SOUMYA B S

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PROFESSIONAL SUMMARY:

PhD candidate in **Regenerative Medicine** with over 6 years of hands-on experience in **mesenchymal stem cell isolation, differentiation, molecular characterization, disease modeling, and peptide-based modulation of intracellular pathways**. Specializing in *in-vitro* modeling of neurodegeneration (ALS) using **amniotic membrane-derived motor neurons**, with a strong focus on WNT signaling pathway modulation and **neuroprotective drug screening**. Passionate about bridging bench research with clinical relevance, with a long-term goal of contributing to therapeutic innovations in neurodegenerative diseases. I have completed my synopsis presentation and am finalizing NOC procedures, with an expected submission by 20th September 2025.

SKILLS:

Cell and molecular biology techniques: Mammalian cell culturing, Primary cell isolation (AMMSCs, WJMSCs, CBMSCs, PBMCs, DPMSCs, Mouse embryonic cell culture), Stem cell differentiation, RNA and DNA isolation, Basic animal handling, Cell reprogramming, Gene expression analysis, Immunocytochemistry, Flow cytometry, Western blotting, ELISA, Gene overexpression, Gene silencing (RNAi), 3D cell culture (cancer stem cell culture), Drug screening.

Instrumentation: Fluorescent Microscope, Flow Cytometer, PCR, Real-Time PCR, Multimode microplate reader, UV-Visible Spectrophotometer, Agarose and Polyacrylamide gel electrophoresis, Western blot, Sonicator, Gel Documentation, Confocal microscope, etc.

Software: MS Office, GraphPad Prism 8, ImageJ, EndNote 20, Zotero, etc.

EDUCATION:

Doctorate of Philosophy (Ph.D.) in Stem Cell Technology and Regenerative Medicine

Manipal Institute of Regenerative Medicine, Manipal Academy of Higher Education (MAHE), Bengaluru.

Research title: Mechanistic modulation of Wnt signaling cascade and evaluation of SFRP4 micro peptide efficacy in a mesenchymal stem cell-derived model of amyotrophic lateral sclerosis (ALS).

Supervisor: Prof. Sudha Warrier **Jan 2019 – Present**

Master of Science (M.Sc.) in Regenerative Medicine

Manipal Institute of Regenerative Medicine, Manipal Academy of Higher Education (MAHE), Bengaluru, India.

Aug 2016 – Jun 2018

Bachelor of Science (B.Sc.) in Biochemistry, Botany, and Microbiology

Yuvaraja's College, Mysore University, Mysuru, India

Jun 2011 – May 2014

PUBLICATIONS:

- **Soumya BS,** Shreenidhi VP, Agarwal A, Gandhirajan RK, Dharmarajan A, Warrier S. *Unwinding the role of Wnt signaling cascade and molecular triggers of motor neuron degeneration in amyotrophic lateral sclerosis (ALS).* Cell Signal. 2023 Oct; 110:110807. doi: 10.1016/j.cellsig.2023.110807. Epub 2023 Jul 16. PMID: 37463628. **IF: 4.4**
- **Soumya BS,** Gamit N, Patil M, Shreenidhi VP, Dharmarajan A, Warrier S. *Modeling amyotrophic lateral sclerosis with amniotic membrane-derived mesenchymal stem cells: A novel approach for disease modeling.* Exp Cell Res. 2025 Mar 1;446(1):114449. doi: 10.1016/j.yexcr.2025.114449. Epub 2025 Feb 15. PMID: 39961464. **IF: 3.3**
- Gamit N, Patil M, **B Sundrappa S,** Sundaram SM, Sethi G, Dharmarajan A, Warrier S. *Mesenchymal stem cell derived rapid drug screening system for Alzheimer's disease for the identification of novel drugs*. Drug Dev Res. 2023 Aug 11. doi: 10.1002/ddr.22102. Epub ahead of print. PMID: 37571798. **IF: 3.5**
- Gamit N, Patil M, **Soumya BS,** Dharmarajan A, Warrier S. *Development of In Vitro Parkinson's Disease Model Mediated by MPP+ and α-Synuclein Using Wharton's Jelly Mesenchymal Stem Cells.* CNS Neurosci Ther. 2025 Apr;31(4):e70299. doi: 10.1111/cns.70299. PMID: 40260646; PMCID: PMC12012574. **IF: 7**

RESEARCH EXPERIENCE:

M.Sc. project- 2016-2017

Development of an *in-vitro* model of Alzheimer's disease by sodium nitrite derivative.

Supervisor: Prof. Sudha Warrier, Former Dean and Adjunct Professor, MIRM, MAHE, Bengaluru.

M.Sc. Thesis- 2017-2018

Dwelling into Wnt signalling cascade to understand neurodegeneration in an in vitro Parkinson's disease-like model.

Supervisor: Prof. Sudha Warrier, Former Dean and Adjunct Professor, MIRM, MAHE, Bengaluru.

Mentorship and supervision: Mentored 2 postgraduate students across 4 different projects on diverse research topics related to stem cell culture, disease modelling of neurodegenerative diseases, and molecular pathway analysis.

INDUSTRY EXPERIENCE:

Project Associate: Cuor Stem Cellutions Pvt Ltd - July 2018- December 2018

Worked on drug testing on various stem cell-derived neurodegenerative disease models.

Founder and Director- Prof. Sudha Warrier, Cuor Stem Cellutions Pvt Ltd.

CONFERENCES:

- **Best Poster Award** – Indian Association of Neuroscience Meet (IAN), 2022, Shillong
- **Poster Presentation** – Interdisciplinary Conference on Healthcare and Technical Research (ICHTR), MAHE, Manipal 2022
- **Presenter** – All India finalist at PhD Cafe Seminar Series, IndiaBioscience, Sept 2024
- **Attendee** – Indian Science Congress, Mysore University, 2016

WORKSHOPS AND TRAINING:

- BD LSR II Flow Cytometer training, MIRM, April 2019
- MYO Cytometer workshop, Dr. William Telford & Dr. Uttara Chakraborty, Oct 2019
- Principles in Flow & Imaging Cytometry, MIRM
- Spine and Bone Health Workshop, Sri Ramachandra Institute, Chennai. Feb 2024

References:

Prof Sudha Warrier

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Head, Department of Biotechnology
Sri Ramachandra Institute of Higher Education & Research
Group Head- Wnt Lab
Porur, Chennai 600 116, India
E-mail: sudha.warrier@sriramachandra.edu.in
Adjunct Professor and Ex-Dean
Manipal Institute of Regenerative Medicine (MIRM)
Manipal Academy of Higher Education (MAHE)
Adjunct Associate Professor (2014-2019)
Curtin Medical School
Curtin University, Perth
Western Australia.

Dr. Bhawna Chandravanshi

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