

Swaminathan Sethu BDS, MSc, PhD

Principal Investigator (Immunology), GROW Research Laboratory, Narayana Nethralaya Foundation (www.nnf.org.in)

Narayana Nethralaya, Narayana Health City, Bangalore, 560 099, India

Email: swaminathansethu@narayananethralaya.com Phone: +91-9972491408

Quick links: https://scholar.google.com/citations?hl=en&user=78ezLbIAAAAJ&view_op=list_works

<https://orcid.org/0000-0001-9210-2554> ; <https://www.webofscience.com/wos/author/record/1796008>

Current Position

- **Principal investigator / Scientist - Immunology** (Feb 2015 – till date), GROW Research Laboratory, Narayana Nethralaya Foundation, India
- **Adjunct Faculty** (Oct 2022 – till date), Manipal Academy of Higher Education, India
- **Scientist** (May 2022 – till date), SURABHY consortium, Sri Sri Institute for Advanced Research, India
- **PhD supervisor** (Aug 2017 – till date), Manipal Academy of Higher Education, India.

Research interests:

- Immunological mechanisms in diverse ocular pathologies.
- Immune monitoring in infectious and non-infectious conditions.
- Immunomodulation and immunotoxicity of biomaterials.

Educational Qualifications

- **Doctor of Philosophy – PhD** (2004 – 2009)
University: National University of Singapore, Singapore
Research Focus: Molecular & Cellular Immunology / Immune cell signaling
- **Master of Science – MSc, Restorative Dentistry (by research)** (2002 – 2004)
University: National University of Singapore, Singapore
- **Bachelors in Dental Surgery – BDS** (1995 – 2000)
University: The TN Dr MGR Medical University, Chennai. India.
 - Grade: First Class
- Continuing professional education (CPE)
 - Safety Pharmacology 4.6(European Innovative Medicines Initiative) – Liverpool, UK
 - Biopharmaceutical safety workshop – CDSS, Liverpool, UK
 - Good clinical practice (Research Ethics and Safety) – NHS, Liverpool, UK
 - Lab animal necropsy course – CDSS, Liverpool, UK
 - Genomics and Personalize Medicine – UCSF, USA (coursera – 2014)
 - 17th Indo-US Flow cytometry workshop, IISc, India 2015
 - Basic and Translational Immunology IUIS-IIS-FIMSA Course, India – 2019
 - FIMSA Immunology Course (A virtual School: From Basic to Advanced Immunology) – 2020

Experience Profile

Research

- **Research Scientist** – School of Bio Sciences and Technology, VIT, India (2013-2015)
- **Post-doctoral Research associate** – MRC Centre for Drug Safety Science, University of Liverpool, UK (2010 – 2013)
- **Post-doctoral Research Fellow** – Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore (2007 – 2010)
 - **Additional portfolios held** – Lab research Safety officer & Dept safety team, Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore (2008-2010)
- **Visiting Researcher**– National Institute of Radiological Sciences, Chiba, Japan (2007-2009)

Teaching – part time basis

- **Volunteer** – Vidyanjali, A School Volunteer program, Ministry of Education, Govt. of India (since 2022)
- **Associate Lecturer** – School of Life sciences, PSB Academy of Sciences, Singapore (Partner university: University of Western Australia, Australia) (2008-2009)
- **Associate Lecturer** –School of Life sciences, MDIS, Singapore (Partner university: University of Bradford, UK) (2008-2010)
- **Teaching Assistant** – Dept of Physiology, National University of Singapore (2004 – 2007)
- **Teaching Assistant** – Dept of Pharmacology, University of Liverpool (2011-2013)
- **Instructor** – Drug Safety of Stem Cells and other Novel Therapeutics 1.2 (SafeSciMet / European Modular Education and Training Programme in Safety Sciences for Medicines), Liverpool, UK. (2013)
- **Scientist** – School of Biosciences & Technology, VIT University, India (2013 – 2014).
- **Subjects handled** – Trained and qualified to teach general dentistry. Basic Human immunology and Immunotechnology – (BSc/MSc); Molecular and cellular immunology – (BSc/MSc); Cell and molecular biology – (BSc/MSc); Cancer biology – (BSc/MSc); Human anatomy & physiology – (BSc/MSc); Pharmacology – (BSc/MSc);

- **Curriculum development efforts** – Human stomatology (for Pre-Med Bachelors programme); GMP/GLP module, Advanced Immunology (For Bachelors and Post graduate Biomedical Sciences)
 - **Note: Student feedback on teaching >90/100**
- Mentoring
- Undergraduate Honour's projects – (2006 – 2012, Singapore UK)
 - MSc / PhD projects – (2009 – till date, Singapore, UK, India)
 - School & Junior colleges science projects – (2008 – 2010, Singapore)
- Clinical
- **Visiting Dental Surgeon** – Rathnagiri Rural hospital – (2000 – 2001)
 - **Dental Surgeon** – Kannappan's Orthodontic Center, Chennai – (1999 – 2001)

