

# CURRICULUM VITAE

## Dr. Anirban Chandra

### Personal Information:

Nationality: Indian  
Date of Birth: 28<sup>th</sup> July 1988.  
Languages: Bengali, English, Hindi, German.  
Telephone: +91-7362962077  
Permanent Address: Katwa(m), P.O.- Katwa, Dist.- Purba Bardhaman, West Bengal-713130, India.  
Present Address: Department of Chemistry, Tripura University (A central University), Suryamaninagar, Tripura(W), Pin- 799022, India.  
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### Employment:

11/2023 – To Date: **Assistant Professor**  
Department of Chemistry (Inorganic Chemistry Section),  
Tripura University (A Central University), Agartala, Tripura, India.

10/2021 – 11/2023 **Post-Doctoral Fellow**  
Dept. of Molecular Chemistry and Materials Science;  
Weizmann Institute of Science, Rehovot, Israel.  
Projects: Surface Polymers; Electrochromic Devices; Coatings; Supramolecular Assembly.

### Education:

02/2016 – 03/2021 **Doctoral Research Scholar**  
(Magna Cum Laude)  
Institut für Chemie, Faculty of Mathematics and Natural Sciences,  
Humboldt University of Berlin, Berlin, Germany. (Global ranked 80 in World University  
Rankings by Times Higher Education in 2021)  
Thesis Title: “Synthesis of Bioinspired Dioxygen Reduction Catalyst Involving Mono and  
Polynuclear Late Transition Metal Complexes and Spectroscopic Trapping of Reactive  
Intermediates.”

07/2012 – 12/2015 **UGC Research Fellow**  
All India Rank 0085/0748 (CSIR-UGC NET examination held on 18-12-2011)  
Department of Chemistry  
IIT-Kanpur, Kanpur  
Project Title: “Synthesis of Novel Luminescent Heterometallic Complex for Theranostic  
Application”

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07/2009 – 07/2011

## **Master of Science**

(Specialization: Inorganic Chemistry)

The University of Burdwan, Burdwan, West Bengal, India.

Project Title: "Kinetics of Micellization and its application"

07/2006 – 06/2009

## **Bachelor of Science (Chemistry Hons)**

Katwa College, The University of Burdwan, Burdwan, West Bengal, India.

### **Research Interest and Experience:**

Organometallic Synthesis: Synthesis of High-valent and Low-valent Metal Catalysts; Trapping of Reaction Intermediates.

Surface Electrochemistry: Electrochromic Devices; Coatings; Supramolecular Assembly, Surface Polymer.

Biomimetic Catalysis: Design and Synthesis of Bioinspired Catalysts for Oxygenation Reactions & Small Molecules Activation.

Medicinal Chemistry: Design and Synthesis of Heterometallic Complexes for Theranostic Application.

### **Technical Skills and Instruments Handling:**

- ❖ Experienced in design, synthesis, and development of novel inorganic, organic, and organometallic compounds under air- and moisture-sensitive conditions using Schlenk line and glovebox techniques.
- ❖ Expertise in surface electrochemistry and coatings (dip coating, spin coating, and ultrasonic spray coatings)
- ❖ Strong expertise in molecular catalysis, mechanistic understanding, and kinetic measurements.
- ❖ Purification of Compounds: Column Chromatography, Crystallization, and Distillation.
- ❖ Chemical characterization techniques such as NMR; ESI-MS; FTIR; ATIR; UV-Vis; Low Temp UV-Vis experiments using UNISOKU Cryostat, EPR; resonance-Raman, GC-MS; elemental analysis, Cyclic Voltammetry, Circular Dichroism, X-ray crystallography; XAS/EXAFS
- ❖ Strong knowledge in software applications including MestReNova, Adobe Illustrator, Chem Draw, Origin. Search engines like Sci-Finder, Scopus, and Web of Science.
- ❖ Strong understanding of chemical MSDS, mitigating hazards, and lab / environmental safety.
- ❖ Proficient in documenting experimental details and presenting results using Microsoft office.

### **Honors and Awards:**

- ❖ Selected for 'FGS Dean of Faculty Fellow' in 2021 by Weizmann Institute of Science, Israel.
- ❖ Selected for 'Wissenschaftlichen-Mitarbeiter' Fellowship in 2016 by Humboldt-Universität zu Berlin.
- ❖ Junior Research Fellow (JRF) by CSIR-UGC, New Delhi, India (2012-2014).
- ❖ Secured AIR **85<sup>th</sup> rank** in National level CSIR-NET Exam, 2011-12 (Conducted by Human Resource Development Group, INDIA).

### **Teaching Assistantship:**

Teaching / Laboratory Assistant in "AC6 Praktikum" course at Institut für Chemie, Humboldt-Universität zu Berlin, Germany.

