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Department of Physics
Indian Institute of Technology,
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Education and Research

2018 - Present : Assistant Professor (Grade I) at the Indian Institute of Technology, Kharagpur.

2017 -2018 : Assistant Professor (Tenure Track) at the Indian Institute of Technology, Kharagpur.

2014- 2016 : Post-doctoral researcher at the Correlated Electron Systems Group in the Department of Physics at the University of Bristol.

2009-2014 : Research Scholar at the Quantum Matter Group (Cavendish Labs, University of Cambridge). [PhD awarded]

2006-2009 : MSc from Tata Institute of Fundamental Research (TIFR, Mumbai).

2003-2006: BSc from Presidency College, Calcutta University.

2001-2003 : Indian School Certificate exam.

Awards and achievements

- Science and Engineering Research Board (SERB) ECR Award (Approved 2018) '*Understanding the electronic properties of iron based superconductors using pressure and strain effects*' [
- ISIRD (IIT Kharagpur) (Awarded 2017) '*Investigation of Electronic Properties of 122 Class of pnictide Superconductors with Doping and Pressure*'
- Fully funded fellowship awarded by the **Cambridge Commonwealth Trust (CCT)** to study for a PhD at Dept of Physics, University of Cambridge.(2009-2014)
- Travel bursary awarded for traveling to Florida and India for collaboration and experiments.(2010-2011)

- ***Kishore Vaigyanik Pratsahan Yojana (KVPY)*** awarded by Dept of Science and Technology, Government of India for pursuing career in science.(2001-2006)

Conferences attended

- ***Superconductivity and superconducting materials***,
(June 2018), HBCSE (TIFR).
- ***Modern Trends in Chemistry and Physics***,
(December 2017), Indian Academy of Sciences.
Title : (1) Introduction to superconductivity (2) A journey from low to high temperature superconductors.
- ***Frontiers in Unconventional Superconductivity, Superfluidity and Magnetism***,
Poster title : *Numerical studies in Kitaev and Kitaev Heisenberg models*,
8 January 2016, University of Bristol, Bristol, UK.
- ***20th International Conference on Magnetism (ICM 2015)***,
Poster title : *Quantum Criticality at the Lifshitz point in electron doped Iron Arsenides*,
5th - 10th July, 2015, Barcelona, Spain.
- ***DPG Meeting 2015***,
Poster title : *Magnetic field and impurity studies in Kitaev and Kitaev Heisenberg models*,
15th - 20th March, 2015, Technical University of Berlin, Germany.
- ***International Conference on Strongly Correlated Electron Systems (SCES 2011)***,
Poster title : *Anisotropic resistivity measurements in parent and Co- doped crystals of SrFe_2As_2* , 29th Aug - 3rd Sept, 2011, University of Cambridge, UK.
- ***Electronic structure of Fe based superconductors***,
Poster title : *Magnetic, Structural, and Superconducting Transitions in $\text{A}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ($\text{A} = \text{Sr}, \text{Ba}$) Single Crystals*,
May 2010, Max-Planck-Institut for Festkörperforschung, Stuttgart, Germany.

List of publications

1. ***Magnetic anisotropy of the alkali iridate Na_2IrO_3 at high magnetic fields: Evidence for strong ferromagnetic Kitaev correlations***, Sitikantha. D. Das, Sarbajaya Kundu,

Zengwei Zhu, Eundeok Mun, Ross D. McDonald *et. al.*, *Phys. Rev. B* 99, 081101 (R) (2019)

