NMR Meets Materials

(Discussion Meeting, 5th -6th May 2017 at TCIS, Hyderabad)

Materials are essential for the modern society as they can resolve some of the critical challenges, especially energy and environment. Design and development of novel materials with improved efficiency can help us tackle these challenges. Recent developments in NMR spectroscopy allow detailed structural and surface information of materials, which can subsequently be used for rational design of the novel materials, i.e. NMR assisted materials design. This discussion meeting aims to bring together material and NMR experts in India, for cross fertilization of ideas. Both the groups will able to appreciate the recent developments in these fields and inspire collaborations to address some of the critical challenges.

SPEAKERS and TOPICS

Prof. P. Selvam,
IIT, Chennai
"Applications of solid state NMR in catalysis"

Dr. C.S. Gopinath,
NCL, Pune
"Solar hydrogen generation through artificial photosynthesis Issues"

Prof. J. Bera,
IIT, Kanpur
"Water as reagent in organometallic catalysis"

Dr. Shubhangi Umbarkar,
NCL, Pune
"Need of multinuclear NMR in homogeneous/heterogeneous catalysis - Study of mechanism and catalyst deactivation"

Dr. Sebastian C. Peter,
JNCSAR, Bangalore
"Design and development of non-Pt based compounds as efficient catalysts for the green energy production in fuel cell"

Prof. Tapas Mandal,
IIT, Roorkee
"Layered titanates, vanadates and phosphates: applications in photocatalysis and energy storage"

Prof. Abhijit Patra,
IISER, Bhopal
"Multifunctional porous organic polymers"

Prof. Sudhanshu Sharma,
IIT, Gandhinagar
"Oxidation state and catalysis: a case study of platinum"

Dr. S. Ganapathy,
NCL, Pune
"Methods and applications of solid state NMR spectroscopy in materials characterization"

Prof. P. K. Madhu,
TIFR, Mumbai/TCIS, Hyderabad
"NMR of materials: spins, nuclei, information, and grey Issues"

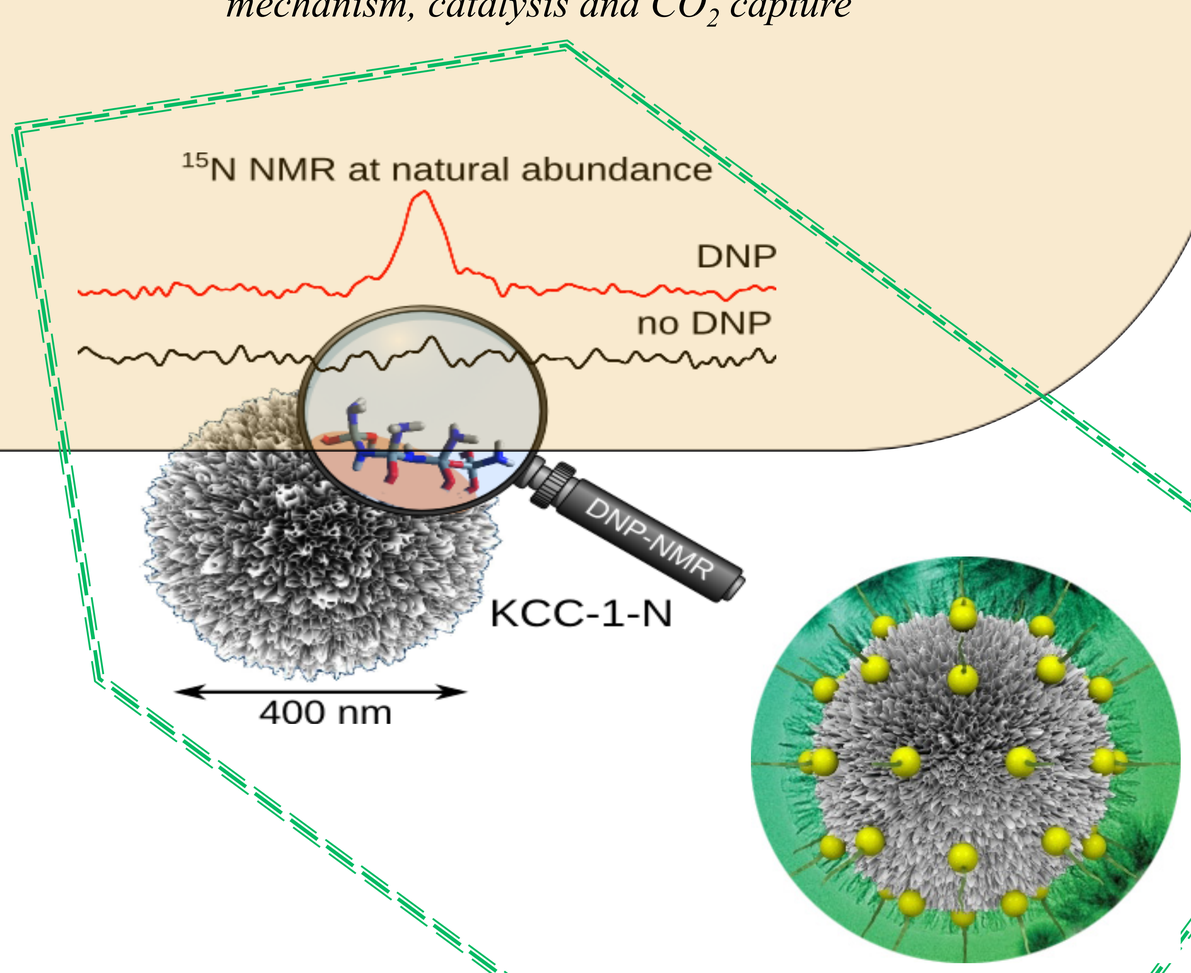
Dr. T.G. Ajithkumar,
NCL, Pune
"Insights into polymers, magnetic materials and catalysts from solid-state NMR investigation"

Dr. S. Jayanthi,
IISST, Thiruvananthapuram
"Restricted dynamics of Molecules in mesopores – a dynamic model using deuterium MAS NMR andmolecular dynamics"

Dr. Kaustubh Mote,
TCIS, Hyderabad
"Proton detection at slow-moderate MAS frequencies for analysis of materials and material surfaces"

Dr. Vipin Agarwal,
TCIS, Hyderabad,
"Structure and properties of polyolefinic polymers"

Dr. Vivek Polshettiwar,
TIFR, Mumbai
"Morphology controlled nanomaterials: formation mechanism, catalysis and CO_2 capture"



Convenors:

Prof. P. K. Madhu, TCIS, Hyderabad / TIFR, Mumbai

Dr. Vipin Agarwal, TCIS, Hyderabad

Dr. Vivek Polshettiwar, TIFR, Mumbai,

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