| Stream A | Biomedical Sciences and Engineering | A1-A8 |
|----------|--|-------|
| Stream B | Food, Nutrition, and Well-being | B1-B7 |
| Stream C | Current Practices and Future Insights | C1-C7 |

| | 08:00-10:00 | Registration (available every day of the conference) | | |
|---------------------------|-------------|---|--|--|
| | 10:00-12:00 | Opening Session | | |
| | 12:00-13:30 | | Photo and Break | |
| m , | 13:30-15:00 | Keynote Speeches | | |
| Tuesday, 12 April 2016 | 15:00-15:30 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | |
| 12 April 2010 | 15:30–16:30 | Nobel Session | | |
| (Day I) | 16:30–18:00 | Round Table Discussion on "Science, Technology, Research, and Innovation" | A1: From Sequence to Knowledge: The Future of Genomics | |
| | 18:00-18:30 | Networking Coffee/ Tea Break (participants | can visit the BioFair and Poster Session area) | |
| | 18:30-20:00 | B1: Feeding Billions: Policy and Practices | C1: Sustainability for Future Generations | |
| 20:30 Musical Evo | | | al Event | |

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

| | 08:30-09:00 | Regist | Registration (available every day of the conference) | | |
|---------------------------|-------------|---|--|---------------------------------|--|
| | 09:00-10:30 | A2: Systems Biology and Precisi Unlocking the Futur | | B2: Global Fo | ood Security: The Way Ahead (I) |
| | 10:30-11:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | and Poster Session area) |
| | 11:00-12:30 | A3: Advances in Biomedical Sciences B3: Global Food | | od Security: The Way Ahead (II) | |
| Wednesday, | 12:30-14:00 | | Lunch Break | | |
| 13 April 2016 (Day II) | 14:00-15:30 | A4: Living in a Post-Antibiotic World: Challenges versus Opportunities | B4: Enhancin Education, B Rese | ioethics, and | C2: Global Experiences in Technology Transfer and Commercialization in Biosciences |
| | 15:30–16:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | and Poster Session area) |
| | 16:00–17:30 | Plenary Session: Library of Alexandria | | | ledge-Triangle Platform for the ter-Energy-Food Nexus |
| | 17:30-18:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | and Poster Session area) | |
| | 18:00–19:30 | A5: The Microbiome: A New Way of Understanding Our World | B5: Digital Precision | | C4: Communities of Interest in Science |

| | 08:30-09:00 | Registration (available every day of the conference) | | | |
|---------------|-------------|--|---|--|--|
| | 09:00-10:30 | A6: Translational Medicine: Serving Our Society | B6: A Lo Modern Biot | | C5: A Focus on Environmental Studies and Toxicological Research |
| | 10:30-11:00 | Networking Coffee/ Te | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) A7: Robotics and Biorobotics in Life Sciences (I) and Round Table Discussion | | |
| | 11:00-13:00 | A7: Robotics and | | | |
| Thursday, | 13:00-14:30 | Lunch Break | | | |
| 14 April 2016 | 14:30-15:30 | A8: Robotics and Biorobotics in Life Sciences (II) C6: Sustainable Intensification under Irrigation | | | ole Intensification under Irrigation |
| (D III) | 15:30–16:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | |
| (Day III) | 16:00-17:30 | B7: Genetic Engineering: Research and Innovative Applications | Round Table I "Improving | | C7: Nanotechnology Research and Applications |
| | 17:30–18:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | ir and Poster Session area) |
| | 18:00-19:00 | Reporting Session | | | |
| | 19:00-20:00 | Closing Session | | | |

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| | Tuesday, 12 April 2016 | | | |
|----------------------|--|--|--|--|
| 08:00-10:00 | Registration (available every day of the conference) | | | |
| | Opening Session (Great Hall) | | | |
| 10:00–12:00 Day 1 | Welcome Note: Marwa Elwakil, Deputy Director, Center for Special Studies and Programs, Bibliotheca Alexandrina (Egypt) Gordon Conway, Director, Agriculture for Impact and Professor of International Development, Imperial College London (UK) STS Representative: Koji Omi, Founder and Chairman, Science and Technology in Society Forum (Japan) TWAS Representative: Mohamed Hamdan, TWAS Vice President for the Arab Region and Senior Advisor, Arab Open University (Jordan) AASTMT Representative: Ismail Abdel Ghafar, President, Arab Academy for Science, Technology and Maritime Transport (Egypt) HRH Princess Sumaya bint El Hassan, President, Royal Scientific Society (Jordan) - Video message Keynote Address: Ismail Serageldin, Director, Bibliotheca Alexandrina (Egypt) | | | |
| 12:00-13:30 | Group Photo and Lunch Break | | | |
| 13:30–15:00 Day 1 | Keynote Speeches (Great Hall) Chair: Ismail Serageldin, Director, Bibliotheca Alexandrina (Egypt) Farouk El-Baz, Director, Center for Remote Sensing, Boston University (USA) "Role of Egypt's Youth Is the Next Decade" Mostafa El-Sayed, Regents' Professor and Julius Brown Chair, Department of Chemistry and Biochemistry, Georgia Institute of Technology (USA) "Nanotechnology: The Big Potential Of the Very Small" Felix Unger, President, European Academy of Sciences and Arts (Austria) "There Are Many Roads in Medicine Ahead" | | | |
| 15:00-15:30 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | |
| 15:30–16:30 | Nobel Session (Great Hall) Chair: Ismail Serageldin, Director, Bibliotheca Alexandrina (Egypt) | | | |
| Day 1 | James Heckman, Economics 2000 (USA) - Live video conference John Mather, Physics 2006 (USA) - Live video conference "The History of the Universe From the Beginning To the End: Where Did We Come From, Where Can We Go?" | | | |