Publications

1. Anand Vinekar, Archana Padmanabhan Nair, Shivani Sinha, Tanuja Vaidya, Rohit Shetty, Arkasubhra Ghosh, **Swaminathan Sethu**. *Early detection and correlation of tear fluid inflammatory factors that influence angiogenesis in premature infants with and without retinopathy of prematurity*. *Indian Journal of Ophthalmology* – 2023 In Press. (IF – 2.9)
2. Haitao Liu, Tanuja Vaidya, Chao Huang, Sayan Ghosh, Peng Shang, Archana Padmanabhan Nair, Olivia Chowdhury, Nadezda A. Stepicheva, Anastasia Strizhakova, Stacey Hose, Nikolaos Mitrousis, Gopikrishna Gadde, Thirumalesh MB, Pamela Strassburger, Gabriella Widmer, Eleonora M. Lad, Patrice E. Fort, José-Alain Sahel, J. Samuel Zigler, **Swaminathan Sethu**, Peter D. Westenskow, Alan D. Proia, Akrit Sodhi, Arkasubhra Ghosh, Derrick Feenstra, Debasish Sinha. *Activated cGAS-STING signaling elicits endothelial cell senescence in early diabetic retinopathy*. *JCI Insight* – 2023 In Press. (IF – 9.5)
3. Keya Katare, Gagan Dudeja, **Swaminathan Sethu**, Arkasubhra Ghosh. *DNA Damage Repair pathways in Retinoblastoma tumors and their implications on the current chemotherapy regimens*. *Frontiers in Medicine* – 2023 In revision. (IF – 5.0)
4. Trailokyanath Panigrahi, Sharon D'Souza, Vishnu Suresh Babu, Mor M. Dickman, Rudy M M A Nuijts, **Swaminathan Sethu**#, Rohit Shetty#. *Type 1 – Type 2 Interferon imbalance in Dry Eye Disease*. *Indian Journal of Ophthalmology* – 2023, 71(4):1526-1532. (IF – 2.9) (#Corresponding author)
5. Gairik Kundu, Rohit Shetty, **Swaminathan Sethu**, Pooja Khamar. *Effect of maqui-berry extract in dry eye disease – a clinical and molecular analysis*. *Indian Journal of Ophthalmology* – 2023, 71(4):1613-1618. (IF – 2.9)
6. Rohit Shetty, Pooja Khamar, Archana Padmanabhan Nair, Packiya Raj Pandian, Tanuja Arun Vaidya, Divya Trivedi, **Swaminathan Sethu**, Subhasita Roy, Sanjay Mahajan, Sailie Shirodkar. *Assessing clinical and molecular outcomes of prophylactic thermal pulsation therapy on ocular surface health following refractive surgery*. *Indian Journal of Ophthalmology* – 2023, 71(4):1508-1516. (IF – 2.9)
7. Rohit Shetty, Naren Shetty, Sailie Shirodkar, Nikhil Ashok, **Swaminathan Sethu**, Arkasubhra Ghosh, Pooja Khamar. *Cold bandage contact lens use reduces post-PRK/CXL pain perception in patients*. *Indian Journal of Ophthalmology* – 2023 May;71(5):1855-1861.. (IF – 2.9)
8. Bhujang K Shetty, **Swaminathan Sethu**, Arkasubhra Ghosh, Chaitra Jayadev. *Diet and its influence on eye diseases*. *Indian Journal of Ophthalmology* – 2023, 71(4):1062-1063 (IF – 2.9)
9. Rohit Shetty, **Swaminathan Sethu**. *Newer Paradigms in Dry Eye Disease Research*. *Indian Journal of Ophthalmology* – 2023, 71(4):1064. (IF – 2.9)
10. Bhavya Gorimanipalli, Rohit Shetty, **Swaminathan Sethu**, Pooja Khamar. *Vitamin D and Eye: Current Evidence and Guidelines*. *Indian Journal of Ophthalmology* – 2023, 71(4):1127-1134. (IF – 2.9)
11. Nimisha Rajiv Kumar, Machiraju Praveen, Raghav Narasimhan, Pooja Khamar, Sharon D'Souza, Abhijit Sinha-Roy, Swaminathan Sethu, Rohit Shetty, Arkasubhra Ghosh. *Tear biomarkers in dry eye disease: Progress in the last decade*. *Indian Journal of Ophthalmology* – 2023, 71(4):1190-1202. (IF – 2.9)
12. Nikhil Ashok, Pooja Khamar, Sharon D'Souza, Marlies Gijs, Arkasubhra Ghosh, **Swaminathan Sethu**#, Rohit Shetty#. *Ion channels in Dry Eye Disease*. *Indian Journal of Ophthalmology* – 2023, 71(4):1215-1226. (IF – 2.9) (#Corresponding author)
13. Archana Padmanabhan Nair, Sharon D'Souza, Pooja Khamar, Rudy M M A Nuijts, **Swaminathan Sethu**#, Rohit Shetty#. *Ocular surface immune cell diversity in Dry Eye Disease*. *Indian Journal of Ophthalmology* – 2023, 71(4):1237-1247. (IF – 2.9) (#Corresponding author)
14. Bhavya Gorimanipalli, Pooja Khamar, **Swaminathan Sethu**#, Rohit Shetty#. *Hormones and Dry Eye Disease*. *Indian Journal of Ophthalmology* – 2023, 71(4):1276-1284. (IF – 2.9) (#Corresponding author)
15. Rohit Shetty, Pooja Khamar, Sailie Shirodkar, **Swaminathan Sethu**, Archana Padmanabhan Nair, Arkasubhra Ghosh. *Patient stratification using point of care biomarkers in dry eye disease*. *Indian Journal of Ophthalmology* – 2023, 71(4):1391-1400. (IF – 2.9)
16. Marlies Gijs, Sinhuja Arumugam, Nienke van de Sande, Carroll A.B. Webers, **Swaminathan Sethu**, Arkasubhra Ghosh, Rohit Shetty, Jelle Vehof, and Rudy M.M.A. Nuijts. *Pre-analytical sample handling effects on tear fluid protein levels*. *Scientific Reports* – 2023 Jan 24;13(1):1317 (IF – 4.9)
17. Gairik Gundu, Rohit Shetty, Sharon D'Souza, Pooja Khamar, Rudy M.M.A. Nuijts, **Swaminathan Sethu**, Abhijit Sinha Roy. *A novel combination of corneal confocal microscopy, clinical features and artificial intelligence for evaluation of ocular surface pain*. *Plos One* – 2022 Nov 1;17(11):e0277086. (IF – 3.7)
18. Sharon D'Souza, Archana Padmanabhan Nair, Gowtham Iyappan, Mor M Dickman, Prashansa Thakur, Ritika Mullick, Gairik Kundu, **Swaminathan Sethu**, Arkasubhra Ghosh, Rohit Shetty. *Clinical and molecular outcomes following combined intense pulsed light therapy (IPL) with low level light therapy (LLLT) in recalcitrant evaporative dry eye disease with meibomian gland dysfunction*. *Cornea* – 2022 Sep 1;41(9):1080-1087. (IF – 3.1)

