-author: Luke Alphey                      (abstract submitted)</p>	<p>Algal biology – Technological advancements to harness potential benefits and regulatory implications  <b>Ajit Sapre</b>, Reliance Industries Limited                      (abstract submitted)                      Co-authors: Santanu</p>	<p>CONABIA as FAO Centre of reference for biosafety of GMOs  <b>Agustina Whelan</b>, Ministry of Agro-industry                      (abstract submitted)</p>

		Dasgupta, Tomal Dattaroy	
20'	Biosafety for gene drive research <b>Paul De Barro</b> , <i>Commonwealth Science and Industrial Research Organisation (CSIRO)</i> (abstract submitted; registered)	Overview of guidance and data needs for ERA of GM algae <b>Carolina Peñalva-Arana</b> , <i>US Environmental Protection Agency (US EPA)</i> (abstract submitted)	Capacity building support program for Paraguay <b>Danilo Fernández Ríos</b> , <i>Universidad Nacional de Asunción (registered)</i> Co-author: Nidia Benítez Candia (abstract submitted)
20'	Policy and regulatory issues for use of gene drives to control insect-borne human disease and insect agricultural pests <b>Robert Friedman</b> , <i>J. Craig Venter Institute (JCVI)</i> (abstract submitted; registered)	Evaluation of phenotype stability and ecological risk of a GM alga in open pond production <b>Stephen Mayfield</b> , <i>University of California San Diego (UCSD)</i> Co-authors: Shawn J Szyjka, Shovon Mandal, Nathan G Schoep, Briana M Tyler, Christopher B Yohn, Yan S Poon, Steven Villareal, Michael D Burkart, Jonathan B Shurin (abstract submitted)	Managing agricultural biotechnology research for food security in Africa: Capacity building efforts for research, innovation and application <b>Ruth Mbabazi</b> , <i>Michigan State University (MSU)</i> Co-authors: Marc Heijde (registered), Karim Maredia (abstract submitted)
20'	Problem formulation for the use of gene drive in <i>Anopheles gambiae</i> to control malaria transmission <b>Andrew Roberts</b> , <i>International Life Sciences Institute (ILSI) Research Foundation</i> (abstract submitted; registered)	Environmental and biotechnological risk assessment of GM algae <b>Jeremy Sweet</b> , <i>JT Environmental Consultants</i> Co-authors: Tracey Beacham, Mike Allen (abstract submitted)	e-Learning courses: Providing a sustainable and interactive resource <b>John Teem</b> , <i>International Life Sciences Institute (ILSI) Research Foundation</i> Co-author: Libby Williams (abstract submitted)
<b>COFFEE BREAK</b>			
20'	ERA of GMOs with engineered gene drives – Lessons from non-GM ERAs? <b>Peter Thygesen</b> , <i>Office of the Gene Technology Regulator (OGTR)</i> (abstract submitted)	Using algae biotechnology to develop high-value colostrum proteins as formula ingredients <b>Xun Wang</b> , <i>Triton Algae Innovations</i> Co-author: Miller Tran (abstract submitted)	A curriculum-based approach to teaching biosafety through e-learning <b>Dennis O Ndolo</b> , <i>International Centre for Genetic Engineering and Biotechnology (ICGEB)</i> Co-authors: Michael Wach, Patrick Rüdelsheim, Wendy Craig (abstract submitted)
20'	Efficient genetic control of the New World screwworm using GM strains <b>Max Scott</b> , <i>North Carolina (NC) State University</i> Co-author: Carolina Concha (abstract submitted)	Biosafety assessment for environmental release of GM algae: An Indian perspective <b>Abhijit Poddar</b> , <i>Biosafety Support Unit</i> Co-authors: Sangeeta Agarwal, Vanga Siva Reddy, S	Brazilian capacity building experiences in biosafety: Impacts in governance and supporting decision-making <b>Deise Maria Fontana Capalbo</b> , <i>Brazilian Agriculture Research Corporation</i>

	<PENDING>	Raghavendra Rao (abstract submitted)	(EMBRAPA) – Environment (registered) Co-author: Carmen Enriqueta Vicién (registered) (abstract submitted)
