

	<b>Name of the Faculty: Prof. Dr. (Mrs.) Krishnapriya Mohanraj</b> <b>Designation: Professor of Pharmaceutical Analysis</b> <b>Email: <a href="mailto:krishnapriyamohanraj@gmail.com">krishnapriyamohanraj@gmail.com</a>,</b> <b><a href="mailto:krishnapriya.mohanraj@bcp.edu.in">krishnapriya.mohanraj@bcp.edu.in</a></b> <b>Tel. 022- 47831701, 022- 47831702</b> <b>Mobile no: +91-9821985747</b> <b>Teaching Fields: Pharmaceutical Analysis, Instrumental Methods of Analysis, Advanced Instrumental Techniques, Modern Analytical Techniques, Spectroscopic Structural Elucidation.</b>
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#### Educational Qualifications:

S. No.	Degree	College/University	Year of passing
1.	PhD (Tech)	University Department of Chemical Technology, University of Mumbai, Mumbai. (Now Institute of Chemical Technology)	1998
2.	M. Pharm. Sci.	University Department of Chemical Technology, University of Mumbai, Mumbai. (Now Institute of Chemical Technology)	1990
3.	B. Pharm.	C. U. Shah College of Pharmacy, SNDT Women's University, Mumbai.	1988

#### Recent Publications (in last 5 years):

S. No.	Title	Journal details
1.	A Pharmacokinetic Profiling Study after Single-Tablet Regimen of Camylofin 50 mg and Paracetamol 325 mg in Healthy Participants.	<i>Indian Journal of Physiology and Pharmacology (In Press)</i>
2.	A simple and cost-effective synthesis of sulfated $\beta$ -cyclodextrin and its application as chiral mobile phase additive in the separation of cloperastine enantiomers.	<i>Journal of Inclusion Phenomena and Macrocyclic Chemistry, 2022,102(2)</i>
3.	Polysaccharide conjugates surpass monosaccharide ligands in hepatosplenic targeting– Synthesis and comparative <i>in silico in vitro</i> assessment.	<i>Carbohydrate Research 2021, 509, 108417.</i>
4.	Investigation of Pre-Clinical Pharmacokinetic parameters of atovaquone nanosuspensions prepared using pH based precipitation method and its pharmacodynamic properties in a novel artemisinin combination.	<i>Journal of Global Antimicrobial Resistance 2020, 22: 248-256.</i>

#### Patents:

S. No.	Patent Title	Patent number
1.	A process for manufacturing highly active antiplatelet fraction from Neem leaf.	187690

**Consultancy Services:**

<b>Technology Transfer</b>			
<b>S. No.</b>	<b>Title</b>	<b>Transferee</b>	<b>Amount</b>
1.	TECHNOLOGY TRANSFER FOR SYNTHESIS OF A CHIRAL SELECTOR.	LOBA Chemie.	Rs. 2.5 lakhs +3% Royalty on sales

<b>Intellectual Consultancy</b>			
<b>S. No.</b>	<b>Title</b>	<b>Sponsor</b>	<b>Amount (Rs.)</b>
1.	STRUCTURAL ELUCIDATION ASSIGNMENTS. <sup>1</sup> H NMR and <sup>13</sup> C NMR analysis and interpretation of spectra of various drugs and intermediates.	Analytical Solutions Ltd.	36,000/-
2.	TECHNICAL DEVELOPMENT PROGRAM ON LC-MS-MS.	Analytical Solutions Ltd.	16,000/-
3.	CONSULTANCY ASSIGNMENT ON ANALYSIS OF A FORMULATION AND PROVIDING EXPERT REVIEW FOR ANALYSIS CONDUCTED BY VARIOUS LABORATORIES.	GlaxoSmithKline	50,000/-
4.	STUDIES ON RESEARCH AND DEVELOPMENT OF NEW TAGGANTS (TRACERS) FOR SECURITY APPLICATIONS. Phase 1- Consultancy assignment	<b>Micro-Tracers Inc. USA</b>	USD 1500 (Rs. 106213.65/-)
5.	INTERPRETATION OF <sup>13</sup> C NMR SPECTRA OF POLYMERIC MATERIALS.	Alpha md, Mumbai	10,000/-
6.	EXPERT OPINION OF DAPAGLIFLOZIN-CONSULTANCY ASSIGNMENT.	Ajanta Pharma, Mumbai	35,000/-
7.	EXPERT OPINION ON PATENT OF A RESPIRATORY PRODUCT-CONSULTANCY ASSIGNMENT.	Glenmark Pharmaceuticals Ltd.	25,000/-
8.	PREPROJECT FEASIBILITY STUDY FOR BIOACTIVITY GUIDED FRACTIONATION OF EXTRACT OF SEA INVERTEBRATE – CONSULTANCY ASSIGNMENT.	HiMedia Laboratories Pvt. Ltd.	10,000/-
9.	IMPROVEMENT IN ANALYTICAL SKILLS AND KINETIC RESOLUTION FOR PRODUCTS- CONSULTANCY ASSIGNMENT	Aarti Healthcare (Division of Aarti Industries)	1.5 lakhs

