

# Dr Pratap Chandra Acharya

## Assistant Professor

Department of Pharmacy

Tripura University (A Central University)

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## ACADEMIC

### QUALIFICATIONS

#### 1. PhD (2013): Panjab University, Chandigarh

**Thesis Title:** Synthesis and pharmacological evaluation of some newer heterosteroids as antineoplastic agents.

#### 2. M.Pharm (2008): Indian Institute of Technology (BHU), Varanasi

**Thesis Title:** Design, synthesis and anticonvulsant evaluation of some new 1,3,4-thiadiazole derivatives

#### 3. B.Pharm (2006): Berhampur University, Berhampur/ BPUT, Odisha.

#### 4. P.G.Diploma in Spectroscopy (Dual Degree; 2008): Banaras Hindu University (BHU), Varanasi

## RESEARCH INTERESTS

- ✓ Heterosteroid synthesis and steroid modifications towards anticancer drug discovery.
- ✓ Synthesis of lipid-drug bioconjugates and heterocyclic small molecules to target colon cancer.
- ✓ Synthesis of glycolipids for nanodelivery of anticancer drugs.
- ✓ Method development for the analysis of pharmaceuticals, drugs, metabolites, impurities, and degradants.

## POST Ph.D RESEARCH WORK

Title of project	Institute	Supervisor	Funded by
Impact of air pollution on respiratory health	University of Edinburgh, Scotland, UK.	Prof. Jamie Cross	Commonwealth Scholarship Commission, UK
Screening of spirooxindole derivatives as cancer chemotherapeutic agents by targeting G-Quadruplex interaction	iMed-ULisboa- Research Institute for Medicines, Faculty of Pharmacy, University of Lisbon, Portugal	Dr. Alexandra Paulo, Professor of Medicinal Chemistry	EMBO, Heidelberg, Germany
Role of NlpI-Prc complex on MepS regulation in <i>Escherichia coli</i>	Centre for Cellular & Molecular Biology, Hyderabad	Dr. Manjula Reddy, Sr. Principal Scientist	INSA-IASc- NASI, India

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**AWARDS  
&  
FELLOWSHIPS**

1. **Commonwealth Professional Fellowship-2023** by Commonwealth Scholarship Commission, UK.
2. **Faculty award, certificate of honour and medal** by Tripura University, 2019
3. **“European Molecular Biology Organization Short Term Fellowship-2018 (EMBO STF-2018)”** award.
4. **Faculty award and certificate of honour** by Tripura University, 2017
5. **“DST Young Scientist International Travel Grant Award”** by Department of Science and Technology, Government of India, 2017.
6. **“Science Academies' Summer Research Fellowship-2017”** Jointly awarded by Indian Academy of Sciences, Bengaluru (IASC), Indian, National Science Academy, New Delhi (INSA), and The National Academy of Sciences, Allahabad (NASI), India
7. **“Best Paper in Medicinal Chemistry award”** and **“Best Oral Presentation Award”** at 63<sup>rd</sup> Indian Pharmaceutical Congress, Bengaluru, India, 16th-18th December 2011.
8. **“Research Project Presentation”** award at Manshodhan-IV, Mithibai College, Mumbai, India, 14<sup>th</sup> December 2013
9. **“University Grant Commission Research Fellowship for Meritorious Student in Science (UGC-RFSMS)-2009**
10. **“G.A.T.E Fellowship** (Ministry of Human Resource Development, Govt. of India) **Year 2006”**, conducted by IIT-Kharagpur.

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**SPONSORED RESEARCH PROJECTS**

Title of project	Funding agency	Sanctioned budget	Project duration	
			From	To
1. Targeting colon cancer through lipidized antioxidants: Synthesis, purification, characterization and biological evaluations of fatty acid conjugated phenolic antioxidants	UGC, New Delhi	10 Lakh	22/02/2017	22/02/2019

2.	Stereoselective synthesis of heterosteroidal spirocyclic oxindoles as antineoplastic agents	CSIR, New Delhi	20.12 Lakh	01/11/2017	30/10/2020
3.	Investigation of hydrophobically modified polysaccharides for nanodelivery of anticancer drugs in the treatment of multidrug resistance colon cancer	DBT, New Delhi	65.964 Lakh	28/01/2019	27/01/2022
4.	Phytochemical and pharmacological evaluations of bioactivity guided fractions of medicinal plants of Tripura	DBT, New Delhi	73.918 Lakh	28/09/2018	27/09/2021
5.	Exploring G-quadruplex ligands to target colon cancer	ICMR, New Delhi	19.71 Lakh	25/03/2021	24/03/2023
6.	Exploring pectin based nanoconjugates of anticancer drugs for site specific drug delivery in colon cancer	AICTE, New Delhi	23.65 Lakh	10/03/2021	09/03/2024
7.	Establish a Drug Metabolomics Laboratory for North Eastern States	DBT, New Delhi	476.26888 Lakh	14/09/2021	13/09/2026

