



## COMMITTEE ON CHEMISTRY & INDUSTRY SAFETY TRAINING PROGRAM

**Safety Training Workshop July 8<sup>th</sup> 2019**

*“Celebrating 20 Years of IUPAC COCI Safety Training”*

### ABSTRACTS

#### Keynote Speakers:

#### **Dr. Mark Cesa (FACS), USA** **Beginnings - The Early History of STP**

The IUPAC Safety Training Program, established in COCI in the early 1990's, enables experts from developing countries to learn about safety and environmental protective measures by visiting and working with IUPAC Company Associates and similar institutions in industrialized countries. The STP promotes capacity building through interactions between developed countries and the developing world by disseminating state-of-the-art knowledge on safety in chemical production, research and teaching. In this presentation, the processes for applying for the STP, vetting candidates, establishing topics for training, recruiting Host Companies, matching Host Companies to prospective trainees, reviewing trainees' learnings and plans for dissemination in their home countries, and holding workshops for trainees and IUPAC volunteers to interact and share best practices, will all be described. STP Fellows from 2000 to 2011 came from a wide range of countries, backgrounds, and interests, and many have used their STP experiences impressively to expand knowledge, rules, regulations and training at home. In the late 2000's, the STP moved to include chemical security as a topic, as part of efforts to expand the program, through interaction with the CRDF, the U. S. Civilian Research and Development Foundation.

#### **Dr. Bernard West (PEng.), Canada** **Building on Past Successes - STP 2012 - 2017**

The last ten years of Safety Training Fellowships have built on the work described by Mark Cesa. The original support from UN organisations was replaced, due to Mark's initiatives via Scania and the US State Department with support from CRDF and CSP. The overlap of safety and security cemented this relationship. CRDF has financially and administratively supported 7 STP Fellowship candidates travel costs to Host Companies for training between 2013 and 2017, all from African countries. These STP Fellowships have been supported by Industry in the forum of training at plant and HQ sites and the trainees became STP Fellows. Regional Workshops were initiated in 2016 in South America in Spanish with 4 STP Associate Fellows trained, and in India in 2018. These have been supported by IUPAC COCI and the UN for the Spanish program.

Financially the Industries have funded the STP Fellows local cost when being training. Recently Host Companies have asked for multiple STP Fellowship candidates to enhance the STP coverage. The challenge is to provide the travel expenses which would normally be covered by IUPAC. The Industry involvement has for some companies become part of their Responsible Care Outreach activities. This needs to be broadened in the future. The networking possibilities with ICCA and SCAICM, particularly in Africa, are visible but not yet concrete. The value of training STP Fellows from growing nations is clear from the work of the STP Fellows. Our future challenge is to broaden out the numbers and solidify the travel support costs from inside and outside IUPAC.

## Invited Speakers:

### **Dr. Austin Ochieng Aluoch, Kenya The Bayer AG, Germany 2019 Experience**

The presentation will highlight the lessons learned during his IUPAC STP Fellowship training at the Health, Safety and Environment (HSE) department of the Product Supply, Pharmaceuticals Plant at Bayer AG in Bergkamen, Germany. The Health Safety and Environment situation in Kenya will be discussed and, as a result of this STP Fellowship training, what actions can be taken in Kenya to enhance the safety compliance and initiatives taken to raise awareness with HSE concepts and benefits in Kenya.

### **Mr. Thomas in der Weide, Germany Bayer AG Host Company Experience & Lessons**

Bayer AG, Germany is currently hosting an STP Fellowship trainee at their Health, Safety and Environment (HSE) department of the Product Supply, Pharmaceuticals Plant at Bayer AG in Bergkamen, Germany. Our Bayer AG Product Supply, Pharmaceuticals Plant has a commitment to improve their HSE performance. The presentation will cover the experiences and lessons learned from hosting a Safety Training Fellowship candidate for HSE training. Some tips for companies interested in hosting a STP Fellowship candidate will be discussed. Host companies must do some preparation in advance with logistics and planning of the schedule. There is no strict formula; the Host company can arrange the agenda based on their in-house expertise and safety training system.

### **Prof. Fabian Benzo (MSc.), Uruguay STP-LA - History, Learning & Perspectives**

The Safety Training Program - Latin America (STP-LA) is an initiative that emerged from the original IUPAC- UNESCO-UNIDO STP. The STP-LA regional programs are financially supported by IUPAC-COCI and UNITAR (through donations from the Switzerland government) and logistically supported by Faculty of Chemistry of the Universidad de la República of Uruguay. The objectives of STP-LA are the improvement of safety culture and reduce chemical risks through better trained professionals coming from industry, university and government. Until now two STP-LA regional programs have been accomplished, one in 2016 and the last in 2018. A total of 83 candidates from 15 different countries submitted applications forms resulted in 9 trainees from 9 different countries. The training lasts two weeks (80-90 hours) and include master classes, exercises in the classroom, practical experiences, videos, visit to chemical companies and activities on the field. The training, trainers and logistics were evaluated as excellent by all trainees in both programs and some improves were carried out from the first to second program (e.g. increase in training duration, pre and post evaluation of the knowledge of trainees). The final result of training are individual projects proposed by trainees to apply the knowledge acquired. Upon successful completion of this training the participants become STP Associate Fellows.