Industrial Research Projects				
S. No.	Title	Sponsor	Amount (Rs.)	Period
1.	BIOCHEMICAL SYNTHESIS AND ANALYSIS OF A CHIRAL INSECTICIDE INTERMEDIATE.	Shogun Organics Ltd.	1.5 lakhs	April 2007- January 2008
2.	FORCED DEGRADATION STUDIES AND DEVELOPMENT OF STABILITY INDICATING METHOD FOR HYDROCHLOROTHIAZIDE.	Sanofi Aventis	2.6 lakhs	September 2008- September 2009
3.	STABILITY STUDIES OF AN INTERMEDIATE AND ITS MONITORING BY HPLC.	Ambernath Organics Pvt. Ltd.	1.5 lakhs	March 2013-July 2013
4.	HPLC ANALYSIS OF SOME INTERMEDIATES.	Ambernath Organics Pvt. Ltd.	47,400/-	October 2013- August 2015
5.	<i>IN VITRO</i> STUDIES OF BILAGYL, BERBENTERONE TABLETS AND BERBENTERONE PAEDIATRIC SUSPENSION FOR ANTI AMOEBIC, ANTIBACTERIAL AND ANTIFUNGAL ACTIVITY FOR PROOF OF CONCEPT IN INFECTIOUS DIARRHOEA THERAPY.	Sandu Pharmaceuticals Ltd	2 lakhs	April 2014- February 2016
6.	BIOANALYSIS OF DISULFIRAM AND ITS METABOLITES BY HPLC.	Nerlikar Hospital, Nasik	4 lakhs	August 2014- April 2016
7.	LC-MS/MS ANALYSIS OF DISULFIRAM AND ITS METABOLITE.	Nerlikar Hospital, Nasik	4 lakhs	May 2016- Ongoing
8.	HPLC ANALYSIS OF QUANTIFICATION OF CHLOROBUTANOL IN CHLORPHENIRAMINE MALEATE INJECTION.	SG Pharma	0.5 lakhs	December 2016- February 2017
9.	BIOANALYSIS OF DISULFIRAM METABOLITE, METHYL N, N-DIETHYLDITHIOCARBAMATE, BY HPLC-UV.	Nerlikar Hospital, Nasik	12 lakhs	February 2019- Ongoing
10.	BIOANALYTICAL METHOD DEVELOPMENT OF ATOVAQUONE IN RAT PLASMA.	Mrs. Harsha Kathpalia, Doctoral student, VES College of Pharmacy.	15,000/-	February 2018- April 2018
11.	NUTMEG BUTTER AND WAX: EVALUATION FOR SUN PROTECTION FACTOR AND COSMETIC APPLICATIONS.	Nature Pure Pvt. Ltd.	0.5 lakhs	August 2018- February 2019

