ICMR-International Travel Support for Non-ICMR Scientists

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- **Name & Designation** : Dr. P. Parthiban, Associate Professor.
- **Address** : Deptt. Of Chemistry, VEL TECH, 60, Avadi-Veltech Road, Avadi-600062, Chennai, TN
- **Name of the International Conference/ Seminar/Symposium/ Workshop** : 15th Tetrahedron Symposium Asia Edition
- **Title of the abstract accepted** : Neuroprotective effect of curcumin derivatives on focal cerebral ischemic rats.
- **Date & Venue** : 28-31st October 2014. Singapore.
- **Money sanctioned** : ₹ 21,171/-
- **Money reimbursed** : ₹ 18,962/-

Participation Report

The 15th Tetrahedron Symposium was held in Singapore Expo, Singapore during 28-31 of October 2014. This international event was organized by ELSEVIER in a comfortable way. The cutting-edge research meeting included 210 Poster presentations, 4 Oral presentations and 17 Invited talks that segmented as 3 Poster and 10 Oral sessions. There were a large number of participants from all continents although it is an Asia edition. In fact, the Singapore Expo appeared like a pool of front-line scientist from Organic and Medicinal Chemistry, and Chemical Biology as well. The participantsranging from Research Scholar to Nobel Laureate from more than thirty countries such as India, Japan, Singapore, Korea, Taiwan, China, Australia, Austria, Egypt, Malaysia, Czech Republic, Russian Federation, Taiwan, Mexico, Germany, USA, UK, UAE, Hong Kong, Poland, Hungary, Jordan, Turkey, Tunisia, Pakistan, Iran, The Netherlands, Sri Lanka, Switzerland, Denmark,Nigeria, Israel, Sweden, New Zealand and Belgium.

New Developments Presented in the Symposium:

The 15th Tetrahedron Symposium, Asia Edition was very interesting and fruitful that clearly focused on its theme "Challenges in Bioorganic and Organic Medicinal Chemistry". There were excellent invited and poster presentations on various headings of the theme such as Chemical Biology, Drug-design and Discovery, Nanochemistry and Drug Delivery, Nucleic acid Chemistry, and Synthetic Chemistry.The Nobel laureate Dr. Sydney Brenner suggested and explained some new process, based on sorting DNA strands that allows us to count molecules. Prof. Hung-wen Liu from the University of Texas proposed some natural strategies for making unusual sugars. Prof. Juyoung Yoon of EwaWomans University and Prof. Young Tae Chang of NUS exposed the advancements of sensors, fluorescent chemosensors, and their applications for bio-imaging. Particularly, Prof. Chang's research on

fluorescent materials and their practical applications are of course amazing, interesting and highly useful to the day-to-day life. He developed various probes to sense the water contamination in milk, water quality, caffeine or narcotics presence or contamination in drinks and foodstuff, etc. Prof. Itaru Hamachi's(University of Kyoto) research on bioorthogonal chemistry was very impressive. He explained his group's recent research progress in chemistry-based methods for specific labelling of a protein by coupling of selective protein recognition and reaction, so-called ligand-directed chemistry in live cells. Therefore, he insisted that, for deep understanding and regulating diverse biological events, development of chemical methods to selectively label, image and regulate a target protein under live cell conditions is essentially important in chemical biology research.

Participant's Contribution to the Symposium:

I have presented my latest research findings in the renowned ELSEVIER scientific event "15th Tetrahedron Symposium, Asia Edition". Thelatest research on "Neuroprotective effect of curcumin derivatives on focal cerebral ischemic rats"was presented under "Chemical biology" category. It dealt the neuroprotective efficiency of the synthesized curcumin-cyclohexanone hybridson male Sprague-Dawley rats. Although curcumin is well documented by pre-clinical and clinical studies for various biological actions that ranging from antibacterial to anticancer, it is not US FDA validated as a drug due to its poor solubility, bioavailability, and metabolic instability. Hence, the target hybrid molecules were designed to overcome the foresaid drawbacks with excellent bioprofile. From the study of middle cerebral artery occlusion model and analysis of infarct volume clearly indicated that the synthesized hit compounds of this research are better than curcumin to prevent ischemic brain damage.The significance of the current findings thus obtained was discussed in the event for further investigations.