Dr Pratap Chandra Acharya

Assistant Professor, Department of Pharmacy
Tripura University (A Central University)
Suryamaninagar, Tripura (W) - 799 022
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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): IIT (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): BHU, Varanasi**

RESEARCH INTERESTS

- ✓ Heterosteroid synthesis and steroid modifications towards anticancer drug discovery;
- ✓ Synthesis of lipid-drug bioconjugates and heterocyclic small molecules to target cancer & neurodegenerative diseases;
- ✓ Synthesis of glycolipids for nanodelivery of anticancer drugs;

POSTD PhD RESEARCH WORK

Title of project	Institute	Supervisor	Funded by
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 *Escherichia coli*	Centre for Cellular & Molecular Biology, Hyderabad	Dr. Manjula Reddy, Sr. Principal Scientist	INSA-IASc-NASI

AWARDS & FELLOWSHIPS

1. **"European Molecular Biology Organization Short Term Fellowship-2018 (EMBO STF-2018)"** award
2. **"DST Young Scientist International Travel Grant Award"** by Department of Science and Technology, Government of India, 2017
3. **"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
4. **"University Grant Commission Research Fellowship for Meritorious Student in Science (UGC-RFSMS)-2009"** to pursue Ph.D at Panjab University, Chandigarh
5. **"G.A.T.E Fellowship (Ministry of Human Resource Development, Govt. of India) Year 2006",** conducted by IIT-Kharagpur.
6. **"Best Paper in Medicinal Chemistry award"** and **"Best Oral Presentation Award"** at 63rd Indian Pharmaceutical Congress, Bengaluru, India, 16th-18th December 2011.
7. **"Research Project Presentation" award** at Manshodhan-IV, Mithibai College, Mumbai, India, 14th December 2013 for Anti-cancer drug discovery.

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 antineoplatic 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	27/01/2021
4.	Phytochemical and pharmacological evaluations of bioactivity guided fractions of medicinal plants of Tripura	DBT, New Delhi	73.918	28/09/2018	27/09/2021

PUBLICATIONS

Papers in Journal

1. 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**, https://doi.org/10.2174/138161282566619071614185 1
2. 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 ($C_{19}H_{25}NO_3$) a Molecule with Antiproliferative Activity. *Journal of Chemical Crystallography* **2019**, 49, 29-36.
3. Fernandes, C.; **Acharya, P. C*.;** Bhatt, S. Preparation of lauroyl grafted alginate-psyllium husk gel composite film with enhanced physicochemical, mechanical and antimicrobial properties. *Scientific Reports* **2018**, *8*, 17213.
4. **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.
5. **Acharya, P. C.;** Bansal, R. Synthesis of androstene oxime-nitrogen mustard bioconjugates as potent antineoplastic agents. *Steroids* **2017**, *123*, 73-83.
6. 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.
7. **Acharya P. C.*;** Vasi, R.; Suares, 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.

8. 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.
9. Bansal R.; **Acharya P. C**. Man-made cytotoxic steroids: Exemplary agents for cancer therapy. *Chemical Reviews* **2014**, *114*, 6986-7005.
10. **Acharya P. C**.; Bansal R. Synthesis and antiproliferative activity of hydroximino androstene derivatives. *Arch. Pharm. Chem. Life Sci.* **2014**, *347*, 193-199.
11. **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.
12. Bansal, R.; Guleria,A.; **Acharya, P**. **C.** FT-IR method development and validation for quantitative estimation of zidovudine in bulk and tablet dosage form. Arzneimi*ttelforschung/Drug Research*. **2013**, *63*, 165-170.
13. Bansal R.; **Acharya P. C**. Synthesis and antileukemic activity of 16*E*-[4-(2-carboxy)ethoxybenzylidene]-androstene amides. *Steroids* **2012**, *77*, 552-557.
14. Awen, B. Z.; Hawisa, N. T.; Katakam, P.; Rao, C. B.; Adiki, S. K.; **Acharya, P. C.** Antidiarrhoeal activity of *Lippia javanica* leaves on castor oil induced diarrhoea in albino rats. Pharmanest **2011**, *2*, 5-8.