S. No.	Title	Sponsor	Amount (Rs.)	Period
12.	STABILITY ENHANCEMENT OF MANGO SEED BUTTER.	Nature Pure Pvt. Ltd.	0.5 lakhs	August 2018-February 2019
13.	SYNTHESIS AND ANALYSIS OF CALCIUM ACETYLSALICYLATE.	Dharma Yug Biosciences Pvt. Ltd.	0.5 lakhs	March 2020-January 2021
14.	QUALITATIVE AND QUANTITATIVE ANALYSIS OF GELATIN CROSSLINKING. Phase I: Development of UV spectrophotometric method for gelatin crosslinking. Phase II: Validation of UV spectroscopic method for gelatin cross-linking study and qualitative analysis of cross-linked gelatin capsules in <i>in-vitro</i> dissolution medium. Phase III, IV and V: Studies on crosslinking of gelatin capsules and its correlation with dissolution studies.	ACG Associated Capsules Pvt. Ltd.	3.5 lakhs	January 2020-September 2023
15.	STUDIES ON RESEARCH AND DEVELOPMENT OF NEW TAGGANTS (TRACERS) FOR SECURITY APPLICATIONS. Phase 2- Research project	<b>Micro-Tracers Inc. USA</b>	15000USD (Rs 12,36,000)	October 2023-ongoing
16.	DESIGN, DEVELOPMENT AND EVALUATION OF ANTIFUNGAL SUPPOSITORY FORMULATIONS WITH EMPHASIS ON BIOAVAILABILITY ENHANCEMENT, MUCORMYCOSIS AND WOMEN HEALTH.	CII-SERB Prime Minister's Fellowship for Doctoral Research- Department of Science and Technology- Scientific and Engineering Research Board and Bliss Pharma	55.39 lakhs	October 2021 to September 2025
17.	ICP-MS ANALYSIS FOR DETERMINATION OF UNBOUND POTASSIUM.	Macleods Pharma	2 lakhs	May 2021-July 2021
18.	STUDIES ON DETERMINATION OF ELEMENTAL IMPURITIES BY ICP-MS IN EXCIPIENT SAMPLES.	Macleods Pharma	25 lakhs	July 2021-October 2022

S. No.	Title	Sponsor	Amount (Rs.)	Period
19.	<p>QUALITATIVE AND QUANTITATIVE ANALYSIS OF DRACOBELLE™ NU-<i>Dracocephalum moldavica</i> ARIEL PART EXTRACT.</p> <p>PHASE I: Qualitative HPTLC And LC-MS/MS Analysis for Flavonoids in Dracobelle Nu™ -<i>Dracocephalum moldavica</i> Ariel Part Extract.</p> <p>PHASE II: Method Development for Determination of Isomalt in DracoBelle Nu™-<i>Dracocephalum moldavica</i> Ariel Part Extract by HPLC-RI Sugar Analysis.</p> <p>PHASE III: Spectrophotometric Determination of Total Flavonoids and Total Phenolic Content in DracoBelle Nu™-<i>Dracocephalum moldavica</i> Ariel Part Extract.</p>	Anshul Life Sciences	2.85 lakhs	October 2021- January 2022
20.	METHOD DEVELOPMENT FOR QUANTITATIVE DETERMINATION OF HYDROXY-ALPHA-SANSOOL IN SARAPEPP NU BY UHPLC.	Anshul Life Sciences	2.4 lakhs	November 2021- March 2022
21.	LC-MS/MS BASED RAT PLASMA ANALYSIS FOR PHARMACOKINETIC STUDY OF SORAFENIB TOSYLATE FORMULATION.	Flanders Innovation and Entrepreneurship (VLAIO), Belgium, through Prof. M. S. Nagarsenkar.	4 lakhs	October 2021- Ongoing
22.	LC-MS/MS ANALYSIS OF PARACETAMOL AND CAMYLOFIN FOR PHARMACOKINETIC STUDIES.	Dept. of Clinical Pharmacology, Seth G. S. Medical College and KEM Hospital.	14.52 lakhs	December 2021- July 2022
23.	STABILITY INDICATING METHOD FOR ARIPIPRAZOLE MICROEMULSION, ARIPIPRAZOLE NANOSUSPENSION AND ASPIRIN LIPOSOMAL FORMULATION.	Dharma Yug Biosciences Pvt. Ltd.	9 lakhs	15 <sup>th</sup> February, 2022 to 24.3.2023
24.	<p>NANOCURCUMIN PROJECT:</p> <p>Phase I: RP-HPLC Analysis of curcuminoids in Curcumin and Curcumin Based Products.</p> <p>Phase II: <i>In Vitro</i> Absorption Study of Curcumin and Curcumin Based Products Using Everted Gut Sac.</p>	Nature Pure Supercritical Extracts Pvt. Ltd.	2.6 lakhs	January 2022- November 2023
25.	RESEARCH AND DEVELOPMENT ACTIVITY USING LC-MS/MS Quantification of API and impurities using LC-MS/MS analysis.	Macleods Pharma.	1.5 lakhs	17 <sup>th</sup> June 2022-20 <sup>th</sup> June 2022