20'	Friendly™ Aedes” and the challenges for the regulation of genetically modified insects in Brazil <b>Fabiano dos Santos Ferreira, Oxitec</b> (abstract submitted)	Risk assessment of GM algae <b>Richard Sayre, New Mexico Consortium (NMC)</b> (abstract submitted)	Institutional capacity strengthening to overcome systems challenges towards building functional biosafety systems in Africa <b>D Hashini Galhena Dissanayake, Michigan State University</b> Co-authors: Joseph F Guenthner, Sam E Timpo, Godwin N Lemgo, Karim M Maredia (abstract submitted)
45'	Panel discussion (+ Elizabeth Heitman who will speak in Plenary session III) <b>Hector Quemada, Donald Danforth Plant Science Center</b> & <b>Andrew Roberts, International Life Sciences Institute (ILSI) Research Foundation</b> (moderator) (registered)	Panel discussion <b>Patrick Rüdelsheim, Perseus</b> (moderator) (registered)	Panel discussion <b>Clara Rubinstein, Monsanto</b> (moderator) (registered)
<b>LUNCH</b>			

## Thursday, 8 June (AFTERNOON)

<b>Plenary Session III: Advancing ERA of GMOs – Looking Ahead to Future Opportunities and Challenges</b> <i>Organisers: <b>Jennifer Anderson</b>, DuPont Pioneer (registered) &amp; <b>Yann Devos</b>, European Food Safety Authority (EFSA) (registered)</i>	
	The ERA of GMOs faces a number of challenges. Among these are the questions posed by rapid advances in the science of genetic modification resulting in an expanding range of GMO applications. Emerging new breeding technologies, their applicability to crop improvement and animal breeding, and the technical and regulatory challenges they may present will be discussed. This session will explore new developments in (GM) technology, future opportunities and challenges new GMO applications may present, and put those into the context of agricultural innovation, agronomic sustainability, the need to feeding the growing world population and climate change
5'	Introduction
30'	Keynote: Future for food systems <b>Tim Benton</b> , <i>University of Leeds</i> (abstract submitted)
20'	Emerging products of agricultural biotechnology for sustainable agriculture, food security and climate change mitigation <b>Jim Gaffney</b> , <i>DuPont Pioneer</i> (abstract submitted; registered) Co-author: Jennifer Anderson (registered)
20'	Opportunities to prepare the US regulatory system for future biotechnology products: Findings from a US National Academies of Sciences report <b>Steven P Bradbury</b> , <i>Iowa State University (ISU)</i> (abstract submitted)
20'	Enabling sound scientific decision-making for novel and familiar traits with the existing ERA framework <b>Pamela M Bachman</b> , <i>Monsanto</i> (abstract submitted; registered)
<b>COFFEE BREAK</b>	
20'	National Academies of Sciences, Engineering and Medicine (US-NAEM) report on gene drive <b>Elizabeth Heitman</b> , <i>Vanderbilt University Medical Center</i> (abstract pending)
20'	Impact of synthetic biology and the implications for ERA <b>Maria Mercedes Roca</b> , <i>Institute for Science on Global Policy</i> (abstract submitted) Co-author: Paulo Paes Andrade
20'	ERA and regulatory challenges – Alternative approaches <b>Paul Keese</b> , <i>University of Ghana</i> (abstract submitted) Co-author: Peter Thygesen
45'	<b>Patrick Rüdelsheim</b> , <i>Perseus</i> (moderator) (registered)
<b>CLOSING SESSION</b>	

<b>Poster Session I</b>	
<b>Regulatory considerations</b>	
I.1	Establishing biodiversity damage resulting from GMOs <b>Claudia Colmenarez Ortiz</b> , <i>Ghent University</i> (registered) <ABSTC selection>
