



DEPARTMENT OF CHEMISTRY  
CENTRAL UNIVERSITY OF TAMIL NADU



## Special Lecture

**Efficient and safer synthesis of value-added organic molecules adopting  
continuous flow technologies**

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The interest in developing flow based technologies for organic synthesis has recently increased due to its several advantages such as low mass transfer limitations, efficient heat transfer, uniform reaction conditions throughout the reaction, fast optimization of reaction and catalyst parameters, easy scale-up, etc. Moreover, recently Food and Drug Administration (FDA) revised its manufacturing regulations for the first time in 25 years. The agency is now insisting the pharmaceutical industries to adopt the latest and precise manufacturing techniques for the preparation of drugs and active pharmaceutical ingredients (APIs). We are constantly developing new technologies for the synthesis of functional molecules by integrating green and sustainability principles.

In the presentation, the execution of the synthesis of selected synthetically valuable organic transformations adopting flow methodologies will be discussed in detail. The case studies include modified asymmetric Strecker synthesis of amino acids<sup>1</sup> using highly toxic cyanides, alkylation of amines<sup>2</sup> and lithiation<sup>3</sup> of pharmaceutically important amides.

### References.

1. Balamurugan, R.; Seayad, A. M.; Yoshinana, K; Nagata, T.; Chai, C. L.L.; Garland, M. *Org. Lett* **2010**, 12, 264-267; *Adv. Syn. Catal.* **2010**, 352, 2153-2158; *Chem. Eur. J* **2012**, 18, 5693.
2. Balamurugan, R.; Seayad, A. M.; Pei Shan, S.; Tuan, T. D. *ChemCatChem* **2014**, 6, 808-814; *ACS Catal.* **2015**, 5, 4082.
3. Feng, R.; Ramchandani, S.; Ramalingam, B.; Tan, B.; Li, C.; Teoh, S. K.; Boodhoo, K.; Sharratt, P. *Org. Process. Res. Dev.* Accepted.

**Date and Time: Friday, the 22<sup>nd</sup> Dec. 2017, 10.00 am**  
**Venue: Conference Hall, Department of Chemistry, CUTN**  
**All are welcome**

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