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Infection and Inflammation
Professor, Department of Biotechnology
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CURRICULUM VITAE

As on 21/05/2024

Section Editor: *Scientific Reports*
Academic Editor: *PLoS One*
Associate Editor: *Frontiers in Immunology*
Academic Editor: *BMC Immunology*

ORCID ID: <https://orcid.org/0000-0002-7866-9818>
ResearcherID: B-3132-2019

T-cell exhaustion, mediators of inflammation, chronic infectious diseases

EDUCATION/TRAINING/HONORS

Fellow of the Royal College of Pathologists (FRCPATH), Royal College of Pathologists, London, United Kingdom, 2019
Postdoctoral Scientist, Molekylär Virologi, Institutionen för Klinisk och Experimentell Medicin, Linköpings Universitet, Sweden, 2009/11
Visiting Scholar, Department of Surgery, Duke University Medical Center, North Carolina, USA, 2007
PhD, Microbiology (Faculty of Medicine), PG Institute of Basic Medical Sciences, University of Madras, India, 2002/07
MSc, Microbiology (Faculty of Medicine), PG Institute of Basic Medical Sciences, University of Madras, India, 1999/02
BSc, Microbiology, University of Madras, Chennai, India, 1995/98

BRIEF SUMMARY

Born in Kanyakumari in an agrarian family amidst five siblings in 1975, Shankar underwent his schooling at the Vivekananda Kendra Vidyalaya, Kanyakumari, and subsequently at the SLB Government Higher Secondary School, Nagercoil in 1991. He secured his UG degree in Microbiology from the University of Madras in 1998. Fascinated by the pathomechanistic intricacies pertaining to infectious diseases, he got enrolled for a 3-year MSc programme in Microbiology (Faculty of Medicine) at the PG Institute of Basic Medical Sciences (PG IBMS), Chennai. Following his ICMR-JRF/ICMR-SRF-supported PhD stint at the PG IBMS, he became an Assistant Professor at the YRG Center for AIDS Research and Education, Chennai. He has worked for the *Collaboration for AIDS Vaccine Discovery*, a flagship project of the Bill and Melinda Gates Foundation at the Department of Surgery, Duke University, North Carolina, USA, in 2007. Later, he moved to Europe to work as a post-doctoral scientist under Prof. Marie Larsson at the Institutionen för Klinisk och Experimentell Medicin, Linköpings Universitet, Sweden, in 2009. He has worked extensively on myeloid-derived dendritic cell-T cell interactions in the context of mucosal HIV infection. He has researched on T-cell and MAIT cell exhaustion and senescence in the context of chronic viral infections. In 2011, he moved in to Universiti Malaya, Kuala Lumpur, Malaysia, where was appointed as an Associate Professor in the Department of Medical Microbiology, Faculty of Medicine between 2011 and 2016. He got on board the Central University of Tamil Nadu as an Associate Professor in 2016, and has served as the founding Head of the Department of Life Sciences and the Dean of School of Life Sciences up until 2019. His team investigates the host anti-pathogenic host responses, with a focus on novel immune biomarkers, development of functional modalities against chronic viral infections, and immune monitoring in chronic infectious diseases. Of late, he is also working on the role of humoral and cellular inflammatory mediators in dengue viral infection with prospective longitudinal cohorts. As on date, he has published over 165 peer-reviewed ISI publications. Besides being a certified diagnostic microbiologist, he is a Fellow of the Royal College of Pathologists, United Kingdom. He is also a member of the Scientific Advisory Committee of the RMRCBB, Indian Council of Medical Research, and the founding Scientific Advisory Member of the Tamil Nadu Association of Biosafety and Biosecurity, Chennai, supported by the Duke University, North Carolina, USA. He is the recipient of the Distinguished Scientist Award 2022 (Infectious Diseases: Immunology Science Innovation) by the Antiviral Research Society (AVRS), India.

ACADEMIC EXPERIENCE

2019 - Current Professor (Immunology and Microbiology), Department of Biotechnology, Central University of Tamil Nadu, India.
2016 - 2019 Associate Professor, Department of Life Sciences, Central University of Tamil Nadu, Thiruvavur, India.
2011 - 2016 Associate Professor, Department of Medical Microbiology, Universiti Malaya Medical Center, Kuala Lumpur, Malaysia.
2009 - 2011 Postdoctoral Fellow, Molekylär Virologi, Institutionen för Klinisk och Experimentell Medicin, Linköpings Universitet, Sweden.
2006 - 2008 Assistant Professor, YRG Centre for AIDS Research and Education, Voluntary Health Services, Taramani, Chennai, India.
2006 Senior Research Fellow, Indian Council of Medical Research, PG Institute of Basic Medical Sciences, Taramani, Chennai.
2004 - 2006 Junior Research Fellow, Indian Council of Medical Research, PG Institute of Basic Medical Sciences, Taramani, Chennai.
2003 Project Fellow, UGC-SAP Department of Microbiology, PG Institute of Basic Medical Sciences, Taramani, Chennai.

HONORS/RECOGNITIONS/AWARDS

2024 Member, Graduate Supervisory Committee, The National University of Malaysia, Kuala Lumpur, Malaysia.
2024 Visiting Professor, Department of Microbiology, Malabar Cancer Centre, Thalassery, India.
2024 President, Infectious Diseases Society of India, Chennai, India (Registration in process).
2023 Section Editor, *Scientific Reports* (Infectious Diseases) (Nature-SPRINGER Publishing Group), USA.
2023 Distinguished Scientist Award 2023 Infectious Diseases: Immunology Science Innovation, Antiviral Research Society, India.
2023 Grant Reviewer, Swiss National Science Foundation (FNSNF), Bern, Switzerland.
2023 PLoS One Editorial Board Long Service Award, Public Library of Science, USA.
2022 Outstanding Research Scientist Award, Antiviral Research Society, India.
2022 DBT Representative, Institutional Biosafety Committee, Karpagam Academy of Higher Education, Coimbatore, India.
2022 Member, Scientific Advisory Committee, Regional Medical Research Centre (RMRCBB), Indian Council of Medical Research, Bhubaneswar, India.
2022 Editorial Board Member, *Exploration of Digestive Diseases*, Open Exploration Publishing, Shaanxi, China.
2022 Subject Expert, Kerala State Council for Science, Technology and Environment (KSCSTE), Pattom, Thiruvananthapuram.
2021 Referee, DBT-Wellcome India Alliance, India.
2021 - Current Associate Editor, *Frontiers in Tropical Diseases*, Frontiers Publishers, Lausanne, Switzerland.
2019 - Current Associate Editor, *Frontiers in Immunology*, Frontiers Publishers, Lausanne, Switzerland.
2019 - Current Associate Editor, *Frontiers in Microbiology*, Frontiers Publishers, Lausanne, Switzerland.

2019 - Current Fellow of the Royal College of Pathologists, London, United Kingdom (Reg. No. 20011054)
 2019 Fellow of the Royal Society of Biology, United Kingdom (ID. No. P0133817).
 2019 - Current Grant Referee for INSERM, France.
 2019 Grant Referee for *Agence Nationale de la Recherche*, France.
 2018 - Current Editorial Board Member, *Current HIV Research*, Bentham Science Publishers, UAE.
 2018 Guest Editor, *Journal of Oncology*, Special Issue on Cancer Metastasis: A Therapeutic Target, Hindawi Publishers, UAE.
 2017 District Level Expert Appraisal Committee (DEAC) & District Level Environmental Impact Assessment Authority (DEIAA) Committee Member, Thiruvapur District, Thiruvapur, Tamil Nadu.
 2017 - Current Associate Editor, *BMC Infectious Diseases*, BioMed Central, Springer, USA.
 2015 - Current Academic Editor, *Medicine*[®], Wolters Kluwer Health, USA.
 2015 - Current Academic Editor, *PLoS One*, Public Library of Sciences, USA.
 2013 - Current Associate Editor, *BMC Immunology*, BioMed Central, Springer, USA.
 2016 - 2018 Editorial Board Member, *World Journal of Immunology*, Baishideng Publishers, USA.
 2007 Young Investigator: 14th Conference on Retroviruses & Opportunistic Infections, Los Angeles, USA.
 2006 Travel Award: 16th International Organization of Mycology Congress, St. Johns College, University of Cambridge, England.
 2004 ICMR-JRF-NET, Government of India, New Delhi (Award No. 3/1/3(54)/JRF/2003 - MPD, 10/02/04).
 1999 First Rank, MSc Entrance Examination (Microbiology), Faculty of Medicine, University of Madras, Chennai.

ACADEMIA | RESEARCH | ADMINISTRATION

2023 - Current Chairman Nominee, Kendriya Vidyalaya, Thiruvapur, India.
 2023 - Current Dean, School of Life Sciences, Central University of Tamil Nadu, Thiruvapur, India.
 2023 Grant Referee, Xiamen University Malaysia, Malaysia Research Fund, Sepang, Malaysia.
 2022 Kendriya Vidyalaya Management Committee Member, Kendriya Vidyalaya, Thiruvapur, India.
 2022 Member, Department Research Committee, Department of Music, Central University of Tamil Nadu, India.
 2022 - 2025 Member, Board of Studies in Life Sciences, Mizoram University, Aizawl, India.
 2022 - Current Subject Expert, Board of Studies PG, Department of Biochemistry, Bharathidasan University, Tiruchirappalli, India.
 2021 - Current Member, Board of Studies, MSc Biochemistry, Karpagam University, Coimbatore, India.
 2021 - Current Nodal Officer, International Students Admissions, Central University of Tamil Nadu, India.
 2019 Coordinator, Fauna & Flora Biodiversity Manual Committee, Central University of Tamil Nadu, India (https://cutn.ac.in/wp-content/uploads/2020/01/Fauna_Final_13012020_upload.pdf / https://cutn.ac.in/wp-content/uploads/2022/02/FLORAL_final_22022022.pdf).
 2019 - Current Professor, Department of Life Sciences, Central University of Tamil Nadu, India.
 2019 - Current Member, Board of Studies, Department of Chemistry, Central University of Tamil Nadu, India.
 2019 - Current Chairman, Institutional Animal Ethics Committee (IAEC), Central University of Tamil Nadu, India.
 2019 - Current Member, Internal Human Ethics Sub-Committee for PG Research, School of Life Sciences, Central University of Tamil Nadu, India.
 2018 - 2019 Dean, School of Life Sciences, Central University of Tamil Nadu, India.
 2019 - Current Chair (ex-officio), Department Research Committee, DLS-Central University of Tamil Nadu, India.
 2018 - Current Research Advisory Board, Karpagam University, Coimbatore, India.
 2018 - Current Admission Committee Member, Department of Music, Central University of Tamil Nadu, India.
 2018 - 2019 Academic Council Member (ex-officio), Central University of Tamil Nadu, India.
 2018 - Current Advisory Committee, Central Library, Central University of Tamil Nadu, India.
 2017 - Current Member, Internal Quality Assurance Cell, Central University of Tamil Nadu, India.
 2017 - 2017 Coordinator, Department of Microbiology, Central University of Tamil Nadu, India.
 2017 - 2018 Chair, Board of Studies, Department of Microbiology, Central University of Tamil Nadu, India.
 2016 - Current Member, Board of Studies, Department of Life Sciences, Central University of Tamil Nadu, India.
 2016 - 2020 Head, Department of Life Sciences, Central University of Tamil Nadu, India.
 2016 - 2020 Associate Professor, Department of Life Sciences, Central University of Tamil Nadu, India.
 2011 - 2016 Associate Professor, Department of Medical Microbiology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.
 2009 - 2011 Postdoctoral Fellow, Molekylär Virologi, Institutionen för Klinisk och Experimentell Medicin, Hälsouniversitet, Linköpings Universitet, 58 185 Linköpings, Sweden.
 2007 Visiting Scholar, Department of Surgery, Duke University Medical Center, Durham, NC, USA.
 2006 - 2008 Assistant Professor, YRG Centre for AIDS Research and Education, Chennai, India.
 2006 ICMR-Senior Research Fellow, Department of Microbiology, Faculty of Medicine, University of Madras, Chennai.
 2004 - 2006 ICMR-Junior Research Fellow, Department of Microbiology, Faculty of Medicine, University of Madras, Chennai.
 2002 - 2003 UGC-SAP Project Fellow, Department of Microbiology, Faculty of Medicine, PG IBMS, University of Madras, Chennai.

