# **CURRICULUM VITAE**

### **Dr. Indranil Roy**

Permanent Address: C/O: Mr. Mrinal Kanti Roy, Vill+Po: Gohaldanga,

Dist: West Medinipur, State: West Bengal. Pin- 721232. (India)

**Residential Address:** Flat-4A, 460 Sarat Chatterjee Road, Sibpur, PO: Botanic Garden, Dist: Howrah, State: West Bengal, Pin-711103 (India)

**E-mail:** indranil.cit6@gmail.com **Contact No:** +91-7003564186 (**M**)



| Sex  | Date of Birth | Nationality | Category | Marital Status |
|------|---------------|-------------|----------|----------------|
| Male | 03.07.1987    | Indian      | General  | Married        |

### **Academic Qualification** (Undergraduate Onwards)

| S.No   | Degree  | Year        | Subject                        | University/Institution   | % of<br>marks |  |
|--|---|-------------|--------------------------------|--|---------------|--|
| 1.   | Ph.D  | 2018        | Polymer Science and Technology | University of Calcutta   | -             |  |
| Thesis title: Development of Multifunctional Graphene Based Nanocomposites |   |             |                                |  | osites        |  |
| 2.   | M.Tech  | 2011        | Plastics Engg. & Polymer Tech. | Central Institute of<br>Plastics Engineering and<br>Technology | 86            |  |
| Thesis   | stitle: Studies on r                                      | nodificatio | on and characterization        | on of MMT clay and PLA n                                       | ano composite |  |
| 3.   | B.Tech  | 2009        | Chemical<br>Engineering        | West Bengal University of Technology                           | 77            |  |
|  | Thesis title: Industrial preparation of pthalic anhydride |             |                                |  |               |  |

### **Work experience** (in chronological order):

| S.No. | Positions held   | Name of the<br>Institute | From     | То       |
|-------|--|--------------------------|----------|----------|
| 1.    | Senior Research Fellow<br>(Project funded by<br>TATA Steel Ltd.) | University of Calcutta   | 09.03.17 | 28.03.18 |
| 2.    | Senior Research<br>Associate<br>(TEQIP)                          | University of Calcutta   | 01.10.12 | 28.02.17 |
| 3.    | Quality Control & Product Development (In-charge)                | Harsh Impex Pvt. Ltd.    | 01.03.12 | 31.09.12 |

# Professional Recognition/ Award/ Prize/ Certificate, Fellowship received:

| S.No | Name of Award                       | Awarding Agency            | Year |
|------|-------------------------------------|----------------------------|------|
| 1.   | Award for Oral Presentation         | National Rubber Conference | 2016 |
| 2.   | Award for Research Promotion scheme | TEQIP                      | 2013 |

# Publications, Patents and Book Chapters:

So far, I have coauthored in 22 International Journal articles, 3 patents and 1 book chapter.