19. Rohit Shetty, [Swaminathan Sethu](#), Chaitra Jayadev. *Trials and tribulations in rare eye diseases*. *Indian Journal of Ophthalmology* – 2022 Jul;70(7):2216-2217. doi: 10.4103/ijo.IJO_782_22. (IF – 2.9)
20. Archana Padmanabhan Nair, [Swaminathan Sethu](#), Harsha Nagaraja, Vijay Kumar, Sriharsha Nagaraj, Zohra Fadli, Mike Chemaly, Charles Scales, Xiao-Yu Song, Arkasubhra Ghosh,[#] Bailin Liang[#]. *Ocular Surface Immune Cells Profile in Contact Lens-induced Discomfort*. *Translational Vision Science & Technology* – 2022 Jul 8;11(7):16. doi: 10.1167/tvst.11.7.16. (IF – 3.0)
21. Sharon D'Souza[#], Tanuja Vaidya, Archana Padmanabhan Nair, Rohit Shetty, Nimisha Rajiv Kumar, Anadi Bisht, Trailokyanath Panigrahi, Tejal S J, Pooja Khamar, Mor M. Dickman, Ruchika Agrawal, Sanjay Mahajan, Sneha Sengupta, Rudy M M A Nuijts, [Swaminathan Sethu](#)[#], Arkasubhra Ghosh[#]. *Effect of wearing protective face masks during the COVID-19 pandemic on the ocular surface health status*. *Biomedicines* – 2022 May 18;10(5):1160. doi: 10.3390/biomedicines10051160 (*Corresponding author) (IF – 4.7)
22. Rohit Shetty, Pooja Khamar, Gairik Kundu, Arkasubhra Ghosh, [Swaminathan Sethu](#)[#]. *Inflammation and Keratoconus*. *Book chapter - Izquierdo: Keratoconus,1e* – 2022, (*Corresponding author) (IF – NA)
23. Sharon D'Souza, Rohit Shetty, Archana Padmanabhan Nair, Ruchika Agrawal, Mor M Dickman, Pooja Khamar, Rudy M M A Nuijts, Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. *Corneal Confocal Microscopy Features and Tear Molecular Profile in Study Participants with Discordance between Ocular Surface Disease Clinical Signs and Discomfort*. *Journal of Clinical Medicine* – 2022 Apr 25;11(9):2407. doi: 10.3390/jcm11092407. (*Corresponding author) (IF – 4.9)
24. Vaitheeswaran LG, Rohit Shetty, [Swaminathan Sethu](#). *Biochemical and molecular alterations and potential clinical applications of biomarkers in keratoconus*. *Saudi Journal of Ophthalmology* – 2022. 36:7-16 (IF – TBA)
25. Mahendradas P, Chaitra Jayadev, [Swaminathan Sethu](#), Sanjay S, Kawali A. *Trends in Teleconsultations for Uveitis during the COVID-19 lockdown*. *Indian Journal of Ophthalmology* – 2022. Mar;70(3):1007-1012. (IF – 2.9)
26. Shermaine W.Y. Low, Tanuja Vaidya, Santosh G.K. Gadde, Thirumalesh B. Mochi, Devesh Kumar, Iris S. Kassem, Deborah M. Costakos, Baseer Ahmad, [Swaminathan Sethu](#), Arkasubhra Ghosh, Shyam S. Chaurasia. *Decorin Concentrations in Aqueous Humor of Patients with Diabetic Retinopathy*. *Life* – 2021. Dec 17;11(12):1421. (IF – 3.2)
27. Sharon D'Souza, Archana Padmanabhan Nair, Ganesh Ram Sahu, Tanuja Vaidya, Rohit Shetty, Pooja Khamar, Ritika Mullick, Sneha Gupta, Mor M Dickman, Rudy M M A Nuijts, Rajiv R. Mohan, Arkasubhra Ghosh,[#] [Swaminathan Sethu](#)[#]. *Keratoconus patients exhibit a distinct ocular surface immune cell and inflammatory profile*. *Scientific Reports* – 2021. Oct 22;11(1):20891. (*Corresponding author) (IF – 4.9)
28. Archana Padmanabhan Nair, Sharon D'Souza, Rohit Shetty, Prerna Ahuja, Gairik Kundu, Pooja Khamar, Zeldadadachanji, Prajakta Paritekar, Pavitra Patel, Mor M. Dickman, Rudy M M A Nuijts, Rajiv R. Mohan[#], Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. *Altered ocular surface immune cell profile in patients with dry eye disease*. *The Ocular Surface* – 2021. Apr 13:S1542-0124(21)00030-6. (*Corresponding author) (IF – 6.2)
29. Anand Vinekar, Archana Padmanabhan Nair, Shivani Sinha, Tanuja Vaidya, Koushik Chakrabarty, Rohit Shetty, Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. *Tear fluid angiogenic factors are associated with retinopathy of prematurity in pre-term infants*. *Investigative Ophthalmology & Visual Science* – 2021. 62(3):2 (*Corresponding author) (IF – 4.9)
30. Sayan Ghosh, Haitao Liu, Meysam Yazdankhah, Nadezda Stepicheva, Peng Shang, Tanuja Vaidya, Stacey Hose, Urvi Gupta, Michael Joseph Calderon, Ming-Wen Hu, Archana Padmanabhan Nair, Joseph Weiss, Christopher S. Fitting, Imran A. Bhutto, Santosh Gopi Krishna Gadde, Naveen Kumar Naik, Chaitra Jaydev, Gerard A. Luty, James T. Handa, Ashwath Jayagopal, Jiang Qian, José-Alain Sahel, Dhivyaa Rajasundaram, Yuri Sergeev, J. Samuel Zigler Jr., [Swaminathan Sethu](#), Simon Watkins, Arkasubhra Ghosh, Debasish Sinha. *βA1-crystallin regulates glucose metabolism and mitochondrial function in mouse retinal astrocytes by modulating PTP1B activity*. *Communications Biology* – 2021. 4:248 (IF – 6.2)
31. Christian Bertens, Marlies Gijs, Aylvin A Dias, Frank J van den Biggelaar, Arkasubhra Ghosh, [Swaminathan Sethu](#), Rudy M Nuijts. *Pharmacokinetics and efficacy of a ketorolac-loaded ocular coil in New Zealand White rabbits*. *Drug Delivery* – 2021. 28(1):400-407. (IF – 6.4)
32. Varsha Hande, Keith Teo, Prarthana Srikanth, Jane See Mei Wong, [Swaminathan Sethu](#), Wilner Martinez- Lopez, Manoor Prakash Hande. *A Molecular Cytogenetic Study of Acetaldehyde Genotoxicity in Human Lung Fibroblasts*. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis* – 2021. 861-862:503303 (IF – 3.1)
33. Kawali A, Sanjay S, Arkasubhra Ghosh, [Swaminathan Sethu](#), Mahendradas P. *Experimental animal models in uveitis*. Chapter 7, Page 11, Yearbook 2020. Inflammation, Volume 1. Society of inflammation research (SIR) India. *Book Chapter* – 2020.
34. Rohit Shetty, Sharon D'Souza, Pooja Khamar, Arkasubhra Ghosh, Rudy M M A Nuijts, [Swaminathan Sethu](#)[#]. *Biochemical markers & alterations in Keratoconus*. *Asia-Pacific Journal of Ophthalmology* – 2020. Dec;9(6):533-540 (*Corresponding author) (IF – 4.1)
35. Prerna Ahuja, Zeldadadachanji, Rohit Shetty, Sowmya Arudi Nagarajan, Pooja Khamar, [Swaminathan Sethu](#), Sharon D'Souza. *Relevance of IgE in the pathogenesis and management of Keratoconus*. *Indian Journal of Ophthalmology* – 2020. 68(10):2067-2074. (IF – 2.9)
36. Trailokyanath Panigrahi, Sharon D'Souza, Rohit Shetty, Archana Nair, Anupriya Ghosh, Everette Jacob Remington Nelson[#], Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. *Genistein-Calcitriol mitigates hyperosmotic stress-induced TonEBP, CFTR dysfunction, VDR degradation and inflammation in dry eye disease*. *Clinical and Translational Science* – 2020. Aug 16. doi: 10.1111/cts.12858 (*Corresponding author). (IF – 4.7)
37. Rohit Shetty, Vaitheeswaran G Lalgudi, Pooja Khamar, Krati Gupta, [Swaminathan Sethu](#), Archana Nair, Santosh G Honavar, Arkasubhra Ghosh, Sharon D'Souza. *Potential Ocular and Systemic COVID-19 prophylaxis approaches for health care professionals*. *Indian Journal of Ophthalmology* – 2020. 68(7):1349-1356 (IF – 2.9)