I.2	Inspired eyes: The current biotechnology legislation in the international landscape from a student's perspective <b>Eliel Ignacio Villegas Félix</b> , <i>Instituto Tecnológico y de Estudios Superiores de Monterrey</i> Co-authors: Luis Francisco Garcia, Daniel Gómez Dominguez
I.3	New biotechnologies and innovation: A challenge for the Mexican regulatory system <b>Diana Priscilla Bonilla Ruelas</b> , <i>Instituto Tecnológico y de Estudios Superiores Monterrey</i> Co-author: Luis Antonio Ventura Martínez
I.4	Problem formulation approach to assess the risk of GM maize use in Mexico: A preliminary exercise using the proposed Official Mexican Standard (NOM) <b>Sol Guerrero-Ortiz</b> , <i>Cornell Alliance for Science</i> (registered) Co-author: Sol Ortiz García (registered)
I.5	Regulated field trials in Mexico. Planning and implementation through interdisciplinary approach <b>Carlos Patiño-Echeverri</b> , <i>Monsanto</i> Co-authors: S Escoto-Hernández, A Tellez L Castillo G Medina-Palacios
I.6	Regulatory data generation for the commercial approval of biotechnology-derived products in Brazil <b>Daniella PV Braga</b> , <i>Monsanto</i> (registered) Co-authors: Gustavo G Belchior, Marcia OMA José, Daniel J Soares, Hallison V Vertuan, Geraldo U Berger (registered)
I.7	The joint evolution of institutional organisation and GMO risk analysis in Argentina <b>Agustina Whelan</b> , <i>Ministry of Agro-industry</i> Co-author: Martín Lema
I.8	Government support for deregulation of public sector GMOs in Argentina <b>Agustina Whelan</b> , <i>Ministry of Agro-industry</i> Co-author: Martín Lema
I.9	Uruguayan biosafety framework for developing and/or handling GM vegetables under confined conditions <b>Alejandra Ferenczi</b> , <i>Ministry of Livestock, Agriculture and Fisheries</i> Co-author: Mariela Mauro
I.10	Application of authorisations' system for biosafety to work with GMOs <b>Marvis Esther Suárez Romero</b> , <i>National Center for Biosafety</i> Co-author: Leyenis García Santos
I.11	20 years of biosafety in Bolivia. Lessons learned <b>Cecilia González Paredes</b> , <i>Instituto Boliviano de Comercio Exterior</i>
I.12	Biotechnology and biosafety in Africa: Building functional regulatory systems for safe deployment of GM crops in Africa <b>Olalekan Akinbo</b> , <i>NEPAD African Biosafety Network of Expertise (ABNE)</i> Co-author: Diran Makinde
I.13	Nigeria's country report on biosafety and laboratory safety <b>Hajara Oyiza Yusuf</b> , <i>National Biotechnology Development Agency (NABDA)</i> Co-author: Gloria IB Obioh
I.14	GMO regulation in Nigeria: Processes, challenges and opportunities <b>Chinyere V Nzeduru</b> , <i>National Biotechnology Development Agency (NABDA)</i> Co-author: Rufus Ebegba
I.15	Public participation in decision making during environmental release of GMOs: A Kenyan experience



	<b>Dorington O Ogoyi</b> , <i>National Biosafety Authority</i> Co-author: Josphat Muchiri
I.16	Rethinking regulatory policy and practice for effective GMO oversight in Uganda: A perceptive treatise <b>Gumisiriza Gilbert</b> , <i>Uganda Biosciences Information Center (UBIC)</i> Co-author: Karim Maredia
I.17	Complementarity or contradiction: Application of ERA and SECs for GM crops deregulation in Africa <b>Francis Nang'ayo</b> , <i>African Agricultural Technology Foundation (AATF)</i> Co-author: Sylvester Oikeh ( <a href="#">registered</a> )
I.18	GMO regulation in New Zealand: Unique features, first GMO release and recent changes in the "not GMO" regulations <b>Tim Strabala</b> , <i>Environmental Protection Authority (NZ EPA)</i> Co-author: Stephen Cobb
	<b>ERA considerations</b>
	Considerations
I.19	Regulatory science versus research science: Decision making for environmental release of GM plants <b>Peter Thygesen</b> , <i>Office of the Gene Technology Regulator (OGTR)</i> Co-author: Alison Wardrop