MEMBERSHIPS

2024 President, Infectious Diseases Society of India (IDSI) (Registration in process)
 2023 Senior Advisory Committee Member, Tamil Nadu Association of Biosafety and Biosecurity (T-NABB)
 2019 onwards Royal College of Pathologists, London (Reg. No. 20011054)
 2019 Royal Society of Biology (RSB), London, England
 2011 - Current International Society for Infectious Diseases (ISID)
 2018 - Current Federation of European Microbiological Societies, Germany
 2017 - Current Society for General Microbiology, UK (M#C019063)
 2015 - 2016 Malaysian Biosafety & Biosecurity Association (MBBA)
 2013 - 2016 Centre of Excellence for Research in AIDS (CERIA)
 2012 - 2016 Tropical Infectious Diseases Research and Education Center (TIDREC)

2013 - 2015 International AIDS Society (IAS)
2010 - 2011 Swedish Society for Virology (SSV)
2007 - 2014 American Society of Microbiology (ASM)
2006 - 2007 International Organization for Mycoplasmatology (IOM)
2005 - 2006 Indian Association of Mycoplasmatologists (IAM)
2002 - 2004 Indian Association of Medical Microbiologists (IAMM)

PUBLICATIONS (Thomson Reuters CA)

Google Scholar Citations: 5555 h-index: 41; i10 index: 109; Scopus Citations: 3575 h-index: 33

Selvavinayagam S, Sankar S, Yong YK, Murugesan A, Suvaithenamudhan S, Hemashree K, Raieshkumar M, Anandhazhar K, Pandey RP, Saravanan S, Arthydevi P, Kumar MS, Gopalan N, Kannan M, Cheedarla N, Tan HY, Zhang Y, Larsson M, Balakrishnan P, Velu V, Byrareddy SN, **Shankar EM**, Raju S. Emergence of SARS-CoV-2 omicron variant JN.1 in Tamil Nadu, India – Clinical characteristics and novel mutations. *Scientific Reports* 2024, xx:xxxx. doi: 10.1038/xxxxxx (IF: 4.996) (ISSN: 2045-2322)

Vimali J, Yong YK, Murugesan A, Govindaraj S, Raju S, Balakrishnan P, Larsson M, Velu V, **Shankar EM**. Human immunodeficiency virus-human pegivirus co-infected individuals display functional mucosal-associated invariant T cells and follicular T cells irrespective of PD-1 expression. *Viral Immunology* 2024, xx(x):xx-xx. doi: 10.1089/vim.2024.0007 (IF: 2.2) (ISSN: 1557-8976)

Vimali J, Yong YK, Murugesan A, Tan HY, Zhang Y, Ashwin R, Raju S, Balakrishnan P, Larsson M, Velu V, **Shankar EM**. Chronic viral infection compromises the quality of circulating mucosal-invariant T cells and follicular T helper cells via expression of inhibitory receptors. *Frontiers in Bioscience (Landmark)* 2024, 29(3):128 doi: 10.31083/j.fbl2903128 (IF: 4.007) (ISSN: 2768-6698)

Saravanan S, **Shankar EM**, Vignesh R, Ganesh PS, Sankar S, Velu V, Smith DM, Balakrishnan P, Venkateswaran AR, Govindasamy R, Viswanathan D. Occult hepatitis B virus infection and current perspectives on global WHO 2030 eradication. *Journal of Viral Hepatitis* 2024, 31(7):423-431 doi: 10.1111/jvh.13928 (IF: 2.5) (ISSN: 1352-0504)

Selvavinayagam ST, Suvaithenamudhan S, Yong YK, Hemashree K, Rajeshkumar M, Kumaresan A, Arthydevi P, Kannan M, Gopalan N, Vignesh R, Murugesan A, Sivasankaran MP, Sankar S, Cheedarla N, Anshad AR, Govindaraj S, Zhang Y, Tan HY, Larsson M, Saravanan S, Balakrishnan P, Kulanthaivel L, Singh K, Joseph N, Velu V, Byrareddy S, **Shankar EM**, Raju S. Genomic surveillance of omicron B.1.1.529 SARS-CoV-2 and its variants between December 2021 and March 2023 in Tamil Nadu, India - A state-wide prospective longitudinal study. *Journal of Medical Virology* 2024, 96(2):e29456 doi: 10.1002/jmv.29456 (IF: 12.7) (ISSN: 0146-6615)

Selvavinayagam ST, Karishma SJ, Kannan H, Yong YK, Suvaithenamudhan S, Rajeshkumar M, Aswathy B, Kalaivani V, Kalpana R, Kumaresan A, Jayapal P, Kannan M, Gopalan N, Chandramathi S, Vignesh R, Murugesan A, Anshad AR, Ganesh B, Joseph N, Babu H, Govindaraj S, Larsson M, Kandasamy SL, Palani S, Singh K, Byrareddy S, Velu V, **Shankar EM**, Raju S. Clinical characteristics and novel mutations of omicron subvariant XBB in Tamil Nadu, India - A cohort study. *The Lancet Regional Health - Southeast Asia* 2023, 19:100272 doi: 10.1016/j.lansea.2023.100272 (ISSN: 2772-3682)

Selvavinayagam ST, Aswathy B, Yong YK, Frederick A, Murali L, Kalaivani V, Karishma SJ, Rajeshkumar M, Anusree A, Kannan M, Gopalan N, Vignesh R, Murugesan A, Tan HY, Zhang Y, Chandramathi S, Sivasankaran MP, Balakrishnan P, Govindaraj S, Byrareddy SN, Velu V, Larsson M, **Shankar EM**, Raju S. Plasma CXCL8 and MCP-1 as surrogate plasma biomarkers of latent tuberculosis infection among household contacts-A cross-sectional study. *PLoS Global Public Health* 2023, 3(11):e0002327 doi: 10.1371/journal.pgph.0002327 (IF: 3.356) (ISSN: 2767-3375)

Balakrishnan P, Saravanan S, Vignesh R, **Shankar EM**. Recent advances in HIV diagnostics: Point-of-care CD4+ T-cell count and viral load assays. *Indian Journal of Medical Research* 2023, 158(5&6):447-450 doi: 10.4103/ijmr.ijmr_1616_23 (IF: 4.2) (ISSN: 0971-5916)

Kannan M, Ahmad F, **Shankar EM**. Editorial: Innate immunity: Platelets and their interaction with other cellular elements in host defense and disease pathogenesis. *Frontiers in Immunology* 2023, 14:1292316 doi: 10.3389/fimmu.2023.1292316 (IF: 7.3) (ISSN: 1664-3224)

Balakrishnan P, Girija ASS, Shanmugam S, Kannan I, Vignesh R, **Shankar EM**, Sucharitha ST. Is holistic implementation of HIV self-testing a distant reality in resource-limited settings where HIV disease burden is high? *International Journal of Public Health* 2023, 68:1605790. doi: 10.3389/ijph.2023.1605790 (IF: 4.6) (ISSN: 1661-8556)

Chaubey I, Vijay H, Govindaraj S, Babu H, Cheedarla N, **Shankar EM**, Vignesh R, Velu V. Impact of COVID-19 vaccination in pregnant women. *Pathogens* 2023, 12(3):431. doi: 10.3390/pathogens12030431 (IF: 4.531) (ISSN: 2076-0817)

Vignesh R, Balakrishnan P, Tan HY, Yong YK, Velu V, Larsson M, **Shankar EM**. Tuberculosis-associated immune reconstitution inflammatory syndrome - An extempore game of misfiring with defense arsenals. *Pathogens* 2023, 12(2):210. doi: 10.3390/pathogens12020210 (IF: 4.531) (ISSN: 2076-0817)

Vimali J, Yong YK, Murugesan A, Ashwin R, Balakrishnan P, Raju S, Velu V, Larsson M, **Shankar EM**. Surrogate biomarkers of disease progression in human pegivirus seropositive human immunodeficiency virus-infected individuals. *Viral Immunology* 2023, 36(1):55-62. doi: 10.1089/vim.2022.0144 (IF: 2.2) (ISSN: 1557-8976)

Balakrishnan P, Girija ASS, Kannan I, Vignesh R, **Shankar EM**, Sucharitha ST. Could rapid test reader maximize the benefits to the HIV self-tester? *Indian Journal of Medical Microbiology* 2023, 43:49-50. doi: 10.1016/j.ijmmb.2022.10.004 (IF: 1.6) (ISSN: 0255-0857)

Sankar S, Ganesh PS, Subramaniam S, **Shankar EM**, Yuwanati M, Govindasamy R, Thiruvengadam M. Host cell responses against the

pseudomonal biofilm: A continuous tale of host-pathogen interactions. *Microbial Pathogenesis* 2022, 174:105940 doi: 10.1016/j.micpath.2022.105940 (IF: 3.848) (ISSN: 0882-4010).

