

# Sitikantha Dhurjati Das

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Indian Institute of Technology,  
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## Education and Research

*2016 - present : 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

- *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)*

- *Selected by Homi Bhabha Center for Science Education (HBCSE) as a NIUS (National Initiative for Undergraduate Sciences) scholar.*
- *Selected by CSIR to be a CPYLS (CSIR Program in Youth for Leadership in Science) scholar. (2001)*

## **Conferences attended/Posters presented**

- ***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<sub>2</sub>As,* 29th Aug - 3rd Sept, 2011, University of Cambridge, UK.
- ***Electronic structure of Fe based superconductors,***  
Poster title : *Magnetic, Structural, and Superconducting Transitions in A(Fe<sub>1-x</sub>Co<sub>x</sub>)<sub>2</sub>As<sub>2</sub> (A = Sr, Ba) Single Crystals,*  
May 2010, Max-Planck-Institut for Festkörperforschung, Stuttgart, Germany.

## **List of publications**

1. ***Kondo route to spin homogeneities in honeycomb Kitaev model***, S. D. Das, K. Dhochak, V. Tripathi, *Phys. Rev. B* 94, 024411 (2016)
2. ***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)
3. ***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)
4. ***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)
5. ***Isothermal magnetic entropy behavior in  $\text{Tb}_5\text{Si}_3$ : 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
6. ***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)
7. ***Itinerant Spin Excitations in  $\text{SrFe}_2\text{As}_2$  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)
8. ***Anomalous butterfly-shaped magnetoresistance loops in the alloy  $\text{Tb}_4\text{LuSi}_3$*** , K. Mukherjee, Sitikantha D. Das, Niharika Mohapatra, Kartik K. Iyer, and E. V. Sampathkumaran, *Phys. Rev. B* 81, 184434 (2010)
9. ***Influence of pressure on the magnetic behavior and the anomalous magnetoresistance in  $\text{Tb}_5\text{Si}_3$*** , Niharika Mohapatra, Sitikantha D. Das, K. Mukherjee, Kartik K. Iyer, and E. V. Sampathkumaran, *Phys. Rev. B* 80, 214425 (2009)
10. ***Magnetic behavior of nanocrystalline  $\text{ErCo}_2$*** , Sitikantha D Das, Niharika Mohapatra, Kartik K Iyer, R D Bapat and E V Sampathkumaran, *J. Phys.: Condens. Matter* 21 296004 (2009)

11. *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)
  12. *Magnetic behavior of nano crystals of a spin-chain system,  $Ca_3Co_2O_6$ : 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)
  13. *Enhancement of positive magnetoresistance following a magnetic-field-induced ferromagnetic transition in an intermetallic compound,  $Tb_5Si_3$* , S. Narayana Jammalamadaka, Niharika Mohapatra, **Sitikantha D. Das**, and E. V. Sampathkumaran, *Phys. Rev. B* 79, 060403(R) (2009)
  14. *Magnetic anomalies in  $Gd_6Co_{1.67}Si_3$  and  $Tb_6Co_{1.67}Si_3$* , S Narayana Jammalamadaka, Niharika Mohapatra, **Sitikantha D Das**, Kartik K Iyer and E V Sampathkumaran, *J. Phys.: Condens. Matter* 20 425204 (2008)
  15. *Magnetic anomalies in  $Nd_6Co_{(1.67)}Si_3$ : 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)
  16. *Magnetic behavior of nanocrystalline  $LaMn_2Ge_2$* , S. Narayana Jammalamadaka, **Sitikantha D. Das**, B. A. Chalke and E.V. Sampathkumaran, *JMMM* (2008)
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