I.20	ERA: Regulatory challenges <b>Marlene Keese</b> , <i>Therapeutic Goods Administration (TGA)</i>
I.21	Environmental risk and impact assessment of GM crops in Africa: Where is the conflict? <b>Douglas W Miano</b> , <i>University of Nairobi</i> Co-author: William M Muiru
I.22	ERA of RNAi-based crops in Argentina <b>Germán Ceizel Borella</b> , <i>Ministry of Agro-industry</i> Co-author: Agustina Whelan <b>&lt;PENDING&gt;</b>
I.23	Biosafety strategies for tropical tree ( <i>Cedrela odorata</i> ) transformation <b>Yuri Jorge Peña-Ramirez</b> , <i>El Colegio de la Frontera Sur</i> Co-authors: Luisa López-Ochoa, Max Mizraim ApolinarHernández
I.24	Relevance of environmental safety assessments of individual biotechnology-derived traits for products combining multiple traits through conventional breeding <b>Ernest L Clawson</b> , <i>Monsanto</i> Co-authors: Lulu Cheng, Jamis Perrett, Aqeel Ahmad, Yan Wei, Oscar Heredia, Muhammad Asim, Hallison Vertuan, Murtaza Quddusi, Daniel Soares, Peter Asiimwe
I.25	Regulatory assessment of breeding stacks of approved parental events: Case study in Argentina and Paraguay <b>Magdalena López Olaciregui</b> , <i>Dow AgroSciences</i> Co-authors: Cecilia Roca, Nicholas P Storer, Greg Bradfish
I.26	Safety is innate in late blight resistant potatoes <b>Aaron Rowland</b> , <i>JR Simplot Company</i> Co-author: Jeff Habig
I.27	Risk assessment of GM potato with the <i>erf</i> gene for bacterial wilt resistance in Uruguay <b>Federico Boschi</b> , <i>National Seed Institute</i> Co-authors: Francisco Vilaró, Sara Murchio, Claudia Schwartzman, Cyril Zipfel, Marco Dalla Rizza
	Tools
I.28	Limits of Concern as a useful concept to improve the ERA of GM plants

	<b>Marion Dolezel</b> , <i>Environmental Agency Austria</i> Co-author: Hanka Teichmann ( <a href="#">registered</a> )
I.29	Data transportability for field trial research <b>John Teem</b> , <i>International Life Sciences Institute (ILSI) Research Foundation</i> ( <a href="#">registered</a> ) Co-authors: Larissa Jarvis, Mònica García-Alonso ( <a href="#">registered</a> ), Paul Hendley, Marc L Metzger, Navin Ramankutty
I.30	Development and standardisation of a test method with soil organisms for the ERA of transgenic plants <b>Hanka Teichmann</b> , <i>Federal Agency for Nature Conservation (BfN)</i> ( <a href="#">registered</a> ) Co-author: Stephan Jänsch
I.31	CADIMA: An online tool supporting the reporting and conduct of the evidence synthesis process <b>Ralf Wilhelm</b> , <i>Julius Kühn-Institute (JKI)</i> ( <a href="#">registered</a> ) Co-authors: Christian Kohl, Stefan Unger, Steffen Kecke, Joachim Schiemann ( <a href="#">registered</a> )
I.32	Research with GM plants in a government-funded protected field site in Switzerland <b>Jörg Romeis</b> , <i>Agroscope</i> ( <a href="#">registered</a> ) Co-authors: Susanne Brunner, Michael Meissle, Andrea Patocchi, Michael Winzeler
	Studies
I.33	Effects of Cry1Ab <i>Bt</i> -rice straw return on the earthworm <i>Eisenia fetida</i> <b>Yinghua Shu</b> , <i>South China Agricultural University (SCAU)</i> ( <a href="#">registered</a> ) Co-author: Jianwu Wang ( <a href="#">registered</a> )
I.34	Testing insecticidal proteins and GM plant material on a surrogate dipteran species <b>Michael Meissle</b> , <i>Agroscope</i> Co-authors: Simone Haller, Jörg Romeis ( <a href="#">registered</a> )
I.35	The risk assessment of Cry1Ie protein on <i>Chrysoperla sinica</i> larvae <b>Kanglai He</b> , <i>Chinese Academy of Agricultural Sciences (CAAS)</i> ( <a href="#">registered</a> ) Co-author: Xinxin Gao
I.36	Levels of Cry1Ac protein in herbivorous and predatory arthropods in <i>Bt</i> -soybean <b>Young-Joong Kim</b> , <i>Seoul National University</i> ( <a href="#">registered</a> ) <ABSTC selection>
