

Summary of the PRRI/ISAAA side event “Responsible Innovation, Modern Biotechnology and Synthetic Biology”, COPMOP2016, 12 December 2016).

Organisers: the Public Research and Regulation Initiative (PRRI) and the International Service for the Acquisition of Agri-biotech Applications (ISAAA). PRRI and ISAAA are organisations that believe in emerging technologies and innovation as tools to contribute towards sustainable development in agriculture, public healthcare and industrial development. PRRI and ISAAA support public research, and their aims are aligned to the core objectives of CBP that underlines modern biotechnology has great potential for human well-being if developed and used with adequate safety measures. Our side events are organised to create awareness on the potential of modern biotechnologies and the need to deploy them responsibly and implement them in a science-based manner.

Aim of the side event was to invite COP/MOP delegates to an open dialogue on responsible innovation, modern biotechnology and synthetic biology. The Moderator was Dr. Margaret Karembu.

The side event was opened with an introduction by Prof. Wayne Parrot on the evolution of technologies used by humans to modify their food. He also provided clarification on the terms Gene Editing, GMOs, and Gene Drives.

Prof. Maria Mercedes Roca gave a general overview of the iGEM program and introduced the students who briefly presented their research using Synthetic Biotechnology¹:

- Daniel Domínguez Gómez, student at the Instituto Politécnico Nacional, Mexico, presented research aimed at producing biofuels from air.
- Thomas Dohmen, student at the Technische Universitaet Darmstadt, Germany, presented research using plant pigments to create more efficient and sustainable solar cells.
- Heber Torres, student at the Universidad Autónoma de Nuevo León, Mexico, presented research using Synthetic Biology to *desalinizing water with bacteria*
- Ricardo Hernández Medina, student at the Tec De Monterrey, Mexico, presented research to improve the production of graphene, a promising material in the biomedical and energy areas.
- Saul Pizarro Medina, student at Tec De Monterrey, Mexico, presented research on using carbon nanotubes to make scientific research easier to carry out in poor communities.

Eliel Villegas Félix, student at the Tec De Monterrey, Mexico, kick started the dialogue with a passionate speech asking attendees to imagine what can be possible for those who strive towards innovation.

Initial audience reactions were aimed at the students asking whether they had thought about potential adverse environmental and socio-economic effects of the SynBio applications they were working on.

¹ The presentations are placed on <http://www.ppri.net/cartagena-protocol-biosafety/cpb-mops/cpb-mop8/>

In the ensuing discussion, the discussion broadened to placing the presented research in the broader context of the fact that 'continuing business as usual' in areas such as agricultural production and energy supply is not an option, and that innovative approaches are urgently needed.

In this context, appreciation was expressed for the fact that these and other young scientists dedicate their careers to research aimed at developing innovative approaches, whereby it was underlined that the future of agricultural production and energy supply is not an 'either this or that technology question' but rather a combination of the best available tools, tailored to local needs. Synthetic Biology is just one of those tools.

It was also discussed that it is important to assess and weigh the potential benefits and potential adverse effects of any technology, be it cutting edge as Synthetic Biology or more traditional technologies.