

31 October 2022

From

Dr. Revathy. N
No. 17-D, DDA Flats,
Pocket 1, Phase I, Mayur Vihar,
New Delhi – 110091.

To

M/s. L.S. DAVAR & Co.
DELHI (ZONAL OFFICE)
1/2 Block F, Phase 1, Okhla Industrial Area, New Delhi – 110020

Respected Sir/Madam,

Sub: Application for suitable position in your organisation – Reg.

I am **Revathy** from New Delhi writing to you out of interest to work in a suitable position in your reputed IP firm. I am currently undergoing one year job-on-training programme in **IPR** and related matters (Dec 2021 – Dec 2022), under the **DST's** prestigious fellowship, **Women Scientist Scheme-C (WISE KIRAN-IPR)**, in the field of **food, pharma and drugs**, at Patent Facilitating Centre (**PFC**), **TIFAC**, New Delhi.

I have an **inter-disciplinary** profile with **M.Sc. Biotechnology** and **Ph.D. Pharmacology** (Field: **Pharmacogenomics**), along with more than **8 years** of **research experience** in the field of biomedical sciences, including the current IPR training. I am naturally a deep learner as well as research-oriented with good writing and analytical (lab/computational/statistical) skills.

During my doctoral and post-doctoral research tenures, I had the best opportunities to work passionately in reputed National medical institutions like **JIPMER, Puducherry** and **AIIMS, New Delhi**, with untiring teams under renowned mentors. These experiences highly advanced my knowledge in both biomedical laboratory and clinical research methodologies, as well as ethics in human research. My current **IPR** training as **WOS-C** intern, significantly changed my perceptions about biotechnological or biomedical or pharmacological research outputs (patents or publications) as worthwhile contributions direct to the welfare of mankind. Now, I am deeply interested to widen my scientific knowledge in the transition of **lab bench to public health use** and its related **IP or Patent filings, analytics and research** as well as **technology transfer & commercialisation**. Hence, I am desiring to continue my **career** in this ever-growing field of **IPR**, by learning and exploring to excel, especially in **Patent drafting, prosecution and analytics**.

With this background and interest, I herewith applying and requesting you to kindly consider my application for a suitable position, in your reputed firm. Please find attached my updated **CV**, for your kind reference. Looking forward to hearing from you to utilize my technical expertise by providing me an opportunity to work with your esteemed IP team.

Thanking you.

Sincerely,
Revathy

Enclosure:

1. Curriculum Vitae



Dr. Revathy N

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Mayur Vihar, Phase I, New Delhi
-110091.

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revathyswaram@gmail.com
Phone: 7290081775 / 9487651677

DATE OF BIRTH 15.06.1987

PERMANENT ADDRESS No.1, First floor, Usha Nagar, Third Street, Ullagaram, Chennai, Tamilnadu - 600 091.

LANGUAGES Tamil, English, Hindi (Read, write & speak)

CURRENT WORK INFORMATION

I am currently working under **DST Women Scientist Scheme - C Fellowship**, one year job on training focused on **IPR** (Field: Drugs, Pharma and Food), in the Patent Facilitating Centre (**PFC**), **TIFAC**, an autonomous institution under DST, New Delhi. I am trained here under IP experts, in varied facets of patent application procedures as per the Indian patent law and also in IP analysis. With thorough knowledge in The Patents Act 1970 & The Patents Rules, 2003, my work here may be summarized as:

- Search report writing using different patent databases (inPASS, USPTO, WIPO Patentscope, Espacenet, Google patents, The lens, etc.)
- Finding novelty with respect to Indian traditional medicine or knowledge related patent application - use of TKDL database information
- Finding novelty with respect to sequence submissions in biotech related inventions using sequence similarity search tools (NCBI-BLAST, USPTO Sequence search, etc)
- Helping inventors to understand the application process in relevance to the Biological Diversity Act, 2002 and working in co-ordination to process applications related to nutraceuticals or supplements, microbe or sequence submissions, etc.
- Presenting an invention before the committee on IP filing for its approval and proceeding with submission of provisional or complete patent application
- Patent application drafting - related to biotech, biomedical and pharma inventions
- Helping inventors to prepare response to FERs
- IP research - Subject specific patent analysis and landscaping followed by analytical report writing