38. Rohit Shetty, Chaitra Jayadev, Aishwarya Chabra, Sonia Maheshwari, Sharon D'Souza, Pooja Khamar, [Swaminathan Sethu](#), Santosh G Honavar. **Sanitizer aerosol-driven ocular surface disease (SADOSD)—A COVID-19 repercussion?** *Indian Journal of Ophthalmology* – 2020. 68(5):981-983. (IF – 2.9)
39. Rohit Shetty, Arkasubhra Ghosh, Santosh G Honavar, Pooja Khamar, [Swaminathan Sethu](#)[#]. **Therapeutic opportunities to manage COVID-19/SARS-CoV-2 infection.** *Indian Journal of Ophthalmology* – 2020. 68(5):693-702. (#Corresponding author) (IF – 2.9)
40. Shanbagh, Venkatesh Sadhana, Babu Paramasivan, Rasikala K, [Swaminathan Sethu](#), Arkasubhra Ghosh, Chandrakala Pidathala, Anuprita Ghosh. **Combination of Aqueous Extracts of *Phyllanthus niruri*, *Boerhavia diffusa*, and *Picrorhiza kurroa* Zingiber officinale alone Inhibit Intracellular Inflammatory Signaling Cascade.** *Journal of Herbal Medicine* – 2020. Volume 23, 100378. (IF – 2.5)
41. Sushma Tejwani, Praveen Machiraju, Archana Padmanabhan Nair, Anuprita Ghosh, Raunak Kumar Das, Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. **Treatment of glaucoma by Prostaglandin agonists and Beta-blockers in combination directly reduces pro-fibrotic gene expression in trabecular meshwork.** *Journal of Cellular and Molecular Medicine* – 2020. 24 (9):5195-5204. (#Corresponding author) (IF – 5.3)
42. Rohit Shetty, Jagadeesh R Naidu, Archana Padmanabhan Nair, Tanuja Arun Vaidya, Sharon D'Souza, Himanshu Matalia, [Swaminathan Sethu](#), Arkasubhra Ghosh, Koushik Chakrabarty. **Distinct ocular surface soluble factor profile in human corneal dystrophies.** *The Ocular Surface* – 2019. doi: 10.1016/j.jtos.2019.11.007. (IF – 6.2)
43. Trailokyanath Panigrahi, Shivapriya Shivakumar, Rohit Shetty, Sharon D'souza, Everette Jacob RN, [Swaminathan Sethu](#), Nallathambi Jeyabalan and Arkasubhra Ghosh. **Trehalose augments autophagy to mitigate stress-induced inflammation in human corneal cells.** *The Ocular Surface* – 2019. 17(4):699-713. (IF – 6.2)
44. Sayan Ghosh, Archana Padmanabhan Nair, Tanuja Vaidya, Alan M Watson, Imran Bhutto, Stacey Hose, Peng Shang, Nadezda Stepicheva, Meysam Yazdankhah, Joseph Weiss, Manjula Das, Santosh Gopikrishna, Aishwarya, Naresh Yadav, Thorsten Berger, Tak Mak, Shuli Xia, Jiang Qian, Gerard Luty, Ashwath Jayagopal, J Zigler, Jr., [Swaminathan Sethu](#), James Handa, Simon Watkins, Arkasubhra Ghosh, Debasish Sinha. **Neutrophils homing into the retina trigger pathology in early age-related macular degeneration.** *Communications Biology* – 2019. 2:348. (IF – 6.2)
45. Pooja Khamar, Archana Padmanabhan Nair, Rohit Shetty, Tanuja Vaidya, Murali Subramani, Murugeswari Ponnalagu, Kamesh Dhamodaran, Sharon D'souza, Anuprita Ghosh, Natasha Pahuja, Rashmi Deshmukh, Prerna Ahuja, Kanchan Sainani, Rudy M M A Nuijts, Debasish Das, Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. **Dysregulated tear fluid nociception-associated factors, corneal dendritic cell density and vitamin D levels in evaporative dry eye.** *Investigative Ophthalmology & Visual Science* – 2019. 60(7):2532-2542. (#Corresponding author) (IF – 4.9)
46. Thilipan Thaventhiran, Wai Wong, Ahmad F Alghanem, Naif Alhumeed, Mohammad A. Aljasir, Simeon Ramsey, [Swaminathan Sethu](#), Han Xian Aw Yeang, Amy E Chadwick, Michael Cross, Steven D Webb, Laiche Djouhri, Christina Ball, Richard Stebbings, and Jean G Sathish. **CD28 superagonistic activation of T cells induces a tumour cell-like metabolic program.** *Monoclonal Antibodies in Immunodiagnosis and Immunotherapy* – 2019. 38 (2) : 60-69 (CiteScore – 3.1)
47. Rayne R Lim, Tanuja Vaidya, Santosh G Gaddee, Naresh K Yadav, [Swaminathan Sethu](#), Dean P Hainsworth, Rajiv R Mohan, Arkasubhra Ghosh, Shyam S Chaurasia **Correlation between systemic S100A8 and S100A9 levels and severity of diabetic retinopathy in patients with type 2 diabetes mellitus.** *Diabetes & Metabolic Syndrome: Clinical Research & Reviews* – 2019. 13: 1581 – 1589 (CiteScore – 2.6)
48. Rohit Shetty, Nimisha Rajiv Kumar, Pooja Khamar, Matthew Francis, [Swaminathan Sethu](#), James Bradley Randleman, Ronald R. Krueger, Abhijit Sinha Roy, Arkasubhra Ghosh. **Bilaterally asymmetric corneal ectasia following SMILE in association with asymmetrically reduced stromal molecular markers.** *Journal of Refractive Surgery* – 2019. 35(1):6-14 (IF – 3.2)
49. Niyati S. Sharma, Suraj Kumar Acharya, Archana Padmanabhan Nair, Jyoti Matalia, Rohit Shetty, Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. **Dopamine levels in human tear fluid.** *Indian Journal of Ophthalmology* – 2019. 67(1):38-41. (#Corresponding author) (IF – 2.9)
50. Namita Dave, Priyanka Chevoor, Padmamalini Mahendradas, Anitha Venkatesh, Ankush Kawali, Rohit Shetty, Arkasubhra Ghosh[#], [Swaminathan Sethu](#)[#]. **Increased aqueous humour CD4+/CD8+ lymphocyte ratio in sarcoid uveitis.** *Ocular Immunology and Inflammation* – 2018. Feb 8:1-8 (#Corresponding author) (IF – 3.0)
51. Praveen K Balne, Rupesh Agrawal, Veonice B AU, Bennett Lee, Arkasubhra Ghosh, [Swaminathan Sethu](#), Mukesh Agrawal, Raja Narayanan, John Connolly. **Dataset of plasma and aqueous humor cytokine profiles in patients with exudative age related macular degeneration.** *Data in Brief* – 2018. (19) 1570–1573 (IF – TBA)
52. [Swaminathan Sethu](#)[#], Praveen Machiraju, Archana P. Nair, Anuprita Ghosh, Sushma Tejwani and Arkasubhra Ghosh[#]. **Association between interferon beta levels and neuroretinal degeneration in primary angle closure glaucoma.** *Canadian Journal of Biotechnology* – 2017 Vol 1; Special issue; p166 (#Corresponding author) (IF – TBA)
53. Rohit Shetty, Rashmi Deshmukh, Arkasubhra Ghosh, [Swaminathan Sethu](#), Chaitra Jayadev. **Altered tear inflammatory profile in Indian keratoconus patients.** *Indian Journal of Ophthalmology* – 2017. May;65 (11):1105-1108. (IF – 2.9)
54. Rohit Shetty, Shraddha Sureka, Pallak Kusumgar, [Swaminathan Sethu](#), Kanchan Sainani. **Allergen specific exposure associated with high IgE and eye rubbing predisposes to progression of keratoconus.** *Indian Journal of Ophthalmology* – 2017. May;65(5):399-402 (IF – 2.9)
55. Rohit Shetty, Neha Shilpy, Pallak Kusumgar, [Swaminathan Sethu](#). **Ocular immunology and defence mechanisms.** "Modern Ophthalmology" 4th edition – **Book Chapter** – 2017. In press
56. Natasha Pahuja, Rohit Shetty, Rashmi Deshmukh, Anupam Sharma, Rudy M M A Nuijts, Vishal Jhanji, [Swaminathan Sethu](#)[#], Arkasubhra Ghosh. **In vivo confocal microscopy and tear cytokine analysis in post-LASIK ectasia.** *British Journal of Ophthalmology* – 2017. Apr 27 (IF – 5.9) (#Corresponding author)