# **Publications:**

| S.No. | Author(s)                    | Title                         | Name<br>Journai | Volume | Page | Year |
|-------|------------------------------|-------------------------------|-----------------|--------|------|------|
| 1.    | Amartya                      | Development of an auto-phase  | Internationa    | 116    | 1037 | 2018 |
|       | Bhattacharyya,               | separable and reusable        | l journal of    |        | -    |      |
|       | Bhaskar                      | graphene oxide-potato starch  | biological      |        | 1048 |      |
|       | Banerjee,                    | based cross-linked bio-       | macromolec      |        |      |      |
|       | Soumitra Ghorai,             | composite adsorbent for       | ules            |        |      |      |
|       | Dipak Rana,                  | removal of methylene blue dye |                 |        |      |      |
|       | Indranil Roy,                | į į                           |                 |        |      |      |
|       | Gunjan Sarkar,               |                               |                 |        |      |      |
|       | Nayan Ranjan                 |                               |                 |        |      |      |
|       | Saha, Sriparna               |                               |                 |        |      |      |
|       | De, Tapas Kumar              |                               |                 |        |      |      |
|       | Ghosh, Sourav                |                               |                 |        |      |      |
|       | Sadhukhan,                   |                               |                 |        |      |      |
|       | Dipankar                     |                               |                 |        |      |      |
|       | Chattopadhyay                |                               |                 |        |      |      |
| 2.    | Soumen Sardar,               | Photophysical and             | Journal of      | 1168   | 187  | 2018 |
|       | Riya Koley,                  | electrochemical               | Molecular       |        | -    |      |
|       | Uttam Kumar                  | properties/behavior of        | Structure       |        | 194  |      |
|       | Ghorai1, Abhijit             | oligothiophene in             | (Under          |        |      |      |
|       | Pal, Srijoni                 | 2 non-polymeric and           | minor           |        |      |      |
|       | Sengupta,                    | polymeric solvents            | revision)       |        |      |      |
|       | Indranil Roy                 |                               |                 |        |      |      |
|       | and Abhijit                  |                               |                 |        |      |      |
|       | Bandyopadhyay                |                               |                 |        |      |      |
| 3.    | Nayan Ranjan                 | Development of active         | Carbohydrat     | 187    | 8-18 | 2018 |
|       | Saha, <u><b>Indranil</b></u> | packaging material based on   | e polymers      |        |      |      |
|       | <b>Roy</b> , Gunjan          | cellulose acetate butyrate/   |                 |        |      |      |
|       | Sarkar, Amartya              | polyethylene glycol/ aryl     |                 |        |      |      |
|       | Bhattacharyya,               | ammonium cation modified      |                 |        |      |      |
|       | Rituparna Das,               | clay                          |                 |        |      |      |
|       | Dipak Rana,                  |                               |                 |        |      |      |

|    | Rajdeb Banerjee,<br>Amal Kanti Paul,<br>Roshnara<br>Mishra, Dipankar<br>Chattopadhyay   |   |                                    |     |                     |      |
|----|---|---|------------------------------------|-----|---------------------|------|
| 4. | Gunjan Sarkar, Jonathan T Orasugh, Nayan R Saha, Indranil Roy, Amartya Bhattacharyya, Atis K Chattopadhyay, Dipak Rana, Dipankar Chattopadhyay                                      | Cellulose nanofibrils/chitosan<br>based transdermal drug<br>delivery vehicle for controlled<br>release of ketorolac<br>tromethamine | New Journal<br>of<br>Chemistry     | 41  | 15312<br>-<br>15319 | 2017 |
| 5. | Amartya Bhattacharyya, Dipankar Mondal, Indranil Roy, Gunjan Sarkar, Nayan Ranjan Saha, Dipak Rana, Tapas Kumar Ghosh, Debabrata Mandal, Mukut Chakraborty, Dipankar Chattopadhyay* | Studies of the kinetics and mechanism of the removal process of proflavine dye through adsorption by graphene oxide                 | Journal of<br>Molecular<br>Liquids | 230 | 696<br>-<br>704     | 2017 |
| 6. | Indranil Roy, Balaram Das, Md. Masud Rahaman Mollick, Arijita Basu, Aditi Dey, Sandeep Kumar Dash, Somenath Roy and Dipankar Chattopadhyay*   | Nanotherapy on human acute myeloid leukemia cells using RGO/Ag nanocomposites"  | RSC<br>Advances                    | 6   | 52403<br>-<br>52410 | 2016 |
| 7. | Nazia Kausar,<br><u>Indranil Roy</u> ,<br>Dipankar  | Synthesis of 2,3-<br>dihydroquinazolinones and<br>quinazolin-4(3H)-one  | RSC<br>Advances                    | 6   | 22320<br>-<br>22330 | 2016 |

