BIOTECHNOLOGY SUMMIT, 2012.

REPORT OF THE EVENT

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Notes from the President of the Foundation

The Biotechnology summit 2012 (BS12) was the first General Meeting of the International Foundation for Biotechnology Research & Early Stimulation in the Culture of Health, Nutrition, Sport, Art, Science, Technology & Society A.C. a Nonprofit Organization, was scheduled this year for March 12-21 in Mérida Yucatán México. The organizing committee developed an extensive program highlighting not only recent progress in biotechnology, but also the trends in biotechnology for future commercial application. The Biotechnology summit is an event inclusive of all biotechnology-related topics, from issues of bioethics, biotechnology applications in basic and applied research. The areas were color-coded, following the color codes used by the IBCJ.

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Remarks by the President of the Foundation

We hope that the biotechnology summit 2012 has contributed to the updating, distribution, intercom and improvement of biotechnology and research activities in Mexico and other countries, so as to boost the development and management of communication, collaboration academic and productive. In biotechnology summit 2012 discussion on the grounds and actions aimed at developing new processes, products and benefits for different needs and regions of our country were undertaken. We choose to amalgamate into one place the various areas of application of biotechnology, in order to provide all participants, but especially young biotechnologists, with a forum for the interaction between academic researchers and industry in the field of Biotechnology. The diversity of all areas of biotechnology and sustainable development, viewed from a scientific, technological and productive, made the event a challenge, but also an opportunity.

As highlights of this year’s program, the 2012 summit’s Biotechnology Scientific Sessions comprised 15 areas/color of biotechnology and its applications, and one core symposium: “Strategies to Monitor and Reduce Resistance to Bacillus thuringiensis among Targeted Insects”.

Other Symposia

1. Effect of temperature and protease inhibitors on the proteases of sea cucumber (Isostichopus fuscus) (Hernández et al.).

2. Pathogenicity of Isaria fumosorosea on immature whitefly Bemisia tabaci (Hemiptera:Aleyrodidae) (Ruiz et al.).

3. Study of the fermentative capacity and ethanol production of two microorganisms isolated from bovine rumen (Estrada-Martínez et al.).

4. Morphological, biochemistry and molecular characterization and selection of genotypes with flesh color red orange in Carica papaya L. (Vázquez et al.).

5. Differential induction and repression patterns of β-fructofuranosidases of Aspergillus niger in submerged and immobilized culture (Trenado-Uribe et al.).


Workshops Within the Conference

1. Somatic embryogenesis and embryo rescue - Preparation and in vitro propagation of disease-free plants.

   In charge of Dr. Hector Gonzalez-Rosas, COLPOS.

2. Every Day We Learn Biotechnology

   In charge of the National Research and Technology Transfer for Sustainable Rural Development (SNITT) of SAGARPA (Mexican governemt).

Organizers and Participants

In the organization of the event several committees were involved (Fig. 1). The Organizing Committee, responsible for all the planning, logistics, and communication with the attendees. The Scientific Committee, responsible for the quality of scientific presentations and symposia within the event. The organizers of the individual symposia and workshops and the Meeting staff, in charge of the technical details, and providing help to the attendees.
### Meeting Organizing Committee

Addy Leticia Zaraga-Garcia (UAC)  
Arcadio Valdes-Gonzalez (FCB-UANL)  
Deepak Bhatnagar (USDA ARS)  
Elizabeth Herrera-Parra (INIFAP-Mococh)  
Elizabeth Ortiz-Vazquez (ITM)  
Eric Dumontell (CIR-Hideyo Noguchi-UADY)  
Felipe Vasquez-Flota (CICY)  
Gerardo Rivera-Muñoz (ITM)  
Jairo Cristobal-Alejo (Instituto Tecnológico de Conkal)  
Jose Antonio Hernandez-Contreras (UNPA)

Laura Conde-Farreus (UADY)  
Mario Alberto Domínguez-Magaña (UNPA)  
Monica Guadalupe Lozano-Contreras (INIFPA-Mococh)  
Nohemi del Carmen Reyes-Vazquez (CIATE)  
Patricia Tamez-Guerra (FCB-UANL)  
Rodolfo Quintero-Ramirez (UAM C)  
Sara Elena Solis-Pereira (ITM)  
Susana Lozano-Muñiz (UNPA)  
Víctor Manuel Toledo-López (IT Mérida)