I.37	Impacts of sugarcane expressing Cry1Ab protein on non-target arthropods in Brazilian field conditions <b>Adriana Cheavegatti Gianotto</b> , <i>Centro de Tecnologia Canavieira</i> Co-authors: Danielle Angeloni Oldemburgo, Silvio Christofolletti Junior, Mariana Abdal, Tarciso Morescalchi Bortolin, Wladecir Salles Oliveira
I.38	Change of <i>Bt</i> -protein in the process of eight-times continuous <i>Bt</i> -corn planting and straw returning to soil and its effects on soil nutrient content <b>Jianwu Wang</b> , <i>South China Agricultural University (SCAU)</i> ( <a href="#">registered</a> ) Co-author: Yuanjiao Feng ( <a href="#">registered</a> )
I.39	Effect of Cry1Ab <i>Bt</i> -maize straw return on greenhouse gases emission and nitrogen cycle in soil <b>Jianwu Wang</b> , <i>South China Agricultural University (SCAU)</i> ( <a href="#">registered</a> ) Co-author: Yinghua Shu ( <a href="#">registered</a> )
I.40	Transgenic overexpression of EPSPS in <i>Arabidopsis thaliana</i> can enhance fecundity in the absence of glyphosate <b>Zachery T Beres</b> , <i>Ohio State University (OSU)</i> ( <a href="#">registered</a> ) Co-authors: Xiao Yang, Lin Jin, Jason T Parrish, Wanying Zhao, David M Mackey, Allison A Snow
I.41	Crop wild relatives of cultivated eggplant ( <i>Solanum melongena</i> L.) in the Philippines – Does <i>Bt</i> -eggplant pose a real threat? <b>Desiree M Hautea</b> , <i>University of the Philippines Los Baños</i> ( <a href="#">registered</a> ) Co-authors: Nestor C Altoveros, Visitacion C Huelgas, Maria Lea H Villavicencio
I.42	Assessment of impact of gene flow on biodiversity: Experience with GM mustard

	<p><b>Pranjali Vishwakarma</b>, <i>Biosafety Support Unit</i> Co-authors: Sangeeta Agarwal, Vanga Siva Reddy, S Raghavendra Rao</p>
I.43	<p>Agronomic, ecological and genetic-segregation assessment of GM traited landraces: Evidence for the safe coexistence of maize landraces with modern GM maize hybrids <b>Bill Duncan</b>, <i>Monsanto (registered)</i> Co-authors: Baltazar Baltazar, Todd Werk, Silverio Garcia, Duška Stojšin, Juan Manuel de la Fuente, Aniruddha Raychaudhuri</p>
I.44	<p>Assessing the risk of GM sugarcane outcrossing with a related wild species using phylogenetic and pollen viability studies <b>Khanyi Hlobisile</b>, <i>North-West University</i> Co-authors: DM Komape, SJ Snyman, SJ Siebert, S Barnard</p>
I.45	<p>Spatial risk assessment of Saccharum and its wild relatives in South Africa to assess potential transgene flow from GM sugarcane <b>Dennis Mmakgabo Komape</b>, <i>North-West University</i> Co-authors: Johnnie Van Den Berg</p>
I.46	<p>Conservation and biosafety alternatives for productive coexistence of conventional and GM maize in its center of origin and genetic diversity <b>Jaime E Padilla Acero</b>, <i>AgroBIO Mexico (registered)</i> Co-authors: L Córdova-Téllez, S García-Lara, E Molina-Macías, G Medina-Palacios, S Escoto-Hernández, D Lugo-Barrera, JM de la Fuente-Martínez</p>
I.47	<p>Plant RNAi research in Europe <b>Jeremy Sweet</b>, <i>JT Environmental Consultants</i> Co-author: Bruno Mezzetti</p>
I.48	<p>Evaluating the risks of possible adverse effects of glyphosate on human and environmental health <b>Robert McDowell</b>, <i>Consult MRS</i></p>

<b>Poster Session II</b>	
	<b>Molecular, agronomic/phenotypic, compositional, toxicological and nutritional characterisation of GM plants</b>
II.1	Southern-by-Sequencing (SbS) for molecular characterisation of GMOs and gene edited varieties <b>Kent Brink</b> , <i>DuPont Pioneer</i> Co-author: Maria Fedorova
II.2	Molecular characterisation of transgenic events for safety assessment using Next Generation Sequencing approaches <b>Satish Guttikonda</b> , <i>Dow AgroSciences</i> (registered) Co-author: Pradeep Marri
