

Name and Qualification:

Dr Lakshmi Revathi Perumalsamy
B.E (Hons) Computer Science, M.Sc (Hons) Biological Sciences,
PhD in Biology

**Designation with Address of the Institution:**

Associate Professor
Department of Biomedical Sciences
Sri Ramachandra College of Biomedical Sciences, Technology and Research
Sri Ramachandra Institute of Higher Education and Research(D.U.)
Porur, Chennai 600116, India

Education:

Institution and Location	Degree (UG/PG/ PhD)	Year Conferred	Field of Specialization
Birla Institute of Technology and Sciences – Pilani, India	B.E (Hons)	2006	Computer Science
Birla Institute of Technology and Sciences – Pilani, India	M.Sc (Hons)	2006	Biological Sciences
National Centre For Biological Sciences- Tata Institute of Fundamental Research – Bengaluru, KA, India	PhD	2013	Biology

Teaching & Research Experience:

Institute	From	To	Designation
Department of Biomedical Sciences, Faculty of Biomedical Sciences Technology, Sri Ramachandra Institute for higher Education and Research-Chennai, TN, India	June 2022	Present	Associate Professor
Department of Biomedical Sciences, Faculty of Biomedical Sciences Technology, Sri Ramachandra Institute for higher Education and Research-Chennai, TN, India	November 2018	June 2022	Assistant Professor
Indian Institute of Technology Madras - Chennai, TN, India	October 2015	November 2018	Principal Scientist
Indian Institute of Technology Madras - Chennai, TN, India	October 2013	October 2015	Senior Scientist
National Centre For Biological Sciences- Tata Institute of Fundamental Research – Bengaluru, KA, India	September 2012	September 2013	Post Doctoral Fellow
National Centre For Biological Sciences- Tata Institute of Fundamental Research – Bengaluru, KA, India	July 2006	July 2007	Junior Research Fellow

Training Experience (if any):

Trained several summer trainees and junior research fellows in research aptitude and laboratory techniques both at NCBS and IIT Madras.

School Teachers workshop at Department of Biomedical sciences, Sri Ramachandra Institute of Higher Education and research in January 2020.

Teaching and training undergraduate and post graduate students in Department of Biomedical Sciences, Sri Ramachandra Institute of Higher Education and research since 2018. Courses taught: UG- Molecular Cell Biology, Endocrinology, Human Physiology, Cancer Biology, Biophysics and Bioinstrumentation, Research Methodology, Advanced Biomaterial. PG- Molecular Biology, Oncobiology

Research Interests:

Cellular Signalling Networks, Immunity, Non-communicable diseases, Tumor Microenvironment, Cancer Metastasis

Research Projects:

Ongoing

Principal Investigator:

“Role of Ras effector - Ras Association (RaIGDS/AF-6) Domain Family Member in Tumor Invasion and Migration” funded by Wellcome Trust/DBT India Alliance Early Career Fellowship Rs 100 lakhs

“Investigating the role of DEAD-box helicase, DDX20 in Wnt-driven ROS production in triple-negative breast cancer” funded by SERB-POWER, Rs 29.8 Lakhs

Co-Principal Investigator:

“Tapping the role of Wnt Signaling for neural regeneration in spinal cord Injury - A Novel Approach” funded by AO Spine 2021 Research Start-up Grant. Rs 20 Lakhs

Patents filled & Approved: NA

Ph.D. Research Guidance:

Ongoing

Scholar : Research Area

From August 2021

V. SHRI SAI PRRIYA : Role of Tumor microenvironment in breast cancer

AMRUTHA ARJUNAN : Developmental Signaling in Cancer progression

From Jan 2022

MOHAMMED TAMEEM TABBASUM : ROS signalling in cancer progression

DEVI MAIGANDAN : Cross talk between developmental pathways in breast cancer

M.Phil. Research Guidance: NA

Post graduate Project Guidance:

April – August 2022

Ranjini Menon- Expression analysis of RASSF9 in gastric cancer patients using Immunohistochemistry

February 2021- June 2021

Karthiga - Characterization of the role of SFRP4 in regulation of Wnt signalling in gastric cancer.