2. **Kondo route to spin homogeneities in honeycomb Kitaev model**, S. D. Das, K. Dhochak, V. Tripathi, *Phys. Rev. B* 94, 024411 (2016)
3. **Quantum criticality in the 122 iron pnictide superconductors emerging from orbital-selective Mottness**, S. D. Das, M. S. Laad, L. Craco, J. Gillett, V. Tripathi, and S. E. Sebastian, *Phys. Rev. B* 92, 155112 (2015)
4. **Detection of Orbital Fluctuations Above the Structural Transition Temperature in the Iron-Pnictides and Chalcogenides**, H. Z. Arham, C. R. Hunt, W. K. Park, J. Gillett, S. D. Das, S. E. Sebastian, Z. J. Xu, J. S. Wen, Z. W. Lin, Q. Li, G. Gu, A. Thaler, S. Ran, S. L. Bud'ko, P. C. Canfield, D. Y. Chung, M. G. Kanatzidis, L. H. Greene, *Phys. Rev. B* 85, 214515 (2012)
5. **Dimensional Tuning of the Magnetic-Structural Transition in $A(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ ($A=\text{Sr}, \text{Ba}$)**, Jack Gillett, Sitikantha D. Das, Paul Syers, Alison K. T. Ming, Jose I. Espeso, Chiara M. Petrone, and Suchitra E. Sebastian, *arxiv:1005.1330v1* (2011)
6. **Isothermal magnetic entropy behavior in Tb_5Si_3 : Sign reversal and non-monotonic variation with temperature, and implications**, Niharika Mohapatra, Sitikantha D Das, K. Mukherjee and E. V. Sampathkumaran, *Solid State Communications* 151 (2011) 1340-1343
7. **Magnetism of fine particles of Kondo lattices, obtained by high-energy ball-milling**, E V Sampathkumaran, K Mukherjee, Kartik K Iyer, Niharika Mohapatra and Sitikantha D Das, *J. Phys.: Condens. Matter* 23 094209 (2011)
8. **Itinerant Spin Excitations in SrFe_2As_2 Measured by Inelastic Neutron Scattering**, R. A. Ewings, T. G. Perring, J. Gillett, S. D. Das, S. E. Sebastian, A. E. Taylor, T. Guidi, and A. T. Boothroyd, *Phys. Rev. B* 83 214519 (2011)
9. **Anomalous butterfly-shaped magnetoresistance loops in the alloy Tb_4LuSi_3** , K. Mukherjee, Sitikantha D. Das, Niharika Mohapatra, Kartik K. Iyer, and E. V. Sampathkumaran, *Phys. Rev. B* 81, 184434 (2010)
10. **Influence of pressure on the magnetic behavior and the anomalous magnetoresistance in Tb_5Si_3** , Niharika Mohapatra, Sitikantha D. Das, K. Mukherjee, Kartik K. Iyer, and E. V. Sampathkumaran, *Phys. Rev. B* 80, 214425 (2009)
11. **Magnetic behavior of nanocrystalline ErCo_2** , Sitikantha D Das, Niharika Mohapatra, Kartik K Iyer, R D Bapat and E V Sampathkumaran, *J. Phys.: Condens. Matter* 21 296004 (2009)

12. ***Magnetic ordering in the fine particles of some bulk Pauli-paramagnets, Sitikantha D. Das, S. Narayana Jammalamadaka, Kartik K. Iyer, and E. V. Sampathkumaran, Phys. Rev. B 80, 024401 (2009)***
 13. ***Magnetic behavior of nano crystals of a spin-chain system, Ca₃Co₂O₆: Absence of multiple steps in the low temperature isothermal magnetization, Niharika Mohapatra, Kartik K. Iyer, Sitikantha D. Das, B. A. Chalke, S. C. Purandare, and E. V. Sampathkumaran, Phys. Rev. B 79, 140409(R) (2009)***
 14. ***Enhancement of positive magnetoresistance following a magnetic-field-induced ferromagnetic transition in an intermetallic compound, Tb₅Si₃, S. Narayana Jammalamadaka, Niharika Mohapatra, Sitikantha D. Das, and E. V. Sampathkumaran, Phys. Rev. B 79, 060403(R) (2009)***
 15. ***Magnetic anomalies in Gd₆Co_{1.67}Si₃ and Tb₆Co_{1.67}Si₃, S Narayana Jammalamadaka, Niharika Mohapatra, Sitikantha D Das, Kartik K Iyer and E V Sampathkumaran, J. Phys.: Condens. Matter 20 425204 (2008)***
 16. ***Magnetic anomalies in Nd₆Co_(1.67)Si₃: Surprising first order transitions in the low-temperature isothermal magnetization, Niharika Mohapatra, S. Narayana Jammalamadaka, Sitikantha D. Das, and E. V. Sampathkumaran, , Phys. Rev. B 78, 054442 (2008)***
 17. ***Magnetic behavior of nanocrystalline LaMn₂Ge₂, S. Narayana Jammalamadaka, Sitikantha D. Das, B. A. Chalke and E.V. Sampathkumaran, JMMM (2008)***
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