

# CURRICULUM VITAE

**NAME**            **MANJU .N.J.**

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## **WORK EXPERIENCE**

• Dates            **Aug 2017 to Present**

• Employer        **Research Institute of Medical and Health Sciences.**, University of Sharjah, UAE

• Type of business or sector        Life science and Medical Research

• Occupation or position held        **In-charge Flowcytometry, Confocal Microscopy core facility**

- Main roles and responsibilities
  - Coordinating the activities of multiple research projects and assisting researchers in experiment design, execution and data analysis.
  - Overseeing day-to-day management of Microscopy, Flow cytometry and In-vivo imaging Shared Resource Labs.
  - Supporting technically on NIKON Confocal, Olympus, Leica fluorescent microscopes.
  - Assisting researchers on animal imaging platform IVIS Lumina XR for in-vivo imaging for X-Ray, Bioluminescent and fluorescent modules.
  - Managing 4 flow cytometers including BD FACSAria III cell sorter.
  - Scheduling and prioritizing instruments bookings to ensure adequate coverage.
  - Performing QC, QA and Preventive maintenance functions of multiple instruments.
  - Conducting training and education programs on Confocal imaging, Cell sorting, IVIS, Panel designing.
  - Ordering consumables and maintaining inventory required for the Core facility.
  - Constantly updating knowledge of current practices in flow cytometry, Microscopy, animal imaging and implementing them.
  - Experience in handling 5 different mouse strains (SJL/J, C57BL/6J, DBA/2J, C3H/HeJ, NU/J).
  - Supporting as back up for Animal house facility in charge, Involved in the basic animal experiments

• Dates            **Aug 2017 to Present**

• Employer        **Sharjah Institute for Medical Research.**, University of Sharjah, UAE

• Occupation or position held        **Research Assistant**

• Main roles and responsibilities

- Actively involved in research projects of Immuno-Oncology research group.
- Performed cell based assays including PCR, Western blot, ELISA, Methylation specific PCR.
- Cytokine and Chemokine analysis by using multiplexed bead assay using Bio-Plex and Luminex platform.
- Expertise on handling multiple cell lines (NK92, K562, THP-1, Raji, Daudi, MCF-7, MDA-MB 231, HCT116, SKBR3, A549, AGS).
- Primary cells isolation including NK cells, Dendritic cells from mice and human blood by Ficol or EasySep, STEMCELL isolation kits.
- Successfully demonstrated mice dissection for organ collection like brain, spinal cord, spleen and liver further processing them for H&E staining, IHC, IFC.
- Helping students in development of autoimmune EAE mouse model, and used as animal model MS to check efficacy of different drug treatments.
- Performing functional assays like Cytotoxicity, chemotaxis, calcium flux, proliferation, apoptosis and cell cycle.
- Executed gene silencing and knock outs by using siRNA and lipofectamine method.
- Extraction of DNA, RNA samples for RNASeq and NGS experiments.

• Dates

**May 2013 to June 2017**

• Employer

**Becton Dickinson (BD Biosciences)**., Bangalore – 560052, INDIA

• Type of business or sector

Clinical and Life science Research

• Occupation or position held

**Application Specialist - Cell Analysis**

• Main roles and responsibilities

- Trainer for all BD Flow cytometers including 10 models of analyzers and 5 models of Cell sorters, actively involved in conducting flow cytometry workshops and training courses in South India and Sri Lanka.
- Field application scientist for the installation base of more than 330+ flow cytometers in South India and Sri Lanka.
- Positioning BDB products and technology through presentations, product demonstrations, workshops, seminars etc. in alignment with BD values, business objectives and marketing strategy.
- Assisting end-users in experiment designing for multicolor flow cytometry experiments, FACS and iMag magnetic cell sorting.
- Using application as tool for extending business, Accountable for 30% of the regions business for reagents, consumables and instruments.
- Planning and organizing training programs for internal team including sales managers, service engineers, channel partners in the region to strengthen the technical bar, product knowledge and applications of BD Bioscience products.
- Pre sale presentations, Post sale support and helping product marketing team, sales team to execute marketing activities like road shows, CME, workshops at customer sites, Participation in conferences through Pan India and Sri Lanka.
- Application support for the research applications such as Cell-cycle analysis, Semen analysis, Apoptosis, Bead based immuno assays, Cytokine analysis, B cell immunology, T cell immunology, Circulating tumor cells, T Regulatory cell immunophenotyping and sorting, Stem cell research, Cell