Thesis as internship :

V. Shri Sai Priya, Integrated M.Sc Biomedical Sciences from Bharathidasan university – Dec2019- April 2020: “Functional characterization of the role of RASSF7 in endothelial cell and cancer cell lines Interaction”

Under Graduate Project Guidance:

B.Sc (Hons) Biomedical Sciences Students:

March 2022-June 2022:

1. Aravind R Sitaraman- “The Role of Wnt/Sfr4/Nitric Oxide (NO) Signaling In Breast Cancer”
2. Ashwin Rajaseker – “Characterization of the Role of DEAD-box Helicase Across Different Molecular Subtypes of Breast Cancer”
3. Santhosh S A – “Role of Ras Association Domain Family Member 7 (RASSF7) in the Regulation of Angiopoietins”

March 2021-June 2021:

1. Helen Shweta C – “Analysis of immunological effects of oral contraceptives on monocytes using cell line model.”
2. Srinija V – “Characterization of the expression of RASSF7 in breast cancer cell line on endothelial cell fate”

Co-supervisor:

Naveen Kumar P – “An in silico and *in vitro* analysis of secreted frizzled related protein (sFRP4) interaction with Wingless-INT 3a (Wnt 3a) and Frizzled receptors (FZDs) in ovarian cancer”

Dec 2019- May 2020

- 1) BaganSrinath J -“Role of *Tinospora Cordifolia* in cancer: An immunomodulatory effect”
- 2) P ShraddhaShravani - “Functional Characterization of the Role of SFRP4 Dependent Wnt Signalling in Endothelial cell and Breast Cancer cell Interaction”
- 3) Mohamed Yazeer.A The Role of RASSF7- a Ras Effector in Breast Cancer

Chancellor Summer Research Fellowship :

Completed:

Supervisor:

1. Thulasi S Rajasekaran – “Evaluate the cross talk between two key developmental pathways in ovarian cancer”- awarded in 2020

Ongoing:

Co-supervisor:

1. Suchita Ganesan – “Evaluating the role of Wnt/SFRP signalling in neuronal cell fate”- awarded in 2021

2. Harshada S Bharadwaj - Evaluating the Role of Ras Effectors in Impaired Spermatogenesis - awarded in 2021

Conferences/Workshops/Seminars Organized:

S. No.	Name of organizing Chairman / Secretary	Name of the event (Specify nature of event)	Venue	Year & Date	Total No. of participants
1.	Dr Arun Dharmarajan	CME on Recent advances in Biomedical Research	Lecture hall 3 , SRMC, SRIHER	27 January 2020	330
2.	Dr Arun Dharmarajan/ Dr Lakshmi Revathi Perumalsamy	Online skill enhancement workshop for Final years UG and PG Biomedical sciences students	online	July 2020	126

Conference presentations (Oral and Poster):

S. No	Name of Author (s)	Title of papers presented	Name of Conference / Seminars etc.,	National/International (Specify)	Place	Year/Date
1	<u>Lakshmi R Perumalsamy,</u> Rehna Krishnan, Rahul and Mahalingam S	RASSF7 dependent Notch Signaling : A novel role in breast cancer (Oral)	XLIII All India Cell Biology Conference, 2019	National	IISER Mohali	December 19-21, 2019
2	<u>Lakshmi R Perumalsamy,</u> and Mahalingam S	Ras Association (RalGDS/AF-6) Domain Family Member 7 impinges on Notch1 signaling to regulate cell migration and adhesion (Poster)	2016 NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) Conference Best Poster Award	International	Cochin, Kerala, India	03-05 October 2016
3	<u>Lakshmi R Perumalsamy,</u> and Mahalingam S	Role of a Non-Enzymatic RAS Effector in Tumor Cell Migration (Poster)	2016 Keystone Symposia Conference C3: Cancer Pathophysiology : Integrating the Host and Tumor Environments	International	Breckenridge, Colorado	March 28 - April 1, 2016
4	<u>Lakshmi R Perumalsamy,</u> and Mahalingam S	Ras association (RalGDS/AF-6) domain family member integrates with notch signaling to regulate tumor cell migration (Poster)	AACR Annual Meeting 2016, Delivering Cures Through Cancer Science	International	,New Orleans, Louisiana, USA	April 16 - 20, 2016