### Scientific Committee

Addy Leticia Zara-Garcia  
Alejandro Ruiz-Sánchez  
Andrés Hernández-García  
Antonio Rivera  
Aymen Salih  
Blanca E. Sánchez-Ramirez  
Consluo del Carmen Bautista-Muñoz  
Cynthia Limosco  
Demetrio Alonso Armitza-Moreno  
Diana Verónica Cortés-Espinosa  
Diego Gómez-Casati  
Diego Ramón Briceno-Domínguez  
Eduardo Armenta-Aldana  
Elba Villegas-Villareal  
Enrique Villalobos-Amador  
Fabian Fernandez-Luqueño  
Faisal Ahmed Raza  
Faisal Ahmed-Raza  
Felipe Vázquez-Flota  
Fernando Garcia  
Fernando López-Valdez  
Gerardo Rivera-Muñoz  
Ghina Sánchez-Burgos  
Gustavo Hernandez-Carmona  
Héctor González-Rosas  
Imelda Velázquez-Monajes  
J Luis Hernández-Mendoza  
Jacqueline Capataz-Tatuir  
Jose Luis Diaz-Del-Llano-Alvarez  
Laura del Bosque-Pineda  
Lijun Zhou  
Lili Rodriguez-Blanco  

Laura Conde-Farreus  
Mario Alberto Domínguez-Magaña  
Monica Guadalupe Lozano-Contreras (INIFPA-Mococh)  
Nohemi del Carmen Reyes-Vazquez (CIATE)  
Patricia Tamez-Guerra (FCB-UANL)  
Rodolfo Quintero-Ramirez (UAM C)  
Sara Elena Solis-Pereira (ITM)  
Susana Lozano-Muñiz (UNPA)  
Víctor Manuel Toledo-López (IT Mérida)

### Symptoms Organization

Symposium Organizer: Patricia Tamez-Guerra (FCB-UANL)  
Symposium Co-Organizers: Cristina Rodríguez-Padilla (FCB-UANL)  
Carlos Blanco (USDA-ARS)  
Brenda Oppelt (USDA-ARS)

Workshops Organizer: Víctor Manuel Toledo-López (ITM)  
Jose Juan Zuniga-Aguilar (CICY)  
Monica Guadalupe Lozano-Contreras (INIFPA-Mococh)

### Meeting staff

Karla Daniela Hernández Llanes (SMBBY)  
María Concepción Gómez Maldonado (SMBBY)  
Dalia Rivas Méndez (SMBBY)  
Yooshay Chan Escalante (SMBBY)  
Víctor Hugo Sonda Souza (SMBBY)  
Roger Calán Contreras (SMBBY)  
Jesus Antonio Poo Chun (SMBBY)  
Roger Nery Calán Contreras (SMBBY)

José Martín González Llanes (SMBBY)  
Pedro Pablo Martín Carul (SMBBY)  
Sandy Gobedi Burida Chakil (SMBBY)  
Dániela Cañall Gaurdar Aguilera (SMBBY)  
Jesús Manuel Ramón Sierra (SMBBY)  
Ana Leticia Catzin Uc (SMBBY)  
María Gabriela Dziebek (SMBBY)  
Guillermo Meza González (SMBBY)  
Irene Lara Martín (SMBBY)

### Figure 1. List of participants in the organization of the event.

The people involved in every one of the above committees is listed in figure 1.

Figure 2 shows a picture of the presidium at the Summit’s opening ceremony and figure 3 is a picture of some of the participants. The participation of authorities from the Mexican Government reflects the recognition acknowledged to the event by the local authorities.

There were 303 assistants and 58 poster contributions from six areas/color plus 16 oral presentations (74 contributions). The Abstracts to these oral presentations were published in the February issue (vol. 2, issue 1. 2012) of IBCJ. For the areas associated to each color please refer to the last section of this issue at pg. 19.

### A statistical summary of the number of contributions by color/area is given in figure 4.

#### Funding

In addition to the registration fees and the contribution by all the attendees, the event was possible thanks to the financial aid provided by several organizations and companies. Those companies and institutions providing financial support to the event are included in figure 5. The organizers are indebted to all of them.

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Figure 2. OPENING CEREMONY (Monday March 19) - Welcome and Introduction of the Presidium. From left to right Dra. Leticia Olivera Castillo (Master of Ceremony, CINVESTAV IPN Mérida), Dr. Jaime Padilla Acero (Scientific Director of AgroBio México), Dra. Marcela Zamudio Maya (Director FIQ-UADY), Dr. Inocencio Higuera Ciápara (director of CICY representative from CONACYT), Dra. Susana Lozano Muñiz (president of the Foundation), Dr. Tomás González Estrada (Director General of CONCYTEY representative of the Governor), M.C. Jaime Piña Razo (Director of INIFAP Southeast) y M.C. Abel Zapata Dittrich (Director of Instituto Tecnologico de Merida). As special guest: Dr. Romeo de Coss Gómez (director CINVESTAV-Mérida), Dra. Ingrid M. Rodríguez Buenfil (CIATEJ Unit Southeast Director, M.C. Roger F. Vázquez Aguilar (IT Conkal Director), Dr. Jorge Zavala (Director CIR-Hideyo Noguchi).