|     | Chattopadhyay<br>and Asish R<br>Das*  | catalyzed by Graphene Oxide<br>nanosheets in aqueous<br>medium: "on-water" synthesis<br>accompanied by carbocatalysis<br>and selective C-C bond<br>cleavage |                                     |    |                     |      |
|-----|---|---|-------------------------------------|----|---------------------|------|
| 8.  | Indranil Roy, Gunjan Sarkar, Soumya Mondal, Dipak Rana, Amartya Bhattacharyya, Nayan Ranjan Saha, Arpita Adhikari, Dipak Khastgir, Sanatan Chattopadhyay* and Dipankar Chattopadhyay* | Synthesis and characterization of graphene from waste dry cell battery for electronic applications  | RSC<br>Advances                     | 6  | 10557<br>-<br>10564 | 2016 |
| 9.  | Gunjan Sarkar, Nayan Ranjan Saha, Indranil Roy, Amartya Bhattacharyya, Arpita Adhikari, Dipak Rana, Manas Bhowmik, Madhura Bose, Roshnara Mishra, Dipankar Chattopadhyay*             | Cross-linked methyl cellulose /graphene oxide rate controlling membranes for in vitro and ex vivo permeation studies of diltiazem hydrochloride             | RSC<br>Advances                     | 6  | 36136-<br>36145     | 2016 |
| 10. | Tapas K Ghosh, Shirshendu Gope, Dipak Rana, Indranil Roy, Gunjan Sarkar, Sourav Sadhukhan, Amartya Bhattacharya, Krishnendu Pramanik, Sanatan Chattopadhyay,                          | Physical and electrical characterization of reduced graphene oxide synthesized adopting green route   | Bulletin of<br>Materials<br>Science | 39 | 543<br>-<br>550     | 2016 |

|     | Mukut                      |  |                  |     |       |      |
|-----|----------------------------|--|------------------|-----|-------|------|
|     |                            |  |                  |     |       |      |
|     | Chakraborty,               |  |                  |     |       |      |
|     | Dipankar<br>Chattopadhyay* |  |                  |     |       |      |
| 11. |                            | Nanagamposita films based on                   | RSC              | 6   | 92569 | 2016 |
| 11. | Nayan Ranjan               | Nanocomposite films based on                   | Advances         | O   | 92309 | 2016 |
|     | Saha, Gunjan               | cellulose acetate/polyethylene                 | Advances         |     | 92578 |      |
|     | Sarkar, <u>Indranil</u>    | glycol/modified<br>montmorillonite as nontoxic |                  |     | 02010 |      |
|     | Roy, Amartya               |  |                  |     |       |      |
|     | Bhattacharyya,             | active packaging material                      |                  |     |       |      |
|     | Dipak Rana,                |  |                  |     |       |      |
|     | Gunaseelan                 |  |                  |     |       |      |
|     | Dhanarajan,                |  |                  |     |       |      |
|     | Rajdeb Banerjee,           |  |                  |     |       |      |
|     | Ramkrishna Sen,            |  |                  |     |       |      |
|     | Roshnara                   |  |                  |     |       |      |
|     | Mishra, Dipankar           |  |                  |     |       |      |
| 10  | Chattopadhyay              |  | 3.6              | 70  | 4.1   | 2016 |
| 12. | Sourav                     | Studies on synthesis of                        | Materials        | 79  | 41    | 2016 |
|     | Sadhukhan,                 | reduced graphene oxide                         | Research         |     | -     |      |
|     | Tapas Kumar                | (RGO) via green route and its                  | Bulletin         |     | 51    |      |
|     | Ghosh, Dipak               | electrical property                            |                  |     |       |      |
|     | Rana, <u>Indranil</u>      |  |                  |     |       |      |
|     | <b>Roy</b> , Amartya       |  |                  |     |       |      |
|     | Bhattacharyya,             |  |                  |     |       |      |
|     | Gunjan Sarkar,             |  |                  |     |       |      |
|     | Mukut                      |  |                  |     |       |      |
|     | Chakraborty,               |  |                  |     |       |      |
|     | Dipankar                   |  |                  |     |       |      |
| 10  | Chattopadhyay*             | G. 1   | G 1 1 1 .        | 106 | 1010  | 2016 |
| 13. | Nayan Ranjan               | Studies on methylcellulose                     | Carbohydrat      | 136 | 1218  | 2016 |
|     | Saha, Gunjan               | /pectin/montmorillonite nano-                  | e polymers       |     | -     |      |
|     | Sarkar, <u>Indranil</u>    | composite films and their                      |                  |     | 1227  |      |
|     | Roy, Dipak                 | application possibilities                      |                  |     |       |      |
|     | Rana, Amartya              |  |                  |     |       |      |
|     | Bhattacharyya,             |  |                  |     |       |      |
|     | Arpita Adhikari,           |  |                  |     |       |      |
|     | Asis                       |  |                  |     |       |      |
|     | Mukhopadhyay,              |  |                  |     |       |      |
|     | Dipankar                   |  |                  |     |       |      |
| 1.4 | Chattopadhyay*             | In the Channel C. 1. 1                         | NII              | 40  | 7101  | 2016 |
| 14. | Sutanuka                   | In situ fluorescence of lac dye                | New Journal      | 40  | 7121  | 2016 |
|     | Pattanayak,                | stabilized gold nanoparticles;                 | of<br>Charaistan |     | 7121  |      |
|     | Sharmila                   | DNA binding assay and toxicity                 | Chemistry        |     | 7131  |      |
|     | Chakraborty, Md            | study  |                  |     |       |      |
|     | Masud Rahaman              |  |                  |     |       |      |
|     | Mollick,                   |  |                  |     |       |      |