5	<u>Lakshmi R Perumalsamy</u> and S Mahalingam	Role of a non-enzymatic RAS effector in tumor cell invasion (Poster)	Young Investigators Meeting 2016	National	Manesar, Haryana, India	27 February to 2nd March, 2016
6	<u>Lakshmi R Perumalsamy</u> , Nimi Marcel and Apurva Sarin	SPATIAL REGULATION OF NOTCH ACTIVITY UNDERLIES THE ACTIVATION OF A NON-CANONICAL SIGNALING CASCADE IN MAMMALIAN CELLS (Poster)	EMBO conference Spatial 2013: from spatial signaling to sensing spatiality	International	Dead Sea, Israel	April 24-28, 2013
7	<u>Lakshmi R Perumalsamy</u> and Apurva Sarin	Spatial regulation of Notch underlies its anti-apoptotic activity (Poster)	The EMBO Meeting 2012	International	Nice, France	22-25 September 2012

Academic and/or Research awards:

- Wellcome Trust/DBT India Alliance Early Career Fellowship 2015 (INR 1.7 crores)
- Best Poster Award in 2016 NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) Conference held at Cochin, Kerala, India from 03-05 October 2016.
- NCBS and Bristol Squibb Meyer travel award in NCBS annual talks 2013.
- EMBO Travel award for EMBO conference on Spatial 2013: from spatial signalling to sensing spatiality
- Travel grants from DST, DBT and CSIR to attend 12th EMBO meeting 2012 in Nice, France.
- Best student poster award in NCBS in the Annual talks 2010.
- Invitation from the European School of Molecular Medicine (SEMM), Milan, Italy to give oral presentation at "International PhD Student Cancer Conference 2010", Milan, Italy
- CSIR-NET Research fellowship given by Council for Scientific and Industrial research, India, 2007-2012 for pursuing Phd.
- Kishore Vaigyanik Protsahan Yojana (KVPY) fellowship program given by Department of Science and Technology, Government of India provided in science stream 2002-2006
- DBT award for Biology 2001, Department of Biotechnology, government of India for excellent performance in biology in AISSCE 2001.

Publications (Journals): (h-index: 8 Citations: 371 – Google Scholar-

<https://scholar.google.com/citations?user=sxzPqcQAAAAJ&hl=en>

S. No.	Name of Authors / Department	Title of Publication in full	National/ International (specify)	Title of Journal	Specify Indexed/Accredited/ Others	Year of Journal	Volume No.	Pages From - to
1	Hemashree Golla 1, Adithi Kannan 1, Soundhararajan Gopi 1, Sowmiya Murugan 1, Lakshmi R Perumalsamy	<i>Structural-Energetic Basis for Coupling between Equilibrium Fluctuations and Phosphorylation</i>	International	ACS Cent. Sci	Indexed	2022	8(2)	28-29-3

	2, Athi N Naganathan	<i>on in a Protein Native Ensemble</i>						
2	Krithicaa Narayanaa Y 1, Naveen Kumar Perumalsamy 1, Sudha Warriar 2, Lakshmi R Perumalsamy 3, Arun Dharmarajan 4 • Co-corresponding author	<i>Wnt antagonist as therapeutic targets in ovarian cancer.</i>	International	Int J Biochem Cell Biol	Indexed	2022	45	106191.
3	Kumaraswamy A, Mamidi A, Desai P, Sivagnanam A, <u>Perumalsamy LR</u> , Ramakrishnan C, Gromiha M, Rajalingam K, Mahalingam S	<i>The non-enzymatic RAS effector RASSF7 inhibits oncogenic c-Myc function</i>	International	Journal of Biological Chemistry	Indexed	2018	293(40)	15691-15705
4	Marcel N [*] , <u>Perumalsamy LR</u> [*] , Shukla SK, Sarin A. * Equal Contribution	<i>The lysine deacetylase Sirtuin 1 modulates the localization and function of the Notch1 receptor in regulatory T cells.</i>	International	Science Signalling	Indexed	2017	10(473)	
5	<u>Perumalsamy LR</u> , Mahalingam S	<i>Ras association (RalGDS/AF-6) domain family member integrates with notch signaling to</i>	International	Cancer Res 2016	Conference proceeding	2016	76(14)	