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| | Round Table Discussion on "Science, | A1: From Sequence to Knowledge: The Future of Genomics |
|-------------|--|--|
| | Technology, Research, and Innovation" | (Lecture Hall) |
| | (Great Hall) | |
| | | Co-organized with Cairo University (Professor Ramy Aziz) |
| | Empowering young scientists and young leaders is a | |
| | rising need for the progression of research, | Microbial genomics has revolutionized infectious diseases and epidemiology |
| | technology, and innovation. Bridges need to be built, | research by facilitating the tracking and development of strategies to combat |
| | strengthened, and supported from different | emerging or reemerging biothreats. What are the latest advancements in the field |
| | disciplines to better equip the current and coming generation for the road ahead. The relationship | of genomics and how can they be utilized and applied to practically benefit humanity? This session will study what we need to know concerning genomics |
| | between science, technology, research, and | and its latest research. |
| | innovation and how it affects our society today has | and its fatest research. |
| | become a crucial issue. | Chair: Ramy Aziz, Assistant Professor, Faculty of Pharmacy, Cairo University |
| | ooonie u cruciur issuo. | (Egypt) |
| | Chair: Ehsan Masood, Editor, Research | Co-chair: Andrew Kropinski, Professor Emeritus, Department of Microbiology |
| 16:30-18:00 | Professional (UK) | and Immunology, Queen's University (Canada) |
| | Rapporteur: Mohammed Yahia, Executive Editor, | Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group (UAE) |
| Day 1 | Nature Middle East, Nature Publishing Group | |
| | (Egypt) | Guilherme de Oliveira, Senior Researcher, Biodiversity and Biotechnology, |
| | | Instituto Tecnológico Vale (Brazil) |
| | Mohamed Hassan, Co-Chair, Inter Academy | "Biodiversity in the Amazon: From Exotic Environments to Biomining" |
| | Partnership (Italy) | Andrew Kropinski, Professor Emeritus, Department of Microbiology and |
| | • William Saito, Special Advisor, Prime Minister | Immunology, Queen's University (Canada) |
| | Cabinet, Government of Japan (Japan) | "From Phenotype to Genotype and Beyond: The Impact of DNA |
| | John Kilama, Chairman, Innovators for Africa Davidonment, Inc. (USA) | Sequencing on Bacterial Diagnostics." Magtefa Flobalist Associate Professor Department of Microbiology and |
| | Development, Inc. (USA) • João de Carvalho, Principal, BiznessBrazil | Mostafa Elshahed, Associate Professor, Department of Microbiology and Molecular Genetics, Oklahoma State University (USA) |
| | (Brazil) | "Environmental Genomics as a Powerful Tool to Discover and |
| | "Fostering Innovative Business Through | Characterize Uncultured Microbes" |
| | Education and Business Incubation" | Carolina Mizuno, Biologist, Molecular Biology of Gene in Extremophiles |
| | Jason Blackstock, Head, Science, Technology, | Unit, Institut Pasteur Paris (France) |
| | Engineering, and Public Policy Department, | "Marine Metagenomics: Widening Horizons for Uncultured Microbes |
| | University College London (UK) | and their Viruses" |
| 18:00-18:30 | Networking Coffee/ Tea Breat | k (participants can visit the BioFair and Poster Session area) |