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## PUBLICATIONS & PATENTS

### *Patents*

1. Granted patent no. 466183 (A carbohydrate based biopolymer and method for synthesizing thereof)
2. Applied patent no. 202331073430 (A method of synthesizing pectin-paclitaxel bioconjugate and preparation of an antitumor nanosuspension thereof)

### *Papers in Journal*

3. Ghosh, R.; **Acharya, P.C.\*** Stereoselective synthesis and antiproliferative effect of methoxylated spirooxindoles on colon cancer cell lines. *Letters in Drug Design & Discovery*. DOI: 10.2174/1570180820666230907115841
4. Kondoli, B. N.; Vemula D.; Brahma U.; Bhandari, V.; **Acharya, P. C. \*** Stereoselective synthesis of dispiropyrrrolidinyl oxindole derivatives and evaluation of their antibacterial efficacy. *Journal of Molecular Structure*. **2023**, 1288, 135808.
5. Mishra, B.; Acharya, P. C.; De, U. C. Synthesis and antineoplastic efficacy of

- anthraquinone and saturated fatty acid conjugates. *ChemistrySelect*. **2023**, *8*, e202301502.
6. Mehta, N.K.; Pal, D.; Majumdar, R. K.; Priyadarshini, M. B.; Das, R. Debbarma, G.; **Acharya, P. C.** Effect of Artificial Formaldehyde Treatment on Textural Quality of Fish Muscles and Methods employed for Formaldehyde Reduction from Fish Muscles. *Food Chemistry Advances*. **2023**, *3*, 100328.
  7. Kumar, P.; Thakur, R.; **Acharya, P. C.**; Mohan, H. K.; Pallavi, U. N.; Maheshwari, D.; Mohammed, K. M. A.; Kumar, A.; Nerella S. G.; Joshi R. K.; Kumar, M. Synthesis, characterization, and radiosynthesis of fluorine-18-AVT-011 as a Pgp chemoresistance imaging marker. *Scientific Reports*. **2022**, *12*(1),18584.
  8. Debbarma, S.; **Acharya, P. C.\*** Targeting G-Quadruplex DNA For Cancer Chemotherapy. *Current Drug Discovery Technologies*, **2022**;*19*, 13-25.
  9. Ghosh, R.; Vitor, J. B.; Mendes, E.; Paulo, A.; **Acharya, P. C.\***. Stereoselective Synthesis of Spirooxindole Derivatives Using One-Pot Multicomponent Cycloaddition Reaction and Evaluation of Their Antiproliferative Efficacy. *ACS Omega*. **2020**, *5*, 27332–27343.
  10. Marwein, S.; Mishra, B.; De, U. C.; **Acharya, P. C.\*** Recent Progress of Adenosine Receptor Modulators in the Development of Anticancer Chemotherapeutic Agents. *Current Pharmaceutical Design* **2019**, *25*, 2842-2858.
  11. Palmer, R. A.; Lisgarten, D. R.; Cockcroft, J. K.; Lisgarten, J. N.; Talbert, R.; Dines, T.; Bansal, R.; **Acharya, P. C.**; Suryan, A. Crystal and Molecular Structure and DFT Calculations of the Steroidal Oxime 6*E*-Hydroximino-androst-4-ene-3,17-dione (C<sub>19</sub>H<sub>25</sub>NO<sub>3</sub>) a Molecule with Antiproliferative Activity. *Journal of Chemical Crystallography* **2019**, *49*, 29-36.
  12. Fernandes, C.; **Acharya, P. C.\***; Bhatt, S. Preparation of lauroyl grafted alginate-ψyllium husk gel composite film with enhanced physicochemical, mechanical and antimicrobial properties. *Scientific Reports* **2018**, *8*, 17213.
  13. **Acharya, P. C.**; Bansal, R.; Kharkar, P. S. Hybrids of steroid and nitrogen mustard as antiproliferative agents: Synthesis, *in vitro* evaluation and *in silico* inverse screening, *Drug Research* **2018**, *68*, 100-103.
  14. **Acharya, P. C.**; Bansal, R. Synthesis of androstene oxime-nitrogen mustard bioconjugates as potent antineoplastic agents. *Steroids* **2017**, *123*, 73-83.
  15. Ghosh, R.; Jajo, H.; **Acharya, P. C.\*** An Overview of Neptunia prostrata: A Source of Herbal Medicine of Ethnopharmacological Importance. *Glob. J. Pharmaceu. Sci.* **2017**, *2*, 555577.
  16. **Acharya P. C.\***; Vasi, R.; Soares, D. FTIR assay method for UV inactive drug carisoprodol and identification of degradants by RP-HPLC and ESI-MS. *J. Chromatogr B.* **2016**, *1030*, 16-21.
  17. Kumar P.; Watts A.; **Acharya P.**; Bansal R.; Ghai A.; Kaur A.; Singh B. Radiosynthesis of [18F]-fluorobenzoate-doxorubicin using Acylation approach. *Current Radiopharmaceuticals*, **2016**, *9*, 215-221.
  18. Bansal R.; **Acharya P. C.** Man-made cytotoxic steroids: Exemplary agents for cancer therapy. *Chemical Reviews* **2014**, *114*, 6986-7005.
  19. **Acharya P. C.**; Bansal R. Synthesis and antiproliferative activity of hydroximino androstene derivatives. *Arch. Pharm. Chem. Life Sci.* **2014**, *347*, 193-199.