Figure 3. Some Participants. From left to right Carlos Alberto Blanco (USA), Zhong-Ren Lei (China), Ryan W. Kurtz (USA), Susana Lozano-Muñiz (Mexico), Elena Elpidina (Rusia), Patricia Tamez-Guerra (Mexico), Alejandra Bravo (Mexico), Clara Inés Saldamando-Benjumea (Colombia), Ana María Vélez (Colombia), Ingeborg Zenner de Polonia (Colombia), Nicholas Storer (USA), Robert W. Behle (USA), Jeffrey A. Fabrick (USA), Miguel Serrano (Honduras), Isaac Oyediran (USA), Juan Luis Jurat-Fuentes (España), Jaime Padilla Acero (Mexico), Mario Soberón (Mexico), Bruce E. Tabashnik (USA), Nicholas P. Storer (USA), J. Angel Saavedra (Mexico), J. Lindsey Flexner (USA), Michael Caprio (USA), Anthony M. Shelton (USA), Yulin Gao (China).
First place

**CUCURBITA FICIFOLIA FRUIT AS INSULIN SECRETAGOGUE IN RINm5F CELLS**

María Elizabeth Miranda Pérez¹, María Del Carmen Escobar Villanueva¹, Jesús Vladimir Hernández Rosado¹, Fausto Sánchez Muñoz¹, Julio César Almanza Pérez¹, Francisco Javier Alarcón Aguilar¹, Clara Ortega Camarillo²

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**Abstract:** Taking into account that the diabetes mellitus (DM) is an important public health problem globally, like part of a work to development a product added with an aqueous extract of *Cucurbita ficifolia* fruit with a possible use to the treatment of DM, a aqueous extract of this fruit was obtained and chemically characterized by it’s content of D-quirinositol, the principal hypoglycemic compound of the fruit. To study the mechanism of hypoglycemic activity of this extract and of the D-quirinositol alone, RINm5F cells were exposed to different concentrations of both, and production insulin and Kir 6.2 channels were measured. Cells treated with D-quirinositol and *C. ficifolia* increased mRNA expression of insulin and Kir 6.2 compared with control group, suggesting a mechanism of action throughout of increment in the expression of the gen of insulin. This research supports the idea of develop a new nutraceutical product from *C. ficifolia* fruits like a co-adjutant in the treatment of DM.

**Keywords:** DM /Insulin /Kir 6.2 /C.ficifolia

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**Best Poster Presentation Awards**

Presentations at poster sessions were evaluated by the organizers, and the best poster presentations were awarded:

![Figure 4. Number of presentations by color (area).](image1)

![Figure 5. Organizations and Companies funding the event.](image2)
Second place:

AXENIC ESTABLISHMENT AND IN VITRO FORMATION OF ADVENTITIOUS SHOOTS IN NARDO (POLIANTHES TUBEROSE L.)

Addy Yolanda Tejero Peña¹, Luis Leonardo Pinzón López¹, Eduardo Villanueva Couoh¹, Arturo Reyes Ramírez¹, Delfino Reyes López².

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Abstract: The nard (Poliантhes tuberosa L.) is a plant endemic to Mexico that is used in the pharmacological and fragrances industries, as well as ornamental plant (Herrera, 1990). In ornamental exploitation, the species offers little or no genetic variability, which reduces the opening of new markets, limiting their profitability. In this context, biotechnology through genetic transformation or induced mutagenesis, offer possibilities for breeding of new varieties. However, both techniques depend for their success of micropropagation protocols that enable there generation and mass propagation of new varieties. Therefore in the present study we evaluated three disinfectant agents (H2O2, Bioaxénico® and NaClO) for establishing aseptic tissue bulbs and 11 combinations ANA/BA to form adventitious shoots, in a basal medium. It was determined that using NaOCl (3% a.i) the axenic tissue percentage was 65% and the formation adventitious shoots via direct organogenesis was achieved with a frequency of up to 4 shoots per explants in the treatment of 7mM BA in the absence of ANA. Keywords: Axenic/Benzyladenine/Naphthalenaceticacid/Organogenesis.

Third place:

ISOLATION OF CELLULOSE-HYDROLYTIC BACTERIA CAPABLE OF HYDROLYZING CITRUS PEEL WASTE

López-Domínguez Cyndi, Rodríguez-Buenfil Ingrid, Ucan-Hernandez Xemón, Evangelista-Martínez Zahaed, and Sánchez-Contreras Angeles

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Abstract: A cellulose-hydrolytic bacterium isolated from the rumen of Bos indicus was examined for their ability to hydrolyze citrus peel waste. Cellulose-hydrolytic ability was screened using microcrystalline cellulose as a carbon source and Congo Red Assay. The cellulose-hydrolytic bacterium was identified by 16RNAlike Klebsiella sp. This strain is a cellulolytic microorganism that produces large extracellular multienzyme complexes called cellulosomes in culture broth of citrus peel. Keywords: Klebsiella sp. /Citrus peel /Hydrolysis

Related References