

Dr. Sandeep Kumar Dey

DST-INSPIRE Faculty

Department of Chemistry, Goa University, India

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1. M.Sc. in Chemistry, North Eastern Hill University (NEHU) Shillong, Meghalaya, India (Aug 2004—Dec 2006).
2. PhD in Supramolecular Chemistry, Indian Institute of Technology Guwahati (IITG), Assam, India (Jan 2008—Jan 2013).
2. Post-Doctoral research fellow at Institute of Chemistry, Academia Sinica, Taipei, Taiwan (May 2013— April 2014).
3. Alexander von Humboldt (AvH) postdoctoral research fellow at Institute of Inorganic Chemistry and Structural Chemistry, Heinrich-Heine University (HHU) Dusseldorf, Germany (August 2014—December 2016).

Academic Achievements

1. **INSPIRE faculty** award from Department of Science and Technology (DST), India (2017).
2. **Alexander von Humboldt (AvH) postdoctoral research fellowship**, Germany (2014).
3. **RSC Advances best poster award** in “Third Asian Conference on Coordination Chemistry, ACCC-III New Delhi (2011).
4. **CSIR-UGC National Eligibility Test (NET) and Junior Research Fellowship (JRF) in Chemical Science** (2007).
5. **Graduate aptitude test in engineering (GATE) in Chemistry** (2007).

Publications

1. **Sandeep Kumar Dey**, Dennis Dietrich, Susann Wegner, Beatriz Gil-Hernandez, Sarvesh Shyam Harmalkar, Nader de Sousa Amadeu and Christoph Janiak
Palladium-nanoparticle immobilized porous polyurethane material for quick and efficient heterogeneous catalysis of Suzuki-Miyaura cross-coupling reaction at room temperature, **ChemSelect.**, 2018, 3, 1-7.
2. Hassan M. A. Hassan, Reda F. M. Elshaarawy, **Sandeep Kumar Dey**, Ilka Simon, Christoph Janiak
Microwave-assisted Hydrothermal Fabrication of Magnetic Amino-grafted Graphene Oxide Nanocomposite as a Heterogeneous Knoevenagel Catalyst, **Catal. Lett.**, 2016, DOI 10.1007/s10562-017-2120-7 (2015 Impact factor 2.799).
3. **Sandeep Kumar Dey**, Nader de Sousa Amadeu and Christoph Janiak,
Microporous polyurethane material for size selective heterogeneous catalysis of the Knoevenagel reaction, **Chem. Commun.**, 2016, 52, 7834–7837, (2015 Impact factor 6.567).
4. **Sandeep Kumar Dey**, Arghya Basu, Romen Chutia and Gopal Das,
Anion Coordinated Capsules and Pseudocapsules of Tripodal Amide, Urea and Thiourea Scaffolds (Review article), **RSC Adv.**, 2016, 6, 26568-26589, (2015 Impact factor 3.289).

5. Romen Chutia, **Sandeep Kumar Dey** and Gopal Das,
Self-assembly of a tris(urea) receptor as tetrahedral cage for the encapsulation of a discrete tetrameric mixed phosphate cluster ($\text{H}_2\text{PO}_4^- \cdot \text{HPO}_4^{2-}$)₂, **Cryst. Growth Des.**, 2015, 15, 4993–5001, (2015 Impact factor 4.425).
6. Romen Chutia, **Sandeep Kumar Dey** and Gopal Das,
A supramolecular dual-host based ion-pair induced formation of 1D coordination polymer, **CrystEngComm**, 2013, 15, 9641–9647, (2015 Impact factor 3.849)
7. Arghya Basu, **Sandeep Kumar Dey** and Gopal Das,
Amidothiourea based colorimetric receptors for basic anions: evidence of anion induced deprotonation of amide –NH proton and hydroxide induced anion–π interaction with the deprotonated receptors, **RSC Adv.**, 2013, 3, 6596–6605, (2015 Impact factor 3.289).
8. Romen Chutia, **Sandeep Kumar Dey** and Gopal Das,
Positional isomeric effect in nitrophenyl functionalized tripodal urea receptors toward binding and encapsulation of anions, **Cryst. Growth Des.**, 2013, 13, 883–892, (2015 Impact factor 4.425).
9. **Sandeep Kumar Dey**, Barun Kumar Dutta and Gopal Das,
Binding discrepancy of fluoride in quaternary ammonium and alkali salts by a tris(amide) receptor in solid and solution-states, **CrystEngComm**, 2012, 14, 5305–5314, (2015 Impact factor 3.849).
10. **Sandeep Kumar Dey** and Gopal Das,
Selective inclusion of PO_4^{3-} within persistent dimeric capsules of a tris(thiourea) receptor and evidence of cation/solvent sealed unimolecular capsules, **Dalton Trans.**, 2012, 41, 8960–8972, (2015 Impact factor 4.177).
11. **Sandeep Kumar Dey**, Romen Chutia and Gopal Das,
Oxyanion-encapsulated caged supramolecular frameworks of a tris(urea) receptor: Evidences of hydroxide- and fluoride-ion-induced fixation of atmospheric CO_2 as a trapped CO_3^{2-} anion, **Inorg. Chem.**, 2012, 51, 1727–1738, (2015 Impact factor 4.820).
12. **Sandeep Kumar Dey** and Gopal Das,
Encapsulation of trivalent phosphate anion within a rigidified π-stacked dimeric capsular assembly of tripodal receptor, **Dalton Trans**, 2011, 40, 12048–12051, (2015 Impact factor 4.177).
13. **Sandeep Kumar Dey** and Gopal Das
Fluoride selectivity induced transformation of charged anion complexes into unimolecular capsule of a π-acidic triamide receptor stabilized by strong $\text{N-H}\cdots\text{F}^-$ and $\text{C-H}\cdots\text{F}^-$ hydrogen bonds, **Cryst. Growth Des.**, 2011, 11, 4463–4473, (2015 Impact factor 4.425).
14. Ballav Moni Borah, Sandeep Kumar Dey and Gopal Das
Crystal to Calcite: Fabrication of pure calcium carbonate polymorphs in the solid-state, **Cryst. Growth Des.**, 2011, 11, 2773–2779, (2015 Impact factor 4.425).
15. **Sandeep Kumar Dey** and Gopal Das,
A selective fluoride encapsulated neutral tripodal receptor capsule: solvatochromism and solvatomorphism, **Chem. Commun.**, 2011, 47, 4983–4985, (2015 Impact factor 6.567).