EDUCATION Xth or Secondary School 2001 — 2002
Vivekanandha Hr.Sec.School, Puducherry.
Subjects: ENGLISH, TAMIL, MATHEMATICS, SCIENCE, SOCIAL SCIENCE
Class: **Distinction** ; Aggregate marks : **94.8%**

Higher Secondary School 2003 — 2004
New Prince Matriculation Hr. Sec. School, Chennai, Tamilnadu.
Subjects: ENGLISH, TAMIL, MATHEMATICS, PHYSICS, CHEMISTRY, & BIOLOGY
Class: **Distinction** ; Aggregate marks : **83.7%**

UG (Genetics, Zoology, Chemistry) 2005 — 2008
Osmania University, Hyderabad, Telangana.
First Division (Marks: **67%** Aggregate)

University of Madras, Chennai, Tamilnadu.

First Division (Marks: **67%** Aggregate)

Title of PG Dissertation: Genotoxic and antigenotoxic studies in *Drosophila melanogaster*

Place of project work:Drosophila Laboratory, Department of Human Genetics, Sri Ramachandra University, Chennai, Tamilnadu, INDIA.

Work summary

Basically a **genetic study** considering *Drosophila melanogaster* (fruit fly) as an insect model. Changes in fly morphological characteristics which represents the underlying genetic expression changes were studied. Pre and post treatment studies using benzaldehyde as genotoxin, which was followed by treatment of ethanolic extracts of **amla and black pepper** were studied to understand their **antigenotoxic properties**. Flies were cultured, exposed to the above drugs for a period of time, etherized and morphologies such as wing pattern, body size, etc were observed as endpoints, supported with DNA fragmentation analysis of fly genotype. The study was exploratory and supported the antigenotoxic effects of amla and black pepper extracts at specific doses of administrations.

Ph.D (Pharmacology)

2012 — 2018

Department of Pharmacology, JIPMER, Puducherry.

Field of work: PHARMACOGENOMICS

Title of the thesis:"Influence of genetic polymorphism and prakriti type on response to inhaled corticosteroids (ICS) in south Indian patients with persistent asthma"

Work summary

Bronchial asthma is a lung inflammatory disease characterized by variable airflow obstruction. Its complexity is highly heterogeneous due to various underlying genetic, immune and environmental factors. My study was a **prospective cohort on adult asthmatics** from south Indian population with an aim to understand the influence of **genetic polymorphisms (SNPs)** and **prakriti** type (Basic concept from **Indian System of Medicine**) on ICS response through **genotype-phenotype association** studies. SNPs in the **genes** related to the **immune cascade** of asthma inflammatory response (*CRHR1*, *DUSP1*, *FCER2*, *GLCCI1*, *TBX21* & *STIP1*) were considered for our study. Phenotypes were assessed clinically through Pulmonary Function Tests, follow ups, biomarkers such as fractional exhaled nitric oxide (FeNO), IgE antibodies and supportive questionnaires. In Ayurveda or any Indian system of Medicine, the concept of prakriti forms the basis in both diagnosis and treatment of diseases. In our study, the prakriti type of patients recruited were assessed using a software designed for the same (**AYUSOFT**) and clinically validated with the help of an Ayurvedic practitioner.

Out of 252 patients recruited, 171 completed follow-up period with more than 80% ICS adherence rate. Among the 171, 66.08% were found to be good responders. In prakriti assessment 41.5% were vata, 08.8% were pitta and 49.7% were kapha dominant individuals. PFT measurements, FeNO and IgE levels had shown a significant difference in pre and post ICS values. Prakriti type was found associated with ICS response, PFT parameters and variants rs4980524 and rs9910408 in *STIP1* and *TBX21* genes. Thus our study findings with its new insights considering **prakriti, genotype and phenotype** may provide a basic platform in future **asthma** research that may aim to integrate **personalized medicine** with systems approach.

EXPERIENCE

Patent Facilitating Centre (PFC),
TIFAC, New Delhi

Dec 2021 — Till date

DST Women Scientist C Scheme (WOS-C)

Working as WOS-C Fellow and undergoing job on IPR training in the fields of drugs, pharma and food. Duration: 1 yr (till Dec 2022).

