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**Professional Experience**

- Assistant Professor (2018- present): Department of Chemistry, IIT Kharagpur, Kharagpur, India
- Senior Researcher (2017 – 2018): Condensed Matter and Interfaces group, Debye Institute for Nanomaterials Research, Department of Chemistry, Utrecht University, Netherlands
- Research Collaborator (2016 – 2017): School of Chemistry, University of Geneva, Switzerland
- Swiss National Science Foundation (Early and Advanced) Postdoctoral Research Fellow (2013 – 2016): Department of Chemistry, University of Washington, Seattle, USA

**Education**

- **Ph.D.** (2013)  
 Department of Physical Chemistry, University of Geneva, Switzerland
- **Master of Science (M.S.)** (2007)  
 Chemical Science Division, Indian Institute of Science, Bangalore, India
- **B.Sc. (Hons.)** in Chemistry (2004)  
 Ramakrishna Mission Vidyamandira, Belur Math, Howrah (Affiliated to University of Calcutta)

**Academic Honours and Award**

- Certificate of Appreciation from the American Chemical Society (ACS) as a peer reviewer
- DST-DAAD Indo-German joint collaborative project with Prof. Birgit Weber, Universität Bayreuth, Germany, 2022
- Royal-Society International Exchange Award with Prof. Malcolm Halcrow, University of Leeds, UK, 2020, Royal Society London, UK
- Early Career Research Award, Science and Engineering Research Board (SERB), Department of Science and Technology, India, 2019
- Faculty Research Initiation Grant award, Institute Scheme for Innovative Research and Development, 2018
- Swiss National Science Foundation Fellowship for Advanced postdoctoral research, 2015
- Swiss National Science Foundation Fellowship for Early postdoctoral research, 2013
- Selected as finalist (among one of the 45 finalists selected globally) for the Elsevier Reaxys International PhD prize in Chemistry, 2013
- Recipient of Indian Institute of Science Integrated Ph.D. Fellowship, 2004-2007
- Recipient of National Merit Certificate in High School: 2000
- Recipient of National Merit Certificate in Secondary School: 1998

**Sanctioned/submitted Funded Projects**

Project title	Funding Agency	Collaboration	Year
Manufacturing of molecular diagnostic device platforms for affordable healthcare	Department of Heavy Industry, Govt. of India and TATA Medical and Diagnostics	Prof. Suman Chakraborty, IIT Kharagpur, India	2022
Light-induced processes in spin-crossover coordination nanostructures	DST-DAAD Indo-German Project	Prof. Birgit Weber, Universität Bayreuth, Germany	2022

Elucidating Fundamental Mechanisms in Switchable Molecular Materials	Royal-Society London, UK	Prof. Malcolm Halcrow, University of Leeds, UK	2020
Functional Nanomaterials Fabrication and Characterization	IIT Kharagpur, India		2021
Synthesis, Design and Stimuli-responsive Functionalities in Switchable Inorganic Materials: From Bulk to Single Molecule	Science and Engineering Research Board, Department of Science and Technology, India		2019
Enforcing multifunctionality in Inorganic Coordination Networks – effect of composition, size reduction and external stimuli	IIT Kharagpur, India		2019
Tuning the equilibrium dopant compositions in inorganic semiconductor nanocrystals via diffusion doping and cation exchange	Swiss National Science Foundation, Govt. of Switzerland Fellowship for Advanced postdoctoral research		2015
Probing luminescence and magnetism in 1D doped magnetic semiconductor nanostructures	Swiss National Science Foundation, Govt. of Switzerland Fellowship for Early postdoctoral research		2013

#### Selected Invited Talks and Visit

- Invited Speaker, Spin in Molecules-Theory and Applications, Solid State and Structural Chemistry Unit (SSCU), Indian Institute of Science, Bangalore, India, December 2022.
- Academic Visitor, Department of Chemistry, University of Leeds, UK, July 2022 (as a part of Royal-Society International Exchange Award, Royal Society London, UK, 2020)
- Invited Talk, Department of Chemistry, University of Leeds, UK, July 2022
- Invited Speaker, Department of Chemistry, University of Manchester, UK, July 2022
- Invited Speaker in Pacificchem 2020, Honolulu, Hawaii, USA in the session "Molecular Spintronics Based on Coordination Chemistry"
- Invited Speaker, Spin in Molecules-Theory and Applications, Solid State and Structural Chemistry Unit (SSCU), Indian Institute of Science, Bangalore, India, December 2019
- Invited Contributed Talk in Phase Transition and Dynamical Properties of Spin Transition Materials (PDSTM) Conference, University of Florida, Gainesville, USA, May 2019