Book Chapters

15. **Acharya, P. C.;** Shetty, S.; Fernandes, C.; Suares, 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.
16. **Acharya, P. C.;** Fernandes, C.; Mallik, S.; Mishra B.; Tekade, R. K. Physiologic Factos Related to Drug Absorption. *In* Dosage form design considerations, Vol 1, Elsevier Academic Publisher, **2018**, pp 117-147.
17. **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.
18. **Acharya, P. C.;** Fernandes, C.; Suares, 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.
19. **Acharya, P. C.;** Suares, 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.

CONFERENCE PROCEEDINGS

20. Kumar, P.; Singh, B.; Chopra, S.; **Acharya, P.;** Sarika.; Bansal, R.; Mittal, B. Synthesis, characterization and radiolabeling of DTPA-Doxorubicin complexed with ^{68}Ga as potential PET tumor imaging agent-A preclinical evaluation. *World J. Nucl. Med.* **2013**, *12 (Suplement 1)*, 44.
21. Kumar, P.; Singh, B.; **Acharya, P.;** Bansal, R.; Watts, A.; Ghai, A.; Mittal, B.; Dhawan, D. Synthesis of ^{18}F-fluorobenzoate doxorubicin as a potential PET radiotracer for tumor imaging. *J. Nucl. Med.* **2012**, *53* (Supplement 1), 1653.
22. **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.

Selected Abstracts

23. 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.
24. **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.
25. **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**, 27th to 29th Septemeber 2017.
26. **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, 14th - 16th February 2017.
27. Marwein, S.; **Acharya, P. C.*,** Spiroisoxazoline scaffold in the antineoplatic drug discovery, **International Conference on Updates in Cancer Prevention and Research (ICUCPR-2017),** Lucknow, 14th -16th February 2017.
28. 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, 14th -16th February 2017.
29. **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,** 23rd -27th June 2014.

30. 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, 22nd -23rd December, 2014
31. **Acharya, P. C.;** Bansal, R. "Discovery of cancer specific molecules from steroids: Synthesis of 16*E*-arylidene androstenes as potent antileukemic agents". **Manshodhan-IV**, Mithibai College, Mumbai, 14th December 2013.
32. Chanan, N.; **Acharya, P. C.;** Bansal, R. "Synthesis and cytotoxic activity of 6*E*-hydroximino androstenes and their oxime ethers". **64th Indian Pharmaceutical Congress,** Chennai, 7-9th December 2012.
33. 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". **64th Indian Pharmaceutical Congress,** Chennai, 7-9th December 2012.
34. **Acharya, P. C.;** Bansal, R. Synthesis of 16*E*-[4-(2-carboxy)ethoxy benzylidene]-androstene amides as potent antileukemic agents. **63rd Indian Pharmaceutical Congress,** Bengaluru, 16th-19th December, 2011.
35. **Acharya, P. C.;** Bansal, R.; Guleria, S.; Harvey, A. L. Synthesis of bisquaternary ammonium salts of 16*E*-[4-(2-alkylaminoethoxy)-3-methoxybenzylidene]androstene derivatives as skeletal muscle relaxants. **62nd Indian Pharmaceutical Congress,** Manipal University, Manipal. 17-19 December, 2010.
36. 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.
37. **Acharya, P. C.;** Bansal, R. "Steroidal alkylating agents in hormone responsive cancer chemotherapy". ***XXVth Annual conference of Environmental Mutagen Society of India and International Symposium on Mutagens and Genetic Diversity for Health and Agriculture,*** Panjab University, Chandigarh, 12-14th March 2010.
38. **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". **59th Indian Pharmaceutical Congress, Banaras Hindu University,** Varanasi. *Scientific Abstract 59th IPC*, **(2007),** 146-147.