20. **Acharya P. C.\*** Targeting cancer through angiogenesis inhibition: Prospective of azole based small molecules. *Research & Reviews: A Journal of Drug Design & Discovery* **2014**, *1*, 13-18.
21. Bansal, R.; Guleria, A.; **Acharya, P. C.** FT-IR method development and validation for quantitative estimation of zidovudine in bulk and tablet dosage form. *Arzneimittelforschung/Drug Research*. **2013**, *63*, 165-170.
22. Bansal R.; **Acharya P. C.** Synthesis and antileukemic activity of 16E-[4-(2-carboxy)ethoxybenzylidene]-androstene amides. *Steroids* **2012**, *77*, 552-557.

### **Edited Book**

23. **Acharya P. C.** & Kurosu, M. Medicinal Chemistry of Chemotherapeutic Agents: A Comprehensive Resource of Anti-infective and Anti-cancer Drugs, 1st Edition - March 9, 2023, Paperback ISBN: 9780323905756, eBook ISBN: 9780-3239-07019

### **Book Chapters**

24. **Acharya P. C.\*** & Kurosu, M. Introduction to chemotherapy: general and clinical considerations. *In Medicinal Chemistry of Chemotherapeutic Agents: A Comprehensive Resource of Anti-infective and Anti-cancer Drugs, 1st Edition*, Elsevier Academic Publisher, **2023**, Paperback ISBN: 9780323905756, eBook ISBN: 9780323907019.
25. Borah, P.; Hazarika, S.; Sharma, D.; Venugopala, K. N.; Chopra, D.; Al-Shar'I, N. A.; Hemalatha, S.; Shakya, K.; **Acharya P. C.**; Deb, P. K. Systemic and topical antifungal drugs. *In Medicinal Chemistry of Chemotherapeutic Agents: A Comprehensive Resource of Anti-infective and Anti-cancer Drugs, 1st Edition*, Elsevier Academic Publisher, **2023**, Paperback ISBN: 9780323905756, eBook ISBN: 9780323907019.
26. Borah, P.; Hazarika, S.; Morsy, M. A.; Goyal, M.; Chhetri, A., Venugopala, K. N.; Mohanlall, V.; **Acharya P. C.**; Deb, P. K.; Mailavaram, P. Antiviral drugs and vaccines. *In Medicinal Chemistry of Chemotherapeutic Agents: A Comprehensive Resource of Anti-infective and Anti-cancer Drugs, 1st Edition*, Elsevier Academic Publisher, **2023**, Paperback ISBN: 9780323905756, eBook ISBN: 9780323907019.
27. Majeed, J.; Reang, J.; Sharma, K.; **Acharya P. C.**; Sharma, P. C. Antiamoebic drugs. *In Medicinal Chemistry of Chemotherapeutic Agents: A Comprehensive Resource of Anti-infective and Anti-cancer Drugs, 1st Edition*, Elsevier Academic Publisher, **2023**, Paperback ISBN: 9780323905756, eBook ISBN: 9780323907019.
28. Malhotra, A.; Singh, R.; **Acharya P. C.**; Bansal, R. Hormones and antihormones in cancer chemotherapy. *In Medicinal Chemistry of Chemotherapeutic Agents: A Comprehensive Resource of Anti-infective and Anti-cancer Drugs, 1st Edition*, Elsevier Academic Publisher, **2023**, Paperback ISBN: 9780323905756, eBook ISBN: 9780323907019.
29. **Acharya, P. C.**; Shetty, S.; Fernandes, C.; Soares, D.; Maheshwari R.; Tekade, R. K. Preformulation in Drug Research and Pharmaceutical Product Development. *In Dosage form design considerations, Vol 1*, Elsevier Academic Publisher, **2018**, pp 1-55.