#### Mentoring Experience

Master Students: 14; PhD Students: 5; Postdoc (NPDF): 1, Project RA: 1

#### New Course Design

- Designed new interdisciplinary Subject (4 credits) on "Light-induced Phenomena in Materials" for Masters and PhD students from Six Departments of IIT Kharagpur, namely, Chemistry, Physics, Materials Science Center, Metallurgy and Materials Engineering, Nanoscience and Engineering and Energy Science and Engineering
- Designed Topics on "Semiconductor Nanocrystals" under the subject "The electronic structure

and the photophysical properties of transition metal compounds” for Masters and PhD Students, University of Geneva, Switzerland

### Teaching Experience

**Course taught till date:** 1<sup>st</sup> year undergraduate Theory and lab course on Inorganic Chemistry, Light-induced Phenomena in Materials (CY61039); Solid State Chemistry (CY50033)

### International Symposium Organization

- Convener: International Conference, “Modern Trends in Molecular Magnetism”, 11-14 December, 2022, Website: <http://www.chemistry.iitkgp.ac.in/conf/mtmm3.php>; Flyer: [http://www.chemistry.iitkgp.ac.in/conf/files/mtmm3/Flyer\\_MTMM3.pdf](http://www.chemistry.iitkgp.ac.in/conf/files/mtmm3/Flyer_MTMM3.pdf)
- Convener: One day Symposium on “Recent Advances in Molecular Magnetism”, 26<sup>th</sup> November 2019, Department of Chemistry, IIT Kharagpur.

### Institutional Collaboration for Joint UoM-IIT Kharagpur PhD Program

Mentor for IIT Kharagpur- University of Manchester (Department of Chemistry), UK Joint PhD Program. UoM PI: Dr. Louise Natrajan. Co-PIs: Prof. Richard Winpenny and Dr. Alice Bowen

### Professional Memberships, Other Professional Activities and Academic Responsibility

- Reviewer: Applied Physics Letters, Inorganic Chemistry, Journal of Alloys and Compounds, Crystal Growth and Design
- Member of the “Reaxys Prize Club Guidance Team”-Elsevier Reaxys: 2014 and 2015
- Member of the Swiss Chemical Society: 2009-2013
- Since 2016: Member of “UW Alumni”, University of Washington, Seattle, USA
- Since 2013: Member of “Alumni UNIGE”, University of Geneva, Switzerland
- 2009-2013: Member of the Swiss Chemical Society
- Since 2007: Member of “Alumni IISc”, Indian Institute of Science, Bangalore, India
- Faculty Advisor, 1<sup>st</sup> year (2021 batch), Theory and Lab Coordinator (undergraduates)
- Doctoral Scrutiny Committee member (Ph.D. thesis)

### Research Interests

- Photophysics of switchable functional inorganic materials and structure-property correlation
- Lanthanide nanomaterials: optical excitation, luminescence, excitation energy migration and transfer, energy transfer up- and down-conversion, persistent luminescence, and LEDs

### List of Publications

- (28) S. Prakash, M. Dutta, **P. Chakraborty**,\* D. K. Goswami\*, “Significant capacitive window in Iron(II) spin-crossover nanostructure based MIM device for memory application” *in preparation*.
- (27) F. J. Valverde-Muñoz,\* R. G. Torres Ramírez, A. Ulhe, E. Trzop, M. Dutta, C. Das, P. Chakraborty,\* E. Collet\* “Ferroelastic phase transition and the role of volume strain in the structural trapping of a metastable quenched low-spin high-symmetry phase in  $[\text{Ru}_{0.35}\text{Fe}_{0.65}(\text{ptz})_6](\text{BF}_4)_2$ ” *accepted*.
- (26) M. Jo, O. Ungor, G. Lakienco, M. Gakiya, P. Lopez Riviera, A. Hauser, A. Kurkin, **P. Chakraborty**,\* M. Shatruk\*, “Light-Induced Spin-State Switching in Fe(II) Spin-Crossover Complexes with Thiazole-Based Chelating Ligands”, *in preparation*.
- (25) P. Ghosh, C. M. Pask, H. B. Vasili, N. Yoshinari, T. Konno, O. Cespedes, C. Enachescu, **P. Chakraborty**\*, M. A. Halcrow\*, “The Effect of Inert Dopant Ions on Spin-Crossover in Molecular Crystals is not Simply Controlled by Chemical Pressure”, Manuscript ready for submission.
- (24) S. Bhattacharya, S. Moullick<sup>#</sup>, C. Das<sup>#</sup>, S. Karmakar, H. Tada, T. Saha-Dasgupta **P. Chakraborty**\*, A. N. Pal\* “Establishing magnetic coupling in a Spin-crossover/2D hybrid nanoscale network via interfacial charge-transfer interaction” *submitted*, (# **equal contribution**).