Department of Pediatrics, AIIMS,
New Delhi

Sep 2019 — Dec 2019

Research Associate

Title of the project: "To explore the role of synovial fluid proteomics in predicting the disease severity and sub types of Juvenile Idiopathic Arthritis JIA" (ICMR project)

Nature of work: LC-MS analysis & molecular biology work for Proteomics research

Department of Microbiology,
AIIMS, New Delhi

Feb 2019 — Sep 2019

Senior Research Fellow

Title of the project: "Validation of indigenously developed technologies for diagnosis of pediatric pulmonary tuberculosis: multi centric validation" (ICMR project)

Nature of work: LC-MS analysis & molecular biology work for Proteomics research; HPLC & LC-MS analysis for Pharmacokinetics of anti-tuberculosis drugs

Department of Pharmacology,
JIPMER, Puducherry

Sep 2012 — Apr 2018

Ph.D Scholar (Full time)

Under the guidance of, **Dr.C.ADITHAN**, Retd. Professor (Senior scale), Dept of Pharmacology & Head, Department of Clinical Pharmacology, JIPMER, Puducherry.

Nature of work: PHARMACOGENOMICS

ICMR Centre for advanced research
in Pharmacogenomics, Dept. of
Pharmacology, JIPMER,
Puducherry

Aug 2011 — Aug 2012

Project Technician

Nature of work: Pharmacogenomics & Pharmacokinetics

IP SKILLS

1. Thorough knowledge in The Patents Act 1970 & The Patents Rules, 2003
2. Basic understanding of PCT filing and US patent laws
3. Use of patent databases & search report writing
4. Patent drafting - related to biotech, biomedical and pharma inventions
5. IP research - Patent analysis and landscaping
6. Patent databases - inPASS, WIPO Patentscope, Google patents, Espacenet, USPTO, The Lens
7. Non patent literature search - Google, PubMed, Google Scholar, Web of Science, TKDL, etc

COMPUTATIONAL SKILLS

1. MS Office - Word, Excel, Powerpoint, Publisher, PDF, etc.
2. Statistics tools - MS Excel, SPSS, OpenEpi
3. Bioinformatics tools - NCBI, Ensembl, Expasy, EMBL, UCSC, etc.,
4. Use of biological data repositories - Genbank, RCSB PDB, Drugbank, KEGG, UniProt, PubChem, etc.
5. Drug designing softwares - Argus Lab, AutoDock, etc.

BIOTECH/BIOMEDICAL LAB SKILLS

1. Bio-analytical techniques in Pharmacokinetics - HPTLC, HPLC, IEC, LC-MS Analysis (QTrap & OrbiTrap)
2. Spectrophotometries; Biochemical & protein assays
3. DNA, RNA & protein isolation methods from various sources
4. Electrophoretic methods: Gel, 2D gel, disc, immuno, counter current immuno, PAGE, SDS-PAGE.
5. Polymerase Chain Reaction: Real time; 2-step, RFLP, RAPD, etc.
6. DNA, RNA and protein hybridization methods; Recombinant DNA techniques
7. Genetic analysis such as karyotyping & pedigree methods; calculations in population genetics
8. *Drosophila* fly lab techniques: Culture and genetic testing methods
9. Basic plant & animal cell culture techniques
10. Basic medical diagnostics & clinical lab techniques
11. Bioinformatics tools in 'omics' and drug discovery research

ACCOMPLISHMENTS

1. **Full time member** of the Organization for Women in Science for the Developing World (OWSD), an international organization under the UNESCO.
2. **Life time Member** of the **Delhi Pharmacological Society**
3. **Trainee member** in the **American Thoracic Society** during Sep 2014-15.
4. **Co-investigator** in a faculty project investigated by Dr.S.Sandhiya, Assistant Professor, Department of Clinical Pharmacology, JIPMER entitled, "Association of vitamin D level and genetic polymorphisms related to vitamin D metabolism on response to inhalational corticosteroids in South Indian patients with persistent asthma," during the period of 2014-16.
5. **Trainer** in pharmacogenomics research for project students from other institutions, who worked under the guidance of Dr.S.Sandhiya, Assistant Professor, Department of Clinical Pharmacology, JIPMER.
6. **Resource person** in the 9th to 12th "National Workshops on Basic Techniques in Molecular Biology & Bioinformatics in Pharmacogenomics," conducted by the department of Pharmacology, JIPMER during 2012-15.