30. **Acharya, P. C.**; Fernandes, C.; Mallik, S.; Mishra B.; Tekade, R. K. Physiologic Factors Related to Drug Absorption. *In* Dosage form design considerations, Vol 1, Elsevier Academic Publisher, **2018**, pp 117-147.
31. **Acharya, P. C.**; Marwein, S.; Mishra B.; Ghosh, R.; Vora A.; Tekade, R. K. Role of Salt Selection in Drug Discovery and Development. *In* Dosage form design considerations, Vol 1, Elsevier Academic Publisher, **2018**, pp 435-472.
32. **Acharya, P. C.**; Fernandes, C.; Soares, D.; Shetty, S.; Tekade, R. K. Solubility and Solubilization Approaches in Pharmaceutical Product Development. *In* Dosage form design considerations, Vol 1, Elsevier Academic Publisher, **2018**, pp 513-547.
33. **Acharya, P. C.**; Soares, D.; Shetty, S.; Fernandes, C.; Tekade, R. K. Rheology and its Implications on Performance of Liquid Dosage Forms. *In* Dosage form design considerations, Vol 1, Elsevier Academic Publisher, **2018**, pp 549-597.
34. Biswal,S.; Ghosh, R.; **Acharya, P. C.\*** Pharmacology of Angiotensin and Its Receptors. *In* Frontiers in Pharmacology of Neurotransmitters, Springer Nature Singapore Pte Ltd., **2020**, pp 361-380.
35. Marwein, S.; Biswal,S.; **Acharya, P. C.\*** Hormones and Steroids as Neurotransmitters. *In* Frontiers in Pharmacology of Neurotransmitters, Springer Nature Singapore Pte Ltd. , **2020**, pp 447-501.
36. Mallik, S., **Acharya, P. C.\*** Pharmacology of Calcium Channel. *In* Frontiers in Pharmacology of Neurotransmitters, Springer Nature Singapore Pte Ltd. , **2020**, pp 683-721.

### **Conference Proceedings**

37. Kumar, P.; Thakur, R.; **Acharya, P. C.**; Mohan, H. K.; Pallavi, U. N.; Maheshwari, D.; Mohammed, K. M. A.; Kumar, A.; Nerella S. G.; Joshi R. K.; Kumar, M. Synthesis, characterization, and radiosynthesis of fluorine-18-AVT-011 as a Pgp chemoresistance imaging marker. *In* European Journal of Nuclear Medicine and Molecular Imaging **2022**, 49, No. SUPPL 1, S649-S649.
38. Kumar, P.; Singh, B.; Chopra, S.; **Acharya, P.**; Sarika.; Bansal, R.; Mittal, B. Synthesis, characterization and radiolabeling of DTPA-Doxorubicin complexed with <sup>68</sup>Ga as potential PET tumor imaging agent-A preclinical evaluation. *World J. Nucl. Med.* **2013**, 12 (Supplement 1), 44.
39. Kumar, P.; Singh, B.; **Acharya, P.**; Bansal, R.; Watts, A.; Ghai, A.; Mittal, B.; Dhawan, D. Synthesis of <sup>18</sup>F-fluorobenzoate doxorubicin as a potential PET radiotracer for tumor imaging. *J. Nucl. Med.* **2012**, 53 (Supplement 1), 1653.
40. **Acharya, P. C.**; Raja, A. S.; Putta, A. Anticonvulsant investigation of some substituted semicarbazones by maximal electroshock seizure test model. *Indian J. Pharmacol.* **2008**, 40 (supplement 2), s121.

### **Conference presentations**

41. Debbarma, G.; **Acharya, P. C.** Analytical method development and validation of reverse-phase high-performance liquid chromatography (RP-HPLC) method for hydrocortisone in tablet dosage form. 25<sup>th</sup> All India forensic Sciences Conference (AIFSC), National forensic Sciences University, Gandhinagar, Gujarat from 2-4<sup>th</sup> February 2023.