Vimali J, Yong YK, Murugesan A, Vishnupriya K, Ashwin R, Daniel EA, Balakrishnan P, Raju S, Mohamed R, Velu V, Larsson M, **Shankar EM**. Plasma interleukin-7 correlation with human immunodeficiency virus RNA and CD4+ T cell counts, and interleukin-5 with circulating hepatitis B virus DNA levels may have implications in viral control. *Frontiers in Medicine* 2022, 9: 1019230. doi: 10.3389/fmed.2022.1019230 (IF: 5.058) (ISSN: 2296-858X)

Selvavinayagam ST, Yong YK, Joseph N, Hemashree K, Tan HY, Zhang Y, Rajeshkumar M, Kumaresan A, Kalpana R, Kalaivani V, Monika AV, Suvaitenamudhan S, Kannan M, Murugesan A, Narayanasamy K, Palani S, Larsson M, **Shankar EM**, Raju S. Low SARS-CoV-2 viral load among vaccinated individuals infected with Delta B.1.617.2 and Omicron BA.1.1.529 but not with Omicron BA.1.1 and BA.2 variants. *Frontiers in Public Health* 2022, 10:1018399. doi: 10.3389/fpubh.2022.1018399 (IF: 6.461) (ISSN: 2296-2565)

Svanberg C, Nyström S, Govender M, Bhattacharya P, Che KF, Ellegård R, **Shankar EM**, Larsson M. HIV-1 Induction of tolerogenic DCs is mediated by cellular interaction with suppressive T cells. *Frontiers in Immunology* 2022, 13:790276. doi: 10.3389/fimmu.2022.790276 (IF: 8.786) (ISSN: 1664-3224)

Govender M, Hopkins FR, Göransson R, Svanberg C, **Shankar EM**, Hjorth M, Nilsson-Augustinsson Å, Sjöwall J, Nyström S, Larsson M. T cell perturbations persist for at least 6 months following hospitalization for COVID-19. *Frontiers in Immunology* 2022, 13:931039. doi: 10.3389/fimmu.2022.931039 (IF: 8.786) (ISSN: 1664-3224)

Yong YK, Wong WF, Vignesh R, Chattopadhyay I, Velu V, Tan HY, Zhang Y, Larsson M, **Shankar EM**. Dengue infection - Recent advances in disease pathogenesis in the era of COVID-19. *Frontiers in Immunology* 2022, 13:889196. doi: 10.3389/fimmu.2022.889196 (IF: 8.786) (ISSN: 1664-3224)

Selvavinayagam ST, Yong YK, Tan HY, Zhang Y, Subramanian G, Rajeshkumar M, Vasudevan K, Jayapal P, Narayanasamy K, Ramesh D, Palani S, Larsson M, **Shankar EM**, Raju S. Factors associated with the decay of anti-SARS-CoV-2 S1 IgG antibodies among recipients of an adenoviral vector-based AZD1222 and a whole-virion inactivated BBV152 vaccine. *Frontiers in Medicine* 2022, 9:887974. doi: 10.3389/fmed.2022.887974 (IF: 5.058) (ISSN: 2296-858X)

Suvaitenamudhan S, Ananth S, Mariappan V, Dhayabaran VV, Parthasarathy S, Ganesh PS, **Shankar EM**. *In silico* evaluation of bioactive compounds of *Artemisia pallans* targeting the efflux protein of multi-drug resistant *Acinetobacter baumannii* (LAC-4 strain). *Molecules* 2022, 27(16):5188. doi: 10.3390/molecules27165188 (IF: 4.927) (ISSN: 1420-3049)

Tan HY, Yong YK, **Shankar EM**, Xue YC, Liu H, Furihata T, Fujita T, Ng CS. cGAS/DDX41-STING-mediated intrinsic immunity spreads to bystander cells via cellular channels to promote neuroinflammation and pathogenesis in SOD1 ALS model. *iScience* 2022, 25(6):104404. doi: 10.1016/j.isci.2022.104404 (IF: 6.107) (ISSN: 2589-0042)

Ganesh PS, Veena K, Renganathan S, Iswamy K, Ponmalar EM, Vanitha M, Girija ASS, Vadivelu J, Nagarajan S, Challabathula D, **Shankar EM**. Biofilm-associated Agr and Sar quorum sensing systems of *Staphylococcus aureus* are inhibited by 3-hydroxybenzoic acid derived from *Illicium verum*. *ACS Omega* 2022, 7(17):14653-14665. doi: 10.1021/acsomega.1c07178 (IF: 4.132) (ISSN: 2470-1343)

Barathan M, Riazalhosseini B, Iyadorai T, Vellasamy KM, Vadivelu J, Chang LY, Zulpa AK, Larsson M, **Shankar EM**, Mohamed R. Comparative expression of pro-inflammatory and apoptotic biosignatures in chronic HBV-infected patients with and without liver cirrhosis. *Microbial Pathogenesis* 2021, 161(Pt A):105231. doi: 10.1016/j.micpath.2021.105231 (IF: 3.848) (ISSN: 0882-4010).

Tan H-Y, Yong Y-K, Ng CS, Vimali JI, Mohamed R, Murugesan A, Velu V, Larsson M, **Shankar EM**. Mucosal-associated invariant T cells - Diplomatic front-runners in the fight against hepatitis B virus infection. *Critical Reviews™ in Immunology* 2021, 41(5):1-16. doi: 10.1615/CritRevImm.2021041408 (IF: 2.214) (ISSN:1040-8401)

Svanberg C, Ellegård R, Crisci E, Khalid M, Wodlin NB, Nyström S, Birse K, Burgener A, **Shankar EM**, Larsson M. Complement-opsonized HIV modulates pathways involved in infection of cervical mucosal tissues: A transcriptomic and proteomic study. *Frontiers in Immunology* 2021, 12:625649. doi: 10.3389/fimmu.2021.625649 (IF: 8.786) (ISSN: 1664-3224)

Mariappan V, Vellasamy KM, Girija ASS, **Shankar EM**, Vadivelu M. Hijacking of the host's immune surveillance radars by *Burkholderia pseudomallei*. *Frontiers in Immunology* 2021, 12:718719. doi: 10.3389/fimmu.2021.718719 (IF: 8.786) (ISSN: 1664-3224)

Chattopadhyay I, **Shankar EM**. SARS-CoV-2-indigenous microbiota nexus: Does gut microbiota contribute to inflammation and disease severity in COVID-19? *Frontiers in Cellular and Infection Microbiology* 2021, 11:590874. doi: 10.3389/fcimb.2021.590874 (IF: 6.073) (ISSN: 2235-2988)

Wong S-W, Ting Y-W, Yong Y-K, Tan H-Y, Barathan M, Riazalhosseini B, Bee CJ, Tee K-K, Larsson M, Velu V, **Shankar EM**, Mohamed R. Chronic inflammation involves CCL11 and IL-13 to facilitate the development of liver cirrhosis and fibrosis in chronic hepatitis B virus infection. *Scandinavian Journal of Clinical and Laboratory Investigation* 2021, 81:147-159. doi: 10.1080/00365513.2021.1876245 (IF: 2.209) (ISSN: 0036-5513)

Shankar EM, Che KF, Yong YK, Girija ASS, Velu V, Ansari AW, Larsson M. Asymptomatic SARS-CoV-2 infection: Is it all about being refractile to innate immune sensing of viral spare-parts? - Clues from exotic animal reservoirs. *Pathogens and Disease* 2021, 79(1):ftaa076. doi: 10.1093/femspd/ftaa076 (IF: 3.951) (ISSN: 2049-632X)

Bhattacharya P, Ellegård R, Khalid M, Svanberg C, Govender M, Keita ÅV, Söderholm JD, Myreliid P, **Shankar EM**, Nyström S, Larsson M. Complement opsonization of HIV affects primary infection of human colorectal mucosa and subsequent activation of T cells. *Elife* 2020, 9:e57869. doi: 10.7554/eLife.57869 (IF: 8.713) (ISSN: 2050-084X)

Preeyaa US, Amudhan M, Sopnajothi S, Yong YK, Tan HY, Larsson M, Velu V, **Shankar EM**. Peripheral follicular T helper cells and MAIT cells represent activated phenotypes during the febrile phase of acute dengue virus infection. *Viral Immunology* 2020, 33(9):610-615. doi: 10.1089/vim.2020.0149 (IF: 2.175) (ISSN: 1557-8976)

Ansari AW, Ahmad F, **Shankar EM**, Yong YK, Tan HY, Jacobs R, Larsson M, Velu V, Kamarulzaman A, Schmidt RE. Diminished coinhibitory molecule 2B4 expression is associated with preserved iNKT cell phenotype in HIV long-term nonprogressors. *Journal of Acquired Immune Deficiency Syndromes* 2020, 85(1):73-78. doi: 10.1097/QAI.0000000000002399 (IF: 3.771) (ISSN: 1525-4135)

Velu V, Vignesh R, **Shankar EM**, Thyagarajan SP. Is herd immunity against SARS-CoV-2 a silver lining? *Frontiers in Immunology* 2020, 11:586781. doi: 10.3389/fimmu.2020.586781 (IF: 8.786) (ISSN: 1664-3224)

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Barathan M, Mohamed R, Yong YK, Kannan M, Vadivelu J, Saeidi A, Larsson M, Shankar EM. Viral Persistence and chronicity in hepatitis C virus infection: Role of T-cell apoptosis, senescence and exhaustion. *Preprints* (MDPI) 2018 doi: 10.20944/preprints201810.0033.v1 Hyperlink: <https://www.preprints.org/manuscript/201810.0033/v1>

Books | Chapters

Ganesh PS, Naseef PN, Muthusamy R, Sankar S, Gopal RK, Shankar EM. *Acinetobacter baumannii* virulence factors and biofilm components: Synthesis, structure, function, and inhibitors. In: *ESKAPE Pathogens* (Eds. Busi S & Prasad R) First Edition 2024, 297-316. Springer Nature Singapore Pte Ltd (<https://doi.org/10.1201/9781003345299>) ISBN: 978-981-99-8798-6

Ganesh PS, Yuwanati M, Sankar S, Shankar EM. *Antimicrobial photodynamic inactivation of oral bacteria*. In: *Antimicrobial Photodynamic Therapy: Concepts and Applications* (Eds. Busi S & Prasad R) First Edition 2024, 203-218. CRC Press Taylor & Francis (<https://doi.org/10.1201/9781003345299>) ISBN: 978-1-032-38485-6

Vignesh R, Sankar Ganesh, Sankar S, Chattopadhyay I, Yong YK, Larsson M, Shankar EM. *Gut microbiota peculiarities in aged HIV-infected individuals: Molecular understanding and therapeutic perspectives*. In: *Gut Microbiota in Aging and Chronic Diseases* (Eds. Marotta F) First Edition 2022, 17:415-439. Springer Nature (https://link.springer.com/chapter/10.1007/978-3-031-14023-5_20) ISBN-978-3-031-14022-8

Shankar EM, Saeidi A, Vignesh R, Velu V, Larsson M. (2019) *Understanding Immune Senescence, Exhaustion, and Immune Activation in HIV-Tuberculosis Coinfection*. In: Fulop T, Franceschi C, Hirokawa K, Pawelec G. (eds) *Handbook of Immunosenescence*. Springer Nature, Cham. ISBN-978-3-19-99375-1; https://doi.org/10.1007/978-3-319-99375-1_131

RD Velayuthan, C Samudi, HKL Singh, KP Ng, EM Shankar, DW Denning. *Assessment of the burden of serious human fungal infections in Malaysia*. In: *Innovations in Microbiology and Biotechnology 2022*, 4:54-62 (<https://doi.org/10.9734/bpi/imb/v4/2110E>).