II.3	Next-Generation Sequencing tools for molecular characterisation of new traits <b>Kent Brink</b> , <i>DuPont Pioneer</i> Co-author: Maria Fedorova
II.4	Different approaches for guarantee quality and genetic purity of seeds <b>Mariana Menoni</b> , <i>Instituto Nacional de Semillas</i> Co-authors: Jéssica Mateauda, Vanessa Sosa
II.5	Meta-analysis of data on the expression of Cry proteins and field performance of <i>Bt</i> -cotton hybrids approved in India <b>Govind Kumar Rai</b> , <i>Biosafety Support Unit</i> Co-authors: Rajalakshmi Muralidharan, Sunil Nayak, Sangeeta Agarwal, Vanga Siva Reddy, S Raghavendra Rao
II.6	Salt/drought tolerant and higher yielding aromatically prized Kalijeera rice by downregulating the Drought and Salt Tolerant Transcription factor, DST <b>Ar-Rafi Md Faisal</b> , <i>University of Dhaka</i> Co-author: Zeba Islam Seraj
II.7	Jasmonic acid induced defence responses in conventional and transgenic corn seedlings expressing <i>Bt</i> -insecticidal proteins <b>Yuanjiao Feng</b> , <i>South China Agricultural University (SCAU)</i> (registered) Co-author: Jianwu Wang (registered)
II.8	Reduced caterpillar damage benefits <i>Lygus hesperus</i> on <i>Bt</i> -cotton <b>Jörg Romeis</b> , <i>Agroscope</i> (registered) Co-authors: Michael Eisenring, Steven Naranjo, Joe Hull, Michael Meissle, Sven Bacher
II.9	Brazilian industrial processing of GM sugarcane produces sugar and ethanol indistinguishable from products derived from conventional sugarcane <b>Adriana Cheavegatti Gianotto</b> , <i>Centro de Tecnologia Canavieira</i> Co-authors: Danielle Angeloni Oldemburgo, Graciela de Amaral Merheb, Maria Lorena Sereno, Agustina Gentile, Ron Lirette, Wladecir Salles Oliveira
II.10	Compositional assessment of GM traited landraces: Evidence for the safe co-existence of landraces and modern maize hybrids <b>Elisa Leyva-Guerrero</b> , <i>Monsanto</i> Co-author: Mariana Zavala Lopez
II.11	Comparative assessment on key component compositions between imported GM soybeans and local non-GM soybeans from Taiwan <b>Huan-Yu Lin</b> , <i>Food Industry Research and Development Institute (FIRDI)</i> Co-authors: Jen-Tao Chen, Mei-Li Chao, Bo-Chou Chen, Jo-Chi Wang, Hsuen-Chun Liao, Hsin-Tang Lin, Wen-Shen Chu
II.12	Detection, identification and quantification of products resulting from the use of new plant breeding techniques <b>Slawomir Sowa</b> , <i>Plant Breeding and Acclimatization Institute</i> Co-authors: Anna Linkiewicz, Janusz Zimny
II.13	LC-MS/MS based methods for <i>in vitro</i> digestibility and quantification of transgenic membrane

	<p>proteins  <b>Xue-Rong Zhou</b>, <i>Commonwealth Science and Industrial Research Organisation (CSIRO)</i>  Co-author: Susan MacIntosh (<a href="#">registered</a>)</p>
II.14	<p>Safety evaluation and approval status of GM foods in Korea  <b>Yun-Sook Kang</b>, <i>Ministry of Food and Drug Safety</i> (<a href="#">registered</a>)  Co-author: Woo-Young Lee, Myung-Sang Yoo, Ji-Eun Shin, Mi-Ran Jang, Su-Eun Lee, Ji-Yeon Kwak, Ji-sun Park, Jin-Hwan Hong</p>
II.15	<p>The International Life Sciences Institute Crop Composition Database (ILSI-CCDB)  <b>Laurie Bennett</b>, <i>International Life Sciences Institute (ILSI) Research Foundation</i>  Co-authors: Véronique J Barthelet, Alison Edwards, Brandon Fast, Nancy Gillikin, Jeffrey D Klucinec, Justin McDonald, Jane Sabbatini, Jannavi R Srinivasan, Theresa Sult, Gregory B Tilton, Andrew Roberts</p>
II.16	<p>Sub-chronic toxicological evaluation of GM sugarcane in albino rabbits  <b>Farheen Bhatti</b>, <i>National Institute for Biotechnology and Genetic Engineering (NIBGE)</i>  Co-author: Asif Qadri</p>