viability assays, Cell proliferation assays, Cytometric Bead Array (CBA), Plant Ploidy analysis, Functional assays such as ROS assay, Calcium flux, Membrane potential studies etc.

- Technical support for the IVD approved clinical and diagnostic instruments for applications such as Absolute counting for CD4 and CD8 cells, PID, hematopoietic stem cells, HLA B27 assay, Flow cytometry cross match, diagnosis of blood disorders such as leukemia lymphoma, MRD, Reticulocyte count, Platelet activation assays, etc.

• Dates

**January 2011 to April 2013**

• Employer

**Imperial life sciences Pvt. Ltd.**, Gurgaon – 122001, INDIA

• Type of business or sector

Life science Research and Development

• Occupation or position held

**Application Specialist – Cell Biology and Imaging**

• Main roles and responsibilities

- Technical Specialist and trainer for Amnis ImagestreamX and Flowsight Imaging cytometers.
- Led execution of marketing events to create brand visibility, involved in new Product launch, Market Research and market development.
- Application Specialist and trainer for MACSQuant flowcytometer.
- Assisting researchers and pharma industries by designing the experiments on Invivo imaging , animal imaging, flowcytometry and Cellular assays.
- Supporting sales team on joint customer calls to help sales associates address customer queries related to product usage and application across pan-India.
- Trouble shooting and providing solutions in the field of Flowcytometry, MACS(magnetic cell sorting), cell culture, etc
- Supporting small animal In-vivo imaging (IVIS) for Bioluminescence, Fluorescence and X-Ray based imaging from Caliper/Xenogen.
- Promoting magnetic cell sorting using MACS technology for cell separation autoMACS Pro and MACSQuant analyzer from Miltenyi biotech.
- Creating an environment for demand for instruments and devices through awareness and trainings on capital instruments and marketing strategy.

• Dates

**October 2008 to January 2011**

• Employer

**ReaMetrix (Beckman Coulter Bangalore Development Centre)**., Bangalore – 560058, INDIA

• Type of business or sector

R &D - Biomedical and Diagnostics.

• Occupation or position held

**Scientist.**

• Main roles and responsibilities

- Reagents and Immunophenotyping panel development on flowcytometry platform.
- Involved in the Dry down product development to enumerate viable Hematopoietic-Stem cells.
- Involved in preparing cell culture, cell based assays and PCR Analysis.
- Multicolor flowcytometry, comparison of the results with clinical and published results.
- Large scale production of antibody-dye conjugates for leukemia and lymphoma panel development.
- Protein purification of antibody-dye conjugates in HPLC and do functionality tests.
- Performing quality control procedure QC& QA of products by flowcytometry.
- Formulation of cocktails of different conjugates for dry reagent manufacturing, performing quality check using spectrophotometry, ELISA and bead-based assays.
- Compliance to QSPs and generation of necessary MOPs, SOPs, QCP documents.

EDUCATIONAL QUALIFICATIONS					
Examination	Discipline	Institution	Board/ University	Year of Passing	Division
MBA	Project Management	Sikkim Manipal University	Sikkim Manipal University	2014	First Class
MSc	Biotechnology	Department of Biotechnology and Microbiology	Bangalore University	2008	First Class
BSc	Chemistry and Biotechnology	Acharya Institutes of Sciences	Bangalore University	2005	First Class

Other Trainings undertaken

- DNA Sequencing, Genomics and Gene Expression analysis from Institute of Bioinformatics and Applied Biotechnology (IBAB), Bangalore
- Training session on ISO 9001:2003, ISO 13485:2003 for Medical devices and CE marking process by TUV Rheinland at Reamatrix India Pvt Ltd.