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

| | B1: Feeding Billions: Policy and Practices | C1: Sustainability for Future Generations |
|-------------|--|--|
| | (Small Theater) | (Delegates Hall) |
| | | |
| | Today, the growing world population needs more food | We all consume a considerable amount of resources on a daily basis. |
| | with sustainable resource management. It is a great | However, we need to consider securing the future for coming generations |
| | challenge to satisfy the food demand of our world. We are | and the balance of the earth. Let us work towards the ultimate goal of |
| | surrounded by income fluctuations, urbanization, and | development and scientific research, and let us embrace sustainable |
| | dietary changes that call for our attention. The session will | strategies and save as much as possible for the benefit and survival of future |
| | investigate how to merge the practices and policy | generations. |
| | underlying food security to address one of the strongest | |
| | challenges in our way ahead. | Chair: Salah Soliman, Special Advisor, Bibliotheca Alexandrina and |
| | | Professor, Faculty of Agriculture, Alexandria University (Egypt) |
| | Chair: Magdy Madkour, Professor, Faculty of | Rapporteur: Mohammed Yahia, Executive Editor, Nature Middle East, |
| | Agriculture, Ain Shams University (Egypt) | Nature Publishing Group (Egypt) |
| | Rapporteur: Ola Al-Ghazawy, Senior Communication | |
| 18:30-20:00 | Officer, Zewail City of Science and Technology (Egypt) | • Hani El-Nokraschy, Managing Director, Nokraschy Engineering GmbH |
| - 4 | | (Germany) |
| Day 1 | Adel El-Beltagy, Former Minister, Ministry of | "Energy Challenge in Africa" |
| | Agriculture and Land Reclamation and Chair, | Margaret Cately-Carlson, Vice Chair, Board of Directors (Canada) |
| | International Dryland Development Commission | "Bioscience Needed for Future Generations Water Sustainability" |
| | (Egypt) | Helmy Abouleish, Chief Executive Officer, SEKEM (Egypt) |
| | "Toward Sustainable Food Security in Egypt: | "The Future of Agriculture in Egypt: A Comparative Full Cost |
| | Policies and Practices" | Accounting Study of Organic and Conventional Food Production |
| | Clemens Breisinger, Senior Research Fellow and | Systems in Egypt" |
| | Country Program Leader for Egypt, Development | • Ilya Zaslavsky, Director, Spatial Information Systems Laboratory, |
| | Strategy and Governance Division, International Food | University of California San Diego (USA) |
| | Policy Research Institute (USA) | "Global Environmental Information and Knowledge Sharing for |
| | Mahmoud Solh, Director General, International Contact for April 19 20 20 20 20 20 20 20 20 20 20 20 20 20 | Sustainability" Solif Dian Former Senior Stoff Member Division of Forly Wessian and |
| | Center for Agricultural Research in the Dry Areas | • Salif Diop, Former Senior Staff Member, Division of Early Warning and |
| | (Lebanon) Valia 7 alri Special Advisor Bibliothese Alexandrine | Assessment, United Nations Environment Programme (Senegal) |
| | Yehia Zaki, Special Advisor, Bibliotheca Alexandrina and Former Dean, Faculty of Medicine, Alexandria | "Sustainability of Future Coasts and Estuaries: Lessons Learnt in West Africa for the Sustainable Management of Estuaries, |
| | University (Egypt) | Mangroves, and Coastal Waters" |
| 20.20 | Oniversity (Egypt) | |
| 20:30 | | Musical Event |

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

| | Wednesday, 13 April 2016 | | | |
|-------------|---|--|--|--|
| 08:30-09:00 | Registration (available every day of the conference) | | | |
| | A2: Systems Biology and Precision Medicine: Unlocking the Future (Great Hall) | B2: Global Food Security: The Way Ahead (I) (Lecture Hall) Co-organized with Norman Borlaug Institute for Global Food | | |
| | Co-organized with Cairo University (Professor Ramy Aziz) | Security (Professor Malcolm Elliott) | | |
| | Systems are surrounding us and affecting us. Think of what we eat, what we drink, what we use, and the medication we take. Let us scrutinize how we can use precision medicine and systems biology to address the challenges our society faces today, so we can better understand our environment and focus on development in these interesting fields. | Norman Borlaug, "The Man Who Fed the World", observed that, "The green revolution in agriculture has won a temporary success in man's war against hungerbut the frightening power of human reproduction must also be curbed; otherwise, the success of the green revolution will be ephemeral". In our world of 7.4 billion people, almost one billion are hungry. The speakers in these sessions will | | |
| 09:00-10:30 | Chair: Guilherme de Oliveira, Senior Researcher, Biodiversity and Biotechnology, Instituto Tecnológico Vale (Brazil) | highlight the opportunities and the challenges of delivering sustainable global food security while maintaining biodiversity. | | |
| Day 2 | Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group (UAE) | Chair: Malcolm Elliott, Founding Director, The Norman Borlaug Institute for Global Food Security (UK) Rapporteur: Ola Al-Ghazawy, Senior Communication Officer, | | |
| | • Charles Auffray, President and Founding Director, European Institute for Systems Biology and Medicine (France) "How Systems Biology Will Revolutionize 21st Century | Zewail City of Science and Technology (Egypt) • Nina Fedoroff, Evan Pugh Professor Emerita, Huck Institutes of | | |
| | Medicine through the Vistera Project" Sherif El-Khamisy, Director, Center of Genomics, Zewail City of Science and Technology (Egypt) | the Life Sciences, Pennsylvania State University (USA) Edward Cocking, Professor Emeritus, Faculty of Science, University of Nottingham (UK) | | |
| | "Our Glorious Diversity: Genome (In)Stability and the Road Ahead" Ahmed Moustafa, Associate Professor, Department of Biology, American University in Cairo (Egypt) "What We Learn from 'Clinically'-deep 10,000 Genomes?" | "Global Food Security: The Way Ahead, Nitrogen-fixing Crops" Gudbjorg Inga Aradottir, Research Scientist, Department of Biological Chemistry and Crop Protection, Rothamsted Research (UK) "The Future of Crop Protection" | | |
| 10:30-11:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | |

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

| | A3: Advances in Biomedical Sciences | B3: Global Food Security: The Way Ahead (II) |
|-------------|---|---|
| | (Great Hall) | (Lecture Hall) |
| | | |
| | Our needs and the advancements in research are linking | Co-organized with Norman Borlaug Institute for Global Food |
| | disciplines like never before. In this session, the latest | Security (Professor Malcolm Elliott) |
| | interdisciplinary research is demonstrated that helps better meet | |
| | the needs of our world today. Applications of scientific | Norman Borlaug, "The Man Who Fed the World", observed that, |
| | advancement include fighting aging and disease and improving | "The green revolution in agriculture has won a temporary success in |
| | nutrition, well-being, and health. | man's war against hungerbut the frightening power of human |
| | | reproduction must also be curbed; otherwise, the success of the green |
| | Chair: Suad Sulaiman, Health and Environment Advisor | revolution will be ephemeral". In our world of 7.4 billion people, |
| | (Sudan) | almost one billion are hungry. The speakers in these sessions will |
| 11:00-12:30 | Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group | highlight the opportunities and the challenges of delivering |
| | (UAE) | sustainable global food security while maintaining biodiversity. |
| Day 2 | | |
| | Nagwa El-Badri, Director, Center of Excellence for Stem | Chair: Malcolm Elliott, Founding Director, The Norman Borlaug |
| | Cells and Regenerative Medicine, Zewail City of Science and | Institute for Global Food Security (UK) |
| | Technology (Egypt) | Rapporteur: Ola Al-Ghazawy, Senior Communication Officer, |
| | "Biomedical Sciences Research: Stem Cell Update" | Zewail City of Science and Technology (Egypt) |
| | Yasmine Aguib, Deputy Director, Research Department, | |
| | Aswan Heart Centre, Magdi Yacoub Heart Foundation | Alison van Eenennaam, Cooperative Extension Specialist, |
| | (Egypt) | Department of Animal Science, University of California Davis |
| | "Advances in Biomedical Sciences" | (USA) |
| | Mona Marei, Head, Tissue Engineering Laboratories, | "The Role of Animal Biotechnology in the 21st Century" |
| | Faculty of Dentistry, Alexandria University (Egypt) | Meryl Williams, Director, Asia Pacific-Fish Watch (Malaysia) |
| | "The Clinical and Commercial Translation of Break- | Ismail Serageldin, Director, Bibliotheca Alexandrina (Egypt) |
| | Through Innovations of Regenerative Therapy" | |
| 12:30–14:00 | Lun | ch Break |

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

A4: Living in a Post-Antibiotic World: Challenges versus Opportunities (Great Hall)

Co-organized with Cairo University (Professor Ramy Aziz)

We are surrounded by powerful bacteria that are constantly capable of building resistance to the antibiotics we develop. How can we combat them and what are the opportunities we can seize to better equip ourselves against changing health threats? Does the use of bacteriophages, or viruses that infect microbial cells, play a role as phage therapy next to antibiotics? It is time to analyze the development and applications of the different approaches in medicine, agriculture, and more.

Chair: Malak Kotb, Chair, Department of Basic Sciences, University of North Dakota (USA)

Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group (UAE) B4: Enhancing the Future: Education, Bioethics, and Research (Lecture Hall)

Empowering young scientists and young leaders is a rising need for the progression of research and innovation. Starting at the basic educational level to higher education and research, bridges need to be built, strengthened, and supported from different disciplines to better equip the current and coming generations for the road ahead.

Chair: Yousry El-Gamal,
Former Minister, Ministry of
Education (Egypt)
Rapporteur: Ola Al-Ghazawy,
Senior Communication Officer,
Zewail City of Science and

Technology (Egypt)

C2: Global Experiences in Technology Transfer and Commercialization in Biosciences (Small Theater)

Co-organized with Michigan State University (Professor Karim Maredia)

Rapid developments in biosciences are revolutionizing global agriculture and food systems. The policy environment and the landscape of Intellectual Property (IP) management and technology transfer at public universities and government funded research institutions all over the world are rapidly evolving. The countries in different geographic regions of the world are at various stages of technology management and commercialization capacities. The governments and public institutions are taking positive steps in building their capacities—both institutional and national capacity in intellectual property management, technology transfer, and commercialization through public-private partnerships. In this session, the panel of experts from seven regions of the world will share their experiences and review recent developments in technology transfer policies and practices. The panelists will also highlight the key areas for future capacity building in technology transfer and commercialization, where governments and international development agencies can invest to pave a way for technology transfer programs to succeed so that society can benefit from new science and technology.

Chair: Karim Maredia, Director, World Technology Access Program, Michigan State University (USA) Rapporteur: Mohammed Yahia, Executive Editor, *Nature Middle East*, Nature Publishing Group (Egypt)

14:00-15:30

Day 2

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

| • | Malak Kotb, Chair, |
|---|--------------------------------|
| | Department of Basic |
| | Sciences, University of |
| | North Dakota (USA) |
| | "Improving Outcome of |
| | Necrotizing Fasciitis: |
| | Elucidation of Complex |
| | Host and Pathogen |
| | Signatures that Dictate |
| | Severity of Tissue |
| | Infection" |
| • | Jean-Marie Pagès, |

- Director, UMR-MD1 Joint
 Research Unit, AixMarseille University
 (France)
 "Challenging the
 Antibiotic Resistance: the
 Antibiotic Translocation
 through Bacterial
 Membrane"
- Martha Clokie, Professor, Infection, Immunity, and Inflammation
 Departmentdiop, University of Leicester (UK)
 "New Strategies to Get Ready for a Post-Antibiotic Era: A
 Treasure Trove of Options from Bacteriophages"

- Mohamed Hamdan, TWAS
 Vice President for the Arab
 Region and Senior Advisor,
 Arab Open University
 (Jordan)
 - "New Life Sciences: Some Bioethical Issues"
- Katia Chalita, President and Directer, ÁKBAR Produções Artisticas (Brazil)
- Biljana Papazov Ammann,
 Professor, University of
 Sofia (Switzerland)
 "The Dilemma: Progress or
 Development?"
- Amr Farouk, Assistant to the President, Academy of scientific Research and Technology (Egypt)