Coordinator - *Flora: A Compendium of Plant Biodiversity of the Central University of Tamil Nadu - Volume II* (Eds. Dinesh Babu KS, Latchoumycandane C). 1st Edition, 2021. Central University of Tamil Nadu Press (Weblink: https://cutn.ac.in/wp-content/uploads/2022/02/FLORAL_final_22022022.pdf).

Fauna: A Compendium of the Biodiversity of Central University of Tamil Nadu - Volume I (Eds. Latchoumycandane C, Alexandar R, Shankar EM). 1st Edition, 2019. Central University of Tamil Nadu Press (Weblink: https://cutn.ac.in/wp-content/uploads/2020/01/Fauna_Final_13012020_upload.pdf).

Vector & Vector-Borne Diseases: Pathobiological Insights, Public Health Challenges & Management Strategies (Eds. Dash AP, Krishnan J, Sigamani P, Shankar EM, Chattopadhyay I). 1st Edition, 2017 Bloomsbury Publishers. ISBN-9789386432360.

Kumar RK, Shankar EM, Ganapathy E, Raj SS, Ebrahim AS, Farooq SM. *Gastric Carcinoma. A review on epidemiology, current surgical & chemotherapeutic options*. In: *Gastric Carcinoma- New Insights into Current Management*, Edited by Daniela Lazar, 2013, pp. 271 - 293. InTech Publishers. ISBN- 978-953-51-0914-3.

Books Evaluation

Shankar EM, Vignesh R, Rao UA. *Illustration No. 24.13, In: Part 4; Chapter 24, Microbial diseases of the respiratory system. pp. 680-710. Microbiology: An Introduction, 11th Edition* by Gerard J Tortora, Berdell R Funke & Christine L Case, 2012 Pearson Education, Inc.

ISBN-13: 978-0-321-79310-2.

Textbook Review Panel Member - *Microbiology: A Clinical Approach*. Second Edition. Edited by Edwards, Fahnert, Pryor & Strelkauskas, 2015. Garland Science publishers. ISBN-13: 9780815345138

Journal Evaluation Activities

2024 *HIV Medicine (Wiley)*
2024 *European Journal of Clinical Investigation (Wiley-Blackwell)*
2023, 2024 *Reviews in Medical Virology (Wiley)*
2023 *Journal of International Medical Research (SAGE)*
2023 *Tropical Medicine (MDPI)*
2022 *BMJ Open*
2022 *Scandinavian Journal of Immunology (Taylor & Francis)*
2022 *Bioscience Reports (Portland Press)*
2022 *Vaccines (MDPI)*
2022 *Clinical and Translational Medicine (Springer Nature)*
2022 *EMBO Molecular Medicine*
2022 *Microorganisms (MDPI)*
2022 *Infection and Drug Resistance (Dove)*
2021 *Critical Reviews™ in Immunology (Begell House)*
2021 *Journal of the American Chemical Society*
2021 *Lancet Infectious Diseases (Lancet)*
2021 *Trends in Molecular Medicine (Cell Press)*
2021 *Journal of Traditional and Complementary Medicine*
2021 *Journal of Inflammation Research (Dove)*
2021 *Scandinavian Journal of Clinical and Laboratory Investigation (Taylor & Francis)*
2021 *European Journal of Inflammation (SAGE)*
2021 *Journal of Geriatric Cardiology*
2020 *Viral Immunology (Ann Liebert)*
2020, 2021, 2023 *Journal of Cellular and Molecular Medicine (Wiley)*
2020 *PLoS Biology*
2020 *American Journal of Reproductive Immunology (Wiley)*
2020 *International Journal of Medical Sciences (MDPI)*
2019 *Reviews in Medical Virology (Wiley)*
2019 *Journal of Clinical Laboratory Analysis (Wiley)*
2019 *Future Virology*
2019 *European Journal of Immunology (Wiley)*
2019 *Frontiers in Immunology*
2019 *Frontiers in Oncology*
2019 *Journal of Translational Medicine (Springer Nature)*
2019 *Experimental Dermatology (Wiley)*
2019 *Journal of Hepatology (Wiley)*
2019 *PLoS Neglected Tropical Diseases*
2018 *Microbiology Insights (SAGE)*
2018, 2020, 2021 *Journal of Viral Hepatitis (Wiley)*
2018 *Saudi Journal of Medicine and Medical Sciences*
2018 *Viral Immunology (Ann Liebert)*
2018 - Present *Current HIV Research (Bentham Science)*
2018 *British Medical Journal (BMJ)*
2018 *DNA and Cell Biology (Ann Liebert)*
2014 - 2017 *Journal of Leukocyte Biology (Wiley)*
2017 *AIDS Research and Human Retroviruses (Ann Liebert)*
2017 *Emerging Microbes and Infections*
2017 *Immunotargets and Therapy*
2017 *Emerging Infectious Diseases*
2017 *Biomedicine and Pharmacotherapy*
2017 *Journal of Tropical Medicine*
2017 *Antiviral Research (Elsevier)*
2016 *Immunobiology (Elsevier)*
2016 *Open Forum Infectious Diseases (Oxford)*
2016, 2019 *European Journal of Immunology (Wiley)*
2016 *Journal of Molecular Medicine (Springer)*
2015 *Journal of Infectious Diseases (Oxford)*
2015 - Present *BMC Immunology (Springer)*
2015 - Present *Medicine® (Wolters Kluwer)*
2012 - Present *PLoS ONE*
2015, 2017 *Archives of Virology (Elsevier)*
2015, 2016 *Scientific Reports (Nature)*
2015 *Journal of International Medical Research*
2015 *Tumor Biology (Elsevier)*
2015 *World Journal of Gastroenterology (Baishideng)*

2015	<i>Apoptosis (Springer)</i>
2014	<i>Acta Pharmacologica Sinica (Nature)</i>
2014	<i>Cellular Physiology and Biochemistry (Karger)</i>
2013	<i>Medical Microbiology and Immunology (Springer)</i>
2013	<i>International Journal of Biological Sciences</i>
2012, 2013	<i>Journal of Infectious Diseases and Therapy</i>
2012, 2013	<i>Transactions of the Royal Society of Tropical Medicine and Hygiene</i>
2012, 2013	<i>Colloids and Surfaces B: Biointerfaces</i>
2012, 2013	<i>Integrative Cancer Therapies</i>
2012, 2013	<i>Medical Hypotheses (Elsevier)</i>
2013	<i>Evidence-Based Complementary and Alternative Medicine</i>
2013	<i>Pharmaceutical Biology</i>
2012	<i>Clinical and Developmental Immunology</i>
2011- 2017	<i>Vaccine (Elsevier)</i>
2011	<i>Expert Review of Vaccines</i>
2011	<i>Expert Review of Anti-infective Therapy</i>
2011	<i>Genetics, Infection and Evolution (Elsevier)</i>
2010	<i>Journal of Medical Microbiology (SGM)</i>
2010	<i>BMC Pulmonary Medicine (Springer)</i>
2010	<i>AIDS Research and Therapy (Springer)</i>
2010	<i>Scandinavian Journal of Infectious Diseases (Taylor & Francis)</i>
2010	<i>Journal of AIDS and HIV Research (Member, Editorial Board)</i>
2010	<i>African Journal of Microbiology Research</i>
2009, 2011	<i>Canadian Medical Association Journal</i>
2008	<i>American Journal of Tropical Medicine and Hygiene</i>
2008, 2010	<i>Chemotherapy (Karger)</i>
2008, 2009	<i>Indian Journal of Medical Sciences</i>
2008	<i>Food & Chemical Toxicology</i>
2007 - Present	<i>Indian Journal of Medical Research</i>
2007	<i>American Journal of Respiratory and Critical Care Medicine</i>

THESIS | GRANT EVALUATION

2024 June - External Examiner - *Investigating the protective role of 3, 3'-diindolylmethane (DIM) against psoriasis via targeting IL-17A signaling*, by Manupati Srikanth, School of Bio Sciences and Technology, Vellore Institute of Technology, Vellore, PhD (Research) Thesis

2024 May - External Examiner - *Evaluation of anti-quorum sensing activity of *Cassia fistula* (Aragvadha) against *Pseudomonas aeruginosa**, by Zoya Peerzada (751091500002), Sunandan Divatia School of Science, SVKM's Narsee Monjee Institute of Management Studies, Mumbai, India, PhD (Research) Thesis

2024 May - External Examiner - *Metabolic dysfunction of the exhausted T cell in chronic human immunodeficiency virus infection*, by Chan Yee Teng (17118076/2), Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, PhD (Research) Thesis

2024 April - External Examiner - *A genetic and immunological perspective of the COVID-19 pandemic in South Africa*, by Theolan Adimulam, School of Laboratory Medicine and Medical Science, College of Health Sciences, University of KwaZulu-Natal, South Africa, PhD (Research) Thesis

2024 April - External Examiner - **Oldenlandia umbellata* L. promotes osteoblast proliferation and inhibits osteoclastogenesis via inhibiting therapeutic targets of osteoporosis - In silico and in vitro approaches* by P. Sivasakthi, Faculty of Technology, Anna University, Chennai, India, MS (Research) Thesis

2023 October - Foreign Examiner - *The efficiency of povidone-iodine to eradicate the biofilm of MRSA from stainless steel implant* by Mohammed Albahloul Rajab (G555879), Department of Medical Microbiology, Universiti Putra Malaysia, Kuala Lumpur, Malaysia, MS (Research) Thesis

2023 April - External Examiner - *Investigating inflammatory machinery in glia and the role of miRNA on exposure to inflammatory agents* by D Durairaj, Department of Biotechnology, Anna University, Chennai, India, PhD (Research) Thesis

2023 April - External Examiner - *Downregulation of cell-to-cell signaling in *Pseudomonas aeruginosa* by phytochemicals and deciphering the biochemical and molecular basis of anti-virulence through in vitro, in vivo and in silico approaches*, by VT Anju, Department of Biochemistry and Molecular Biology, Pondicherry University, Puducherry, India, PhD (Research) Thesis

2023 January - External Examiner - *Evaluation of the role of aquaporin 9 in hyperglycaemia induced testicular leydig cell dysfunction*, by K Arun, Department of Biochemistry, Bharathidasan University, Tiruchirappalli, India, PhD Viva voce

2022 December - External Examiner - *Evaluation of 2-(1H-imidazole-1-yl)-N-(pyridine-2-yl) An acetamide derivative synthesized by ligand and structure based pharmacophore modelling of aminopyridine and imidazole as a novel epigenetic modulator in human non-small cell lung cancer cell line*, by K Saravanan, Department of Biochemistry, Bharathidasan University, Tiruchirappalli, India, PhD Viva voce