ORIENTATION PROGRAM/SEMINARS/ GUEST LECTURES

1. Participated in a two day conference "3rd Meeting of the College of Chemistry (3ECQUL) at the University of Lisbon, Portugal" from 27th -28th June 2018.
2. Participated in the Faculty Induction Training Institutes under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) Scheme of MHRD, Govt of India, conducted by FDC, Tripura University from 1st November, 2017 to 30th November, 2017 and secured A^+ grade.
3. Participated in the Faculty Induction Training Institutes under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) Scheme of MHRD, Govt of India, conducted by FDC, Tripura University from 13th November, 2016 to 19th November, 2016.
4. Organized and participated in one day "National Seminar on techno-managerial skills for Pharmaceutical Industry". (4th January 2016, SVKM'S NMIMS, Mumbai)
5. Organized and participated in two day "National Conference on Nanotechnology in Drug Delivery Research: Innovations, Challenges & Opportunities" (16-17th October, 2015, SVKM'S NMIMS, Mumbai).
6. 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, 22nd Jan 2015 held at Sinhgad College of Pharmacy, Pune.
7. Participated in one day seminar on "Advances in spectroscopy and chromatographic techniques" on 8th January 2014 held at SPPSPTM, SVKM'S NMIMS, Mumbai.
8. Attended National Conference on "Innovation in pharmaceutical technology and healthcare management", 10th -11th January, 2014 held at SPTM, SVKM'S NMIMS, Shirpur Campus.

RESEARCH/TEACHING EXPERIENCE

1. Working 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 Alexandra Paulo, iMed-ULisboa-Research Institute for Medicines, Faculty of Pharmacy, University of Lisbon, Portugal.
2. Professor Maria M. M. Santos, FCT Investigator/Invited Professor Medicinal Chemistry Group, 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, SVKM'S NMIMS (Deemed-to-be-UNIVERSITY), Mumbai, India
5. Dr. Prashant S. Kharkar, SVKM'S NMIMS (Deemed-to-be-UNIVERSITY), Mumbai, India

MEMBERSHIP OF 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)
3. Editorial board member of the journal "Research & Reviews: A Journal of Drug Design & Discovery".

REVIEWER OF SCIENTIFIC JOURNALS

1. Reviewer of the "Journal of Pharmaceutical and Biomedical Analysis", Elsevier Academic Publisher.
2. Reviewer of the "Journal of Chromatography B", Elsevier Academic Publisher.
3. Reviewer of the "Eurasian Journal of Analytical Chemistry", iSER Publications.
4. Reviewer of the "Indian Journal of Pharmaceutical Sciences", OMICS International publisher.
5. Reviewer of the journal "Fibers and Polymers", Springer Science publisher.
6. Reviewer of the journal "Current Pharmaceutical Analysis", Bentahm Science publisher.

OTHER INFORMATION (IF ANY):

1. Supervising 02 Ph.D candidates and 03 M.Pharm candidates for their thesis work.
2. External examiner for Ph.D thesis for "Banasthali Vidyapith, Rajasthan" and "Institute of Chemical Technology, Mumbai".
3. Supervised Nine (09) 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 SVKM'S NMIMS University
6. Served as internal examiner, question paper setter and evaluator for various courses at SVKM'S NMIMS University.
7. Mentored more than six (06) undergraduate students for their industrial training program.

PERSONAL DETAILS

Date of Birth	**:**	31-12-1982
Gender	**:**	Male
Marital Status	**:**	Married
Language Known	**:**	English, Hindi, Oriya (Read, Write and Speak)
Permanent Address	**:**	At- Barakoti Po- Uttarkul Hat Pritipur, Jajpur-755013 Odisha, INDIA
Social Activities	**:**	Worked for the NGO "Youth United, Chandigarh" for the social uplift of underprivileged children, Regular blood donor.