|     | Induanil Day                  |  |              |     |          |      |
|-----|-------------------------------|--|--------------|-----|----------|------|
|     | Indranil Roy,                 |  |              |     |          |      |
|     | Samita Basu,                  |  |              |     |          |      |
|     | Dipak Rana,                   |  |              |     |          |      |
|     | Samiran Sona                  |  |              |     |          |      |
|     | Gauri, Dipankar               |  |              |     |          |      |
|     | Chattopadhyay,                |  |              |     |          |      |
|     | Mukut                         |  |              |     |          |      |
| 15. | Chakraborty*                  | Effect of commons  | RSC          | 74  | 60386    | 2015 |
| 15. | Biplab                        | Effect of carrageenan and                                |              | /4  | 00300    | 2015 |
|     | Bhowmick,                     | potassium chloride on an in situ                         | Advances     |     | 60391    |      |
|     | Gunjan Sarkar,                | gelling ophthalmic drug                                  |              |     | 00001    |      |
|     | Dipak Rana,                   | delivery system based on                                 |              |     |          |      |
|     | Indranil Roy,                 | methylcellulose  |              |     |          |      |
|     | Nayan Ranjan                  |  |              |     |          |      |
|     | Saha, Sushmita                |  |              |     |          |      |
|     | Ghosh, Manas                  |  |              |     |          |      |
|     | Bhowmik,                      |  |              |     |          |      |
|     | Dipankar Chattaga dhayay      |  |              |     |          |      |
| 1.0 | Chattopadhyay                 | Dental and C   | T4           | 0.0 | 200      | 2017 |
| 16. | Kalipada                      | Dextrin-mediated synthesis of                            | Internationa | 80  | 309      | 2015 |
|     | Bankura, Dipak                | Ag NPs for colorimetric assays                           | l Journal of |     | -<br>316 |      |
|     | Rana, Md Masud                | of Cu2+ ion and Au NPs for                               | Biological   |     | 310      |      |
|     | Rahaman                       | catalytic activity                                       | Macromolec   |     |          |      |
|     | Mollick,                      |  | ules         |     |          |      |
|     | Sutanuka                      |  |              |     |          |      |
|     | Pattanayak,                   |  |              |     |          |      |
|     | Biplab                        |  |              |     |          |      |
|     | Bhowmick,                     |  |              |     |          |      |
|     | Nayan Ranjan                  |  |              |     |          |      |
|     | Saha, <u>Indranil</u>         |  |              |     |          |      |
|     | Roy, Tarapada                 |  |              |     |          |      |
|     | Midya, Gadadhar               |  |              |     |          |      |
|     | Barman,                       |  |              |     |          |      |
|     | Dipankar<br>Chattanadhyay     |  |              |     |          |      |
| 17. | Chattopadhyay                 | Physical and electrochemical                             | RSC          | 5   | 25357    | 2015 |
| 1/. | Indranil Roy,                 | Physical and electrochemical characterization of reduced | Advances     | 3   | 20001    | 2013 |
|     | Dipak Rana,<br>Gunjan Sarkar, |  | Auvances     |     | 25364    |      |
|     |                               | 6 1  |              |     |          |      |
|     | Amartya<br>Bhattacharyya,     | nanocomposites synthesized by adopting a green approach  |              |     |          |      |
|     |                               | adopting a green approach                                |              |     |          |      |
|     | Nayan Ranjan                  |  |              |     |          |      |
|     | Saha, Soumya<br>Mondal,       |  |              |     |          |      |
|     | Sutanuka                      |  |              |     |          |      |
|     |                               |  |              |     |          |      |
|     | Pattanayak,                   |  |              |     |          |      |
|     | Sanatan                       |  |              |     |          |      |