#### Assays for Livestock development centre

Developed of 9 assays and SOP for the quality cheking of the Bovine frozen and neat semen on the Flowcytometry platform procured by National Dairy Development Board (NDDB) through National dairy plan I. Following assays have been developed to acess the quality of the semen Viability, Acrosome status, Mitochondrial status, Bacterial concentration, DNA damage, Oxidation, Calcium assay and Semen concentration. These assays were demonstrated at four Frozen semen centres like CFSPTI-Bangalore, Nandini Semen station-Bangalore, Nucleus Jersey Farm (NJF)-Ooty, Kerala Livestock Development Board (KLDB)-Madupatti

#### Plant and ocnography flowcytometry

Developed methods to analyse the plant samples in the flowcytometry for the plant ploidy and genome size analysis. Method were demonstrated succefully for the mustard, palm and coconut plant for a seed company.

Developed method for the water quality test and Ocnography samples for the phytoplankton and pollution studies.

#### Laboratory Quality Consultant-Kenya (June 2016-July 2016)

Volunteered as Laboratory Quality Consultant for PEPFAR Labs for Life Program at Kenya with a team of BD-PEPFAR Labs for Life BD Global Health Fellows to support implementation of quality systems and ISO standards in national laboratories. Helped to increase the overall quality of care in the region, worked closely with the laboratory staff at Mutomo Mission Hospital, under the direction of the CDC, MOH and the BD-PEPFAR Labs for Life team.

#### Responsibilities:

- Provided guidance on the important elements needed to improve quality of laboratories; established national and international standards including components such as training of personnel, equipment maintenance, quality assurance, specimen management, documents and records.
- provided on-site training and mentorship to local laboratory staff supporting the lab improvement projects that will ensure adherence to good laboratory practice
- Perform full laboratory baseline assessments in facilities using a checklist based on ISO quality management systems (ISO 15189 standards) and CLSI (Clinical and Laboratory Standards

PROJECTS HANDELED

Institute) guidelines

## MEMBERSHIP

### Member of The Cytometry Society of India (TCS)

### Executive Committee Member Bangalore University Microbiology and Biotechnology Alumni Association

## ACHIEVEMENTS AND AWARDS

- Best Presentation Award at the 20th International Conference on Stem Cells and Regenerative Medicine (ICSCRM 2018) held at Dubai, UAE
- Received Becton Dickinson India's most prestigious **Brave Heart award** for 2013-14.
- Awarded as **Application Star of the Year 2014** and **Application Star of the Year 2016** from BD Biosciences, India.
- **BD Front Runner for the years 2013-2014, 2014-2015, 2015-2016**
- Part of product development team, a unique dried reagent used to diagnose the progression of disease in HIV patients, which received "**National Biospectrum Biotech Product of the year 2009 award**".
- Awarded merit admission for the Masters degree from 2006-2008

## PUBLICATIONS

Jibran Sualeh Muhammad, Maha Guimei, **Manju Nidagodu Jayakumar**, Jasmin Shafarin, Aisha Saleh Janeeh, Rola AbuJabal, Mohamed Ahmed Eladl, Anu Vinod Ranade, Amjad Ali, Mawieh Hamad. "Estrogen-induced hypomethylation and overexpression of YAP1 facilitate breast cancer cell growth and survival." *Neoplasia*, Volume 23, Issue 1, 2021

Ansari, Abdul Wahid, Fatemeh Saheb Sharif-Askari, **Manju Nidagodu Jayakumar**, Abdul Khader Mohammed, Narjes Saheb Sharif-Askari, Thenmozhi Venkatachalam, Bassam Mahboub et al. "Azithromycin Differentially Alters TCR-Activated Helper T Cell Subset Phenotype and Effector Function." *Frontiers in Immunology* 11 (2020): 2411.