57. Dimphy Zeegers, Shriram Venkatesan, Shu Wen Koh, [Swaminathan Sethu](#), Birendranath Banerjee, Manikandan Jayapal, Oleg Belyakov, Rajamanickam Baskar, Adayabalam S Balajee, Pataje G Prasanna and M. Prakash Hande. **Biomarkers of ionising radiation exposure: A multi-parametric approach.** *Genome Integrity* – 2017. Jan 23;8:6 (IF – TBA)
58. Rohit Shetty[†], [Swaminathan Sethu](#)^{†*}, Priyanka Chevour[†], Kalyani Deshpande, Natasha Pahuja, Harsha Nagaraja, Narendra Pindipapanahalli, Arkasubhra Ghosh[#]. **Lower vitamin D level and distinct tear cytokine profile were observed in patients with mild dry eye signs but exaggerated symptoms.** *Translational Vision Science and Technology* – 2016. 2016 Dec 14;5(6):16 (IF – 3.0) ([†]equal contributors, [#]Corresponding author)
59. [Swaminathan Sethu](#)[#], Rohit Shetty, Kalyani Deshpande, Natasha Pahuja, Nandini C, Aarti Agarwal, Anupam Sharma, Arkasubhra Ghosh[#]. **Correlation between tear fluid and serum vitamin D levels.** *Eye and Vision* – 2016. Sep 2;3(1):22 (IF – 4.4) ([#]Corresponding author).
60. C. Dennis, [Swaminathan Sethu](#), Sunita Nayak, L. Mohan, Yosry (Yos) Morsi, M. Geetha. **Suture materials – Current and emerging trends.** *Journal of Biomedical Materials Research Part A* – 2016; 104(6): 1544-59 (IF – 4.8)
61. Rohit Shetty, [Swaminathan Sethu](#), Arkasubhra Ghosh, Rashmi Deshmukh, Kalyani Deshpande, Aarti Agrawal, Rushad Shroff. **Corneal dendritic cell density is associated with sub-basal nerve plexus features, ocular surface disease index and serum vitamin D in evaporative dry eye disease.** *BioMed Research International* – 2016. Volume 2016, Article ID 4369750 (IF – 3.2)
62. U. Vijayalakshmi, M. Chellappa, U. Anjaneyulu, Geetha Manivasagam, [Swaminathan Sethu](#). **Influence of Coating Parameter and Sintering Atmosphere on the Corrosion Resistance Behavior of Electrophoretically Deposited Composite Coatings.** *Materials and Manufacturing Processes* – 2016; 31(1): 95-106 (IF – 4.6)
63. Rohit Shetty, Kalyani Deshpande, Arkasubhra Ghosh, [Swaminathan Sethu](#). **Management of Ocular Neuropathic Pain with Vitamin B12 supplements: A Case Report.** *Cornea* – 2015. Oct;34(10):1324-5 (IF – 3.1)
64. Vinoth KJ, Manikandan J, [Swaminathan Sethu](#), Balakrishnan L, Heng A, Lu K, Poonepalli A, Hande MP, Cao T. **Differential resistance of human embryonic stem cells and somatic cell types to hydrogen peroxide-induced genotoxicity may be dependent on innate basal intracellular ROS levels.** *Folia Histochemica et Cytobiologica* – 2015. 53(2):169-74 (IF – 1.7)
65. S. Vessillier, D. Eastwood, B. Fox, J. Sathish, [Swaminathan Sethu](#), T. Dougall, S.J. Thorpe, R. Thorpe and R. Stebbings. **Cytokine release assays for the prediction of therapeutic mAb safety in FIM trials Whole blood CRA are poorly predictive for TGN1412 cytokine storm.** *Journal of Immunological Methods* – 2015. 424:43-52. (IF – 2.2)
66. James A. Heslop, Thomas G. Hammond, Iaria Santeramo, Agnès Tort Piella, Isabel Hopp, Jing Zhou, Roua Baty, Enrique I. Graziano, Bernabé Proto Marco, Alexis Caron, Patrik Sköld, Peter W. Andrews, Melissa A. Baxter, David Hay, Junnat Hamdam, Michaela E. Sharpe, Sara Patel, David R. Jones, Jens Reinhardt, Erik H.J. Danen, Uri Ben-David, Glyn Stacey, Petter Björquist, Jacqueline Piner, John Mills, Cliff Rowe, Giovanni Pellegrini, [Swaminathan Sethu](#), Daniel J. Antoine, Michael J. Cross, Patricia Murray, Dominic P. Williams, Neil R. Kitteringham, Chris E.P. Goldring and B. Kevin Park. **Understanding the risks of stem cell-based therapeutics.** *Stem Cells Translational Medicine* – 2015. 4: 1 – 12. (IF – 6.9)
67. Thilipan Thaventhiran, Naif Alhumeed, Han X.A Yeang, [Swaminathan Sethu](#), Jocelyn S. Downey, Ahmad F. Alghanem, Adedamola Olayanju, Emma L. Smith, Michael J. Cross, Steven D. Webb, Dominic P. Williams, Adrian Bristow, Christina Ball, Richard Stebbings, and Jean G. Sathish. **Failure to upregulate cell surface PD-1 is associated with dysregulated stimulation of T cells by TGN1412-like CD28 superagonist.** *mAbs* – 2014. Sep 3;6(5):1290-9 (IF – 5.8)
68. Vinoth Kumar, Jayapal Manikandan, [Swaminathan Sethu](#), Lakshmi Balakrishnan, Alexis Heng, Kai Lu, Manoor P Hand, Tong Cao. **Evaluation of Human Embryonic Stem Cells and their Differentiated Fibroblastic Progenies as Cellular Models for In Vitro Genotoxicity Screening.** *Journal of Biotechnology* – 2014. May 23;184C:154-168 (IF – 3.5)
69. Laith M A Al-Huseini, Han Xian Aw Yeang, Junnat M Hamdam, [Swaminathan Sethu](#), Alumeed Naif, Wai Wong and Jean G Sathish. **Heme oxygenase-1 Regulates Dendritic Cell Function through Modulation of p38MAPK-CREB/ATF1 Signalling.** *Journal of Biological chemistry* – 2014. Jun 6;289(23):16442-51. (IF – 5.1)
70. Laith M A Al-Huseini, Han Xian Aw Yeang, [Swaminathan Sethu](#), Alumeed Naif, Junnat M Hamdam, Laiche Dijouri, Neil Kitteringham, B Kevin Park, Christopher E Goldring and Jean G Sathish. **Nuclear factor-erythroid 2 (NF-E2) p45-related factor-2 (Nrf2) modulates dendritic cell immune function through regulation of p38 MAPK-cAMP-responsive element binding protein/activating transcription factor 1 signaling.** *Journal of Biological chemistry* 2013. Aug 2;288(31):22281-8. (IF – 5.1)
71. [Swaminathan Sethu](#)[†], Karthik Govindappa[†], Paul Quinn, Meenu Wadhwa, Richard Stebbings, Dean Naisbitt, Ian Kimber, Munir Pirmohamed, Kevin Park and Jean Sathish. **Immunoglobulin G1 and immunoglobulin G4 antibodies in multiple sclerosis patients treated with IFN β interact with the endogenous cytokine and activate complement.** *Clinical Immunology* 2013. May 22;148(2):177-185 ([†]equal contributors) (IF – 10.0)
72. Junnat Hamdam[†]; [Swaminathan Sethu](#)[†]; Trevor Smith[†]; Ana Alfrevic; Mohammad Alhaidari; Jeffrey Atkinson; Mimievshiofou Ayala; Helen Box; Micheal Cross; Annie Delaunois; Ailsa Dermondy; Karthik Govindappa; Jean-Michel Guillon; Rosalind Jenkins; Gerry Kenna; Björn Lemmer; Ken Meecham; Adedamola Olayanju; Sabine Pestel; Andreas Rothfuss; James Sidaway; Rowena Sison-Young; Emma Smith; Richard Stebbings; Yulia Tingle; Jean-Pierre Valentin; Awel Williams; Dominic Williams; Kevin Park; Christopher Goldring. **Safety Pharmacology – current and emerging concepts.** *Toxicology and Applied Pharmacology* 2013. Dec 1;273(2):229-41. ([†]equal contributors) (IF – 4.4)
73. Jean G Sathish[†], [Swaminathan Sethu](#)[†], Marie-Christine Bielsky, Lolke de Haan, Neil French, Karthik Govindappa, James Green, Christopher E.M. Griffiths, Stephen Holgate, David Jones, Ian Kimber, Jonathan Moggs, Dean J Naisbitt, Munir Pirmohamed, Gabriele Reichmann, Jennifer Sims, Meena Subramanyam, Marque Todd, Jan Willem Van Der Laan, Richard Weaver and B Kevin Park. **Challenges and approaches for the development of safer immunomodulatory biologics.** *Nature Reviews Drug Discovery*. 2013, 12(4):306-324 ([†]equal contributors) (IF – 112)