42. Debbarma, S.; **Acharya, P. C.** Streoselective synthesis of spiropyrolidine derivatives as antiproliferative agents. 72<sup>nd</sup> Indian Pharmaceutical Congress, January 20-23, 2023, Nagpur University, Nagpur.
43. Runo, N.; Debbarma, S.; **Acharya, P. C.** Improved green synthesis of dihydropyrimidine derivatives using one pot Biginelli reaction and their biological evaluation. 72<sup>nd</sup> Indian Pharmaceutical Congress, January 20-23, 2023, Nagpur University, Nagpur.
44. Kashyp, S.; **Acharya, P. C.\*** Synthesis of pectin-rifampicin conjugate for pulmonary drug delivery in tuberculosis. **PARAMEDICON**, April 7 to April 08, 2022 at Banaras Hindu University, India.
45. Das, B.; **Acharya, P. C.\*** Synthesis of lipidized curcumin to target cancer. **PARAMEDICON**, April 7 to April 08, 2022 at Banaras Hindu University, India.
46. Jamatia, K.; **Acharya, P. C.\*** Synthesis of resveratrol-fatty acid bioconjugates to enhance the bioavailability and bioactivity. **PARAMEDICON**, April 7 to April 08, 2022 at Banaras Hindu University, India.
47. Kondoli, B. N.; **Acharya, P. C.\*** Synthesis of alkylamino containing spirooxindoles by [1,3]-dipolar cycloaddition reaction. **PARAMEDICON**, April 7 to April 08, 2022 at Banaras Hindu University, India.
48. Gosh, R; **Acharya, P. C.** Synthesis of spirooxindole derivatives using a facile onepot dipolar cycloaddition reaction and evaluation of their antiproliferative efficacy” for oral presentation at International conference on recent trends in Pharmaceutical, medical and applied sciences for global development” organized by pharma medical science development society, UP and held from 28<sup>th</sup> January 2021 to 29<sup>th</sup> January 2021.
49. Biswal, S.; **Acharya, P. C.\*** Synthesis of hydrophobically modified polysaccharide biomaterials for colon drug delivery, **ICMS2020**, March 4 to March 6, 2020 at Tripura University (A Central University), Suryamaninagar, Tripura, India.
50. Marwein, S.; **Acharya, P. C.\*** Synthesis and antiproliferative evaluation of some newer spiroindanedione derivatives, **IUPAC Paris 2019**, July 7 to July 12, 2019 at Le Palais des Congrès of Paris, France.
51. **Acharya, P. C.\*** Ghosh, R.; Paulo, A.; Vitor, J.; Mendes, E. Stereoselective synthesis of spirooxindole derivatives and evaluation of their anticancer efficacy through in vitro G-quadruplex interaction and cytotoxicity assay, **IUPAC Paris 2019**, July 7 to July 12, 2019 at Le Palais des Congrès of Paris, France.
52. **Acharya, P. C.\*, Fernandes, C.; Mehta, S.;** Synthesis of alpha-tocopherol and medium chain fatty acid conjugates with enhanced biological profile, **International Symposium on Bioorganic Chemistry (ISBOC-11) & Konstanz Symposium Chemical Biology, University of Konstanz, Germany**, 27<sup>th</sup> to 29<sup>th</sup> Septemeber 2017.
53. **Acharya, P. C.\*, Bhowmik, B.; Bhattacharjee, S.; Das, P.,** Spiroisoxazoline fused steroid derivatives as target specific antineoplastic agents, **International Conference on Updates in Cancer Prevention and Research (ICUCPR-2017)**, Lucknow, 14<sup>th</sup> - 16<sup>th</sup> February 2017.
54. Marwein, S.; **Acharya, P. C.\***, Spiroisoxazoline scaffold in the antineoplastic drug discovery, **International Conference on Updates in Cancer Prevention and Research (ICUCPR-2017)**, Lucknow, 14<sup>th</sup> -16<sup>th</sup> February 2017.