Nour Z. Atwany, Seyedeh-Khadijeh SK. Hashemi, **Manju N Jayakumar**, Mitzi Nagarkatti, Prakash Nagarkatti and Mona R. Hassuneh. "Induction of CD4+ CD25+ Regulatory T cells from in Vitro Grown Human Mononuclear Cells by Sparteine Sulfate and Harpagoside". In communication with MDPI Biology.

Muhammad, Jibran Sualeh, **Manju Nidagodu Jayakumar**, Noha Mousaad Elemam, Thenmozhi Venkatachalam, Tom Kalathil Raju, Rifat Akram Hamoudi, and Azzam A. Maghazachi. "Gasdermin D Hypermethylation Inhibits Pyroptosis And LPS-Induced IL-1 $\beta$  Release From NK92 Cells." *ImmunoTargets and therapy* 8 (2019): 29.

Gopinath, Vellore Kannan, S. Soumya, and **Manju Nidagodu Jayakumar**. "Osteogenic and odontogenic differentiation potential of dental pulp stem cells isolated from inflamed dental pulp tissues (I-DPSCs) by two different methods." *Acta Odontologica Scandinavica* (2019): 1-9.

POSTERS AND  
PRESENTATIONS

Soumya S., Manju Nidagodu Jayakumar, Vellore Kannan Gopinath. "Phenotypic Characterization of Dental Pulp Stem Cells Isolated from Irreversible Pulpitis with Dental Pulp Stem Cells from Impacted Teeth". - International Conference on Stem Cells and Regenerative Medicine (ICSCRM-2018) held at Dubai, UAE on December 20-21, 2018

ACKNOWLEDGEMENTS

Ramakrishnan RK, Bajbouj K, Al Heialy S, Mahboub B, Ansari AW, Hachim IY, Rawat S, Salameh L, Hachim MY, Olivenstein R, Halwani R. IL-17 induced autophagy regulates mitochondrial dysfunction and fibrosis in severe asthmatic bronchial fibroblasts. *Frontiers in Immunology*. 2020;11:1002.

Ac, Smriti Aryal, Md Sofiqul Islam, and A. R. Samsudin. "Investigation of the effect of a time delay on the characteristics and survival of dental pulp stem cells from extracted teeth." *Archives of Oral Biology* 119 (2020): 104896.

Gopinath, V. K., S. Soumya, and M. G. Mohammad. "Ror  $\beta$  expression in Activated macrophages and Dental pulp stem cells." *International Endodontic Journal* (2020).

Muhammad JS, Bajbouj K, Shafarin J, Hamad M. Estrogen-induced epigenetic silencing of FTH1 and TFRC genes reduces liver cancer cell growth and survival. *Epigenetics*. 2020 May 29:1-7.

Taneera, Jalal, et al. "Reduced Expression of Chl1 gene Impairs Insulin Secretion by Down-Regulating the Expression of Key Molecules of  $\beta$ -cell Function." *Experimental and Clinical Endocrinology & Diabetes* (2019).

Taneera, J., S. Dhaiban, et al. (2019). "GNAS gene is an important regulator of insulin secretory capacity in pancreatic  $\beta$ -cells." *Gene* 715: 144028.

Taneera J, Mohammed AK, Dhaiban S, Hamad M, Prasad RB, Sulaiman N, Salehi A. RORB and RORC associate with human islet dysfunction and inhibit insulin secretion in INS-1 cells. *Islets*. 2019 Jan 2;11(1):10-20.

Taneera J, Prasad RB, Dhaiban S, Mohammed AK, Haataja L, Arvan P, Hamad M, Groop L, Wollheim CB. Silencing of the FTO gene inhibits insulin secretion: An in vitro study using GRINCH cells. *Molecular and cellular endocrinology*. 2018 Sep 5;472:10-7