74. Thilipan Thaventhiran, [Swaminathan Sethu](#), Han Xian Aw Yeang, Laith Al-Huseini, Junnat Hamdam, Jean G Sathish. **T cell co-inhibitory receptors - functions and signalling mechanisms.** *Journal of clinical and cellular Immunology*.2012,S12:004. doi:10.4172/2155-9899. (IF – 2.3)
75. [Swaminathan Sethu](#), Karthik Govindappa, Alhaidari Mohammad, Munir Pirmohamed, Kevin Park & Jean Sathish. **Immunogenicity to biologics: a central role for antigen processing and presentation.** *Archivum Immunologiae et Therapiae Experimentalis*.2012,60:331-344 (IF – 4.2)
76. Raghu Betha, Shruti Pavagadhi, [Swaminathan Sethu](#), M Prakash Hande & Rajasekhar Balasubramanian. **Comparative in vitro cytotoxicity assessment of airborne particulate matter emitted from stationary engine fuelled with diesel and waste cooking oil-derived biodiesel.** *Atmospheric Environment*. 2012, (61) 23 – 29 (IF – 3.062)
77. PV Asharani, [Swaminathan Sethu](#), Hui Kheng Lim, Ganapathy Balaji, Suresh Valiyaveettil & M Prakash Hande. **Differential regulation of intracellular factors mediating cell cycle, DNA repair and inflammation following exposure to silver nanoparticles in human cells.** *Genome Integrity*. 2012, Feb 10;3(1):2 (IF – TBP)
78. Han Xian Aw Yeang, Junnat M Hamdam, Laith M A Al-Huseini, [Swaminathan Sethu](#), Laiche Djouhri, Joanne Walsh, Neil Kitteringham, B Kevin Park, Christopher E Goldring and Jean G Sathish. **Loss of the transcription factor nuclear factor-erythroid2 (NF-E2) p45-related factor-2 (Nrf2) leads to dysregulation of immune functions, redox homeostasis and intracellular signalling in dendritic cells.** *Journal of Biological Chemistry*. 2012, 287(13):10556-64 (IF – 5.1)
79. Samah El Ghamrasni, Ashwin Pamidi, Marie Jo Halaby, Miyuki Bohgaki, Renato Cardoso, Li Li, Shriram Venkatesan, [Swaminathan Sethu](#), Atsushi Hirao, Tak W Mak, Manoor PrakashHande, Anne Hakem, and Razaqallah Hakem. **Inactivation Of Chk2 And Mus81 Leads To Impaired Lymphocytes Development, Reduced Genomic Instability And Suppression Of Cancer.** *PLoS Genetics*. 2011 May; 7(5):e1001385 (IF – 8.167)
80. Manikandan Jayapal, [Swaminathan Sethu](#), Dimphy Zeegers, Birendranath Banerjee and M. Prakash Hande. **Predictive Genomics: A Post-genomic Integrated Approach to Analyse Biological Signatures of Radiation Exposure.** *Defence Science Journal*. 2011 March; Vol. 61 (2): 133-137(IF – 0.7)
81. [Swaminathan Sethu](#) & Alirio J Melendez. **New developments on the TNF α -mediated signaling pathways.** *Bioscience Reports*.2010 Oct;31(1):63-76 (IF – 3.8)
82. Resham Lal Gurung, Shi Ni, Khaw Aik Kia, Jasmine Fen Fen Soon, Kirthan Shenoy, Safiyya Mohamed Ali, Manikandan Jayapal, [Swaminathan Sethu](#), Rajamanickam Baskar & M Prakash Hande. **Thymoquinone induces telomere shortening, DNA damage and apoptosis in human glioblastoma cells.** *PLoSOne*. 2010 Aug 12;5(8):e12124. (IF – 3.7)
83. [Swaminathan Sethu](#), Peter N. Pushparaj & Alirio J. Melendez. **Phospholipase D1 mediates TNF α -induced inflammation in a murine model of TNF α -induced peritonitis.** *PLoS One*. 2010 May 5;5(5):e10506. (IF – 3.7)
84. PV Asharani, [Swaminathan Sethu](#), Sajini Vadukkumpully, Shaoping Zhong, Chwee Teck Lim, M Prakash Hande & Suresh Valiyaveettil. **Investigations on the structural damage in human erythrocytes exposed to silver, gold and platinum nanoparticles.** *Advanced Functional Materials*. 2010, 20, 1-10 (IF – 19.9)
85. [Swaminathan Sethu](#), Mendez-Corao G & Melendez AJ. **Phospholipase D1 plays a key role in TNF-alpha signaling.** *Journal of Immunology*. 2008 May 1;180(9):6027-34. (IF – 5.4) Retracted on 2013 Mar 15;190(6):3006.
86. [Swaminathan Sethu](#), Geetha Manivasagam & J G Kannappan. **Titanium in Dental Applications.** *Metals Materials and Processes*. 2006, Vol.18, No.3-4, 451-462. (IF – TBP)
87. [Swaminathan Sethu](#), Wattanapayungkul Pranee, Loh Poey Ling. **Ability of composite core materials to mask the color of pre-fabricated posts under all-ceramic crowns.** *Journal of Dental Research*. 2003 Vol82 (Spec l ss: B) p B390. Meeting Abstract: 3042(IF – 6.1)
88. J G Kannappan & [Swaminathan Sethu](#). **A Study on a Dental Morphologic Variation -Tubercle of Carabelli.** *Indian Journal of Dental Research*. 2001 Jul-Sep; 12(3):145-9. (IF – 0.7)
89. [Swaminathan Sethu](#)*, Jayakrishna B*, Ravindranath, Arunachalam D. **A Comparative Study on Efficacy of Supra-Gingival Surface, Plaque Removal with Four Different Manual Tooth Brush Designs.** *Journal of Indian Dental Association*. Nov 2000. (*equal contributors). (IF – TBP)
90. [Swaminathan Sethu](#). **Introduction to Therapeutic Relationship in Dentistry.** Published in the book “Scientific Papers Presented at the National Conferences by the Students of Sree Balaji Dental College” 1999 – **Book Chapter**

Submitted

Rohit Shetty, Saille Shirodkar, Pooja Khamar, Bhavya Gorimanipalli, [Swaminathan Sethu](#). **Autophagy modulation and its impact on corneal properties in Keratoconus.** *Indian Journal of Ophthalmology* – 2023 In review. (IF – 2.9)

Patents

- Set of biomarkers to identify early diabetic retinopathy, retinal angiogenic diseases, and resistance to ocular anti-VEGF therapy. (Granted: Patent No. 423197; Appl. No.: 2251/CHE/2015, Country of filing – India)
- A formulation of combination of genistein and calcitriol for the management of inflammatory ocular surface conditions (Complete filed – Appl. No: 202041030776, Country of filing – India).
- A topical formulation for alleviating inflammatory and ectatic signs and symptoms for ocular conditions. (Complete filed – Appl. No: 202041039874, Country of filing – India).
- Angiogenin as a diagnostic or prognostic biomarker and drug target in age-related macular degeneration. (Complete filed – Appl. No: 201641012304, Country of filing – India).
- Biomarkers for diagnosis of ocular diseases and the method thereof. (Provisional Specification filing done Feb 15th 2019, Country of filing – India).