|     | Chattopadhyay,        |                                 |              |    |         |      |
|-----|-----------------------|---------------------------------|--------------|----|---------|------|
|     |                       |                                 |              |    |         |      |
|     | Dipankar              |                                 |              |    |         |      |
| 10  | Chattopadhyay         | T '                             | DCC          | 4  | 520.4.4 | 2014 |
| 18. | <u>Indranil Roy</u> , | In situ synthesis of a reduced  | RSC          | 4  | 52044   | 2014 |
|     | Amartya               | graphene oxide/cuprous oxide    | Advances     |    | -       |      |
|     | Bhattacharyya,        | nanocomposite: a reusable       |              |    | 52052   |      |
|     | Gunjan Sarkar,        | catalyst                        |              |    |         |      |
|     | Nayan Ranjan          |                                 |              |    |         |      |
|     | Saha,                 |                                 |              |    |         |      |
|     | Dipak Rana,           |                                 |              |    |         |      |
|     | Partha Pratim         |                                 |              |    |         |      |
|     | Ghosh, Mainak         |                                 |              |    |         |      |
|     | Palit, Asish          |                                 |              |    |         |      |
|     | Ranjan Das            |                                 |              |    |         |      |
|     | and Dipankar          |                                 |              |    |         |      |
|     | Chattopadhyay*        |                                 |              |    |         |      |
| 19. | Kalipada              | Antibacterial activity of Ag-Au | Carbohydrat  | 5  | 151     | 2014 |
|     | Bankura,              | alloy NPs and chemical sensor   | e Polymers   |    | _       |      |
|     | Dipanwita Maity,      | property of Au NPs synthesized  |              |    | 157     |      |
|     | Md Masud              | by dextran.                     |              |    |         |      |
|     | Rahaman               |                                 |              |    |         |      |
|     | Mollick,              |                                 |              |    |         |      |
|     | Dibyendu              |                                 |              |    |         |      |
|     | Mondal, Biplab        |                                 |              |    |         |      |
|     | Bhowmick,             |                                 |              |    |         |      |
|     | Indranil Roy,         |                                 |              |    |         |      |
|     | Tarapada Midya,       |                                 |              |    |         |      |
|     | Joy Sarkar,           |                                 |              |    |         |      |
|     | Dipak Rana,           |                                 |              |    |         |      |
|     | Krishnendu            |                                 |              |    |         |      |
|     | Acharya,              |                                 |              |    |         |      |
|     | Dipankar              |                                 |              |    |         |      |
|     | Chattopadhyay*        |                                 |              |    |         |      |
| 20. | Tapas Kumar           | Assessment of morphology        | Internationa | 66 | 338     | 2014 |
|     | Ghosh,                | and property of                 | 1 Journal of | -  | _       |      |
|     | Shirshendu            | grapheneoxide-                  | Biological   |    | 345     |      |
|     | Gope, Dibyendu        | hydroxypropylmethylcellulose    | Macromolec   |    |         |      |
|     | Mondal, Biplab        | nanocomposite films             | ules         |    |         |      |
|     | Bhowmik, Md           | r 32                            |              |    |         |      |
|     | Masud Rahaman         |                                 |              |    |         |      |
|     | Mollick,              |                                 |              |    |         |      |
|     | Dipanwita Maity,      |                                 |              |    |         |      |
|     | Indranil Roy,         |                                 |              |    |         |      |
|     | Gunjan Sarkar,        |                                 |              |    |         |      |
|     | Sourav                |                                 |              |    |         |      |
|     | Sadhukhan,            |                                 |              |    |         |      |
| L   | Sauliukilali,         |                                 |              |    |         |      |