II.17	<p>Analysis of two varieties of transgenic soybean and a conventional variety by the Micronucleus Test, in mice  <b>Edith Alba Segovia Corrales</b>, <i>Universidad Nacional de Asunción</i> (<a href="#">registered</a>)  Co-authors: Romina Arrúa, Nathalia Barrozo, Guillermo Kurita, Carlos Mussi, Gisel Piris, Rosa Oviedo</p>
II.18	<p>Comparison of nutritional composition between the transgenic rice varieties and conventional comparators using univariate and multivariate analysis  <b>Soo-Yun Park</b>, <i>National Institute of Agricultural Science</i>  Co-authors: Seonwoo Oh, Seong-Kon Lee, Yunsoo Yeo, Hyn Suk Cho</p>
II.19	<p>Nutritional safety assessment of GM rice (insect resistance) using the database of commercial rice varieties  <b>Seon-Woo Oh</b>, <i>National Institute of Agricultural Science</i>  Co-authors: Soo-Yun Park, Seong-Gon Lee, So Young Lee, Hyun-Suk Cho</p>
	<b>Insect resistance monitoring/management</b>
II.20	<p><i>Diatraea saccharalis</i> resistance to Herculex® maize in an isolate area in San Luis in Argentina: Detection, characterisation and management  <b>Ana Maria Signorini</b>, <i>Dow AgroSciences</i>  Co-authors: Magdalena Lopez Olaciregui, Gustavo Abratti, Analiza P Alvez, Desmi Chandrasena, Clint Pilcher, Nicholas P Storer</p>
II.21	<p>Differential gene expression among Philippine populations of Asian corn borer (<i>Ostrinia furnacalis</i> Guen.) (Lepidoptera: Crambidae)  <b>John Carlo Medrano Marasigan</b>, <i>University of the Philippines Los Baños</i>  Co-authors: Desiree M Hautea (<a href="#">registered</a>), Ma Anita M Bautista</p>
II.22	<p>Development and characterisation of the Asian corn borer resistance to <i>Bt</i>-toxin Cry1Ie  <b>Kanglai He</b>, <i>Chinese Academy of Agricultural Sciences (CAAS)</i> (<a href="#">registered</a>)  Co-author: Yueqin Wang</p>
II.23	<p>ABCC transporters influences <i>Bacillus thuringiensis</i> Cry1Ac toxicity in the oriental armyworm <i>Mythimna separate</i>  <b>Xingfu Jiang</b>, <i>Chinese Academy of Agricultural Sciences (CAAS)</i>  Co-authors: Cong Zhu, Lei Zhang, Yunxia Cheng, Lizhi Luo</p>
II.24	<p>Seed industry management of field-evolved resistance to <i>Bt</i>-corn in a population of <i>Diatraea saccharalis</i> in Argentina  <b>María Fabiana Malacarne</b>, <i>Asociación Semilleros Argentinos</i>  Co-authors: Gustavo Abratti, Damián Grimi, Magdalena López Olaciregui, Marcos Machado, Florencia Figueroa Bunge, Betiana Parody, Laura Ramos, Ana Signorini</p>

II.25	<p><i>Spodoptera frugiperda</i> resistance to Cry1F <i>Bt</i>-protein in maize in Argentina: Detection, characterisation, and management</p> <p><b>Ana M Signorini</b>, <i>Dow AgroSciences</i>  Co-authors: Magdalena Lopez Olaciregui, Gustavo Abratti, Analiza P Alvez, Desmi Chandrasena, Clint Pilcher, Nicholas P Storer</p>
II.26	<p>Alternate hosts of eggplant fruit and shoot borer, <i>Leucinodes orbonalis</i> Guenee in the Philippines: Implications for resistance management with <i>Bt</i>-eggplant</p> <p><b>Lourdes D Taylo</b>, <i>University of the Philippines Los Baños</i> (<a href="#">registered</a>)  Co-author: Desiree M Hautea (<a href="#">registered</a>)  &lt;SABC winner&gt;</p>
	<b>Monitoring</b>
II.27	<p>Post-market monitoring of biotechnology-derived crops in Brazil</p> <p><b>Daniella PV Braga</b>, <i>Monsanto</i> (<a href="#">registered</a>)  Co-authors: Gustavo G Belchior, Augusto C Crivellari, Luis RG Favoretto, Geraldo U Berger (<a href="#">registered</a>)</p>
II.28	<p>Long-term datasets for post-market environmental monitoring of GMOs: Their importance and challenges in South Africa</p> <p><b>Ntakadzeni Tshidada</b>, <i>Department of Environmental Affairs</i>  Co-authors: Tlou Masehela, Thato Mogapi</p>
II.29	<p>Strategy to assess the quality of DNA extracts used in the monitoring of GMOs by the q-PCR technique. An alfalfa seeds case</p> <p><b>Daniela Tosto</b>, <i>National Institute of Agronomic Technology (INTA)</i>  Co-authors: VC Pedrorias, MD Medina, V Fretes, N Aguirre, MC Martínez, RA Heinz</p>