2022 September - External Examiner - *Molecular characterisation and virulence profiling of uropathogenic *Escherichia coli* (UPEC) isolated from complicated urinary tract infection*, by Lalitha A/P Maniam, Department of Medicine, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia, PhD (Research) Thesis

2022 August - External Examiner - *Psycho-social and nutritional correlates of anemia in pregnant women and its effect on the neonates: A comparative study of the rich and poor urban population in the city of Ajmer*, Maharshi Dayanand Saraswati University, Ajmer, India, PhD (Research) Thesis

2022 August - External Examiner - Downregulation of cell-to-cell signaling in *Pseudomonas aeruginosa* by phytochemicals and deciphering the biochemical and molecular basis of anti-virulence through *in vitro*, *in vivo* and *in silico* approaches, by Anju VT, Department of Biochemistry and Molecular Biology, Pondicherry University, Puducherry, India, PhD (Research) Thesis

2022 May - External Examiner - *In vitro antiproliferative and apoptosis inducing effect of cobalt (III) Schiff base complexes on various human cancer cell lines* by B Gowdhami, Department of Animal Science, Bharathidasan University, Tiruchirappalli, India, PhD (Research) Viva voce

2022 April - External Examiner - *Effect of therapeutic botulinum toxin (Botox®) on anxiety, learning and memory, and hippocampal neuroblasts in experimental adult mice* by Ajisha Y, Department of Animal Science, Bharathidasan University, Tiruchirappalli, India, PhD (Research) Viva voce

2021 August - External Examiner - *Secondary metabolites of endophytic fungi, Phomopsis tersa and Colletotrichum gloeosporioides as inhibitors of AHL-mediated quorum sensing in Pseudomonas aeruginosa: Understanding the attenuation of virulence factors* by Himani Meena, Department of Microbiology, Pondicherry University, India, PhD (Research) Thesis

2021 August - External Examiner - *Study on the survival mechanisms of Pseudomonas aeruginosa on nanopillar topography of dragonfly wing* by K. Banu Pradheepa, Faculty of Technology, Anna University, Chennai, India, PhD (Research) Viva voce

2021 July - External Examiner - *Investigations on the role of dioscin in epithelial mesenchymal transition mediated by TGF-β1 in human breast cancer cell lines* by S. R. Yogaraj, Department of Biomedical Science, Bharathidasan University, Tiruchirappalli, India, PhD (Research) Viva voce

2021 February/July - External Examiner - *Subgingival microbiota and its association with LL37 in rheumatoid arthritis subjects with periodontitis* by Cheah Chia Wei (DVA170009/17042725/3), Department of Restorative Dentistry, University of Malaya, Kuala Lumpur, Malaysia, PhD (Research) Thesis and Viva voce

2021 January - External Examiner - *Evaluation of the expression of sirtuins - A class III histone deacetylase and its effect on cancer proliferation and progression in non-small cell lung cancer cell lines* by K. Varunkumar, Department of Biochemistry, Bharathidasan University, Tiruchirappalli, India, PhD (Research) Viva voce

2021 February-March - External Examiner - *Hyperandrogenism induced through a pulsatile release system induces pro-inflammatory cytokines - An evidence on the regulatory role of DHT on chronic inflammation in PCOS subjects* by Abhaya K, Department of Biochemistry, Karpagam Academy of Higher Education, Coimbatore, India, PhD (Research) Thesis & Viva voce

2020 October - External Examiner - *Deciphering the anti-infective potential of bioactive metabolites of Diaporthe phaseolorum SSP12 and Aspergillus ochraceopetaliformis SSP13 in down regulation of quorum sensing regulatory network in Pseudomonas aeruginosa PAO1* by Subha Swaraj Pattnaik, Department of Biochemistry and Molecular Biology, Pondicherry University, India, PhD (Research) Thesis & Viva voce

2020 January - External Examiner - *Immunomodulating effect of phenolic acid bound arabinoxylans (PCA-AXS) derived from different millets* by Aswini S, School of Technology, Anna University, Tiruchirappalli Campus, India, MS (Research) Thesis

2019 November - External Examiner - *Exploration of miR-375/AEG-1 in high-risk human papilloma virus E6/E7: A possible regulatory network in cervical cancer progression* by J. Sridharan, School of Life Sciences, Bharathidasan University, Tiruchirappalli, India, PhD Viva Voce

2019 September - External Examiner - *Synthesis, characterization and evaluation of siRNA loaded chitosan coated PLGA nanoparticle targeting hTERT gene in HeLa cell line* by N. Ananthalakshmi, School of Life Sciences, Bharathidasan University, Tiruchirappalli, India, PhD Viva Voce

2019 July - External Examiner - *Biotin inhibits autophagy to uncouple adipocyte protein synthesis via differential regulation of MTOR C1 and endoplasmic reticulum stress signaling* by S. Senthil Raja, Faculty of Science and Humanities, Anna University, Chennai, India, PhD Thesis/Viva Voce

2019 January - External Examiner - *PTEN-mediated regulation of mitochondrial bioenergetics: Pharmacological implications for alcohol-induced hepatic and cardiotoxicity* by S. Anusha, Department of Molecular Biology, Madurai Kamaraj University, Madurai, India, PhD Thesis

2018 October - External Grant Reviewer for Austrian Science Fund (FWF) Stand-Alone Project - *The way the 'complosome' regulates dendritic cell function* by POSCH Wilfried, Grant Application

2018 August - External Examiner - *Behavioral and genomic alterations during distress calls in greater short-nosed fruit bat Cynopterus sphinx and conspecifics* by S. Mariappan, Department of Animal Sciences, Bharathidasan University, Tiruchirappalli, India, PhD Viva Voce

2017 November - External Examiner - *Cholesterol determines APP trafficking and its cleavage pattern towards amyloidogenic pathway in familial Alzheimer's disease: Protective role of SIRT1* by M. Sathya, Department of Biochemistry, Bharathidasan University, Tiruchirappalli, India, PhD Viva Voce

2017 February - External Examiner - *The role of sirt4 in regulation of Leydig cell function in inflammation* by R. Balamurugan, Department of Biochemistry, Bharathidasan University, Tiruchirappalli, India, PhD Viva Voce

2016 November - External Examiner - *Study of sensor protein expression in nasopharyngeal carcinoma* by Kaliswaran A/L Pannirselvam - Master of Medical Sciences (Hons), Universiti Tunku Abdul Rahman, Kajang, Malaysia, Dissertation

2016 January - 2017 December - External Examiner, Bachelor of Science (Hons), Biomedical Science Programme, International Medical University (IMU), Kuala Lumpur, Malaysia, Dissertation

2015 - Grant Application Review Panel Member - Wellcome Trust-DBT India Alliance, Biomedical Research Fellowship Programme for India, Ref: IA/E/15/1/502345, Proposal

2015 - Research External Examiner - *Diagnosis of extrapulmonary tuberculosis employing conventional and some new diagnostic tools on microbiological samples in a tertiary care hospital* by G. Kandha Kumari (SBD10971), Sri Balaji Vidyapeeth, Pondicherry, India, PhD Thesis

2015 - Research External Examiner - *Studies on the cardioprotective role of Desmodium gangeticum root extract against isoproterenol-induced cardiac hypertrophy and fibrosis in experimental rats* by H. Divya, Department of Biochemistry, University of Madras, Chennai, India, PhD Thesis

2015 - Research External Examiner - *Study on glucose dependent expression of Pax6 and HDAC7 in regulation of pancreatic beta cell function* by B. Sivasangari, Department of Biochemistry, Bharathidasan University, Tiruchirappalli, India, PhD Thesis

2015 - Research Internal Examiner - *Antiviral activity and bioavailability of the metabolites of baicalein and quercetin as anti-dengue virus agents* by Mr. Ehsan Moghaddam (MGN 120020), Department of Medical Microbiology, University of Malaya, Dissertation

2015 - Research External Examiner - *CRS-induced behavioural and biological variations in rats challenged by a flavanol* by V.C. Nathiya, University of Madras, Chennai, India, PhD Thesis

2014 - Research External Examiner - *Chemopreventive potential of essential oil compounds citral, limonene, menthone and thymol on colorectal cancer* by M Vimal, Bharathiar University, Coimbatore, India, PhD Thesis

2014 - Research Internal Examiner - *Dengue Pathogenesis: Endothelial dysfunctions* by Ms. Anusyah Rathakrishnan (MHA 120021), Department of Medical Microbiology, University of Malaya, Thesis

2013 - Research External Examiner - *Extraction, identification and characterization of two anticancer compounds of Alangium salivifolium* by P Bama, Department of Industrial Biotechnology, Dr. MGR Educational & Research Institute University, Chennai 600095, India, PhD Thesis

2013 - Research Internal Examiner - *Phyllanthus inhibits proliferation, metastasis, angiogenesis and induced apoptosis of human melanoma (MEWO) and prostate adenocarcinoma (PC-3) cells through modulation of multiple cell signaling pathways* by Tang Yin Quan (MHA100038), Department of Medical Microbiology, University of Malaya, PhD Thesis

2013 - Scientific Committee (Internal Examiner) - *Molecular characterization of multi-drug resistant Klebsiella pneumoniae isolated from Malaysian patients* by Farah Ibrahim Khalil, Department of Medical Microbiology, University of Malaya, PhD Thesis

2012 - Research Internal Examiner - *Cytokine correlates of hepatitis B infection* by Teo Ching Yee (MGN100024), Department of Medical Microbiology, University of Malaya, Thesis

2012 - Scientific Committee (Internal Examiner) - *A molecular epidemiology and evolutionary study of HIV-1 among a sample of people who inject drugs in Kuala Lumpur, Malaysia* by Ms. Chow Wei Zhen, Department of Medicine, University of Malaya, PhD Thesis

2012 - Scientific Committee (Internal Examiner) - *Characterization of Burkholderia pseudomallei colony morphology variants by proteomics and microarray* by Anis Rageh Al-Maleki (MHA 100045), Department of Medical Microbiology, University of Malaya, PhD Thesis

2011 - Research Internal Examiner - *Effect of dendritic cells on the mesenchymal stem cells cultured on electrospun polycaprolactone in vitro* by Sandeep Koppal, Department of Medical Biosciences & Medical Biology, Linkoping University, Sweden, Dissertation & Viva Voce

SUPERVISION (Others)