55. Ghosh, R.; **Acharya, P. C.\*** Spirocyclic oxindole scaffold as an emerging pharmacophore in the anticancer drug discovery, **International Conference on "Updates in Cancer Prevention and Research (ICUCPR-2017)**, Lucknow, 14<sup>th</sup> -16<sup>th</sup> February 2017.
56. **Acharya, P. C.**; Bansal, R.; Kharkar, P. S. "Hybrids of steroid and nitrogen mustard as antileukemic agents: Design, synthesis, biological evaluation and in silico inverse screening". **International Conference on Pure and Applied Chemistry 2014, Mauritius**, 23<sup>rd</sup> -27<sup>th</sup> June 2014.
57. Vasi, R.; **Acharya, P. C.\*** "FTIR Method development and validation of carisoprodol in bulk and tablet dosage form". National Conference on **Drug Discovery and Drug Targeting in Metabolic Diseases**. Dr. Bhanuben Nanavati College of Pharmacy, Mumbai, 22<sup>nd</sup> -23<sup>rd</sup> December, 2014
58. **Acharya, P. C.**; Bansal, R. "Discovery of cancer specific molecules from steroids: Synthesis of 16E-arylidene androstenes as potent antileukemic agents". **Manshodhan-IV**, Mithibai College, Mumbai, 14<sup>th</sup> December 2013.
59. Chanan, N.; **Acharya, P. C.**; Bansal, R. "Synthesis and cytotoxic activity of 6E-hydroximino androstenes and their oxime ethers". **64<sup>th</sup> Indian Pharmaceutical Congress**, Chennai, 7-9<sup>th</sup> December 2012.
60. Khushpal, Bansal, R.; Guleria, A.; **Acharya, P. C.** "FT-IR method development and validation for quantitative estimation of zidovudine in bulk and tablet dosage form". **64<sup>th</sup> Indian Pharmaceutical Congress**, Chennai, 7-9<sup>th</sup> December 2012.
61. **Acharya, P. C.**; Bansal, R. Synthesis of 16E-[4-(2-carboxy)ethoxy benzylidene]-androstene amides as potent antileukemic agents. **63<sup>rd</sup> Indian Pharmaceutical Congress**, Bengaluru, 16<sup>th</sup>-19<sup>th</sup> December, 2011.
62. **Acharya, P. C.**; Bansal, R.; Guleria, S.; Harvey, A. L. Synthesis of bisquaternary ammonium salts of 16E-[4-(2-alkylaminoethoxy)-3-methoxybenzylidene]androstene derivatives as skeletal muscle relaxants. **62<sup>nd</sup> Indian Pharmaceutical Congress**, Manipal University, Manipal. 17-19 December, 2010.
63. Vijay, S. R.; **Acharya, P. C.**; Singh, G. "Study of elimination of Aspirin from a fixed dose formulation in healthy human volunteers". **National Pharmacy Conference**. Apex Institute of Pharmaceutical sciences, Jaipur, 24-27 July 2009.
64. **Acharya, P. C.**; Singh, G. "CCR5 antagonist as newer anti-HIV drugs". **National Pharmacy Conference**. Apex Institute of Pharmaceutical sciences, Jaipur, 24-27 July 2009.
65. **Acharya, P. C.**; Bansal, R. "Steroidal alkylating agents in hormone responsive cancer chemotherapy". **XXV<sup>th</sup> Annual conference of Environmental Mutagen Society of India and International Symposium on Mutagens and Genetic Diversity for Health and Agriculture**, Panjab University, Chandigarh, 12-14<sup>th</sup> March 2010.
66. **Acharya, P. C.**; Raja, A. S.; Putta, A.; Nath, G. "Synthesis and preliminary antibacterial investigation of 4-flouro and 2, 4-dichloro substituted aryl semicarbazones". **59<sup>th</sup> Indian Pharmaceutical Congress, Banaras Hindu University, Varanasi. Scientific Abstract 59<sup>th</sup> IPC, (2007)**, 146-147.