- (23) M. Dutta, S. Bisht, P. Ghosh, A. I. Chilug, D. Mann, C. Enachescu, M. Shatruk, **P. Chakraborty\***, “Combined Experimental and Mechanoelastic Modeling Studies on the Low-spin Stabilized Mixed Crystals of Magnetically Non-innocent 3D Oxalate-based Coordination Networks”, *submitted*.
- (22) C. Das, S. Dey, A. Adak, C. Enachescu, **P. Chakraborty\***, “Variation of the Cooperativity in diluted Hofmann-based Spin-crossover Coordination Solids  $\text{Fe}_x\text{M}_{1-x}(\text{pz})[\text{Pd}(\text{CN})_4]$ ” *accepted*.
- (21) S. Karmakar, **P. Chakraborty\***, T. Saha-Dasgupta\*, *Phys. Chem. Chem. Phys.* **2022**, 24, 10201. Citation: 1
- (20) **P. Chakraborty\***, M. Sy, H. Fourati, T. Delgado, M. Dutta, C. Das, C. Besnard, A. Hauser, C. Enachescu, K. Boukheddaden\*, *Phys. Chem. Chem. Phys.* **2022**, 24, 982. Citation: 3
- (19) S. Maitra, **P. Chakraborty**, R. Mitra, T. K. Nath, *Curr. Appl. Phys.* **2020**, 20, 1404.
- (18) M. Meneses-Sanchez, L. Pineiro-Lopez, T. Delgado, C. Bartual-Murgui, M. C. Munoz, **Pradip Chakraborty**, J. A. Real, *J. Mater. Chem. C*, **2020**, 8, 1623. Citation: 25
- (17) **P. Chakraborty**, Y. Jin, C. J. Barrows, S. T. Dunham, D. R. Gamelin, *J. Am. Chem. Soc.* **2016**, 138, 12885. Citation: 32
- (16) C. J. Barrows, **P. Chakraborty**, L. M. Kornowske, D. R. Gamelin, *ACS Nano* **2016**, 10, 910. Citation: 47
- (15) L. Stoleriu, A. Stancu, **P. Chakraborty**, A. Hauser, C. Enachescu, *J. Appl. Phys.* **2015**, 117, 17B307. Citation: 17
- (14) **P. Chakraborty**, C. Enachescu, A. Humair, L. Egger, T. Delgado, A. Tissot, L. Guénée, C. Besnard, R. Bronisz, A. Hauser, *Dalton Trans.* **2014**, 43, 17786. Citation: 17
- (13) A. Marino<sup>#</sup>, **P. Chakraborty<sup>#</sup>**, M. Servol, M. Lorenc, E. Collet, A. Hauser, *Angew. Chem. Int. Ed. (VIP)*, **2014**, 53, 3863. (<sup>#</sup>**Equal contribution**); Citation: 78
- (12) **P. Chakraborty**, A. Tissot, L. Peterhans, L. Guénée, C. Besnard, P. Pattison, A. Hauser, *Phys. Rev. B* **2013**, 87, 214306. Citation: 10
- (11) **P. Chakraborty**, M. -L. Boillot, A. Tissot, A. Hauser, *Angew. Chem. Int. Ed.* **2013**, 52, 7139. Citation: 32
- (10) **P. Chakraborty**, S. Pillet, E. -E. Benedeif, C. Enachescu, R. Bronisz, A. Hauser, *Chem. Eur. J.* **2013**, 19, 11418. Citation: 21
- (9) **P. Chakraborty**, C. Enachescu, A. Hauser, *Eur. J. Inorg. Chem.* **2013**, 770. Citation: 16
- (8) H. Phan, **P. Chakraborty**, M. Chen, Y. M. Calm, K. Kovnir, L. K. Keniley, Jr., J. Hoyt, E. S. Knowles, C. Besnard, M. W. Meisel, A. Hauser, C. Achim, M. Shatruk, *Chem. Eur. J.* **2012**, 18, 15805. Citation: 38
- (7) **P. Chakraborty**, C. Enachescu, C. Walder, R. Bronisz, A. Hauser, *Inorg. Chem.* **2012**, 51, 9714. Citation: 49
- (6) **P. Chakraborty**, R. Bronisz, C. Besnard, L. Guénée, P. Pattison, A. Hauser, *J. Am. Chem. Soc.* **2012**, 134, 4049. Citation: 54
- (5) L. Stoleriu, **P. Chakraborty**, A. Hauser, A. Stancu, C. Enachescu, *Phys. Rev. B* **2011**, 84, 134102. Citation: 99
- (4) I. Krivokapic, **P. Chakraborty**, C. Enachescu, R. Bronisz, A. Hauser, *Inorg. Chem.* **2011**, 50, 1856. Citation: 26
- (3) **P. Chakraborty\***, P. Roy Choudhury, and S. B. Krupanidhi, *J. Cryst. Growth* **2011**, 337, 7. Citation: 4
- (2) I. Krivokapic, **P. Chakraborty**, R. Bronisz, C. Enachescu, A. Hauser, *Angew. Chem. Int. Ed. (VIP)*, **2010**, 49, 8509. Citation: 24
- (1) **P. Chakraborty\***, S. B. Krupanidhi, *J. Appl. Phys.* **2010**, 107, 124105. Citation: 9

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**Total Citations:** 641; ***h*-index:** 15; ***i10*-index:** 16 (Google Scholar Citation report)