S. No.	Title	Sponsor	Amount (Rs.)	Period
26.	DEVELOPMENT AND VALIDATION OF STABILITY INDICATING RP-HPLC ASSAY METHOD AND STRUCTURAL ELUCIDATION OF DEGRADATION PRODUCT OF AMOXAPINE.	National Institute of Pharmaceutical Education and Research (NIPER), Guwahati	38,135/-	August 2022-June 2023
27.	LC-MS/MS ANALYSIS OF <i>IN VITRO</i> PERMEATION TEST SAMPLES FOR ACYCLOVIR	<b>Teledyne Hanson USA</b>	16.72 lakhs	March 2023-February, 2024
28.	<i>IN VITRO, EX VIVO</i> AND <i>IN VIVO</i> EVALUATIONS FOR FORMULATIONS INTENDED FOR NOSE TO BRAIN DELIVERY Phase 1: Nasal ciliotoxicity studies Rs. 2 lakhs Phase 2: LCMSMS Bioanalytical method development and validation Rs. 4 lakhs Phase 3: Pilot proof-of-concept pharmacokinetic study Rs 4.5 lakhs. Phase 4: Final proof-of-concept pharmacokinetic study Rs 6.5 lakhs.	Dharma Yug Biosciences Pvt. Ltd.	17 lakhs	September 2023-Ongoing
29.	<b>LC-MS/MS ANALYSIS OF N-NITROSAMINE DRUG SUBSTANCE RELATED IMPURITIES (NDSRIs).</b> Method development for metoprolol, chlorpromazine, atomoxetine, carvedilol, tramadol, labetalol, desvenlafaxine, cyclobenzaprine, hydrochlorothiazide and sample analysis	Rubicon Research	Rs 50 lakhs plus as NDSRIs get added and sample analysis is done.	March 2024-Ongoing
30.	INVESTIGATION OF COLOUR CHANGE IN AMOXYCILLIN AND CLAVULANIC ACID (CO- AMOXICLAV) SUSPENSION FORMULATIONS BY SPECTROPHOTOMETRIC TECHNIQUE.	Aristo Pharma.	1 lakh	September 2024-Ongoing

Funding Agency funded Research Projects				
S. No.	Title	Funding Agency	Amount (Rs.)	Period
1.	ENZYMATIC RESOLUTION OF DRUGS AND DRUG INTERMEDIATES	AICTE (TAPTEC scheme)	12 lakhs	February 2002-February 2005
2.	IMMOBILISATION OF LIPASES FOR RESOLUTION OF FLURBIPROFEN, A NON-STEROIDAL ANTI-INFLAMMATORY DRUG	University of Mumbai	50,000/-	July 2005-March 2006

S. No.	Title	Funding Agency	Amount (Rs.)	Period
3.	IN SILICO DRUG DESIGN, SYNTHESIS AND PHARMACOLOGICAL EVALUATION OF CHALCONE ANALOGUES AS VASCULAR ENDOTHELIAL GROWTH FACTOR RECEPTOR (VEGFR) INHIBITORS FOR TUMOR ANTI-ANGIOGENESIS ACTIVITY	Department of Biotechnology	12.6 lakhs	October 2009-September 2012
4.	ISOLATION, CHARACTERIZATION AND STANDARDIZATION OF PHYTOCONSTITUENTS FROM HERBAL EXTRACTS (AMLA- <i>Phyllanthus embellica</i> , MAMEJVA- <i>Enicostemma littorale</i> ) USED IN AYURVEDIC FORMULATIONS BY USING HPLC AND HPTLC METHODS	National Medicinal Plants Board, Department of AYUSH	27.46 lakhs	February 2009-January 2012
5.	COMPARISON OF MICROWAVE ASSISTED AND CONVENTIONAL SYNTHESIS OF BENZOTRIAZOLE ANALOGUES AS POTENTIAL ANTIFUNGAL AGENTS.	University of Mumbai	20,000/-	November 2010-March 2011
6.	DESIGN, SYNTHESIS AND EVALUATION OF POTENTIAL ANTIFUNGAL AGENTS	AICTE (Research Promotion scheme)	12.5 lakhs	December 2011-November 2013
7.	LEAD OPTIMIZATION AND IN SILICO TARGET VALIDATION FOR ANTIMYCOTIC ACTIVITY OF BENZOTRIAZOLE DERIVATIVES	Amrut Modi Research Fund (AMRF)	5.04 lakhs	April 2012-March 2015
8.	MULTICOMPONENT ANALYSIS OF DRUGS a. Analysis of fixed dose combination of drugs b. Development of stability indicating methods for APIs c. Bioanalytical method development and therapeutic drug monitoring d. Herbal analysis e. Chiral chromatography	University Grants Commission (UGC)	8.35 lakhs	July 2012-July 2015
9.	ENANTIOMERIC PURITY DETERMINATION OF ACTIVE PHARMACEUTICAL INGREDIENTS	Amrut Modi Research Fund (AMRF)	6.36 lakhs	October 2015-September 2017
10.	DEVELOPMENT AND VALIDATION OF CHIRAL CHROMATOGRAPHIC METHODS FOR ACTIVE PHARMACEUTICAL INGREDIENTS	University of Mumbai	25, 000/-	1year
11.	<b>NATIONAL FACILITY FOR RESEARCH AND TRAINING IN INTEGRATED ANALYTICAL STRATEGIES FOR DISCOVERY, DEVELOPMENT AND TESTING OF DRUGS, PHARMACEUTICALS AND NUTRACEUTICALS</b>	Department of Science and Technology	<b>587.01 lakhs</b>	March 2017-October 2020