M Navaneeth, R Liston Fdo, Sahna K, <i>TNSTST Student Project Fellowship</i> (BS-614) Biomarkers of abnormal liver functions in chronic hepatitis B and D virus infections	2022 - 2022	Completed
S. Suvaithenamudhan, <i>ICMR Research Associate</i> , Evaluation of synergistic inhibitory effect of antimicrobial peptide and lantibiotics against <i>Acinetobacter baumannii</i> LAC-4 strain through <i>in silico</i> and <i>in vitro</i> studies	2021 - 2024	Completed
Jaisheela Vimali I, <i>DST-SERB-CRG Senior Research Fellow</i> , Characterization of negative immune checkpoints in MR-1 restricted mucosal associated invariant CD161++CD8+ TCR Va7.1 T-cell (MAIT) phenotypes and potentials for use of negative immune checkpoint inhibitors for improvement of functional MAIT cell responses in HBV infection	2021 - 2023	Completed
Ashwin Rajeev, <i>SSR Project Fellow</i> , Characterization of negative immune checkpoints in MR-1 restricted mucosal associated invariant CD161++CD8+ TCR Va7.1 T-cell (MAIT) phenotypes and potentials for use of negative immune checkpoint inhibitors for improvement of functional MAIT cell responses in HBV infection	2021 - 2022	Completed
Alireza Saeidi, <i>UMRG Research Associate</i> , Investigations on regulatory molecules in T cells of antiretroviral therapy (ART) naive and treated HIV-1 infected individuals (RG448-12HTM)	2013 - 2014	Completed
Barathan Muttiah, <i>HIR Research Fellow</i> , High Impact Research Grant - Mechanisms of T cell dysfunctions in hepatitis C infection (UM.C/625/1/HIR/ 139)	2012 - 2015	Completed

SUPERVISION (PhD)

AR Mohammed Anshad (R220602), Mediators of acute inflammation and clinical dengue disease severity - A case-control study	2022 - Current	In process
Jaisheela Vimali I (R170601), Quality of immune responses in chronic viral infections - A cross-sectional investigation	2017 - 2023	Awarded
Tan Hong Yien (MHA090029), Immunological determinants of tuberculosis-associated immune reconstitution inflammatory syndrome (TB-IRIS) in HIV-infected patients on antiretroviral therapy	2012 - 2016	Awarded
Yong Yien Kong (MHA090003), The role of CD14 and TLR4 single nucleotide polymorphisms in CD4 T-cell recovery and cardiovascular disease in HIV-infected patients following cART	2012 - 2016	Awarded
Alireza Saeidi (MHA120008), Studies on immune exhaustion and senescence of certain CD8+ T-cell phenotypes in HIV-TB co-infected individuals	2012 - 2017	Awarded
SUPERVISION (PG)		
Janani K (I190610), Development of a low-cost <i>in-house</i> PCR assay for the detection of <i>Mycobacterium tuberculosis</i> in the sputum of patients with active pulmonary tuberculosis by targeting <i>IS6110</i> and <i>IS1081</i>	2023 - 2024	Awarded
Srinithi A (I190626), Detection and surveillance of dengue virus serotypes in symptomatic dengue patients and aedine mosquitoes	2023 - 2024	Awarded
Karishma S Jith (I180617), Phylogenetic and mutational analyses on XBB variants of Omicron SARS-COV-2 sub-lineage during the COVID-19 pandemic in Southern India	2022 - 2023	Awarded
Aswathy Bijulal (I180609), Cytokines as potential biomarkers of latent tuberculosis among household contacts of clinically active tuberculosis	2022 - 2023	Awarded
Naji Naseef (I180620), Studies on the virulence and biofilm inhibitory potentials of 3-hydroxy benzoic acid against <i>Acinetobacter baumannii</i>	2022 - 2023	Awarded
Faridhul Ilyas (I170608), Cytokine biosignatures of inflammation in HIV-infected subjects positive for chronic HBV infection and possessing IgG antibodies against GBV-C	2021 - 2022	Awarded
Ruksana Safyan Khan (I170618), Plasma biomarkers of inflammation in HIV/HCV-coinfected individuals with anti-GBV-C IgG antibodies	2021 - 2022	Awarded
M Kiruba (I160610), Mucosal associated invariant T (MAIT) cells in viral hepatitis	2020 - 2021	Awarded
P Priya (I160618), Intracellular survival and innate immune responses to <i>Burkholderia cepacia</i>	2020 - 2021	Awarded
S Usha Preeyaa (I150327), Phenotypic quality of circulating CD4+ CXCR5+ follicular T helper cells and peripheral CD8+ CD161+ TCR α V α 7.2+ mucosal-associated invariant T cells in febrile dengue infection	2019 - 2020	Awarded
J Akshay (I150303), Docking studies of <i>Chromobacterium violaceum</i> CvIR and LasR-based quorum sensing inhibitors derived from <i>Pithecellobium dulce</i>	2019 - 2020	Awarded
M Venkatramanan (I150328), Anti-quorum sensing and anti-biofilm activities of edible fruits of <i>Passiflora edulis</i> against <i>Chromobacterium violaceum</i>	2019 - 2020	Awarded
Prangya Paramita Sahoo (I150319), Experimental studies on murine host inflammatory responses to malarial parasite-derived HMGB1	2019 - 2020	Awarded
Annai Meena (I140305), Studies on plasma Th1/Th2 cytokine responses and certain other hematological findings in clinical dengue infection	2018 - 2019	Awarded
Veena BK (P172002), Studies on the biofilm-inhibitory potentials of <i>Illicium verum</i> on multi-drug resistant <i>Staphylococcus aureus</i> (MDR-SA)	2018 - 2019	Awarded
Koneti Iswamy (P172011), Evaluation of anti-quorum sensing and anti-biofilm activities of certain herbal derivatives against multi-drug resistant <i>Pseudomonas aeruginosa</i>	2018 - 2019	Awarded
R. Santhiya (P161508), Epidemiological survey of skin and soft tissue infections at a tertiary infectious diseases care setting in Theni, India	2017 - 2018	Awarded
Gowri Selvan (P161501), Prevalence and risk factors associated with rhinosporidiosis in Thiruvapur, India	2017 - 2018	Awarded
P. Kirishma (I120306), Nasal carriage of <i>Staphylococcus aureus</i> in college-going healthy adults in	2017 - 2018	Awarded

Thiruvavur, India

B. Lakshmi Priya (I130311), Pharyngeal carriage rates of <i>Streptococcus pyogenes</i> among healthy adults in Thiruvavur, India	2017 - 2018	Awarded
Barathan Muttiah (MGN130035), Studies on immune impairment in chronic hepatitis C virus infection	2012 - 2016	Awarded
Aw Yong Kam Leng (MGN120036), Characterization of the adaptive immune responses in enterovirus A71 infection	2012 - 2016	Awarded
Jia-Xiang See (MGN140045), Studies on T-cell exhaustion in BALB/c experimental mice with persistent <i>Burkholderia pseudomallei</i> infection	2014 - 2017	Awarded
Chong Yee Kien (MEB900401), Comparative investigations on immunosenescence of T lymphocyte phenotypes in HIV-1/tuberculosis co-infection	2013 - 2014	Awarded
Vicky Lau Tien Tien (MEB110038), Molecular alterations on MR1-restricted mucosal-associated invariant T (MAIT) cells in HIV-1/tuberculosis co-infection	2014 - 2015	Awarded
Philip Olofsson Fredrick Enström (PIN910623-1195), Peripheral CD8+ CD161++ TCR Va7.2+ MAIT cells in chronic hepatitis B virus infection	2015 - 2015	Awarded

ADMINISTRATIVE DUTIES

- 2023, External examiner for B.Tech Biotechnology project work viva voce, PSG College of Technology, Coimbatore, India.
- 2021 - Current, Nodal Officer, International Students Admissions, CUTN, India
- 2019 - Current, Doctoral Committee Member, School of Biosciences & Technology, Vellore Institute of Technology, India.
- Member, Academic Council, Central University of Tamil Nadu, Thiruvavur, India.
- External Examiner, University Examination Committee, Pondicherry University, Kalapet, Puducherry.
- Member, Internal Quality Assurance Cell (IQAC), Central University of Tamil Nadu, Thiruvavur (CUTN-1(8)/Coe Sec/Acad/667, Dated 16.10.2017).
- DBT Representative in the IBSC of M/s. Virtis Biolabs Pvt. Ltd. (VIRTIS), Salem, Tamilnadu (BT/BS/17/682/2016-PID, Dated 11.04.2017)
- Moderator CUCET Entrance Examinations 2017, Central University of Tamil Nadu, Thiruvavur.
- 2018 - External Examination Committee Member, JSS University, Mysuru, Karnataka.
- Member, Committee for Clean & Green CUTN Campus, Central University of Tamil Nadu, Thiruvavur.
- 2017-18, Chair, Board of Studies, Department of Microbiology, CUTN, Thiruvavur, India.
- 2017 - Current, Coordinator, Department of Microbiology, Central University of Tamil Nadu (CUTN), Thiruvavur, India.
- Chairperson, Board of Studies for Life Sciences, Central University of Tamil Nadu, Thiruvavur, CUTN-13(81)/2016-AC/1017.
- Educationist Member (2016-17), Vidyalaya Management Committee, Kendriya Vidyalaya, Thiruvavur, CUTN-29(9)/2014-Reg. Sec/193, dated 29th August, 2016.
- Committee Member, Feasibility of collaboration with Indian Institute of Crop Processing Technology (IICPT), Tanjavur, with CUTN, 10th August, 2016 9CUTN-13(87)/2016-AC/619, dated 26th July, 2016.
- 2016 - Current, Chair, Board of Studies, Department of Life Sciences, CUTN, Thiruvavur, India.
- 2016 - Current, Head, Department of Life Sciences, CUTN, Thiruvavur, India.
- 2016- Current, Associate Professor, Department of Life Sciences, CUTN, Thiruvavur, India.
- 13th January, 2016, Audit Committee Member, ISO 15189 Diagnostic Microbiology Internal Audit, University of Malaya Medical Center, Kuala Lumpur, Malaysia.
- 23-27 July 2013, Organizing Committee Secretary, Basic & Clinical Immunology by Abul K Abbas, Andrew H Lichtman & Shiv S Pillai, University of Malaya, Kuala Lumpur, Malaysia.
- 2013-14, Department Coordinator, Introductory Diagnostic Microbiology (MFEB2402) Course Biomedical Sciences Program, University Malaya, Kuala Lumpur, Malaysia.
- 2012-16, Department Coordinator, Advanced Medical Microbiology (MFEB4401) Course Biomedical Sciences Program, University Malaya, Kuala Lumpur, Malaysia.
- 2012, MBBS Phase II PBL Case-Writer: George, University Malaya, Kuala Lumpur, Malaysia.
- 2011 - 2012, Department Coordinator, Advanced Medical Microbiology (MFEB3402) Course Biomedical Sciences Program, University Malaya, Kuala Lumpur, Malaysia.
- 2011 - 2012, Department Coordinator, Pharmaceutical Microbiology (MWEF2111) Program, University Malaya, Kuala Lumpur, Malaysia.
- 2004 - 06, General Secretary, Post Graduate Hostel for Men, PGIBMS, University of Madras, Taramani, Chennai 600 113, India.

