**SAURABH KUMAR**

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**EDUCATION**

**L V Prasad Eye Institute, Hyderabad, India**……………………………… …**2020-2025**

PhD in Molecular Metabolism

Thesis Advisor: Dr. Inderjeet Kaur

Dissertation Title: Role of altered lipid metabolism under oxidative stress in retinopathy of prematurity pathogenesis.

**University of Hyderabad, Hyderabad, India**………………………………… **2017-2019**

Major: M.Sc. in Molecular Microbiology

Dissertation Advisor: Prof. Rajagopal Subramaniam (Professor of Molecular Biochemistry)

Dissertation Title: Novel peptides-derived from human serum albumin molecules for ameliorating amyloid fibrillation.

**Lalit Narayan Mithila University, Bihar, India 2013-2016**

Major: B.Sc. in Botany (Honours)

**AWARDS, RECOGNITIONS, AND ACCOMPLISHMENTS**

* IERG-ARVO Travel Award, Sankara Netralaya, Chennai, India, 2025
* **Young Scientist Award**, Indian Society of Human Genetics (ISHG), Ahmedabad, 2024
* **Prof. Ravindranath Krothapalli Research Excellence Award**, Hyderabad Eye Research Foundation (HERF), 2024
* **Chief Research Fellow Award (Basic Science Category)**, L V Prasad Eye Institute, Hyderabad, 2024-2025
* **Special EMBO Conference Award** for associate EMBEC Member States for the European Molecular Biology Organization (EMBO) workshop “Lipid droplets: metabolic hubs in health and disease,” Sant Feliu de Guixols, Spain, 2023
* **International Travel Award (ITS)** from Department of Science and Technology (DST-SERB), Government of India, 2023
* **Indian Retinopathy of Prematurity (iROP) Society Excellence Grant Award,** for best paper presentation, at 5th World ROP Congress in Dubai, 2022
* **Senior Research Fellowship,** Department of Biotechnology (DBT-SRF), Government of India 2022-2025
* **Junior Research Fellowship,** Department of Biotechnology (DBT-JRF), Government of India 2020-2022
* **Junior Research Fellowship,** Indian Council of Medical Research (ICMR-JRF), Government of India,2020
* **CSIR-UGC Lectureship Award** Council of Scientific and Industrial Research (CSIR), Government of India, 2019

**PROFESSIONAL EXPERINECE**

**Research Associate, L V Prasad Eye Institute**……………….…...…. …**11/2019-08/2020**

Project Title: Investigation on role of neuron-glial activation leading to neuronal loss as an early marker of diabetic retinopathy using transcriptomics and high-resolution imaging-based approaches

**Project Associate, University of Hyderabad** **06/2019-10/2019**

Project Title: Use of novel β-sheet peptide derived from Human Serum Albumin molecules for ameliorating amyloid fibrillation.

**PUBLICATIONS**

**Submitted manuscripts**

* Saha, D, **Kumar, S**, Gupta, R; *et al.*; Role of calcium in regulation of chronic stress-induced progression of stress granules assembly in N2a cells. *ACS Chemical Neuroscience* (In Press)
* **Saurabh K\***, Shahna S\*, *et al.;* Vitreous humor and plasma protein profiling among Indian AMD patients confirms TIMP 3 as a major contributor in disease pathogenesis. *Indian Journal of Ophthalmology* (Under Review)
* Tanmoya NG\*, **Saurabh K**\*, *et al.;* Development of a Disposable Chemiresistive Biochip for Tear-Based Retinopathy of Prematurity Diagnosis: Early Screening and Risk Prediction. *IEEE Sensors* (Under Review)

**Research articles**

* **Kumar, S**., Patnaik, S., Joshi, M. B., Sharma, N., Kaur, T., Jalali, S., Kekunnaya, R., Mahajan, A., Chakrabarti, S., & Kaur, I. (2024). Arachidonic acid metabolism regulates the development of retinopathy of prematurity among preterm infants. Journal of Neurochemistry, 168(9), 3171–3187. <https://doi.org/10.1111/jnc.16190>
* Dhyani V, **Kumar S**, Manne SR, *et al*. Three-Dimensional Tracking of Intracellular Calcium and Redox State during Real-Time Control in a Hypoxic Gradient in Microglia Culture: Comparison of the Channel Blocker and Reoxygenation under Ischemic Shock. ACS Chem Neurosci*.* 2023;14(10):1810-1825. <doi:10.1021/acschemneuro.2c00807>
* Tanmoya Nemai Ghosh, Dinesh Rotake, **Saurabh Kumar**, Inderjeet Kaur, Shiv Govind Singh. Tear-based MMP-9 detection: A rapid antigen test for ocular inflammatory disorders using vanadium disulfide nanowires assisted chemi-resistive biosensor, Analytica Chimica Acta, Volume-1263,2023, <https://doi.org/10.1016/j.aca.2023.341281>

**Book Chapters, Reviews, and Perspectives**

* **Kumar S**, Joshi MB, Kaur I. Protocol and Methods Applicable to Retinal Vascular Diseases. Methods Mol Biol. 2023;2625:71-78. <doi:10.1007/978-1-0716-2966-6_6>
* Kaur, T., Patnaik, S., **Kumar, S.,** Kaur, I. (2022). Molecular Mechanisms in the Pathogenesis of Retinopathy of Prematurity (ROP). In: Nema, H.V., Nema, N. (eds) Genetics of Ocular Diseases. Springer, Singapore. <https://doi.org/10.1007/978-981-16-4247-0_9>
* Tapas RP, Akash B, **Saurabh K**, *et al. (*2025). Management of Retinopathy of Prematurity. Recent Advances in Ophthalmology. In: Nema, N. (ed) Recent Advances in Ophthalmology. Jaypee, India.

**TALKS AND PRESENTATIONS**

**Oral Presentations**

* Altered lipid metabolism altered lipid metabolism is a crucial regulator in retinopathy of prematurity, IERG-ARVO, India, 2025
* Detailed investigation on the role of lipid metabolizing enzymes in retinopathy of prematurity pathogenesis” Annual Meeting of Proteomics Society of India and International Conference at OMICS, CCMB, Hyderabad 2021
* Altered complement activation and lipid metabolism contribute to the pathogenesis of retinopathy of prematurity. Annual Meeting and International Conference of Indian Society of Human Genetics, Ahmedabad, 2024

**Poster Presentations**

* Predictive markers for retinopathy of prematurity development and progression. Annual Meeting of Association for Research in Vision and Ophthalmology (ARVO), Seattle, USA, 2024.
* Arachidonic acid metabolism crosstalk in extremely preterm infants: Association between epoxide hydrolase and severe retinopathy of prematurity. World ROP Congress, Dubai, 2022
* Proteomics and lipidomics of retinopathy of prematurity. ARVO-India National Conference, Madurai, 2022

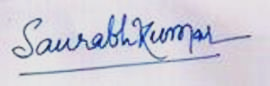
**OTHER PROFESSIONAL ACTIVITIES**

* Reviewer for Heliyon-Cell Press, Journal of Extracellular Vesicle, and BMC Journal during 2024-25
* One-week Hand-on Training on MALDI-MS, Indian Institute of Technology, Gandhi Nagar
* Biological Safety Coordinator (2021-2024) for OMICS Lab at L V Prasad Eye Institute
* Volunteer for organizing conferences, workshop, and seminars

**MEMBERSHIP**

* International Society of Neurochemistry (ISN) (Membership Number: 28897)

**I, hereby declare that all the details furnished here are true to the best of my knowledge.**



**[Saurabh Kumar]**