		<i>regulate tumor cell migration.</i>						
6	Garg M, Perumalsamy LR, Shivashankar GV, Sarin A.	<i>The linker histone h1.2 is an intermediate in the apoptotic response to cytokine deprivation in T-effectors</i>	International	International Journal of Cell Biology	Indexed	2014		
7	Perumalsamy L.R, Marcel N, Kulkarni S, Radtke F and Sarin A	<i>Distinct Spatial and Molecular Features of Notch Pathway Assembly in Regulatory T Cells.</i>	International	Science Signaling	Indexed	2012	5	Ra 53
8	Gupta S, Marcel N, Talwar N, Garg M, Indulaxmi R, Perumalsamy L.R, Sarin A and Shivashankar G.V.	<i>Developmental heterogeneity in DNA packaging patterns influences T-cell activation and transmigration</i>	International	Plos One	Indexed	2012	7(9)	e4 37 18
9	Perumalsamy L.R, Nagala M. and Sarin, A	<i>A Notch activated signaling cascade interacts with mitochondrial remodeling proteins to regulate cell survival.</i>	International	Proceedings of the National Academy of Sciences of USA.	Indexed	2010	107	68 82- 68 87
10	Perumalsamy L.R, Nagala M, Bannerjee P and Sarin A	<i>A hierarchical cascade activated by non-canonical Notch signaling and the mTOR - Rictor</i>		Cell Death and Differentiation		2009	16	87 9- 88 9

		<i>complex regulates neglect-induced death in mammalian cells.</i>						
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Publications (Books and Monographs):

S . N o.	Name of Author (s)	Title of Chapter	National/ International (Specify)	Title of Book	Publisher details	Year	Pages From – to
1	Lakshmi R. Perumalsamy, Sanjana Rajgopal, Tapasya K, Sherine Joanna Fredrick, and Arun Dharmarajan	The Role of Reactive Oxygen Species on Cellular Fate and Function of Tumor Infiltrating Lymphocytes	International	Handbook of Oxidative Stress in Cancer: Mechanistic Aspects	Springer, Singapore	2021	na

Consultancy – UILIC- University Industry Linked Consultancy:

Observership:

1. “In silico and In vitro Techniques in Cancer Research” Roshini Sundararajan, 3 rd year B. Tech – Industrial Biotechnology from Alagappa College of Technology, Anna University, Chennai, Tamil Nadu, from 11th July 2022- 10th August 2022.

Membership in University Committees:

- Institution Innovation Council
- Working Committee member of SRIIC-BIRAC
- Department Representative in National Entrepreneurship Network
- Department Coordinator for LMS-Moodle
- Department Coordinator for Internal Assessment Cell

Any other relevant Content:

- Attended the EYE TRACKING TECHNOLOGY IN DENTISTRY organised by Sri Ramachandra Faculty of Dentistry, June 2021

- Attended the Faculty Development Program (Focused Workshop) organized by the Sri Ramachandra Faculty of Pharmacy, Chennai, Tamil Nadu. June 2021
- Organised Webinar on “Celebrating Women entrepreneurs in STEM” on International Women’s Day on 8th March 2021
- Organised a motivational talk on ““Succeeding in STEM: A Personal Reflection on Challenges and Opportunities for Women” by Dr Kalpana Balakrishnan , Dean (Research) SRIHER for Biomedical Sciences students on the International Day for Women and Girls in STEM on 11th February 2021
- Attended the Health care leadership summit organised by SRIHER, December 2020
- Attended the webinar on Anti-plaigiarism software , SRIHER , September 2020
- Participated in the Evidence based Teaching and Learning strategies in higher Education organised by CREATES, IISER Bhopal part of the PMMMMNMTT Scheme of MHRD in July 2020
- Participated in the Three-day Virtual CRISPR Workshop for Undergraduate Biology Educators organised by Centre for Advancement of Research Skills, Dr. Reddy’s Institute of Life Sciences,University of Hyderabad Campus, Gachibowli, Hyderabad June 2020
- Attended the Webinar on Learning objectives versus learning outcome , IQAC SRIHER June 2020
- Attended the webinar on National Education Policy for Higher Education , IQAC SRIHER June 2020
- Organising Member for the conference on “Industry –Academia Meet cum Exhibition on Waste management and Social Entrepreneurship” February 2020
- Participated in Indo-US Lecture Workshop on " Zebrafish in Biology and Medicine organised by Satyabama Institute of Science and Technology , Chennai
- Organised students Annual meet “Matrix” – February 2019

Reviewer Editor:

- Molecular and Cellular Oncology (specialty section of Frontiers in Oncology and Frontiers in Cell and Developmental Biology)

Adhoc Reviewer

- **Journals** : Experimental and Molecular Pathology (Elsevier), Journal of Transplantation (Hindawi), Experimental Biology and Medicine (SAGE),
- **Grant Agency:** Competitive Support for Unrated Researchers-National Research Foundation (CSUR-NRF), South Africa.