Name of the Speaker	**Prof. T. K. Chandrashekar**
Affiliation & email address	Senior Professer, NISER, Bhubaneswar tkc@niser.ac.in, tkc@iitk.ac.in
Title of the Talk:	**Expanded Porphyrins; [4n+2]π Hückel, [4n]π Möbius and [4n+2]π/[4n]π Baird Aromaticity**

Abstract: Aromaticity is an important property in chemistry which decides the course of chemical reactions. The [4n+2]π rule of Hückel is very well understood and there are lot of examples of organic molecules exhibiting Hückel Aromaticity. However, understanding of Möbius [4n]π aromaticity and Baird aromaticity (exited triplet state) are still at their infancy and there are only limited examples obeying Möbius and Baird rule. In this talk, examples obeying both Möbius rule[1] and Baird's rule[2] using expanded porphyrins as models[3] will be discussed. Furthermore, the transformation of a Möbius antiaromatic to Hückel aromatic and nonaromatic molecule to Möbius topology as well as to a Hückel antiaromatic[4,5] topology under an external trigger will also be discussed. Details of proton NMR chemical shifts, UV-Visible spectral data, single crystal X-ray structural data, as well as theoretical support from NICS(0), HOMA values and AICD plots justifying aromatic transformations will be highlighted.

References:

1. TKC and coworkers; **Non-fused core-Modified [24]π Pentaphyrin with Möbius Aromaticity**; *Chem. Eur. J.,* **2018**, *24*, 17977.
2. TKC and coworkers; **Bicyclic Baird-type aromaticity**; *Nat. Chem.,* **2017**, *9*, 1243.
3. TKC and coworkers; **Two non-identical twins in one unit cell: characterization of 34π aromatic core-modified octaphyrins, their structural isomers and anion bound complexes**; *Chem. Sci.,* **2019**, *10,* 5911.
4. TKC and coworkers; **Core-modified 48π and 42π decaphyrins: syntheses, properties and structures**; *Org. Chem. Front.,* **2019**, *6*, 3746.
5. TKC and coworkers; **Protonation-Triggered Hückel and Möbius Aromatic Transformations in Nonaromatic Core-modified [30]Hexaphyrins(2.1.1.2.1.1) and Annulated [28]Hexaphyrins(2.1.1.0.1.1)**; *Org. Lett*., **2019**, 21, 9637.