II.30	<p>Developing and implementing a national post-market environmental monitoring framework for GMOs in South Africa</p> <p><b>Tlou Masehela</b>, <i>South African National Biodiversity Institute (SANBI)</i></p>
	<b>Capacity building</b>
II.31	<p>Technology transfer and capacity building in biotechnology and biosafety for a sustainable and intensified agriculture in Africa</p> <p><b>Marc Heijde</b>, <i>International Plant Biotechnology Outreach (IPBO)</i> (<a href="#">registered</a>)  Co-authors: Sylvie de Buck, Silvia Travella (<a href="#">registered</a>), Vanessa de Bauw, Godelieve Gheysen, Marc Van Montagu</p>
	<b>Public perception and risk communication</b>
II.32	<p>Risk communication – The understated game changer in biosafety policy development and implementation in Africa</p> <p><b>Samuel Edudzi Timpo</b>, <i>NEPAD Agency African Biosafety Network of Expertise (ABNE)</i>  Co-authors: Joseph Guenther, Karim Maredia</p>
II.33	<p>The dismal failure of risk communication for GMOs</p> <p><b>Robert McDowell</b>, <i>Consult MRS</i></p>
II.34	<p>Stakeholders' attitudes towards implementing risk assessment and risk management for GMOs in Uganda</p> <p><b>Barbara Mugwanya Zawedde</b>, <i>National Agricultural Research Organisation (NARO)</i>  Co-authors: Nassib Mugwanya, Yona Baguma</p>
II.35	<p>Communication and public perception of GM crops: The experiences of South-South LA projects shaping a communication strategy</p> <p><b>Deise Maria Fontana Capalbo</b>, <i>Brazilian Agriculture Research Corporation (EMBRAPA) – Environment</i> (<a href="#">registered</a>)  Co-authors: Margaret G Karembu, Faith N Nguthi</p>

II.36	Readiness of the Nigerian public for the introduction of GM crops into the food market <b>Oluwakemi Hannah Oladipo</b> , <i>National Biotechnology Development Agency</i> (registered) <ABSTC selection>
II.37	Public awareness and the Asian BCH roadmap: The Philippines experience <b>Julieta Fe L Estacio</b> , <i>National Committee on Biosafety of The Philippines</i> Co-author: Katherine Soriano
	<b>Socio-economic and ethical considerations</b>
II.38	The interplay of gene editing regulation and social impacts Agustina Whelan, Ministry of Agro-industry Co-author: Martín Lema
II.39	Impact assessment of genome editing in plants <b>Dominik Modrzejewski</b> , Julius Kühn-Institute (JKI) (registered) Co-authors: Joachim Schiemann (registered), Ralf Wilhelm (registered), Frank Hartung, Thorben Sprink, Dörthe Krause <ABSTC selection>
II.40	Biosafety regulators' challenge: Measuring and monitoring the socio-economic impacts of GMOs in the Philippines <b>Leonardo A Gonzales</b> , <i>Philippine Department of Science and Technology Biosafety Committee (DOST-BC)</i>
II.41	<i>Ex-ante</i> assessment of the potential impact of transgenic banana resistant to BXW disease in East Africa <b>Leena Tripathi</b> , <i>International Institute of Tropical Agriculture (IITA)</i> Co-author: Victor Manyong
II.42	Quantification of GM soybean pollen in Mexican honey using digital PCR <b>Amanda Galvez</b> , <i>Universidad Nacional Autonoma de Mexico</i> Co-authors: Maricarmen Quirasco, Eric Vides, Cindy Estrada, Irma Hernández, Remy Vandame, Michelle Chauvet, Francisca Acevedo, Elleli Huerta
II.43	The advantages of glyphosate-resistant corn production in China <b>Xiangju Li</b> , <i>Chinese Academy of Agricultural Sciences (CAAS)</i> Co-authors: Hailan Cui, Huilin Yu
II.44	Evaluation of weed control efficacy and safety of glyphosate in herbicide tolerant transgenic maize <b>Huilin Yu</b> , <i>Chinese Academy of Agricultural Sciences (CAAS)</i> Co-authors: ZongHua Quan, Xiangju Li