COURSES | CONTINUING MEDICAL EDUCATION (CME) TRAINING PROGRAMMES | WORKSHOPS

- Three-day Workshop on Biorisk Management, Gryphon Scientific in collaboration with Duke University, Department of State Biosecurity Engagement Program (BEP) USA, and Indian Council of Medical Research (ICMR), at National Institute of Research in Tuberculosis (NIRT), Chetpet, Chennai, 4th - 6th September 2023.
- *Good Clinical Laboratory Practices (GCLP) Workshop on International Standards ISO 15189:2022*, Centre for Infectious Diseases, Saveetha Dental College & Hospitals, Saveetha University, Chennai 600 077, 23-25th March 2023.
- *BMC Series Making Editorial Decisions* Webinar, 2th May 2021.
- *Clinical Infectious Diseases Society* Webinar on COVID-19, 22nd May 2021.
- Experts Talk - *Post-vaccination surveillance: Need for neutralizing antibody testing* Webinar, Premas Life Sciences in association with GenScript Biotechnology, Singapore, 8th April, 2021.
- *Two-days XCEED Workshop* Organized by Rashtriya Madhyamik Shiksha Abiyan, Tamil Nadu State Department of School Education, Hotel Kasi's Inn, Thiruvavur, 9th - 10th March, 2018.
- *Two-days Research Methodology Workshop Series-I*, Central University of Tamil Nadu, 1st - 2nd November, 2016
- *Interactive Learning*, Academic Development Centre (ADEC), University of Malaya (UM), May 19, 2016.
- *Student-Centered Learning, Workshop on Cooperative Learning*, ADEC, University of Malaya, Kuala Lumpur, Malaysia, April 18, 2016.

- *Scholarship of Teaching & Learning Workshop*, ADEC, University of Malaya, Kuala Lumpur, Malaysia, Dec 22-23, 2015.
- *Basic & Clinical Immunology Course* by Abul K Abbas, Andrew H Lichtman & Shiv S Pillai, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, July 23-27, 2013.
- *One Day Assessment Hands-on-Workshop*, Medical Education & Research Development (MERDU), Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, June 11, 2013.
- *Confocal Laser Scanning Microscopy Hands-on Workshop*, Electron Microscopy Unit, University of Malaya, Kuala Lumpur, Malaysia, Sept 5-6, 2012.
- *FACSCanto II® Flow Cytometry Hands-on Workshop*, Medical Microbiology, University of Malaya, Kuala Lumpur, Malaysia, July 3-5, 2012.
- *Quantitative Research Workshop* at ADEC, University of Malaya, Kuala Lumpur, Malaysia, June 26-27, 2012.
- *How to supervise worthy research? Hands-on Workshop* at ADEC, University of Malaya, Kuala Lumpur, Malaysia, May 23, 2012.
- *Multiplex Proteomics Analysis Hands-on Workshop*, Medical Biotechnology, University of Malaya, Kuala Lumpur, Malaysia, May 16-17, 2012.
- *Implementing for Problem Based Learning (PBL) Workshop*, ADEC, University of Malaya, Kuala Lumpur, Malaysia, March 29, 2012.
- *Designing Triggers for Problem Based Learning (PBL) Workshop*, ADEC, University of Malaya, Kuala Lumpur, Malaysia, March 1, 2012.
- *Assessing Problem Based Learning (PBL) Workshop*, ADEC, University of Malaya, Kuala Lumpur, Malaysia, February 21, 2012.
- *Facilitating Problem Based Learning (PBL) Workshop*, ADEC, University of Malaya, Kuala Lumpur, Malaysia, February 8, 2012.
- *Introducing Problem Based Learning (PBL) Workshop*, ADEC, University of Malaya, Kuala Lumpur, Malaysia, January 18, 2012.
- *Hands-on Course on Flow Cytometry*, Flow Cytometry Core, Linköping University, Sweden, November 30-Dec 2, 2010.
- *ICI/FOCIS JSI Immunology Update Special Teaching Course, Molecular Immunology*, by Abul K Abbas & Andrew H Lichtman, Federation of Clinical Immunology Societies, European Union, Kansai, Japan, August, 2010.
- *Genome Analysis Hands-on Course*, SBRI, Chennai, India, 3rd Oct-3rd November, 2008.
- Performance of the TZM-bl pseudovirus NAb assay in a GCLP environment & GCLP principles, USAMC-AFRIMS, Bangkok, Thailand, Mar 18-21, 2008.
- *Neutralizing antibody Assay Training*, Duke University Medical Center, Durham, NC, USA, Sep-Oct, 2007.
- *Good Clinical Practice & Source Documentation Hands-on Workshop*, 16th September, 2006, YRG CARE, Chennai.
- *Health Data Management & Statistical Software Hands-on Workshop*, 27th Feb-4th March, 2006, CMC & Hospital, Vellore.
- *Human Subjects Research Education*, Johns Hopkins Bloomberg School of Public Health, 8th July, 2004, YRG CARE, Chennai.

ABSTRACTS | CONFERENCES | SYMPOSIA | MEETINGS

International

- Murugesan A, Ibegbu C, Styles T, Hicks S, Reddy P, Sabula M, Jones A, Shankar EM, Amara RR, Velu V. (2020) MAIT cells (TCR7.2+CD161++CD8+) are functionally impaired during chronic SHIV infection. *International Journal of Infectious Diseases* Abstract 0689, 101 (S1) 288. (International Congress of Infectious Diseases 2020)
- Ganesh PS, Iswamy K, Shankar EM. (2020) Inhibition of QS controlled virulence factors and biofilm formation by *Pithucilium dulce* against in multidrug resistant *Pseudomonas aeruginosa*. *International Journal of Infectious Diseases* Abstract 0288, 101 (S1) 120. (International Congress of Infectious Diseases 2020)
- Hong TC, Bee J, Kong YY, Shankar EM, Keng TT, Mohamed R. Circulating cytokines and their association with HBsAg and HBV DNAemia levels in chronic hepatitis B infection, 26th APASL Annual Meeting, 15-19 February 2017, Shanghai, China.
- See J, Samudi C, Abdulla MA, Vadivelu J, Shankar EM. Concurrent upregulation of PD-1 on T cells and monocytes of experimental BALB/c mice in persistent infections with small-colony variants of *Burkholderia pseudomallei*. The Malaysian Society for Microbiology Postgraduate Seminar 2016. Aug 2016. National University of Malaysia, Bangi, Malaysia.
- Saeidi A, Ussher JE, Yong YK, Enström PF, Rosmawati M, Rajarajeswaran J, Larsson M, Shankar EM. Peripheral CD161++TCR iVα7.2+ MAIT cells are exhausted and dysfunctional in chronic hepatitis B virus infection. Poster Presentation at 46th Annual Meeting of German Society for Immunology (DGfI), September 27 - 30, 2016, Hamburg, Germany.
- See J, Samudi C, Vadivelu J, Shankar EM. Persistent experimental infection of *Burkholderia pseudomallei* triggers upregulation of PD-1, but not CTLA-4, on CD4+ and CD8+ T cells in BALB/c mice. *Bacterial Infection and Host Defense*, Cold Spring Harbor Asia. Nov 2-6, 2015. Suzhou, China.
- Shankar EM. Biosignatures of negative costimulation in HIV-1 *in vitro*. Molecular Virology 'kick-start' Annual Meeting, Soderkoping, Sweden, May 31-June 1, 2010.
- Shankar EM, et al., Challenging T cells with HIV pulsed dendritic cells hardware T cell expansion with a broad array of inhibitory genes. *International Immunology*. 2010, 22 (Suppl. 1 Pt 4): 63 -69. 14th International Congress of Immunology, Kobe, Japan. August 22-28th 2010.
- 5th Summer Symposium on Virology, Smögen Havsbad, Smögen, Sweden, Aug 20 - 22, 2009.
- Indo - US DBT Meeting on HIV/AIDS: Biology, Immunology & Vaccinology, Hotel Ashok, New Delhi, India, Mar 13-14th, 2007.
- Shankar EM, et al., Seroevidence & immune correlates of *Mycoplasma pneumoniae* infection among subjects with pulmonary symptoms determined by a particle agglutination test. In: *Proceedings: 34th Annual Conference of the Indian Immunology Society, NARI, Pune, Dec 16-18th, 2007.*
- Shankar EM, et al., Etiology of *Mycoplasma pneumoniae* in HIV infected & HIV uninfected patients with & without community-acquired pneumonia in Chennai, India. In: *Proceedings: 14th CROI 2007, Los Angeles, USA, Feb 25 -28th, 2007.*
- Shankar EM, et al., Detection of *Mycoplasma pneumoniae* in HIV infected patients using culture & serology. In: *Proceedings: 16th Congress of the IOM, P 110. Nominated for Harry-Mortan Award, St. Johns College, University of Cambridge, UK, Jul 9-15th, 2006.*
- Indo-UK Workshop on Designing of Doctoral Research for PhD Scholars, 23rd Mar, 2005, Department of Microbiology, Dr. ALM PG IBMS, University of Madras, Chennai.
- Shankar EM, et al., Detection of *Mycoplasma pneumoniae* in induced sputum & throat swab specimens from HIV infected patients with upper & lower respiratory complaints in Chennai. In: *Proceedings: Indo-Australian Conference on Biotechnology in Infectious Diseases. KMC & Hospital, Manipal, 1-3rd Mar, 2005; P3.*
- Shankar EM, et al., Electrophoretic resolution of the outer membrane proteins of *Burkholderia pseudomallei* by sodium dodecyl sulphate-polyacrylamide gel electrophoresis method. In: *Proceedings: Indo-Australian Conference on Biotechnology in Medicine. IISc, Bangalore, 9-11th Feb, 2004; P56.*
- Muthu SE, et al., Colonization of *Mycoplasma* in the upper respiratory tract of HIV/AIDS seropositive patients with pulmonary complications in Chennai. In: *Proceedings: 4th International Conference on AIDS INDIA, The Tamilnadu Dr. MGR Medical University, Chennai, 9-12th Nov, 2003; P 19. 4.*
- First CMC Winter Symposium on Cell Biology & Molecular Medicine, 30-31st Jan, 2003, CMC & Hospital, Vellore.
- Muthu SE, et al., *Mycoplasma* in sputum of HIV positive patients in Chennai - A preliminary study. In: *Proceedings: 3rd International Conference on AIDS INDIA, The Tamilnadu Dr. MGR Medical University, Chennai, 1-5th Dec, 2001; TB8.*