The projects proposed have been interesting and adequate, but with some exceptions their progress is less than expected due to different causes (context of the country, obstacles in the organization of the trainee and the trainee themselves). Although there are aspects to improve, the STP-LA regional program strengthens the IUPAC and are a necessary and important contribution of IUPAC COCI STP to disseminate the chemical safety in industrial, academic and governmental sectors in Latin America. In this context it seems important to work to the STP-LA3 in 2020.

### **Christine Abey Ashaolu (MSc.), Nigeria Continuing the Nigerian STP work**

Distance is never a barrier in reaching out to people on safety and security of chemicals as chemicals are used in our everyday lives and life itself would have almost been impossible without chemicals. This has resulted in conducting webinar presentations and other Information dissemination activities on safety and security of chemicals.

Furthermore, the intervention of chemicals after the world War II to combat pests and disease-causing organisms have greatly increased the global use of certain category of agrochemicals known as Pesticides. One of the biggest challenges of this century is food security and healthy foods resulting into irrational and indiscriminate use of these pesticides. Pesticides are beneficial to man and his environment but can also have serious adverse effects if not effectively controlled. Hence, Regulations are developed to ensure safety of pesticides throughout its life cycle.

A comparative assessment of Pesticide Regulations and review of available National pesticide data were conducted towards developing a sustainable regulatory model.

### **Gracia María Romero (MSc.), Honduras Natiela Beatriz de Oliveira (MSc.), Brazil STP-LA Associate Fellows updates**

Gracia's presentation highlights the lessons learned from her STP-LA2 training relating to the importance of chemical safety in the Faculty of Chemical Sciences and Pharmacy, National Autonomous University of Honduras, the challenges that have been faced and how they move forward on this subject in Honduras. As a brief background, an incident of 2008 was highlighted when the faculty building was burned, having to move to a new building that did not have the capacity to develop activities in the chemical field. It is then, with my participation in the STP-LA2, that a project was created with specific activities aimed at improving working conditions for students and people working in the faculty. These activities are elaborated to be carried out in this year. Some activities included: management for the installation of extraction systems in laboratories; making workshops on chemical safety for students; creation of procedures for notification of accidents or incidents and Faculty evacuation plan, etc. Gracia's presentation concludes with the results obtained so far and the activities that are expected to be carried out in Honduras in the future.

Natiela's presentation highlights the lessons learned from her STP-LA2 training. The Health Surveillance of Populations Exposed to Chemicals (Vigipeq) of the Surveillance Coordination Environmental Health (CGVAM) of the Ministry of Health, Brazil shares the worldwide concern about the risks to public health arising from exposure to chemical substances. The objective of Vigipeq is based on the development of integrated health actions with the aim of adopting preventive measures, promotion and health surveillance of populations exposed to chemical substances with the priority contaminants (pesticides, asbestos, benzene, lead and mercury) and chemicals substance in general and contaminated areas. With her expertise in Environmental Health Surveillance working mainly in Toxicology and Collective Health, as part of the Vigipeq team, Natiela's project helps identify the actions of team planning, according to the "Chemicals Road Map" published by the World Health Organization (WHO) and proposes new actions that could strengthen the management in chemical safety by the Brazilian health sector. Natiela's presentation concludes with the results obtained so far and the activities that are expected to be carried out in Brazil in the future.

**Dr. Robert Audette (FCIC), Canada**    **Current STP Status & the Future**

Building on the STP work described by the previous STP Coordinators, Mark Cesa and Bernard West, the presentation will highlight the STP program's safety and security of chemicals and food training activities since 2018. One STP Fellowship candidate is being trained at Bayer AG, Germany and 5 STP Associate Fellows were trained in the 2018 STP-LA regional program. This brings the total to 20 STP Fellows and 9 STP Associate Fellows trained from 18 countries in Africa, Asia, Europe, Central & Latin America by 9 Host Companies since 2000.

A brief overview of the status of the STP Regional programs in STP-India and STP-LA will be presented. The planned expansion of our STP Regional training program into Africa will be discussed as well as the potential for the 2019 training of STP Fellowship candidates at Host Companies in Japan.

The value of the IUPAC COCI Safety Training Program for developing nations is very clear from the efforts of the trained STP Fellows and STP Associate Fellows in their home countries. Our future challenge is to broaden these STP Fellowship and STP Regional programs. This requires solidifying sustainable long term funding for training and travel support from IUPAC and the Chemical & Pharmaceutical Industry for these programs. This ongoing funding should include broadening the involvement and financial support of Industry as well finding additional Host Companies for the STP Fellowship trainees, the support for the STP Regional programs and this STP Workshop.