

- ❖ **Name & Designation** : Dr. Sayani Mukherjee, SRF
- ❖ **Address** : University of Calcutta, Laboratory of Food Science & Technology, Food & Nutrition Division, 20B Judges Court Road, V L College Campus, University of Calcutta, Kolkata-700027
- ❖ **Name of the International Conference/ Seminar/Symposium/ Workshop** : 105th AOCS Annual Meeting & Expo-Joint World Congress with JOCS-2014
- ❖ **Title of the abstract accepted** : Comparative flow cytometric analysis of flavonoid rich Oxalis corniculata extract in synergy versus its individual pure principal fractions (Rutin and ferulic acid) in ameliorating mitogen induced oxidative stress in human PBMCs
- ❖ **Venue & Date** : San Antonio, USA, 4-7th May 2014.
- ❖ **Money sanctioned** : ₹ 1,00,000/-
- ❖ **Money reimbursed** : ₹ 1,00,000/-

### Participation Report

#### **Organization of Training/Workshops:**

List of participating countries in alphabetical order: Argentina, Brazil, Canada, Chile, China, Colombia, Denmark, Egypt, England, Finland, France, Germany, Honduras, Hungary, Iceland, India, Ireland, Israel, Italy, Japan, Lithuania, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Republic of Korea, Russia, Saudi Arabia, Singapore, Slovakia, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, Ukraine, Uruguay, USA, Venezuela and Wales.

The programme was divided into plenary lecture and award sessions starting from Monday to Wednesday afternoon including topics on Lipid imaging, Algal and marine oils analysis, lipid structure and metabolism, surfactants, biocatalysts, oxidation in food, antioxidants, phospholipids, green oil extraction methods, studies on protein digestibility, bioavailability, bioactive proteins, general biotechnology and poster session.

#### **Academic highlights of the Training/Workshops:**

### **New development presented at the training/workshop**

Several important findings were reported in the Conference. Some remarkable findings reported are as follows:

#### ***Evidence-based claims for Food vs. Drugs***

In these sections, many scientists provided reviews and evidences on various topics regarding health benefits of food bioactive in chronic diseases. Ameliorating effects of coffee polyphenols, Probiotic functional foods against chronic disease were well discussed over these sessions.

#### ***Omega-3 Fatty Acids: Brain Health and Function***

In this section various emerging concepts on the use of omega-3 fatty acids for the prevention against neurological oxidative stress and brain aging were discussed.

- Overview of Omega-3 Fatty Acids and Health
- The effects of Omega-3 Polyunsaturated Fatty Acids on maternal and child mental health .
- Fatty acid levels and the aging brain
- Omega-3 Fatty Acids and cognitive behavior.

#### ***Digestive Processing: Lipid structure and Metabolism***

The micellar lipids solubility, digestion, absorption and toxicity of nanoemulsions were discussed in this section.

These are few of the important findings reported in the conference. More such related findings were also reported on food applications and nutritional aspects of algal lipid, nutrition and cognitive activity, advances in analytical aspects of lipid nutrition, novel knowledge acquired about different antioxidants and oleo chemicals.

#### **New development resulting from the Training /Workshops:**

The new session on emerging technologies highlighted innovations on use of **antioxidant esters** (Phenolipids) as tools to study antioxidant mechanisms, Lipid imaging, and omega-3-fatty acids in mental health. The session regarding omega-3 fatty acids provided a new knowledge on the prospects of brain aging, cognitive behaviour and neurological oxidative stress. Admirable discussions on nano emulsion digestion, uptake, and bio availability helped me to gather some important knowledge, that can improve my research quality. An unique research design for understanding health benefits of whole foods and food bioactive also left a good impact on future research. Oil extraction methods discussed were diverse and several oil based companies shared their insight into the new and greener methods that would not only enhance the production, but also do it more sustainably. Antioxidants, a much talked about subject was the topic of several discussions. The use of antioxidants in attenuating deleterious effects through deep

molecular signalling pathways, use in oil peroxidation stabilizations and prevention of rancidity can be utilized in the betterment of mankind as well.

Name of the publication in case your work is recommended for publications: **The work has been communicated.**

**Participant's contribution to the Workshops:**

Antioxidants have gained acclamation as radical quenchers and inhibitors of lipid peroxidations in body cells and tissues, a major outcome of oxidative stress, which is the pathway of action of some mitogens. My reaserch work revealed the synergistic effect of different flavonoids(Rutin & Ferulic acid) present in the extract has profound protective efficiency in preventing the mitogen induced generation of ROS by human PBMC. The cellular uptake of extract and rutin were analysed flow-cytometrically by their auto-fluorescence property. This new finding also left an impact on future use of fluorogenic flavonoids as a substitute of commercial fluorescence dye.

Visa page: **Evidence attached**

Group of Indian Scientists working in the subject area of the Training/ Workshops.

1. Dr. Supratim Ghosh  
Assistant Professor ,University of Saskatchewan, Canada  
Email: supratim.ghosh@usask.ca
2. Dr. Moghis U. Ahmed, Jina Pharmaceutical,USA  
Email:Moghis@jinapharma.com
3. Dr. Arun Ramachandran  
University of Toronto, Faculty of applied science and chemical engineering  
Email: arun.ramchandran@utoronto.ca

Date: 22/5/2014

*Sayani Mukherjee*  
Signature

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Name of the Scientist: **Ms Sayani Mukherjee**