S. No.	Title	Funding Agency	Amount (Rs.)	Period
12.	IMPURITY PROFILING USING HYPHENATED TECHNIQUES	Amrut Modi Research Fund (AMRF)	5.2 lakhs	January 2018-June 2021
13.	MODERNIZATION OF CELL CULTURE AND MOLECULAR BIOLOGY LABORATORY TO AUGMENT RESEARCH AND LEARNING	AICTE	17.39 lakhs	January 2022-January 2024
14.	INVESTIGATION OF LC-MS/MS APPLICATIONS IN PHARMACEUTICAL ANALYSIS AND BIOANALYSIS	Amrut Modi Research Fund (AMRF)	7.2 lakhs	February 2022-January 2025
15	DESIGN, DEVELOPMENT AND EVALUATION OF ANTIFUNGAL SUPPOSITORY FORMULATIONS WITH EMPHASIS ON BIOAVAILABILITY ENHANCEMENT, MUCORMYCOSIS AND WOMEN HEALTH.	DST SERB And Bliss Pharma GVS for <b>Prime Minister's Doctoral fellowship</b>	55.39 lakhs	October 2021-September 2025

UK India Education Research Initiative (UKIERI) Staff Exchange Award by British Council		
S. No.	Title	Award
1	Staff Exchange program in the area of Pharmaceutical Analysis	<b>3000 pounds</b>

#### Research Area and Interest:

- Development of methods for quantitative analysis of N-Nitrosamine Drug Related Substance Impurities (NDSRIs).
- Isolation, characterization and evaluation of bioactive constituents from herbal extracts using bioactivity guided fractionation.
- Computer aided Drug Design, synthesis and pharmacological evaluation (*in vitro* analysis).
- Resolution of drugs, including enzymatic resolution and its monitoring.
- Chiral chromatography.
- Forced degradation studies, Impurity profiling and development of stability indicating assays.
- Analytical method development and validation.
- Synthesis, purification and characterization of impurities/metabolites.
- Structural Elucidation using spectroscopic techniques.
- Bioanalytical Method development and validation; Therapeutic Drug Monitoring.
- Drug metabolism and pharmacokinetic analysis.
- Herbal Analysis and Nutraceutical Analysis.
- Cell Culture Studies.
- *In vitro* analysis for antibacterial, antifungal and anti-amoebic activity by Resazurin Microtitre Assay.
- *In vitro* antiplatelet activity.
- LC-MS/MS, HPTLC and HPTLC-MS and ICP-MS Analysis.



**Expertise and instrumental/research facilities you can provide to interested parties:**

1. Analytical and bioanalytical method development and validation followed by sample analysis using:
  - LC-MS/MS
  - HPTLC and HPTLC-MS
  - ICP-MS
  - HPLC and UHPLC
  - UV Spectrophotometer
2. Development and validation of LC-MS/MS methods for quantitative analysis of N-Nitrosamine Drug Related Substance Impurities (NDSRIs) followed by sample analysis.
3. Chiral chromatography
4. Nutraceutical Analysis
5. Cell Culture Studies
6. LC-MS/MS analysis of IVRT and IVPT samples
7. Forced degradation studies, Impurity profiling and development of stability indicating assays.
8. Structural elucidation using NMR and mass spectrometric data
9. Drug metabolism and pharmacokinetic analysis.
10. Herbal Analysis.
11. *In vitro* analysis for antibacterial and antifungal activity by Resazurin Microtitre Assay.