## **ORIENTATION PROGRAM/SEMINARS/ GUEST LECTURES**

55. Delivered an invited lecture on the topic "Anticancer Drug Discovery using Stereoselective Synthesis of Spirocyclic Molecules" on 123/12/2023 at the National Conference on Current Trends in Drug Development" held at University Department of Pharmaceutical Sciences, Utkal University, Vani Vihar, Bhubaneswar.
56. Delivered an invited lecture on the topic "Cancer has no answer: A misperception or fact?" Sponsored by Research and Development Cell, Tripura University (A Central University) on 30<sup>th</sup> January 2023.
57. Delivered a talk on the topic "Anticancer Drug discovery: Past, Present and Future" on 18-10-2022 at University Department of Pharmaceutical Sciences, Utkal University, Vani Vihar, Bhubaneswar.
58. Delivered a lecture entitled "Stereoselective synthesis in anticancer drug discovery" in National Conference on "Journey of a Molecule: From Research to Patient (an interdisciplinary conference)" held at Institute of Pharmaceutical Sciences (IPS, Bhaddal), IET Bhaddal Technical Campus, Ropar, Punjab from 25<sup>th</sup>-26<sup>th</sup> Nov., 2022
59. Delivered a lecture entitled "Stereoselective Synthesis of Antiproliferative Spiroheterocyclic Ligands" in the AICTE Sponsored Online Faculty Development Programme (FDP) On "Emerging Trends in Drug design and Development" organized by Roland Institute of Pharmaceutical Sciences, Berhampur held from 15<sup>th</sup> to 26<sup>th</sup> March 2021.
60. Delivered a lecture in the two days National Level Online Webinar on New Education Poilicy: 2020 held at Bharat Pharmaceutical Technology, from 18<sup>th</sup> to 19<sup>th</sup> September 2020
61. Participated in the Two-Week online Refresher Course entitled "Teachers on Using ICT for Online Teaching Learning Process" conducted by Faculty Development Centre, Tripura University from 1st to 14th December, 2020.
62. Participated in the one week AICTE Training And Learning (ATAL) Academy Online FDP on "Sensors Technology" from 21-09-2020 to 25-09-2020 at Tripura University.
63. Participated in the one week AICTE Training And Learning (ATAL) Academy Online FDP on "Chromatography: Advancements in Instrumentation and Applications" from 2020-10-12 to 2020-10-16 at Dr D Y Patil Institute of Pharmaceutical Sciences and Research.
64. Delivered a guest lecture at Bharat Pharmaceutical Technology, Agartala on 17<sup>th</sup> August 2020.
65. Participated in a two-day conference "3<sup>rd</sup> Meeting of the College of Chemistry (3ECQUL) at the University of Lisbon, Portugal" from 27<sup>th</sup> -28<sup>th</sup> June 2018.
66. Participated in the Faculty Induction Training Institutes under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) Scheme of MHRD, Govt of India, conducted by FDC, Tripura University from 1<sup>st</sup> November, 2017 to 30<sup>th</sup> November, 2017 and secured A+ grade.
67. Participated in the Faculty Induction Training Institutes under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) Scheme of MHRD, Govt of India, conducted by FDC, Tripura University from 13<sup>th</sup> November, 2016 to 19<sup>th</sup> November, 2016.

68. Organized and participated in one day "National Seminar on techno-managerial skills for Pharmaceutical Industry". (4th January 2016, SVKM'S NMIMS, Mumbai)
69. Organized and participated in two day "National Conference on Nanotechnology in Drug Delivery Research: Innovations, Challenges & Opportunities" (16-17<sup>th</sup> October, 2015, SVKM'S NMIMS, Mumbai).
70. Delivered a guest lecture on the topic "Targeting Cancer through Steroid Motifs: A Prudent Approach in Anticancer Drug Discovery" at University of Pune Sponsored National Seminar on Current Strategies in Targeting Tyrosine Kinase for Anticancer Research, 22<sup>nd</sup> Jan 2015 held at Sinhgad College of Pharmacy, Pune.
71. Participated in one day seminar on "Advances in spectroscopy and chromatographic techniques" on 8<sup>th</sup> January 2014 held at SPPSPTM, SVKM'S NMIMS, Mumbai.
72. Attended National Conference on "Innovation in pharmaceutical technology and healthcare management", 10<sup>th</sup> -11<sup>th</sup> January, 2014 held at SPTM, SVKM'S NMIMS, Shirpur Campus.

## RESEARCH/TEACHING EXPERIENCE

1. Working as Assistant Professor at Department of Pharmacy, Tripura University (A Central University), Suryamaninagar-799022, since May 2016.
2. Worked as Assistant Professor at SPP School of Pharmacy and Technology Management, SVKM'S NMIMS (Deemed-to-be-UNIVERSITY) from November 2013 to April 2016.
3. Worked as Assistant Professor at Nargund College of Pharmacy, Bangalore from July 2013 to October 2013.
4. Lecturer in Pharmaceutical Chemistry at 'Apex Institute of Pharmacy, Sitapura, Jaipur, form October 2008 to August 2009

### Research Expertise:

**Organic synthesis and purification:** Expertise in performing various organic synthetic reactions from small scale to large scale especially multistep steroid synthesis; heterocyclic chemistry; microwave synthesis and parallel synthesis; purification by flash chromatography, column chromatography, crystallization, distillation and other techniques.