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## Conferences Attended:

1. "Frontiers in Chemical Sciences (FCS-2020)" 03-05<sup>th</sup> December 2020.  
Bharathiar University, Coimbatore, Tamil Nadu, India
2. "ECOST-BIO Final Meeting Berlin" 09-11<sup>th</sup> April, 2018.  
Seestrasse 39, 15537 Erkner, Germany;
3. "Niedersächsisches Katalyse Symposium (NIKAS) 2018" 19-20<sup>th</sup> September 2018.  
Georg-August-Universität Göttingen, Germany
4. "13. KCT-Koordinationschemie-Treffen, Potsdam" 05-07<sup>th</sup> March 2017.  
Universität Potsdam, 14476 Potsdam, Germany
5. "8<sup>th</sup> CRSI-RSC Joint Symposium in Chemistry-2014" 06-09<sup>th</sup> February 2014.  
Indian Institute of Technology Bombay, India.
6. "16<sup>th</sup> CRSI National Symposium in Chemistry (NSC-16)", 07-09<sup>th</sup> February 2014.  
Indian Institute of Technology Bombay, India.
7. 13<sup>th</sup> Eurasia Conference on Chemical Sciences 14-18<sup>th</sup> December 2014.  
Indian Institute of Science Bangalore, India. 14-18<sup>th</sup> December 2014
8. "4<sup>th</sup> International Collaborative and Cooperative Chemistry Symposium-2013" 24-26<sup>th</sup> October, 2013.  
Indian Institute of Technology Kanpur, India.
9. "Recent Advances in Chemical Science" 20-22<sup>th</sup> February 2009.  
Department of Chemistry, The University of Burdwan

## List of Publications: (<https://scholar.google.com/citations?hl=en&user=oDvL1vkAAAAJ>)

1. "Spectroscopic Capture and Reactivity of a More Reactive Oxocobalt(IV) Core Stabilized by Lewis Acid Interaction."  
**A. Chandra**, M. Schütze, K. Ray\*  
manuscript in preparation
2. "Ligand Constraint-Induced Peroxide Activation for Electrophilic Reactivity."  
**A. Chandra**, M. Ansari, I. M. Pérez, S. Kundu, G. Rajaraman\*, and K. Ray\*  
*Angew. Chem. Int. Ed.*, **2021**, *60*, 14954-14959. DOI: 10.1002/anie.202100438.
3. "Transition-Metal-Mediated O–O Bond Formation and Activation in Chemistry and Biology."  
X. P. Zhang, **A. Chandra**, Y.-M. Lee, R. Cao\*, K. Ray\*, and W. Nam\*  
*Chem. Soc. Rev.*, **2021**, *50*, 4804-4811. DOI: 10.1039/D0CS01456G.
4. "Formation of Cobalt-Oxygen Intermediates by Dioxygen Activation at a Mononuclear Nonheme Cobalt(II) Center."  
D. D. Malik, **A. Chandra**, M. S. Seo, Y.-Min Lee, A. K. Vardhaman, E. Farquhar, S. Mebs, H. Dau, K. Ray\*, and W. Nam\*  
*Dalton Trans.*, **2021**, *50*, 11889-11898. DOI: 10.1039/d1dt01996a.
5. "Catalytic Dioxygen Reduction Mediated by a Tetranuclear Cobalt Complex Supported on a Stannoxane Core."  
**A. Chandra**, S. Mebs, S. Kundu, U. Kuhlmann, P. Hildebrandt, H. Dau, and K. Ray\*  
*Dalton Trans.*, **2020**, *49*, 6065-6073. DOI: 10.1039/D0DT00475H.  
(Invited contribution to a special issue on 'Inorganic Reaction mechanisms')

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6. “Nucleophilic vs. Electrophilic Reactivity of Bioinspired Super-oxido Nickel (II) Complexes.”

**A. Chandra**, C. Panda, T. Corona, E. Andris, B. Pandey, S. Garai, N. Lindenmaier, S. Kuenstner, E. R. Farquhar, J. Roithova\*, G. Rajaraman\*, M. Driess\*, K. Ray\*.

*Angew. Chem. Int. Ed.* **2018**, *57*, 14883-14887. (§ = equal contribution). DOI: [10.1002/anie.201808085](https://doi.org/10.1002/anie.201808085).

7. “Temperature Dependence of the Catalytic Two- versus Four Electron Reduction of Dioxygen by a Hexanuclear Cobalt Complex.”

I. M. Pérez, S. Kundu, **A. Chandra**, K. E. Craigo, P. Chernev, U. Kuhlmann, H. Dau, P. Hildebrandt, C. Greco, C. Van Stappen\*, N. Lehnert\*, K. Ray\*.

*J. Am. Chem. Soc.* **2017**, *139*, 15033-15042. DOI: [10.1021/jacs.7b07127](https://doi.org/10.1021/jacs.7b07127).

8. “A Luminescent Europium(III)-Platinum(II) Heterometallic Complex as a Theranostic Agent: a Proof-of-Concept Study.”

**A. Chandra**, K. Singh, S. Singh, S. Sivakumar, A. K. Patra\*.

*Dalton. Trans.* **2016**, *45*, 494-497. DOI: [10.1039/C5DT04470G](https://doi.org/10.1039/C5DT04470G).

### Declaration:

I, hereby, declare that the above-mentioned particulars are true to the best of my knowledge and belief. Given an opportunity, I will prove my efficiency, loyalty, and will leave no stone unturned to dedicate, myself to my work.

**Place:** Tripura University.



**Dr. Anirban Chandra.**