- Ruth Mbabazi, Research Associate, College of Agriculture and Natural Resources, Michigan State University (USA)
 Chimwemwe Chamdimba, Head, Climate Change and Natural Resources Management, The New Partnership For Africa's Development (Malawi)
- Shireen Assem, Director, Agricultural Genetic Engineering and Biotechnology Research Institute, Agricultural Research Center (Egypt)
 - **Magdy Madkour,** Professor, Faculty of Agriculture, Ain Shams University (Egypt)
- Jane Payumo, Integrative Activities Specialist, King Abdullah University of Science Technology (Saudi Arabia)
 "Intellectual Property and Opportunities for Food Security in South East Asia"
- Hashini Dissanayake, Assistant Professor, College of Agriculture and Natural Resources, Michigan State University (USA)
 - **Neeru Bhooshan,** Principal Scientist, Zonal Technology Management and Business Planning and Development, Indian Agricultural Research Institute (India)
 - "Translating Research into Pprosperity: An Indian Experience"
- Mônica Amâncio, Lawyer, Empresa Brasileira de Pesquisa Agropecuária (Brazil)
 - Maria Jose Sampaio (Brazil)
- Anatole Krattiger, Director, Global Challenges Division, World Intellectual Property Organization (Switzerland)
 Meghana Sharafudeen, Associate Program Officer, Global Challenges Division, World Intellectual Property Organization (Switzerland)
 - "Leveraging Intellectual Property for Technology Transfer: Lessons Learned from WIPO Research and WIPO GREEN"

15:30–16:00 Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area)

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

| | Plenary Session: Library of Alexandria Africa | C3: Knowledge-Triangle Platform for the Water-Energy-Food Nexus |
|-------------|---|---|
| | (Great Hall) | (Small Theater) |
| | Co-organized with Professor Ronald Laporte | Co-organized with Knowledge-Triangle Platform for the Water-Energy-Food Nexus |
| | Co organized with Professor Romana Emporte | (TriNex) TEMPUS Project |
| | Chair: Ismail Serageldin, Director, Bibliotheca | (,, |
| | Alexandrina (Egypt) | Considering all of the significant environmental challenges facing both Egypt and |
| | Rapporteur: Rafik Nakhla, Group HR Manager, | the world, a more holistic and inclusive approach for addressing sustainable |
| | A&P Group (UAE) | development must emerge—especially in the fields of Water, Energy, and Food |
| | | (WEF). The three overlapping issues of the WEF have a multiplier effect, and a |
| | • Ismail Serageldin, Director, Bibliotheca | more integrated approach to solving them is crucial for development. Up until now, |
| | Alexandrina (Egypt) | these issues have been dealt with separately. Only by acknowledging their |
| 16:00-17:30 | • Eusebius Mukhwana, Deputy Commission | interrelatedness and dealing with them accordingly will significant and lasting |
| 10.00-17.30 | Secretary and Chief Executive Officer, | progress be made. This is the WEF Nexus. And from this, the "Knowledge-Triangle |
| Day 2 | Commission for University Education, | Platform for the Water-Energy-Food Nexus" (TriNex) Project was established with |
| Day 2 | University of Nairobi (Kenya) | the explicit aim of making the WEF the new research frontier in Egypt. In the last |
| | "Kenya: A Blueprint for Research and | BioVisionAlexandria conference, the plans to do so were laid out. In this |
| | Innovation Incentives for Africa" | conference, the accomplishments of the TriNEX consortium are laid out. |
| | • Francis Ohanyido, Chair and Senior Fellow, | |
| | West African Academy of Public Health | Chair: Hani Sewilam, Academic Director, Engineering Hydrology, RWTH Aachen |
| | (Nigeria) | University (Germany) |
| | "Why Are Publications in Africa so | Rapporteur: Mohammed Yahia, Executive Editor, Nature Middle East, Nature |
| | Limited?" | Publishing Group (Egypt) |
| | Musa Kana, Senior Lecturer and Public | |
| | Health Physician Consultant, Faculty of | • Rasha El Kholy, Dean, Faculty of Engineering, Heliopolis University (Egypt) |
| | Medicine, Kaduna State University (Nigeria) | Yehia El Shazly, Associate Professor, Chemical Engineering Department, Alexandria University (Forms) |
| | "The Epidemiology of Publications in Africa" | Alexandria University (Egypt) Ashraf Suloma, Professor, Faculty of Agriculture, Cairo University (Egypt) |
| 17.20 10.00 | | |
| 17:30–18:00 | Networking Coffee/ Tea Br | reak (participants can visit the BioFair and Poster Session area) |

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A5: The Microbiome: A New Way of Understanding Our World (Great Hall)

Co-organized with Cairo University (Professor Ramy Aziz)

Research in microbiome is essential for our world today. It involves therapeutic research, therapeutic applications to disease, and health improvement. This session will address what we need to know concerning microbiome and its latest research to better understand our world and our roles towards our own health, illuminating our way ahead.

18:00-19:30

Day 2

Chair: Mostafa Elshahed, Associate Professor, Department of Microbiology and Molecular Genetics, Oklahoma State University (USA)

Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group (UAE)

- Alex Mira, Principal Investigator,
 Oral Microbiome Laboratory,
 Advanced Research in Public Health
 Center (Spain)
 - "The Human Microbiome in Health and Disease: Clinical Applications"
- Ramy Aziz, Assistant Professor,
 Faculty of Pharmacy, Cairo
 University (Egypt)
 "Our Microbiome Cloud and I."
 - "Our Microbiome Cloud and Us: A Common Destiny?"

