

## Sustainable Agriculture; How the Chemical Sciences Can Contribute to Food Security for a Growing Population

AICC, Accra, Ghana, 7th-9th November 2017

Tuesday 7<sup>th</sup> November 2017

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| 9.00  | Registration open (Coffee available from 9.30 am)   |
| 10.30 | <p>Opening Ceremony</p> <p>Dr Owusu Afriyie Akoto, Honourable Minister Ministry of Food and Agriculture<br/> Prof Kwabena Frimpong – Boateng, Honourable Minister, Ministry of Environment, Science, Technology and Innovation<br/> Representative of the Vice Chancellor, University of Ghana<br/> Representative of the Vice Chancellor, KNUST<br/> David Phillips, Past-President, Royal Society of Chemistry<br/> Jerome Gallin, Agilent Technologies<br/> David Kofi Essumang, Ghanaian Chemical Society</p> |
| 11.45 | Conference photograph   |
|       | <p>SESSION 1: Chemistry for Crop Protection<br/> <i>Chair: David Kofi Essumang, University of Cape Coast, Ghana</i></p>   |
| 12.00 | <p>Using natural products to invent new chemicals for crop protection<br/> <i>John M Clough, Syngenta, UK</i></p>   |
| 12.30 | LUNCH   |
| 13.30 | <p>Agilent Technologies in Africa<br/> <i>Jerome Gallin, Agilent Technologies, France</i></p>   |
| 14.00 | <p>Semiochemicals released from Cowpea [<i>Vigna unguiculata</i> (L.) Walp.] upon Herbivory feeding and their potentials in integrated pest management<br/> <i>Samuel Osafo Acquah, KNUST, Ghana</i></p>  |
| 14.20 | <p>Levels of some organochlorine pesticides in Cowpea (<i>Vigna Unguiculata</i> (L.) Walp) from South-South and South-West Nigeria<br/> <i>Emmanuel Odion, University of Benin, Nigeria</i></p>   |
| 14.40 | TBC   |
| 15.10 | COFFEE BREAK  |



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| 15.40 | Enhancing African Science through Partnership<br><i>Helen Driver, Royal Society of Chemistry, UK</i>   |
| 16.00 | Anti-microbial secondary metabolites from Kenyan plants with crop protection potential<br><i>Jacob Midiwo, University of Nairobi, Kenya</i>  |
| 16.30 | Flash Presentations:<br><ol style="list-style-type: none"> <li>1. Identification of host plant attractants for mango stone weevil management in Ghana<br/><i>Dorcas Osei-Safo, University of Ghana, Ghana</i></li> <li>2. Bioassay-guided isolation of active phytochemicals against <i>Tuta absoluta</i> (Meyrick) from <i>Caesalpinia</i> species (Leguminosae)<br/><i>Flaure Rosette Essoung Ehawa, University of Yaounde I, Cameroon</i></li> <li>3. Natural fungicide from Prekese<br/><i>James Korang, CSIR Forestry Research Institute of Ghana, Ghana</i></li> </ol> |
| 17.00 | PANEL DISCUSSION – all speakers from this session  |
| 17.30 | Poster Session and Drinks Reception for all delegates  |
| 19.30 | Speakers Dinner at Tomreik Hotel (for speakers and invited guests only)  |

Wednesday 8<sup>th</sup> November 2017

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|       | SESSION 2: Sustainable Agriculture for Economic Development: The Case of Cocoa<br><i>Chair: John Clough, Syngenta, UK</i>   |
| 9.00  | Spectrophotometric analysis of caffeine in five different dried Cocoa ( <i>Theobroma cacao</i> ) beans and Cocoa powder samples found in Ido markets, Ibadan, Nigeria<br><i>Dupe Abiona, The Polytechnic, Ibadan, Nigeria</i> |
| 9.20  | Pesticide use in cocoa farming in Ghana: Implications for sustainability, food and environmental safety<br><i>Enock Dankyi, University of Ghana, Ghana</i>  |
| 9.50  | Role of chemical science in cocoa industry in Nigeria: Successes, challenges and the way forward<br><i>Paul E Aikpokpodion, Cocoa Research Institute of Nigeria, Nigeria</i>  |
| 10.20 | COFFEE BREAK  |
| 10.50 | The Role of Chemistry in the Development of the Cocoa Industry in Ghana<br><i>Samuel Tetteh Lowor, Cocoa Research Institute of Ghana, Ghana</i>   |
| 11.20 | Aiding the development of a sustainable cocoa production system in West Africa<br><i>Fiona Lahive, University of Reading, UK</i>  |