- A quantitative testing of vitamins in tears and topical ophthalmic composition for treatment of ocular diseases. (Complete filed – Appl. No.: 3818/CHE/2015, Country of filing – India)

Research Funding

- Population based Adeno-Associated Virus (AAV) vector related immunological memory screening in an Indian cohort – direct clinical relevance for gene therapy applications. **By** – Indian Council of Medical Research (Principal investigator) – (2021 – 2023).
- Immunoprofiling (IP) consortium for COVID-19: Integration of Extended Immune Monitoring (ExImm) and clinical parameters for early prediction of disease trajectory/progression, treatment planning and prophylaxis to improve COVID-19 prognosis. **By** – Indian Council of Medical Research (Principal investigator) – (2020 – 2022).
- Intraocular immune cell profiling in dry age-related macular degeneration. **By** – Roche Collaborative Research Fellowship, ARVO Foundation for Eye Research, USA (Principal investigator) – (2020 – 2021).
- Predicting Retinopathy of Prematurity (ROP) in infants from biomarkers in their tears. **By** – Global Ophthalmology Awards Program (GOAP), Bayer, Germany (Co-Investigator) – (2020 – 2021).
- Biomarker Discovery in Two Daily Disposable Contact Lenses. **By** – Johnson & Johnson Vision Care, Inc, USA (Co-Investigator) – (2018).
- Unraveling the physiological mechanism of Heartfulness meditation Pranahuti-mediated benefits on cardiovascular risk. **By** – SATYAM, Dept. of Science & Technology, Govt. of India. (Co-Investigator) – (2018 – 2020).
- Elucidating the role of PPAR alpha in the development of doxorubicin-induced cardiomyopathy. **By** – SERB, Dept. of Science & Technology, Govt. of India. (Co-Investigator) – (2017 – 2019).
- To investigate the immunopathological role of dendritic cells-mediated inflammation and vitamin D modulation in Dry Eye Disease. **By** – SERB, Dept. of Science & Technology, Govt. of India. (Principal Investigator) – (2016 – 2019)

Scholarships & Awards

- Roche Collaborative Research Fellowship, ARVO Foundation for Eye Research, USA: 2019
- Indian Immunology Society Bursary Award, India (IUIS-IIS-FIMSA course "Basic and Advanced Translational Immunology"): 2019
- Early Career Research Award, Dept. of Science & Technology, Govt. of India: 2016
- Biochemical Society, UK (Travel Award – WIRM-VII meeting, Switzerland): 2013
- NUS research scholarship, Singapore: Jan 2002 – Jan 2007
- JGK award (for contribution towards rural oral health), India: 2001
- TN Government undergraduate education aid, India: 1995 – 1999

Other concurrent roles

- Grant Reviewer – DST-SERB, Govt. of India; The Netherlands Organisation for Health Research and Development (ZonMw)
- Reviewer – Journal of Biomedicine and Biotechnology / BioMed Research International, Neuropharmacology, Journal of Cell Science & Molecular Biology, British Journal of Ophthalmology, Journal of Cataract and Refractive Surgery, Indian Journal of Ophthalmology, Arquivos Brasileiros de Oftalmologia, Scientific Reports, Journal of Interferon & Cytokine Research, Complementary Therapies in Medicine, F1000Research, BMC Open Ophthalmology, Clinical and Experimental Ophthalmology, Journal of Ocular Pharmacology and Therapeutics, Ocular immunology and inflammation, Life
- Review Editor: Frontiers in Immunology
- PhD thesis examiner and doctoral committee member – Vellore Institute of Technology, India
- Advisor – Edentulism and Anodontia Research Center (eARC), Department of Prosthodontics, Sree Balaji Dental College & Hospital, Chennai, India
- Advisory board – Indian Journal of Multidisciplinary Dentistry
- Editorial Board Member – International Journal of Dental sciences and research
- Senior Editor (Freelance) – Medjaden Bioscience Limited (2013 – 2015)
- Moderator (Session: corneal immunology) – ARVO2020, Baltimore, USA, 2020 (event canceled)
- Chair (Session: Corneal Immunology and transplantation) – ISER2023, Gold Coast, Australia, 2023

Memberships

- Member – The Cytometry Society – India
- Member – ARVO and IERG-ARVO-India Chapter
- Member – The Corneal Society
- Member – Society for Inflammation Research
- Member – International Society for Eye Research (former member)
- Member – Indian Immunology Society
- Member – International Society for Molecular Recognition
- Member – International Complement Society
- Member – Indian Dental Association

Invited speaker

- Shridevi Institute of Medical Sciences and Research Hospital, Tumkur, India – June 2023
- Angiogenesis, Bangalore, India – Apr 2023
- Mycocon, Bangalore, India – Apr 2023

- Ocular surface insight Symposium and Dry Eye Masterclass, London – Mar 2023
- ISER2023, Gold Coast, Australia – Feb 2023
- Ocular Surface Workshop – X, LVEPI, Hyderabad –Jan 2023
- Keracon 2022, Mumbai – Dec 2022
- Keratoconus Theatre 4.0, Udupi, India – Nov 2022
- LVEPI-NN research retreat, Hyderabad – July 2022
- Ocular surface insight Symposium and Dry Eye Masterclass, London – June 2022
- PIVOT: Dry Eye Academy – June 2021
- Society for Inflammation Research – Cytokines: classification and functions – March 2021
- QIAGEN Knowledge Seminar: Immune mechanisms underlying COVID-19 pathology – July 2020
- ZEISS Global Webinar on Science and Research @ SMILE – June 2020
- Indo-UK Virtual Conference (VIT, India, and Swansea University, UK) – June 2020
- iCOACH – Corneal Module, (Webinar) – May 2020
- Advanced Retina Clinix – Understanding the underlying molecular basis of retinal diseases (Webinar) – May 2020
- Experts Conclave – Imaging and Refractive Surgery, (Webinar) – May 2020
- India's Ophthalmic Innovators Conclave – 2020, (Webinar) – May 2020
- Advanced learning clinix – ocular surface, (Webinar) – Apr 2020
- COVID-19 pandemic and its consequences on an individual and society, (Webinar) – WHO & Uni. Al-Qadisiyah – Apr 2020
- Ocular Surface Workshop 2020 – LVEPI, Hyderabad – Jan 2020
- USICON2019, Uveitis Society of India – Annual Conference, Bangalore – Sept 2019
- Retina Master Class, Narayana Nethralaya, Bangalore – Sept 2019
- Congress on Optic nerve, Vasculature and Emerging Treatment, Bangalore – Aug 2018
- Refractive Experts Conclave, Bangalore – Aug 2018
- Science 2 Clinix, Bangalore – May 2018
- VIGNAN Foundation for Science, Technology and Research, Guntur – Mar 2018
- Society for Inflammation Research Conference, Bangalore – Oct 2017
- Angiogenesis Club Symposium, Bangalore – Sept 2017
- NUS-VIT symposium, VIT university, India – July 2017
- Translational Immunology, VIT university, India – Mar 2017
- Bharath University, Chennai, India – Mar 2017
- Bapuji Dental College and Hospital, Davangere, India – Feb 2017
- Keratoconus Theatre, Bangalore, India – Nov 2016
- VEIN (Vasculature: Emerging innovations imaging & newer therapies) Symposium, Bangalore, India – Aug 2016
- CME – Karnataka Ophthalmic Society, Bangalore, India – Apr 2016
- CBCMT, VIT University, Vellore, India – Jan 2016
- Mazumdar Shaw Centre for Translational Research, Bangalore, India – Jul 2014
- Sree Chitra Tirunal Institute of Medical Sciences and Technology, India – Oct 2013
- 16th AICCG, Trivandrum, India – Oct 2013
- 25th ISDR & IADR (India chapter) International Conference, India – Oct 2012
- Cancer Research UK, Liverpool, UK – Mar 2012
- University of Surrey, Guildford, UK –Nov 2011
- Ragas Dental College & Hospital, Chennai, India – Dec 2004

Organization efforts

- Organizing secretary: NUS-VIT Symposium “Genes, Environment & Disease” 19 December 2013 & NUS-VIT Workshop “Molecular Cytogenetics, Epigenetics & Genomics” 20-21 December 2013, VIT University.
- Co-convenor: National conference on Challenges in Biomaterials Research at VIT University, Vellore, Tamil Nadu on 23rd – 24th December 2013 with CSIR-CECRI.
- Resource person (Session): DNA Day – Apr 25th 2014. SBST, VIT University.
- Organizing committee member: Models of Physiology and Disease, August 2010. National University of Singapore.