|     | Dipak Rana,<br>Mukut<br>Chakraborty,<br>Dipankar   |   |  |    |                 |      |
|-----|--|---|--|----|-----------------|------|
|     | Chattopadhyay  |   |  |    |                 |      |
| 21. | Md Masud Rahaman Mollick, Biplab Bhowmick, Dipanwita Maity, Dibyendu Mondal, Indranil Roy, Joy Sarkar, Dipak Rana, Krishnendu Acharya, Sanatan Chattopadhyay, Dipankar Chattopadhyay*. | Green synthesis of silver nanoparticles-based nanofluids and investigation of their antimicrobial activities  | Microfluid<br>Nanofluid  | 16 | 541<br>-<br>551 | 2014 |
| 22. | Gunjan Sarkar, Nayan Ranjan Saha, Indranil Roy, Amartya Bhattacharyya, Madhura Bose, Roshnara Mishra, Dipak Rana, Debashis Bhattacharjee, Dipankar Chattopadhyay                       | Taro corms mucilage/HPMC based transdermal patch: an efficient device for delivery of diltiazem hydrochloride | Internationa<br>1 Journal of<br>Biological<br>Macromolec<br>ules | 66 | 158<br>-<br>165 | 2014 |

#### **Patents**:

- i. Simple and rapid cost-effective approach for synthesis of green fluorescent graphene quantum dots from coal. (Patent Application No: 201831004998)
- ii. Method of making blue emitting graphene quantum dots from coal. (Patent Application No.: 201931001184)
- iii. Method of developing blue emitting graphene quantum dots from graphene oxide. (Patent Application no: 201931003535)

### **Book chapter:**

 i. "Preparation/Synthesis of Carbon Materials" (Book: Carbon-Containing Polymer Composites, Pages: 1-64, Publisher: Springer, Singapore)

### **Equipment Exposure:**

Hand skill experience in

- 1. UV-Vis Spectrophotometer (UV)
- 2. FT-IR Spectrophotometer (FTIR)
- 3. Dynamic Light Scattering for Size and Zeta analysis (DLS)
- 4. Differential Scanning Calorimeter (DSC)
- 5. Thermogravimetric Analysis (TGA)
- 6. X-Ray Diffractometer (XRD)
- 7. Rotational Viscometers
- 7. Dynamic Mechanical Analyzer (DMA)
- 8. MCR Rheometer / Moving Die Rheometer
- 9. Spectrofluorimeter for fluorescence study
- 10. Source Measure Unit for I/V study (SMU)
- 11. Universal Testing Machine (UTM)
- 12. Extrusion Moulding / Injection Moulding / Compression Moulding / Two Roll Mill

#### Name, address & contact nos. of two referees:

| Prof. (Dr.) Dipankar Chattopadhyay            | Dr. Abhijit Bandyopadhyay                   |
|---|---|
| Professor, Department of Polymer Science and  | Associate Professor , Department of Polymer |
| Technology, University of Calcutta, Rajabazar | Science and Technology, University of       |
| Science College,                              | Calcutta, Rajabazar Science College,        |
| 92, A.P.C Road, Kolkata-700009.               | 92, A.P.C Road, Kolkata-700009.             |
| Email: dipankar.chattopadhyay@gmail.com       | Email: abhijitbandyopadhyay@yahoo.co.in     |
| Contact No: +91-9433379034                    | Contact No: +91-9433186957                  |
|   | 1   |

I consider myself familiar with Chemical Engineering & also Plastic Engineering Aspects. I am also confident of my ability to work in a team.

I hereby declare that the information furnished above is true to the best of my knowledge. Dr. Indranil Roy

**Date:** 12. 08. 2019

**Dr. Indranil Roy** Place: Kolkata