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| 11.50 | Flash Presentations:<br>1. Effect of sources of N - fortified organic based potassium fertilizer on soil, seedling growth and stem nutrient uptake of TC - 4 hybrid Cocoa in Nigeria<br><i>Olorunfemi Sunday Ojo Akanbi, Cocoa Research Institute of Nigeria, Ibadan</i> |
| 12.10 | Human exposure assessment of Ochratoxin a through the consumption of cocoa beans from four cocoa regions of Ghana and the potential public health risk<br><i>Ray Voegborlo, KNUST, Ghana</i>   |
| 12.30 | Technologies for managing major crop protection issues in cocoa and other African crops<br><i>Adrian Arnold, International Pesticide Application Research Consortium (IPARC) and ACIS R&amp;D Ltd, UK</i>  |
| 13.00 | PANEL DISCUSSION – all speakers from this session  |
| 13:30 | LUNCH  |
|       | SESSION 3: Future Farming<br><i>Chair: David Phillips, Past-President, Royal Society of Chemistry</i>  |
| 14.30 | The practical application of science & technology to boost Cocoa productivity; community & family income<br><i>Kingsley Adade, Syngenta Agro Ag, Ghana</i>   |
| 15.00 | An integrated approach to siting grain storage facilities to reduce transportation cost in developing countries<br><i>Emmanuel Essien, University of Ghana, Ghana</i>  |
| 15.20 | Agricultural mechanization as a means of making agriculture more sustainable<br><i>Mahama Aliu Aduna, University of Ghana, Ghana</i>   |
| 15.50 | COFFEE BREAK   |
| 16.20 | Improving your research communication skills through AuthorAID<br><i>Ravi Murugesan, INASP, India</i>  |
| 16.50 | Effect of storage on lutein levels in smooth cayenne ( <i>Ananas comosus</i> ) grown in Kenya<br><i>Hudson Nyambaka, Kenyatta University, Kenya</i>  |



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| 17.10 | Flash Presentations:<br><ol style="list-style-type: none"> <li>1. Cultivation vs. wild harvesting of <i>Cryptolepis sanguinolenta</i>, a medicinal plant used in the treatment of malaria<br/><i>Naalamle Amissah, University of Ghana, Ghana</i></li> <li>2. Emerging technologies in food production: Edible insects as food and feed<br/><i>John Masani Nduko, Egerton University, Kenya</i></li> <li>3. Land use conflict between farmers and herdsman – implication for agricultural and rural development in Nigeria<br/><i>Michael Adedotun, Michael Adedotun Oke Foundation, Nigeria</i></li> </ol> |
| 17.40 | Optimized production of selected indigenous fruit trees for food and nutrition security in the Lake Victoria Basin, Eastern Africa<br><i>Francis Omujal, Natural Chemotherapeutics Research Institute, Uganda</i>   |
| 18.00 | PANEL DISCUSSION – all speakers from this session   |
| 18.45 | Buses depart AICC for all delegates   |
| 19.00 | Congress Dinner at the National Theatre of Ghana<br>- For all registered attendees  |
|       | Buses return from the National Theatre  |

Thursday 9<sup>th</sup> November 2017

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|       | SESSION 4: Crop and Soil Nutrition<br><i>Chair: Johannes Awudza, KNUST, Ghana</i>   |
| 9.00  | Optimizing site specific fertilizer recommendations for maize production in transition zone of Ghana<br><i>Olufisayo Onawumi, Forestry Research Institute of Nigeria, Nigeria</i>           |
| 9.20  | Putting nitrogen fixation to work for smallholder farmers in northern Ghana: Progress and achievements<br><i>Samuel Adjei-Nsiah, International Institute of Tropical Agriculture, Ghana</i> |
| 9.50  | Food security for a growing population in Ghana – the role of The Soil Research Institute<br><i>Emmanuel Dugan, CSIR, Soil Research Institute, Ghana</i>                                    |
| 10.10 | COFFEE BREAK  |
| 10.40 | The British Council in Ghana<br><i>Enyonam Sedode, British Council, Ghana</i>   |



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| 11.00 | TBC   |
| 11.30 | <p>Flash Presentations</p> <ol style="list-style-type: none"> <li>1. Quantification of copper sorption in soils as influenced by soil characteristics using a laboratory column leaching technique<br/><i>Mandela Alema, CSIR Soil Research Institute, Ghana</i></li> <li>2. Preparation of organic fertiliser from malted sorghum mash and pig manure for sustainable agriculture in northern Ghana<br/><i>Emmanuel Oyelude, University for Development Studies, Ghana</i></li> <li>3. Synergistic use of arbuscular mycorrhiza fungi and organic fertilizer for improving amaranthus cruentus cultivated under different soil moisture regimes<br/><i>Adebisi Adekanmbi, Obafemi Awolowo University, Nigeria</i></li> </ol> |
| 12.00 | <p>AGORA and Research4life: reducing the knowledge gap by providing access to critical scientific research<br/><i>Kristin Kolshus, Food and Agriculture Organization of the United Nations, Africa</i></p>  |
| 12.20 | TBC   |
| 12.50 | PANEL DISCUSSION – all speakers from this session   |
| 13.20 | Lunch   |
| 14.20 | <p>Analytical Skills Training – in partnership with GSK<br/><i>Ray Voegborlo, KNUST, Ghana</i></p>  |
| 14.40 | <p>Farming for the Future: the role of smart agriculture<br/><i>Prof Hans Adu-Dapaah, CSIR-Crops Research Institute</i></p>   |
| 15.10 | Closing Ceremony and Poster Prize Awards  |
| 15.40 | Coffee available  |
|       | CLOSE   |