16. Chirantan Kar, **Sandeep Kumar Dey** and Gopal Das,
Excited-state intermolecular proton transfer induced "TURN ON" fluorescent chemosensor for selective detection of PO₄³⁻ anion, **Sensor Letters**, 2011, 9, 1430–1434, (2014 Impact factor 0.570).
17. **Sandeep Kumar Dey** and Gopal Das,
Binding of HgCl₂ by a nitro functionalized tripodal receptor and its decomplexation controlled by anion complexation, **Eur. J. Inorg. Chem.**, 2011, 3, 429–438, (2015 Impact factor 2.686).
18. **Sandeep Kumar Dey**, Avijit Pramanik and Gopal Das,
Anion specificity induced conformational changes in cresol-based tripodal podands controlled by weak interactions: structural and Hirshfeld surface analysis, **CrystEngComm**, 2011, 13, 1664–1675, (2015 Impact factor 3.849).
19. **Sandeep Kumar Dey**, Bimlesh Ojha and Gopal Das,
A subtle interplay of C–H hydrogen bonds in complexation of anions of varied dimensionality by a nitro functionalized tripodal podand, **CrystEngComm**, 2011, 13, 269–278, (2015 Impact factor 3.849).
20. **Sandeep Kumar Dey** and Gopal Das,
Conformational polymorphism of a simple tripodal podand bearing nitro functionality, **Cryst. Growth Des.**, 2010, 10, 754–760, (2015 Impact factor 4.425).
21. Ballav Moni Borah, Bedabrata Saha, **Sandeep Kumar Dey** and Gopal Das,
Surface-modification-directed controlled adsorption of serum albumin onto magnetite nanocuboids synthesized in a gel-diffusion technique, **J. Colloid Interface Sci.**, 2010, 349, 114–121, (2015 Impact factor 3.782).

Conferences

1. **Modern Trends in Inorganic Chemistry (MTIC-XVII)**, Indian Institute of Science Education and Research Pune (IISER Pune) and CSIR-National Chemical Laboratory Pune, 2017.
2. **28th German Zeolite Conference** at Justus Liebig University, Giessen, Germany, 2016.
3. **Alexander von Humboldt network meeting** at Heinrich-Heine University Dusseldorf, Germany, 2016.
4. **POROSYS** (conference on porous materials) at Heinrich-Heine University Dusseldorf, Germany, 2014.
5. **Third Asian Conference on Coordination Chemistry (ACCC-III)** New Delhi, 2011 (**RSC Advances Best Poster Award**).
6. **Frontiers in Inorganic Chemistry (FIC)** Indian Association for Cultivation of Science (IACS), Kolkata, 2010.
7. **Modern Trends in Inorganic Chemistry (MTIC-XIII)** Indian Institute of Science (IISc), Bangalore, 2009.

Research interests

1. Porous organic materials for toxic ion separation/adsorption and catalysis.
3. Hydrogen bonded supramolecular capsules and metal organic cages.
2. Anion receptors and ion-pair receptors.