B5: Digital Health and Precision Medicine (Lecture Hall)

Co-organized with Simon Bolivar University (Professor Rafael Rangel-Aldao)

This session will present current and future developments worldwide to empower individuals and communities to access predictive, preventive, participatory, and precision wellness and healthcare. We will also show how a combination of genomics and pathology-supported pharmacogenetics techniques can enable the identification of risk factors and precision therapeutic intervention of cancer development.

Chair: Rafael Rangel-Aldao, Invited Professor, Department of Technology of Biological Processes, Simón Bolívar University (Venezuela) Co-Chair: Peter Benson, Head, Institute of Health and Wellbeing, London South Bank University (UK)

Rapporteur: Ola Al-Ghazawy, Senior Communication Officer, Zewail City of Science and Technology (Egypt)

- **Peter Benson,** Head, Institute of Health and Wellbeing, London South Bank University (UK)
 - "The Digital Health Cluster in London"
- Monica Ganan, Research and Enterprise Development Manager, Institute of Health and Wellbeing, London South Bank University (UK)
 - "The Business of Digital Health"

C4: Communities of Interest in Science (Small Theater)

Co-organized with Professor Ronald Laporte

Chair: Ronald Laporte, Professor Emeritus, Department of Epidemiology, University of Pittsburgh (USA) Rapporteur: Mohammed Yahia, Executive Editor, *Nature Middle East*, Nature Publishing Group (Egypt)

- Eugene Shubnikov, Research Scientist, Research and Innovation Department, Institute of Internal Medicine (Russia)
 - "Communities of Interest for BA Africa Science"
- Francois Sauer, Special Advisor, SHINE Program (USA)
 "Well-being and System Thinking: A Path to Peace and Harmony in the World"
- Faina Linkov, Associate Professor, School of Medicine, University of Pittsburgh (USA)
 - "From Scientific Journals to Scientific Magazines: Evolution of Scientific Productivity"
- Eman Eltahlawy, Assistant Professor, Environmental Health Department, National Research Centre (Egypt)

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| | 0 | |
|--|--|--|
| • Bent Petersen, Associate Professor, | Rafael Rangel-Aldao, Invited Professor, | |
| Center for Biological Sequence | Department of Technology of Biological | |
| Analysis, Technical University of | Processes, Simón Bolívar University | |
| Denmark (Denmark) | (Venezuela) | |
| "Sequencing of Microbiomes – Big | "A Systems Approach to Digital Health and | |
| Data and Big Research | Wellness" | |
| Opportunities" | José Moreno, Former Professor, Department | |
| PF | of Physics, Universidad Central de Venezuela | |
| | (Venezuela) | |
| | "TopFoodMap: Self Organizing Kohonen | |
| | Map for the Visualization of Foods" | |
| | Eduardo Gonzalez, Professor, Department of | |
| | Technology of Biological Processes, Simón | |
| | Bolívar University (Venezuela) | |
| | "Visualizing Healthy Eating Zones: | |
| | Understanding the Differences Between | |
| | Diets Using the TopFoodMap" | |
| | Nicole Van der Merwe, Doctor, Medical and | |
| | Health Science Faculty, Stellenbosch | |
| | University (South Africa) | |
| | "Application of a Pathology-Supported | |
| | Pharmacogenetic Test in Selecting Breast | |
| | Cancer Patients for Whole Exome | |
| | Cancel I attents for Whole Exome | |

Sequencing"

^{*} This program is subject to change. The organizers reserve the right to alter session topics, timings, and speakers.

| Thursday, 14 April 2016 | | | | | |
|-------------------------|--|---|--|--|--|
| 08:30-09:00 | Registration (available every day of the conference) | | | | |
| 09:00-10:30 Day 3 | A6: Translational Medicine: Serving Our Society (Great Hall) Today, health improvement is concerning a lot of people. Scientific discoveries are translated into health improvement tools every day. But what are the new advances in the different disciplines that pour into translational medicine? What are some of the applications of this interdisciplinary research? Let us explore how science serves society's well-being and what promises the future holds. Chair: Yehia Zaki, Special Advisor, Bibliotheca Alexandrina and Former Dean, Faculty of Medicine, Alexandria University (Egypt) Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group (UAE) • Abdalla El-Agha, Professor, Faculty of Medicine, Cairo University (Egypt) "Translational Medicine: Serving Our Community" | Registration (available every day of the co B6: A Look into Modern Biotechnology (Lecture Hall) The revolution of biotechnology and its use to promote agriculture continues to flourish. Whether it is research on genetically engineered crops or primitive modifications in irrigation techniques, agricultural biotechnology is on the rise and we need to always be up-to-date with its latest research and achievements. Together, we will talk about it with the scientists that know it best. Chair: Klaus Ammann, Professor Honorary Emeritus and Former Director, Botanic Garden, University of Bern (Switzerland) Rapporteur: Ola Al-Ghazawy, Senior Communication Officer, Zewail City of Science and Technology (Egypt) • Daniel Pagliano, Professor, Biotechnology Department, Universidad de la Empresa (Uruguay) "Biotechnology in Mercosur: Trends and Challenges" • Frank Shotkoski, Director, Agricultural Biotechnology Support Project II, Cornell University (USA) "Bt Eggplant: Commercial Success in Bangladesh" | C5: A Focus on Environmental Studies and Toxicological Research (Small Theater) Environmental studies have introduced new breakthroughs that offer solutions to different challenges. Yet, the risks and toxicological effects of the latest technologies need to be closely considered. What do we need to know about the different disciplines involved? What opportunities does current research present? The session will try to get to the bottom of the application in different fields including energy, life sciences, engineering, and more. Chair: Salah Soliman, Special Advisor, Bibliotheca Alexandrina and Professor, Faculty of Agriculture, Alexandria University (Egypt) Rapporteur: Mohammed Yahia, Executive Editor, Nature Middle East, Nature Publishing Group (Egypt) Saber Hussain, Senior Nanotoxicology Research Scientist, Research Laboratory, Air Force Base (USA) "Evaluation of Engineered Nanomaterial Toxicity & Safety: Linking Materials Physical Parameters" | | |

