FACULTY PROFILE

Name	Dr. Krishna K Dey						Date of Birth:28th April 1980			
Designation	Assistant Professor				Date of holding Present Post		17/07/2013			
Name of the Department and School	Department of Physics, School of Mathematical and Physical Sciences									
Contact Details	Email :dey.krishna@gmail.com						Mobile:9981768447			
Additional Responsibility in the university, if any										
Educational Qualifications (UG onwards)	Ph.D. in Physics									
Research Area/Specialization	NMR spectroscopy, Materials,									
Awards/ Honors / Fellowship Conferred (With details thereof)	IISC Integrated Ph.D scholarship, NIH postdoc scholarship									
Summary of Publications (Number only)	Research Papers	22	Books		Chapter in Books		Seminars/ Conferences Proceedings		Projects	2

Research Projects (Completed and Ongoing):

S.No.	*Title*	*Funding Agency*	*Duration*	*Sanction order No. & Date*	*Amount in Rs. Lakh*	*Completed/ongoing*
1.	Developments of application of solid state NMR methods for determination of Q^nspecies in modified silicate glass	UGC	18 months		600000	completed
2	Developments and applications of solid state NMR methods for determination of structure of bone and teeth	DST Fast Track	3 years		27 Lakh	Completed

PUBLICATIONS 2013 onwards :

International Publications(Details of Research Papers) – 2013 onwards:

2013

- . B. J. Walder, **K. K. Dey**, D. C. Kaseman, J. H. Baltisberger, and P. J. Grandinetti*"Sideband separation experiments in NMR with phase incremented echo train acquisition*", **J. Chem. Phys, 138, 174203-1-12(2013)**

B. Baishya, C. L. Khetrapal, and **K. K. Dey***, *"Perfect Echo" HMQC: Sensitivity and Resolution Enhancement by Broadband Homonuclear Decoupling",***Journal of Magnetic Resonance, 234, 67-74, (2013)**

2014

S. B. Narendranath, A. K. Yadav, T. G.Ajithkumar, D. Bhatacharyya, S. N. Jha, **K. K. Dey**, R. Thirumalaiswamy, and R. N. Devi, *"Local cationic environment in layered compounds of series $InGaO_3(ZnO)m$ (m=1-4) evidences Ga dissolution in In-O and Zn-O layers"***Dalton Trans., 43, 2120-2126, (2014)**

Bindhu Baby,**K. K. Dey**,T. G. Ajithkumar,and P. A. Joy , "*Identification of the sites of Zn substitution in La-Zn substituted $SrAl_{12}O_{19}$from ^{27}Al solid-state NMR Studies"*, **J. Am. Ceram. Soc. 1-6 (2014)**

K. Bhattacharya, J. P. Majeed and **K. K. Dey**, A. Kumar, and S. R. Bharadwaj, "*Effect of Mo-Incorporation in the TiO Lattice: A mechanistic Basis for Photo catalytic Dye Degradation*", **Journal of Physical Chemistry C**, **118(29), 15946-15962, (2014)**

2015

P. Sengupta, **K.K. Dey** V. Sudarsan, R.K. Mishra,C.P. Kaushik, G.K. Dey, *"Vanadium in borosilicate glass"***J. Am. Ceramic. Soc., 98(1) 88-96, (2015)**

B. J. Walder, **K. K. Dey,** M. C. Davis, J. H. Baltisberger, and P. J. Grandinetti, "*Two-dimensional NMR Measurement and Point Dipole Model Prediction of Paramagnetic Shift Tensors in Solids*" **J. Chem. Physics., 142, 014201, (2015)**

2019

- A. Madheshiya, K. K. Dey, **M. Ghosh**, J. Singh, C. Gautam, "Synthesis, structural, optical and solid state NMR study of lead bismuth titanate borosilicate glasses" , *Journal of Non-Crystalline Solids*, **503**, 288-296, 2019.
- S. Das, A. Madheshiya, **M. Ghosh**, K. K. Dey, S. Goutam, J. Singh, C. Goutam, "Structural, optical and NMR study of V_2O_5 doped lead calcium titanate borosilicate glasses", *Journal of Physics and Chemistry of Solids* , **126**, 7-26,2019.
- **M. Ghosh**, S. Sadhukhan, K. K. Dey, "Elucidating the internal structure and dynamics of α-chitin by 2DPASS-MAS-NMR and spin-lattice relaxation measurements", *Solid State Nuclear Magnetic Resonance* , **97,** 7-16, 2019.
- **M. Ghosh**, B. P. Prajapati, R. K. Suryawanshi, K. K. Dey, N. Kango, "Study of the effect of enzymatic deconstruction on natural cellulose by NMR measurements", *Chemical Physics Letter*, **727**, 105-115, 2019.
- **M. Ghosh**, B. P. Prajapati, N. Kango, K. K. Dey, "A comprehensive and comparative study of the internal structure and dynamics of

	natural β-keratin and regenerated β-keratin by solid state NMR spectroscopy", *Solid State Nuclear Magnetic Resonance*, **101**, 1-11, 2019. • **M. Ghosh**, N. Kango, K. K. Dey, "Investigation of the internal structure and dynamics of cellulose by ^{13}C-NMR relaxometry and 2DPASS-MAS-NMR measurements", *Journal of Biomolecular NMR*, 73, 601-616, 2019. • K. K. Dey, S. Gayen, **M. Ghosh, "**Investigation of the Detailed Internal Structure and Dynamics of Itraconazole by Solid-State NMR Measurements", *ACS Omega*, **4**, 21627-21635, 2019.
2020	• K. K. Dey, **M. Ghosh, "**Understanding the effect of deacetylation on chitin by measuring chemical shift anisotropy tensor and spin lattice relaxation time", *Chemical Physics Letters* , **738**, 136782, 2020. • C. Gautam, A. Madheshiy, A. K. Singh, K. K. Dey, **M. Ghosh, "**Synthesis, optical and solid NMR studies of strontium titanate borosilicate glasses doped with TeO_2", *Results in Physics*, **16**, 102914, 2020. • K. K. Dey, S. Gayen, **M. Ghosh, "**Understanding the correlation between structure and dynamics of clocortolone pivalate by solid state NMR measurement", *RSCAdvances*, **10**, 4310, 2020.
Other Academic Achievements :	
(i) Reviewer of the Journal(s) (With details of the journal(s) and duration)	
• Journal of Non-crystalline solids	
• Physical Chemistry Chemical Physics	