

## GUNASEKAR MANOHARAN

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### EDUCATION

**Doctor of Philosophy, Cancer Biology**, University of Central Lancashire, Preston, UK, **2011**.

**Master of Science, Pharmaceutical Analysis**, The Tamilnadu Dr. MGR Medical University, India, **2006**.

**Bachelor of Science, B.Pharmacy**, The Tamilnadu Dr. MGR Medical University, India, **2003**.

### JOB EXPERIENCE

**Assistant Professor**, Jazan University, College of Pharmacy, Clinical Pharmacy and Pharmaceutical Chemistry Department, Jazan, 82726, Saudi Arabia. **(2014 to present)**.

- Taught basic research principles for Pharm.D and MBBS students. Students interested in pursuing research in the area of Analytical method development and clinical trials.  
**University of Central Lancashire, Preston, UK. (2011- 2014).**

*Research Associate*

- Managing the process of creating research projects and assignments for 12 M.Pharm and 6 M.Phil students. Giving lectures on Basic Principles of Clinical Pharmacy, Pharmacology and Analytical Chemistry.

**University of Central Lancashire, Preston, UK. (2008- 2011).**

*Research Assistant (for Prof. J. Singh)*

- Providing required assistance to 16 Undergraduate and 10 Graduate students with lab project implementations. Teaching basic research principles for summer interns and graduate students.

### RESEARCH EXPERIENCE

**Dr. CL Analytical Lab, India. (2006- 2007)**

*Analytical Chemist*

- Developed once daily controlled release dosage forms for antibiotics.
- Evaluated and approved quality records to ensure compliance with regulatory/quality system requirements for release of products

**University of Central Lancashire, Preston, UK. (2008- 2011)**

*Graduate Research Assistant*

- Time-course effects of *Momordica charantia* extract on cell viability in various cancer cell lines.
- Dose Dependent effects of *Momordica charantia* extract and  $\alpha, \beta$  momocharin on cell viability in various cancer cell lines and the combined effects of *Momordica charantia* extract and  $\alpha, \beta$  momocharin with *Temozolomide* and *Vinblastine* on cell viability and apoptotic pathways.
- Modes, cellular and molecular mechanisms of actions of *Momordica charantia* extract and  $\alpha, \beta$  momocharin in inducing cancer cell death.
- Dose-dependent toxic effects of the *Vinblastine*, *Cisplatin* and *Temozolomide* on cancer cell viability using different types of cancer cells using confocal microscope.

### ACADEMIC ACHIEVEMENTS

- Instrumental in obtaining quality certifications in March 26, 2010 AstraZeneca, Alderley Edge, UK.
- Track record of elevating average student scores on standardized tests by 57-72%.
- Prepared 22 digital posters for various presentations.
- Honoured by University of Central Lancashire, Science and Technology Graduate School for best Research Student 2009.
- Stood second in class during undergraduate and graduate study (top 1%).

## SKILLS

- Animal Tissue Culture - Handling and Maintenance of Cell Culture
- Sub-cellular Organelle Fractionation and Isolation
- Microscopy techniques - Fluorescent/Confocal Microscopy
- Cell Proliferation and Cell Viability Assays
- Soft Agar Assay, Clonogenic Assay, and Matrigel Invasion Assay
- Transient and Stable Transfection Techniques
- **Biochemistry and Molecular Biology**
- Biochemical estimations (DNA, RNA, Protein, and various Enzyme Activities)
- PCR, Gradient PCR, RT-PCR, Real Time PCR, and RT-PCR Arrays
- **Analytical Chemistry**
- CD, FTIR, DSC, HPLC, LC-MS, ICP-MS, MALDI-TOF MS, and Electrophoresis
- Proven experience in cGLP and cGMP manufacturing units
- Successful grant, manuscript, and technical report writer

## ACADEMIC ACCOLADES

- Merit of being selected as a member of the School of Pharmacy and Allied Sciences Ambassadors based on academic achievement, strong leadership skills, enthusiasm, and commitment to UCLAN
- Successfully completed research assistantship from University of Central Lancashire, 2008-2011.
- Secured 2<sup>nd</sup> position in class during undergraduate and graduate study.
- Received Undergraduate scholarship, 1999-2003.