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| Us Control of Control | niversity New Hospital (Egypt) Genomics in Medicine: evelopment of Technology and alue Added" ameh Ali, Founding Director, | Limited (India) "My Personal Journey of Taking an Idea to the Consumer with Modern Molecular Biology" • Walid El-Sharoud, Professor, Faculty | Molecular Toxicology, Oregon State University (USA) "A Systems Approach to Crop Production, Food Security, and Protection of Human and Environmental Health" Taysir Soliman, Associate Professor and Vice | | |
|---|--|--|---|--|--|
| Di | enter for Aging and Associated iseases, Zewail City of Science and Technology (Egypt) | of Agriculture, Mansoura University (Egypt) "Synthetic Biology: To Redesign or | Dean, Post Graduate Studies and Research, Assiut University (Egypt) "Big Data and Environmental Sustainability | | |
| "T Ac | The Mitochondrion: The chilles' Heel for Cancer reatment!" | Improve Life?" | for Biodiversity Issues" Mona Bakr, Director, Nanotech Egypt Co. Inc. (Egypt) | | |
| 10:30-11:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | | |
| The codifference system Chair Rapp 11:00–13:00 | A7: Robotics and Biorobotics in Life Sciences (I) (Great Hall) The convergence of biology, biotechnology, and engineering has opened promising doors for research and development. What are the different fields that are benefiting from robotics and biorobotics? What diseases can be fought with the introduction of biorobotics? What systems are more efficient thanks to robotics? The latest technologies from all over the world will be discussed. Chair: Ismail Serageldin, Director, Bibliotheca Alexandrina (Egypt) Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group (UAE) Robotic Mediator to Preserve Dignity in Stigmatizing Patient-Caregiver Relationships" Abderrahmane Kheddar, Director, CNRS-AIST Joint Robotics Laboratory, Centre National de la Recherche Scientifique (France) "Human-centered Robotic Augmentation" Ray Johnson, Executive Director, QxBranch (USA) "Robotics and Biorobotics in Life Sciences" Robert Shepherd, Director, Bionics Institute, University of Melbourne (Australia) "Medical Bionics: Engineering Solutions for Neural Disorders" | | | | |
| 13:00-14:30 | | Lunch Break | | | |

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| | A8: Robotics and Biorobotics in Life Sciences (II) C6: Sustainable Intensification under Irrigation | | |
|-------------|---|---|--|
| | (Great Hall) | (Small Theater) | |
| | | | |
| | Chair: Amin Shoukry, Dean, Electronics, Communication, | Co-organized with International Center for Agricultural Research in the | |
| | and Computer Engineering School, Egypt-Japan University of | Dry Areas (Professor Mahmoud Solh) | |
| | Science and Technology (Egypt) | | |
| | "Bio-Robotics: Bringing Biology and Robotics Together" Chair: Atef Swelam, Senior Scientist, Internation | | |
| | Rapporteur: Rafik Nakhla, Group HR Manager, A&P Group Agricultural Research in the Dry Areas (Egypt) | | |
| | (UAE) | Rapporteur: Mohammed Yahia, Executive Editor, Nature Middle | |
| 14:30-15:30 | | East, Nature Publishing Group (Egypt) | |
| | • Frank Ruffier, Research Scientist, Institute of Movement | | |
| Day 3 | Sciences, Centre National de la Recherche Scientifique | Rehab AbdelRahman, Senior Researcher, Agricultural Research | |
| · | (France) | Center (Egypt) | |
| | "Biomimetic Vision and Bio-inspired Robots" | Sami Sabri, Senior Researcher, Agricultural Research Center | |
| | Nikolaos Mavridis, Founder and Director, Interactive | (Egypt) | |
| | Robots and Media Lab, United Arab Emirates University | Biju George, Senior Scientist, International Center for Agricultural | |
| | (UAE) - Video message | Research in the Dry Areas (Egypt) | |
| | • Victor Parque, Assistant Professor, Waseda University and | Shinan Kassam, Senior Scientist, International Center for | |
| | JSUC Professor, Egypt-Japan University of Science and | Agricultural Research in the Dry Areas (Jordan) | |
| | Technology (Japan) | Bezaiet Dessalegn, Senior Scientist, International Center for | |
| | "Aesthetic Curves and Surfaces in Life Sciences" | Agricultural Research in the Dry Areas (Egypt) | |
| 15:30–16:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | |
| 20.00 | pulling contact for proving | | |

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| B7: Genetic Engineering: | Research and |
|---------------------------------|--------------|
| Innovative Applications | |
| (Great Hall) | |

Our environment is evolving, and so should we. Scientists are working on researching their newest findings in the field of genome modification to better meet the needs of our world today. Applications of genetic engineering include improving nutrition, agricultural crops, and health. Different views on the recent research progress and challenges will be exchanged.