TRAININGS

1. Soft skills course in "**Personality Development and Communication Skills**" during November-December 2007, in Kasturba Gandhi degree & PG college and Zion Cybertech, Secunderabad.
2. One month summer training in "**Computer Aided Drug Design and Analysis of Software Tools**" at Center for Bioinformatics Research Institute, Chennai, during June 2009.
3. "**Basic course in Bio-statistics**" in the Department of Bio-statistics, National Institute of Epidemiology (ICMR), Chennai, during November 2012.
4. Currently undergoing one year online "**Training Course in Science Journalism**," organized by Indian Science Communication Society, Lucknow

WORKSHOPS

- National workshop on "Recent trends in Nano-biotechnology & Nanotechnology Instrumentation" jointly conducted by Presidency College & IIT Madras, Chennai, during Sep 2009.
- Advanced Pharmacovigilance workshop jointly conducted by Indian Pharmacological Society & Dept of Pharmacology, JIPMER, Puducherry, during Sep 2012.
- 'Orientation workshop on Epidemiology', conducted by JIPMER during Jul 2014.
- Workshop on Good Clinical Research Practice conducted by JIPMER during

Aug2014.

- Workshop on 'Research methodology & Biostatistics in ISRPTCON 2014 conference.
- Workshop on 'Genome Informatics' conducted by SRM University during Jan 2015.
- Workshop on Bioethics, conducted by JIPMER during Jan 2015.
- Workshop on Critical thinking in medical research' conducted by JIPMER during Sep 2015.
- Workshop on 'Research methodology' conducted by JIPMER during Dec 2015.
- Workshop on 'Bioavailability & bioequivalence studies' conducted by JIPMER during Apr 2016.
- Workshop on 'Human Bioethics' conducted by JIPMER during Jul 2016.
- One week Workshop on **Patent drafting** during April 2022 conducted by TIFAC, New Delhi.

PRESENTATIONS

1. A paper entitled "A Review on Gene Therapy in the Management of Polycystic Kidney Disease," in the two day **National Conference on " Polycystic Kidney Disorder – The Silent Killer."**, held on 8th & 9th Oct 2009, organized by the Department of Biotechnology, Women's Christian College, Chennai and ICMR.
2. A paper entitled, "Frequency of genetic variants in *CRHR1*, *GLCCI1* and *FCER2* in Tamilian healthy population," in the **National Conference on Genome Informatics (NCGI-2015)**, organized by the Dept. of Bioinformatics, School of Bioengineering, SRM University, Chennai, during 21-23, January 2015.
3. A poster entitled, "Association of *GLCCI1* gene rs37972 variant with steroid response in Tamilian asthma patients – A pharmacogenomic analysis," in the **Indian Genetics Congress**, organized by the Dept. of Genetic Engineering, SRM University, Chennai, during 4-6, March 2015.
4. A poster entitled, "Frequency of polymorphic variants in *CRHR1*, *GLCCI1* & *FCER2* genes associated with steroid response in healthy and asthmatic Tamilian population" in the **First JIPMER Annual Research Day**, organized by the Division of Research, JIPMER, Puducherry, during 11-12, September 2015.
5. A poster entitled, "Pharmacogenomic association of *GLCCI1* gene variant rs37973 with Inhaled corticosteroid response in Tamilian patients with persistent asthma" in the **National Conference on Clinical research & Personalized therapy(NCCP-2015)**, organized by the Dept. of Clinical Pharmacology & Division of Research, JIPMER, Puducherry, during 30-31, December 2015.
6. A poster entitled, "Association of polymorphism in glucocorticoid receptor hetero-complex gene *STIP1* with inhaled corticosteroid response in Tamilian asthma patients" in the **41st Indian Society of Human Genetics Meeting & International Conference(ISHG 2016)**, organized by Vision Research Foundation, Sankara Nethralaya, Chennai, during 03-05 March 2016.
7. A poster entitled, "Clinical utility of Fractional exhaled Nitric Oxide (FeNO) as a diagnostic biomarker of disease severity and inhaled corticosteroid response in Tamilian asthma patients" in the **International conference on Biomaterials, biodiagnostics, Tissue engineering, drug delivery and regenerative medicine (BiTerm 2016)**, organized by IIT-Delhi & AIIMS, New Delhi, India, during 15-17 April, 2016.
8. Won **first prize** on poster presentation entitled, "Frequency of polymorphisms in genes (*CRHR1*, *DUSP1*, *GLCCI1*, *STIP1* & *TBX21*) associated with steroid response in Tamilian bronchial asthma patients, in the conference of **Genetic Engineering Association**, SRM University, Chennai, during May 2016.
9. A paper entitled, "Clinical utility of Fractional exhaled Nitric Oxide (FeNO) as a diagnostic biomarker of disease severity and inhaled corticosteroid response in Tamilian asthma patients" in the **Second JIPMER Annual Research Day**, organized by the Division of Research, JIPMER, Puducherry, during 10-11, Sep 2016.