## RESEARCH GRANTS

- Title: Development and validation of Ultra violet spectrophotometric and RP-HPLC techniques for simultaneous estimation of brinzolamide and brimonidine tartrate in ophthalmic suspension formulation.  
Amount: SAR 10000 (2015 - 2016)  
Funded by: Research Deanship, Jazan University, Kingdom of Saudi Arabia.
- Title: Development and validation of a stability-indicating RP-HPLC method for the estimation of mupirocin in bulk and ointment dosage form.  
Amount: SAR 10000 (2015 - 2016)  
Funded by: Research Deanship, Jazan University, Kingdom of Saudi Arabia.
- Title: Determination of some trace metals in hospital eater supply systems in Jazan by ICP-MS.  
Amount: SAR 100000 (2014 - 2015)  
Funded by: Research Deanship, Jazan University, Kingdom of Saudi Arabia.
- Title: Chromatographic determination of alpha beta momorcharin and its effects with the combination of temozolamide and vinblastine in the treatment of glioma cancer in-vivo.  
Amount: £ 7000 (2009 - 2010)  
Funded by: Brain Tumor North West, Lancashire, UK.

## PUBLICATIONS

- **G Manoharan.** High-pressure liquid chromatographic method development and validation for estimation of Acyclovir in raw and tablet formulation. **Scholars International Journal of Chemistry and Material Sciences.** 2018, **7(1)**, 16-21.
- **G Manoharan.** Stability-indicating RP-HPLC method development for determination and estimation of Valacyclovir in raw and tablet formulation. **United Journal of Chemistry.** 2018, **11(1)**, 62-67.
- **G Manoharan.** Effects of crude methanol soluble extract of *Momordica Charantia* on cancer cell lines and L6 cell line. **Asian Journal of Research in Biochemistry.** 2018, **2(2)**, 1-7.
- H.A Alhazmi and **G Manoharan.** Quantitative determination of Clobetasone butyrate in bulk and cream formulation by a validated stability-indicating RP-HPLC method. **European Journal of Chemistry.** 2018, **9 (2)**, 92-98.

- **G Manoharan and Ahmed M Ismaiel.** Stability-indicating RP-HPLC method development for simultaneous determination and estimation of Dapagliflozin in raw and tablet formulation. **Chemistry Research Journal.** 2018, 3(2), 159-164.
- **G Manoharan.** Development and validation of a stability-indicating RP-HPLC method for the estimation of Eltrombopag in bulk and tablet formulation. **Asian Journal of Chemical Sciences.** 2018, 4(1), 1-9.
- **G Manoharan.** Development and validation of a stability-indicating RP-HPLC method for the estimation of Clobetasol propionate in bulk and ointment dosage form. **European Journal of Pharmaceutical and Medical Research.** 2017, 4(05), 119-126.
- **G Manoharan, M. Bratty.** Simultaneous estimation of Diphenhydramine Hydrochloride and Naproxen Sodium in raw and tablet formulation by RP-HPLC method. **International Research Journal of Pure and Applied Chemistry.** 2016, 13(2), 1-9.
- **G Manoharan.** Stability-indicating RP-HPLC method development for simultaneous determination and estimation of Bendroflumethiazide and Nadolol in raw and tablet formulation. **International Journal of Science and Technology.** 2016, 5(12), 589-596.
- **G Manoharan.** Measurements of intracellular free calcium on cancer cell lines by the effects of crude water-soluble extract of *Momordica Charantia*. **International Journal of Scientific Research in Science and Technology.** 2016, 2(5), 261-266.
- **G Manoharan.** Measurements of intracellular free calcium on cancer cell lines by the effects of  $\alpha$ ,  $\beta$  momorcharin extract of *Momordica Charantia*. **Persian Journal of Medical Sciences.** 2016, 3(3), 77-82.
- **G Manoharan.** Effects of alpha, beta Momorcharin extract of *Momordica Charantia* on intracellular free calcium on cancer cell lines. **Journal of Medical and Health Research** 2016,1(3), 35-43.
- **G Manoharan.** Simultaneous determination and estimation of Amlodipine and Perindopril in raw and tablet formulation by stability-indicating RP-HPLC method. **Journal of Pharmacy and Biological Sciences.** 2016,11(5), 24-29.
- **G Manoharan.** Development and validation of a stability-indicating RP-HPLC method for the estimation of Mupirocin in bulk and ointment dosage form. **European Journal of Pharmaceutical and Medical Research.** 2016,3(10), 470-476.
- **G Manoharan, M. Bratty.** Development and validation of Reversed-phase HPLC method for the simultaneous estimation of Amlodipine and Nebivolol in raw and tablet formulation. **International journal of pharmaceutical research and allied sciences.** 2016, 5(4), 37-44.
- **G Manoharan, M. Bratty.** Chromatographic determination of alpha beta momocharin and its effects with the combination of temozolamide and vinblastine in the treatment of glioma cancer in-vivo. **International Journal of Medical Research & Health Sciences.** 2016, 5 (6), 191-197.
- **G Manoharan, M Bratty.** Effects of *Momordica Charantia* fruit extract with the combination of temozolamide and vinblastine in the treatment of glioma cancer in vivo. **International Journal of Medical Research & Health Sciences.** 2016, 5 (5), 10-16.
- **G Manoharan, M Bratty.** Development and validation of Reversed-phase HPLC techniques for simultaneous estimation of Amlodipine, Hydrochlorothiazide and Olmesartan in raw and tablet formulation. **International Journal of Pharmaceutical Sciences Review and Research.** 2016, 38 (2), 205-209.
- **M. Bratty, G Manoharan.** Reverse Phase - High-performance liquid chromatography determination of Levocetirizine and Pseudoephedrine in tablet formulation. **Der Pharma letter.** 2016, 8 (6), 217-223.
- **M. Bratty, G Manoharan.** Development and validation by RP-HPLC method for the simultaneous quantification of Diclofenac and Rabeprazole, in capsule formulation. **Indian Journal of Science and Technology.** 2016, 9 (19), 105-120.
- **G Manoharan, M.Bratty.** Development and validation of RP-HPLC method for the estimation of Rabeprazole and Mosapride in raw and capsule formulation. **Der Pharma Chemica.** 2016,8(5),140-146.
- **G Manoharan, M. Bratty.** Development and validation of Ultra violet spectrophotometric and Reversed-phase High Performance Liquid Chromatography techniques for simultaneous estimation of Brinzolamide and Brimonidine tartrate in ophthalmic suspension formulation. **Oriental Journal of Chemistry.** 2016, 32 (2), 1111-1120.
- **G Manoharan, Hassan A. Alhazmi, M.Bratty, H. Makeen, A. Kadi.** Optimized HILIC-MS/MS Method for Simultaneous Determination of two Antiepileptic Drugs with Significant Difference in Binding to Serum Albumin. **Global Advanced Research Journal of Medicine and Medical Sciences.** 2016, 5(2), 042-052.