Chair: Adel El-Beltagy, Former Minister, Ministry of Agriculture and Land Reclamation and Chair, International Dryland Development Commission (Egypt)

Rapporteur: Ola Al-Ghazawy, Senior Communication Officer, Zewail City of Science and Technology (Egypt)

- Marc Van Montagu, Founder and Chairman, International Plant Biotechnology Outreach, Ghent University (Belgium)
 - "Plant Sciences: Discover, Innovate, Communicate with Society"
- Klaus Ammann, Professor Honorary Emeritus and Former Director, Botanic Garden, University of Bern (Switzerland) "An Introduction to Modern Plant Breeding Trends"

Round Table Discussion on "Improving Health"

(Small Theater)

Today, the growing world population needs more care and awareness to improve the general health and well-being of people. Our knowledge grows, but so do external factors that jeopardize our health. We are surrounded by income fluctuations, urbanization, food treatments, and dietary changes that contribute to our well-being. It is important to pay attention to the possibility of merging most of these factors and the different lifestyles underlying people's health.

Chair: Pierre Anhoury, Director, Strategy and Business Development, International Prevention Research Institute (France)
Rapporteur: : Rafik Nakhla, Group HR
Manager, A&P Group (UAE)

- **Pierre Anhoury,** Director, Strategy and Business Development, International Prevention Research Institute (France)
- Christian Hugonnet, Founding President, Week of Sound Association (France)
 "Improving Health: Contribution to the Prevention of Hearing Loss: The 'Sound Charter'"
- Hassan Azzazy, Professor, School of Sciences and Engineering, American University in Cairo (Egypt)
 "Innovative Diagnostics for Detection of Heavy Burden Infections and Cancer"

C7: Nanotechnology Research and Applications

(Delegates Hall)

Co-organized with Arab Academy for Science, Technology and Maritime Transport

Chair: Mohamed Aborizka, Director, Center of Excellence, Arab Academy for Science, Technology and Maritime Transport (Egypt)

Rapporteur: Mohammed Yahia, Executive Editor, *Nature Middle East*, Nature Publishing Group (Egypt)

- Ahmed Maarouf, Professor, Center for Fundamental Physics, Zewail City of Science and Technology (Egypt)
 - "Novel Carbon-based Nanomaterial: Properties and Current Applications"
- Amal Kasry, Lecturer, Faculty of Engineering, British University in Egypt (Egypt)
 "New Trends in Biosensors Technologies and Their Role in the Society Development"
- Ola Heikal, Associate Professor and Head, Department of Pharmacology and Toxicology, German University in Cairo (Egypt)
 "Biological Application of Nanomaterials: Benefits versus Risk"

Day 3

^{16:00-17:30}

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| | Adrian Dubock, Executive Secretary, Calden Disa Project (Series dend) | 110914111 | Amr Bayoumi, Chair, Electronics | | |
|-------------|--|-----------|---|--|--|
| | Golden Rice Project (Switzerland) "An Overview of Supplementation, | | and Communications Department, Arab Academy for Science and | | |
| | Fortification, and Biofortification: | | Technology (Egypt) | | |
| | Golden Rice As an Example for | | "nm-Scale Electronics in Health | | |
| | Enhancing Micronutrient Intake" | | and Environment" | | |
| | Moemen Hanafy, Professor of Plant | | • Amr Farouk, Assistant to the | | |
| | Biotechnology, Cairo National Research | | President, Academy of Scientific | | |
| | Centre (Egypt) | | Research and Technology (Egypt) | | |
| | "Genetic Engineering of Grain Legumes | | | | |
| | for Improved Nutritive Value" | | | | |
| 17:30–18:00 | Networking Coffee/ Tea Break (participants can visit the BioFair and Poster Session area) | | | | |
| 18:00–19:00 | Biomedical Sciences and Engineering: Rafik Nakhla, Group HR Manager, A&P Group (UAE) Food, Nutrition, and Well-being: Ola Al-Ghazawy, Senior Communication Officer, Zewail City of Science and Technology (Egypt) Current Practices and Future Insights: Mohammed Yahia, Executive Editor, Nature Middle East, Nature Publishing Group (Egypt) TWAS BVA-NXT: Bahaa El-Gendy, Assistant Professor, Chemistry Department, Benha University (Egypt) BioVisionAlexandria 2016 Conference at a Glance: Marwa Elwakil, Deputy Director, Center for Special Studies and Programs, Academic Research Sector, Bibliotheca Alexandrina (Egypt) | | | | |
| | Closing Session (Great Hall) | | | | |
| 19:00-20:00 | 9:00–20:00 Chair: Mohamed El-Faham, Special Advisor, Bibliotheca Alexandrina (Egypt) | | | | |
| | Keynote Address: Ismail Serageldin, Director, Bibliotheca Alexandrina (Egypt) | | | | |

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