10. A paper entitled, "Association of *prakriti* type with response to inhaled corticosteroids and its pharmacogenomic markers in south Indian asthma patients" in the **Golden Jubilee International Conference of Indian Pharmacological Society – Southern region 2017**, organized by Department of Pharmacology, Mahatma Gandhi Medical College and Research Institute, Puducherry, during July 4-5, 2017.

PUBLICATIONS

1. **Revathy N**, Adithan C, Vinodkumar S, Kadiravan T, Sandhiya S, Manju R, et al. Frequency of polymorphic variants in corticotropin releasing hormone receptor 1, glucocorticoid induced 1 and Fc fragment of IgE receptor II genes in healthy and asthmatic Tamilian population. *Int J Basic Clin Pharmacol* 2016; 5(5): 1831-38.
2. **Revathy N**, Vinodkumar S, Kadiravan T, Manju R, Sandhiya S, Adithan C. Clinical Utility of Fractional exhaled Nitric Oxide as a Biomarker to Predict Severity of Disease and Response to Inhaled Corticosteroid in Asthma Patients. *J Clin Diagn Res* 2016; 10(12): FC01-6.
3. Wyawahare M, **Neelamegam R**, Vilvanathan S, Soundravally R, Das AK, Adithan C. Association of Angiotensin-Converting Enzyme Gene Polymorphisms and Nephropathy in Diabetic Patients at a Tertiary Care Centre in South India. *Clin Med Insights Endocrinol Diabetes*. 2017; 2017(10):0–0.
4. Rajaram M, Selvarajan S, **Neelamegam R**, Kamalanathan S, Gunaseelan V, Xavier AS, et al. Effects of genetic polymorphisms in Vitamin D metabolic pathway on Vitamin D level and asthma control in South Indian patients with bronchial asthma. *Lung India: official organ of Indian Chest Society*. 2019;36(6):483.
5. Genotoxicity and Antigenotoxicity studies in *Drosophila melanogaster*. V. Deepa Parvathi, **N Revathy**. Lambert Academic Publishing. ISBN 978-3-659-12987-2.2012.

SOCIAL ACTIVITY

Online UN Volunteer for Tobacco Awareness among Indian children (May-Sep 2021)
Concept of work: 'Tobacco users are more vulnerable to COVID-19' Create Awareness on Tobacco Control.

EXTRACURRICULAR

Trained Carnatic music practitioner (Vocal; Mid level)

LAST UPDATED

Aug 2022

REFERENCES

1. **Ms. Sangeetha Nagar**, Scientist-F, Patent Facilitating Centre (PFC), TIFAC, New Delhi. (Email: sangeetanagar2005@gmail.com)
2. **Dr.T.Velpandian**, Professor & In charge, Ocular Pharmacology & Pharmacy Division, Dr.R.P Centre for Ophthalmic Sciences, AIIMS, New Delhi (Email: tvelpandian@hotmail.com)
3. **Dr.C.Adithan**, Retd. Professor (Senior scale), Department of Pharmacology & Head, Department of Clinical Pharmacology, JIPMER, Puducherry. (Email: adithan50@gmail.com)