Conference Presentations (selected)

Oral

- Newer therapeutic strategies for Keratoconus (*Keracon, Mumbai, India – Dec 2022*)
- Targeting the inverse regulation between MMP9 and Lysyl Oxidase using Batimastat: a potential therapy for Keratoconus (*ARVO, Baltimore, USA – May 2020*) – meeting cancelled due to COVID-19 pandemic
- Altered corneal dendritic cells profile in dry eye disease (*Immuncon, Ahmedabad, India – Dec 2017*)
- Potential for neutralizing interferon beta specific anti-drug antibody to neutralize endogenous interferon beta and activate complement (*World Immune Regulation Meeting-VII, Switzerland – 2013*)
- Ability of composite core materials to mask the color of pre-fabricated posts under all-Ceramic Crowns (*International Association for Dental Research, Sweden – 2003*)
- Glass Ionomers as a Restorative Material & its recent advances and modifications (*CRRJ seminar series, Sree Balaji Dental College & Hospital – 2000*)

- Inferior Alveolar Nerve Anesthesia - Clinical assessment of 3 different techniques (*Indian Society for Dental Research annual conference, Chennai – 1999*)
- Titanium in Dentistry (*IDA annual Conference, Bangalore – 1999*)
- Introduction to Therapeutic Relationship in Dentistry (*IDA annual conference, Jaipur – 1998*)

Poster

- Ocular surface immuno-inflammatory profiles of two corneal ectatic conditions (*World Cornea Congress VIII, USA, Sept 2022*)
- Tear fluid soluble factors profile in predicting retinopathy of prematurity (*World Cornea Congress VIII, USA, Sept 2022*)
- Regaining the matrix metalloproteinase 9 - lysyl oxidase balance in human corneal cells and tissues - potential treatment for keratoconus (*World Cornea Congress VIII, USA, Sept 2022*)
- Intraocular immune imbalance in glaucomatous optic neuropathy patients (*Immuncon, Mumbai, India – November 2019*)
- Immune balance perturbations in ocular diseases (*IUIS-IIS-FIMSA Course, Jaipur, India – October 2019*)
- Ocular surface immune cell profile in dry eye disease (*IERG – ARVO India, Chennai, India – July 2019*)
- Distinct immune cell subsets on the ocular surface of dry eye disease and keratoconus patients is associated with pathology (*ARVO, Vancouver, Canada – May 2019*)
- Association of interferon beta and erythropoietin levels with disease severity in glaucoma (*ARVO, Honolulu, USA – Apr 2018*)
- Association between interferon beta levels and neuro-retinal degeneration in primary angle closure glaucoma (*NGBT, Bhubaneshwar, India – Oct 2017*)
- Association between aqueous humour soluble immune mediator profile and therapy-mediated resolution of macular edema in CNVM patients (*IERG-ARVO India Chapter, Madurai, India – July 2017*)
- Association of serum vitamin D with dry eye disease indicators (*IERG-ARVO India Chapter, Hyderabad, India – July 2015*)
- Potential for neutralizing anti-drug antibody to therapeutic interferon beta to neutralize endogenous interferon beta and activate complement (*North-West Biopharma-Post Doc symposium, Alderly Park, UK – Mar 2013*)
- Selective impairment of NHEJ repair process and telomere homeostasis: potential for the management of glioblastoma (*Keystone symposia on molecular & cellular biology – Telomere Biology and DNA, Australia – Oct 2009*)
- Sphingosine Kinase1 mediates TNF α induced inflammatory response in vivo. (*2nd International Singapore Symposium of Immunology. Singapore – 2009*)
- Effects of exposure to low levels of ionising radiation on normal human cells. (*10th International Workshop on Radiation Damage to DNA, Fukushima, Japan – 2008*)
- PLD1 mediates TNF α induced inflammatory signaling events and responses. (*1st International Singapore Symposium of Immunology. Singapore – 2008*)
- Role of PLD in TNF α induced intracellular signaling and effector responses in human monocytic cells. (*Frontiers in Basic Immunology, NIH, Bethesda, MD – 2006*)
- Intrinsic color stability of six composite core materials. (*1st NHG conference, Singapore – 2003*)
- Color stability of core materials: A Spectrophotometric study. (*IADR-SEA division, Hong Kong – 2002*).

Co-authored conference presentations (>125)

Professional Skills

I am proficient in the following and I have done and have been doing it as part of the various research projects & career choices undertaken.

- **Immunology, Cellular & Molecular biology techniques:**
 - Mammalian **cell culture** (Primary & Cancer cell types)
 - **Isolation of human primary immune cell subsets** (Differential density centrifugation, MACS, FACS)
 - **FACS:** expression & activation of various intracellular and cell surface markers; cell cycle profiles; Immunophenotyping (in peripheral blood, ocular samples and other body fluids)
 - **Q-PCR, Microarray/ miRNA arrays** (Entire process: wet lab → analysis → validation)
 - Various immune cell function assays, including Multiplex ELISA
 - **Western blot** analysis & Enzyme activity assays
 - In-vitro and In-vivo knock down using **antisense / siRNA / shRNA**
 - **Animal models** (Mouse models; Rabbit; Zebra Fish)
 - **Immuno-fluorescence** & Immuno-histochemistry
 - Cell viability assays
 - Techniques assessing **DNA damage**
 - **Cytogenetic** Techniques
 - Fluorescence in situ hybridization (PNA-FISH, mFISH & mBAND)
 - Telomere length measurements (Q-FISH, FlowFISH, TRF)
- **Teaching**
 - Immunology (General and ocular)
 - Human Anatomy & Physiology
 - Research methodology & Basic biostatistics
 - Cancer Biology
 - Pharmacology

- Toxicology
- General dentistry
- **Clinical techniques**
 - General dentistry & Minor oral surgical procedures.
 - Orthodontic & Pedodontic procedures to manage cranio-facial anomalies.

Attributes

- Passion for teaching and research
- Excellent spoken and written communications skills in English. (French: Beginners' course)
- Very familiar in writing scientific manuscripts and grant proposals.
- Team player, Analytical, Organized, Perseverance, Integrity, Fast learner, good scientific and social communication skill, Passion for knowledge, science & research.

Community participation

- Volunteer – Vidyanjali, A school volunteer program, Govt. of India.
- Volunteer – Dental surgeon (Urban & Rural Oral health camps), India
- Volunteer – SINDA (Project Read), Singapore
- Volunteer – The Shakti Foundation, India (for the physically challenged), India.
- Volunteer/Research – Anamaya: The indo pacific cleft prevention program, India.

Other Activities - public engagement to popularize science

- TV talk show – Children's science awareness show, Singapore
- DNA Day – VIT University, Vellore, India
- Popularizing science for Clinicians, Science undergraduates and High School students by organizing visits and orientation at GROW research lab, Narayana Nethralaya Foundation, Bangalore, India
- Public engagement of Science

Personal Particulars

Nationality: Indian

Date of Birth: 4th August 1977

Sex: Male