- M. Bratty, **G Manoharan**. Conductometric determination of the antihistaminic Diphenhydramine hydrochloride using silver nitrate as a titrant. **International Journal of Pharmacy and Pharmaceutical Sciences**. 2015, 7(3) 72-76.
- **G Manoharan**, Singh. Effects of crude water-soluble extract of *Momordica Charantia* on viability, caspase activity, cytochrome c release and on cytosolic calcium levels in different cancer cell lines. **Cancer Cell Microenviron** 2014; 1: e273: 10.14800/273.
- **G Manoharan**, Singh, J. Effect of  $\alpha$ ,  $\beta$  momorcharin on viability, Caspase activity, Cytochrome c release and on Cytosolic calcium levels in different cancer cell lines. **Molecular and Cellular Biochemistry**. 2014, 388,1(2), 233-240.
- **G Manoharan**, Singh, J. Effects of *Momordica Charantia* crude water-soluble extracts in the treatment of cancer in- vitro. **Journal of Ethno pharmacology**. 2013,7, 1573-1577.
- **G Manoharan**, J Singh. Anticancer effects of  $\alpha$ ,  $\beta$  Momorcharin and its mechanism of action on different cancer cell lines. **The Federation of American Societies for Experimental Biology**. 2012, 26(1) 1065.5.
- **G Manoharan**, Singh, J. Medicinal Chemistry of the Anti-Diabetic Effects of *Momordica Charantia*: Active constituents and modes of actions. **The Open Medicinal Chemistry Journal**. 2011,5, (2) 70-77.

#### RESEARCH PRESENTATIONS

- **Manoharan G** and Singh J, Cellular mechanism(s) of action of a water-soluble extract of *Momordica Charantia* in inducing cell death on different cancer cell lines. Cellular Signalling, Oxford, UK, 2011.
- **Manoharan G**, Ahmed W, and Elhissi A. Treatment of glioma using liposomes Generated from alcohol-based Proliposomes. UKICRS Symposium, Belfast, Northern Ireland, 2011.
- **Manoharan G**, Singh J, and Lea RB. Mechanism of action of *Momordica charantia* and  $\alpha$ ,  $\beta$  momorcharin on cell viability of different cancer cell lines. Cellular & Integrative Neuroscience research conference, Birmingham, UK, 2010.
- **Manoharan G**, Singh J, and Lea RB. Cellular mechanism of action of  $\alpha$ ,  $\beta$  momorcharin on cell viability of different cancer cell line. Cellular Signalling, Manchester, UK, 2010.
- **Manoharan G**, Singh J, and Lea RB. Effects of *Momordica charantia* fruit extract with the combination of temozolamide and cisplatin in the treatment of glioma cancer. Cellular Neurophysiology, Macclesfield, UK, 2010.