**Analytical techniques and structure elucidation:** Structure elucidation using FTIR, NMR ( $H^1$ ,  $C^{13}$ , 2D), Mass spectrometry (LC-MS, MS-MS), CHN analyzer, polarimeter and X-ray crystallography.

**Analytical method development:** Method development using FTIR, assay of pharmaceuticals using UV-VIS spectrometer, LC-MS, HPLC, and HPTLC.

**Biological studies:** PCR, Gel electrophoresis, Cell line assay, mechanistic studies and other animal studies relevant to anticancer drug discovery.

**Nuclear imaging techniques:** Synthesis of radiolabelled anticancer drug molecules for tumor imaging using Positron Emission Tomography and other nuclear medical imaging techniques (only synthetic aspect).

## **TECHNOLOGY TRANSFERRED TO INDUSTRY**

1. Synthesis, purification and characterization of triamcinolone acetonide impurity B (14,15-dehydro triamcinolone acetonide); Category: Pharmaceutical impurity.
2. Synthesis, purification and characterization of triamcinolone acetonide impurity C (triamcinolone acetonide 21-aldehyde hydrate); Category: Pharmaceutical impurity.
3. Preparation of reference standard of Sertraline hydrochloride. Category: Pharmaceutical reference standard.

## **COLLABORATORS**

1. Professor Michio Kurosu, Department of Pharmaceutical Sciences, College of Pharmacy, University of Tennessee Health Science Center, Memphis, TN, United States
2. Professor Alexandra Paulo, iMed-ULisboa-Research Institute for Medicines, Faculty of Pharmacy, University of Lisbon, Portugal.
3. Dr. Surajit Bhattacharjee, Department of Molecular Biology and Bioinformatics, Tripura University (A Central University), Suryamaninagar, Tripura, India
4. Dr. Clara Fernandes, Bombay College of Pharmacy, Mumbai, India
5. Prof. Prashant S. Kharkar, Department of Pharmaceutical Sciences, ICT, Mumbai, India.
6. Dr. A. N. Sahu, Department of Pharmaceutical Engineering and Technology, IIT (BHU), Varanasi.
7. Dr. Pardeep Kumar, Dept of Neuroimaging and Interventional Radiology, National Institute of Mental Health & Neuro Sciences (NIMHANS), Bengaluru, India.

## **MEMBERSHIP IN LEARNED ACADEMIC BODIES**

1. Life Member of “Association of Pharmaceutical Teachers of India”
2. Associate member of IUPAC (International Union of Pure and Applied Chemistry)

## **OTHER INFORMATION (IF ANY):**

1. Supervised 01 Ph.D, Supervising 03 Ph.D candidates, Co-supervising 02 Ph.D Candidates and 05 M.Pharm candidates for their thesis work.
2. External examiner for Ph.D thesis for Banasthali Vidyapith, Rajasthan, Institute of Chemical Technology, Mumbai, Acharya Nagarjun University, Guntur, AP.
3. Supervised 21 M.Pharm students for their thesis work.
4. External examiner for M.Pharm degree of “Mumbai University, Mumbai” and has evaluated more than ten (10) M.Pharm thesis.
5. A member of Research Advisory Committee of PhD thesis at Tripura University and SVKM’S NMIMS University.
6. Reviewer to several leading journals such as Therapeutic Delivery, Journal of Pharmaceutical and Biomedical Analysis, Journal of Chromatography B, Eurasian Journal of Analytical Chemistry, Indian Journal of Pharmaceutical Sciences, Fibers and Polymers, Current Pharmaceutical Analysis, Scientific reports, Human Cell etc.

## ADMINISTRATIVE RESPONSIBILITIES

1. HOD (i/c), Department of Pharmacy, Tripura University (A Central University) from 28<sup>th</sup> January 2019 to 29<sup>th</sup> September 2023.
2. In-charge, Research and Innovation Cell, Tripura University (A Central University) from 23<sup>rd</sup> June 2020 to 26<sup>th</sup> February 2021.
3. Convener and member, Board of Post Graduate Studies (BPGS), Department of Pharmacy, Tripura University (A Central University).
4. Member, Board of Faculty Studies (BFS), Faculty of Science, Tripura University (A Central University).
5. Member of various committee of the universities related to Ph.D studies, academic and administrative matters.

## PERSONAL DETAILS

**Date of Birth** : 31-12-1982  
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