National

- Vimali J, Larsson M, Shankar EM (2022). Plasma correlates of viral control involves cytokine signatures in chronic HBV and HIV infections. The 62nd Annual International Conference of the Association of Microbiologists of India (AMI), University of Mysore, Karnataka, India.
- Vimali J, Yong YK, Larsson M, Shankar EM (2022). Immune cell profiling in chronic infections reveals the role of multiple immune dysregulation biomarkers. The 49th Annual Conference of the Indian Immunology Society (Immunocon-2022), Chandigarh, India. Organized by Departments of Translational & Regenerative Medicine and Immunopathology, PGIMER, Chandigarh, India.
- University-Level Dissemination Programme on Ethical Guidelines for Biomedical Research on Human Participants, Institutional Human Ethics Review Board, Central University of Tamil Nadu, 7th May, 2018.
- Two-day Research Methodology Workshop Series-I, Central University of Tamil Nadu, 1st - 2nd November, 2016.
- HIV SCIENCE 2008, 1st Annual Science Symposium on HIV/AIDS, VIGYAN Auditorium, CSIR Campus, Taramani, Sep 22 - 23rd, 2008.
- Seminar on Introduction to GCLP Principles organized by the Central Quality Assurance Unit of the Comprehensive Antibody-Vaccine Immune Monitoring Consortium, YRG CARE, Chennai, Aug 22, 2008.
- 34th Annual Conference of the Indian Immunology Society, NARI, Pune, Dec 16 - 18, 2007.
- Symposium on Emerging and Re-emerging Pathogens & Alternative Approach to Treatment, Dept. Microbiology, Dr. ALM PG IBMS, University of Madras, Chennai, Feb 11, 2006.
- IAMM, Tamilnadu - Pondicherry Chapter, CME on 'Neurocysticercosis - A Modern Plague', Madras Medical College, Chennai, Nov 11, 2005.
- Rao UA, Shankar EM, Kumarasamy N, et al., Serosurveillance of acute *Mycoplasma pneumoniae* infection among different categories of HIV infected patients with pulmonary complaints in the Chennai conurbation of Southern India. In: *Proceedings: XXIXth Annual Conference of IAMM, SRMC & RI, Chennai, 19 - 23rd Oct, 2005; IP 7.*
- Shankar EM, et al., A comparative analysis on the recovery rates of *Mycoplasma pneumoniae* in induced sputum & throat swab specimens of HIV infected patients with upper & lower respiratory complaints in Chennai. In: *Proceedings: VIIth Annual Conference-cum-Workshop, VP Chest Institute, University of Delhi, Delhi, 28 -29th Apr, 2005; A 4. Nominated for Snehlata Memorial Oration Award.*
- Shankar EM, et al., Incidence of *Mycoplasma pneumoniae* infection in HIV infected patients with underlying upper & lower respiratory complaints and correlation with various immunological & haematological findings. In: *Proceedings: 1st National Conference of AIDS Society of India, ASICON, New Delhi, 2 - 4th Apr, 2005; O 82.*
- Shankar EM, et al., Aerobic bacteriology of the infected foot of diabetic patients in Chennai, India: Gram negative bacteria exceed gram positives in isolation rate. In: *Proceedings: XXVIIIth Annual Conference of IAMM, SGPGIMS, Lucknow, 25 - 28th Nov, 2004; BP 72.*
- Seminar on 'Recent Advancements in Physiology', 20th Feb, 2004, Department of Physiology, Dr. ALM PGIBMS, Chennai.
- IAMM, Tamilnadu - Pondicherry Chapter, 'Challenging Frontiers in Infectious Disease Surveillance', 14th Feb, 2004, Pondicherry Institute of Medical Sciences, Pondicherry.
- IAMM, Tamilnadu - Pondicherry Chapter, 'Infectious Diseases', 22nd Dec, 2003, King Institute of Preventive Medicine, Chennai.
- Muthu SE, et al., Studies on the phenotypic characteristics & outer membrane protein analysis of *Burkholderia pseudomallei* by SDS-PAGE method. In: *Proceedings: XXVII National Conference of IAMM, MICROCON Mumbai-2003, 5 - 9th Nov, P 86.*
- Vision Research Foundation, Sankara Nethralaya & Indian Association of Medical Microbiologists, Tamilnadu - Pondicherry Chapter, 'Application of RT-PCR & Microarray in Microbiology', 23rd Aug 2003, L & T Microbiology Research Centre, Sankara Nethralaya, Chennai.
- Kownhar H, et al., Isolation & identification of aerobic bacteria from trauma & post-operative surgical wounds & their antibiotic susceptibility pattern. In: *Proceedings: VIth Annual Conference of Indian Society of Wound Management, Woundcon 2003 CLRI, Chennai, 22 - 23rd Feb, O 5. Nominated for Best paper Award.*
- Muthu SE, et al., Isolation of *Mycoplasma* sp. from HIV patients in Chennai: A preliminary study. In: *Proceedings: XXVth National IAMM Congress, Department of Microbiology, AIIMS, New Delhi, 21 - 25th Nov, 2001. OB - 49.*
- Tamilnadu & Pondicherry IAMM Chapter Meeting IAMM Silver Jubilee 2001, 8th Sep, Dept. Microbiology, CMC & Hospital, Vellore.
- IAMM, Tamilnadu - Pondicherry Chapter, 'Overview of Microbial Infections in India' 26th Aug, 2000, Dept. Microbiology, SRMC & RI, Chennai.
- Satellite Symposium on 'Free-radicals in Health & Diseases', 20 - 22nd Dec, 1999, Dept. Medical Biochemistry, Dr. ALM PG IBMS, Chennai.
- XXII Annual Conference of the Association of Anatomists - Tamilnadu, ANACON' 99, 25 -26th Sep, Dept. Anatomy, SRMC & RI, Chennai.

Meetings Organized

- Organizing Committee Member, National Workshop on Assessing Quality in Higher Education, Internal Quality Assurance Cell, Central University of Tamil Nadu, Thiruvavur, 19 - 20th September, 2019.
- Organizing Chair, Spring School Symposium on *Recent Trends in Biological Sciences*, Central University of Tamil Nadu, Thiruvavur, 7th - 8th March, 2018.
- Organizing Committee Member, National Workshop on *Quality Assurance and Sustenance: Need for Strategic Planning*, Central University of Tamil Nadu, Thiruvavur, 5 - 6th January, 2018.
- Convenor, World Wildlife Week, Central University of Tamil Nadu, Thiruvavur, 05th - 07th October, 2017.
- Co-Director, National Seminar on Emerging & Re-emerging Infectious Diseases, Central University of Tamil Nadu, Thiruvavur, 21st April, 2017.
- Co-Organizing Secretary, 13th International Conference on Vector & Vector-Borne Diseases, Hotel Crowne Plaza, Chennai, 27th February - 1st March, 2017.
- Co-Director, Winter School Workshop on Dengue Awareness, Central University of Tamil Nadu, 11th November 2016.
- Organizing Advisor: Two-day Research Methodology Workshop Series I, Organized by Department of Life Sciences, Department of Social Work & Department of Epidemiology & Public Health, Central University of Tamil Nadu, 1 - 2nd November 2016.
- Organizing Committee Secretary cum Chair: Basic & Clinical Immunology Course by Abul K Abbas, Andrew H Lichtman & Shiv S Pillai, University of Malaya, July 23 - 27, 2013.
- Joint Organizing Secretary: HIV SCIENCE 2008, 1st Annual Science Symposium on HIV/AIDS, VIGYAN Auditorium, CSIR Campus, Taramani, Chennai, September 22 - 23, 2008.
- Organizing Committee Member: Symposium on Emerging and Re-emerging Pathogens & Alternative Approach to Treatment, Dept. Microbiology, PG IBMS, University of Madras, Chennai, 11th February, 2006.

Invited Speaker/Resource Person at Scientific Meetings

Mediators of immune reconstitution inflammatory syndrome in HIV/TB coinfection, International Day of Immunology Symposium 2024, 29th April 2024, School of Life Sciences, Central University of Tamil Nadu, Thiruvavur, India.

Bioterrorism and its impact on public health, One day National Seminar on Emerging Infectious Diseases, 23rd February 2024, Department of Microbiology, Periyar University, Salem, India.

Potential biomarkers of immune reconstitution inflammatory syndrome in HIV/TB coinfection, HIVE 2024 Mysuru 9th National HIV Conference, 17th - 18th February 2024, Asha Kirana, Mysuru, India.

Newer insights on surrogate predictive markers of tuberculosis infection, International Symposium on Advances in Laboratory Techniques for Biomedical Applications, 31st January 2024, Department of Biomedical Science, Alagappa University, Karaikudi, India.

Muscle and fitness, Fit India Movement, 24th December 2024, Department of Physical Education and Training, Central University of Tamil Nadu, Thiruvavur, India.

Immune reconstitution disease in HIV/TB coinfection - Newer Perspectives, International Conference on Infectious Diseases, 1-2nd December 2023, Antiviral Research Society, Chennai, India.

Pegivirus - Naturally trained to fight HIV?, Refresher Course on Biological Sciences, 11th September 2023, UGC - Human Resource Development Centre, Pondicherry University, Puducherry, India.

COVID-19: Pathogenesis and complications - An update, Refresher Course on Biological Sciences, 11th September 2023, UGC - Human Resource Development Centre, Pondicherry University, Puducherry, India.

Human pegivirus - The stealth storyline behind a 'good-boy' virus, 8th Module Guest Lecture, 25th August 2023, Centre for Biomedical Research, School of Biosciences and Technology, Vellore Institute of Technology, Vellore, India.

Viruses, immunity and the liver: Pegivirus - Understanding the good-boy virus, UGC-Sponsored Online Refresher Course in Biochemistry, 29th March 2022, Human Resource Development Centre, Madurai Kamaraj University, India.

Microbiology Colloquium 2023 - One Family, One Earth, One Future - Health for all, 24th February 2023, Department of Microbiology, Vivekanandha Arts & Science College for Women, Thiruchengode, India.

SARS-CoV-2 variants and pathogenesis - Is it the end of the tunnel? 4th International Conference on Recent Trends in Microbiology (RTM-2023), 5-6th January 2023, Department of Microbiology, Alagappa University, Karaikudi, India.

Human Pegivirus (HPgV) - Knocking HIV from its trajectory? Antiviral Research Society International Conference on HIV/AIDS, 1-2nd December 2022, Chennai, India.

Host-virus interactions, Refresher Course in Zoology, HRDC-Madurai Kamaraj University, 4th November 2022, Madurai, India.

Dos and don'ts in publication, National Symposium 2022 on Good Publication Practice, 5th November 2022, Sree Balaji Medical College and Hospital, Chromepet, Chennai 600 044, India.

Immune system - A double-edged sword, Special Virtual Guest Lecture for College students, 21st October 2022, Bhavan's Vivekananda College of Science, Humanities, and Commerce, Sainikpuri, Secunderabad 500 094, Telangana, India.

Emerging and re-emerging viral pathogens, UGC-Sponsored Online Refresher Course in Biochemistry and Biotechnology, 14th October 2022, Human Resource Development Centre, Bharathidasan University, India.

T-cell impairment in chronic viral infections, 12th International Conference on Biotechnology and Bioengineering-2022, 27th - 30th September 2022, Asia-Pacific Association of Science, Engineering and Technology, Italy.

Immunopathogenesis of COVID-19 and beyond, Refresher Course in Zoology, HRDC-Bharathiar University, 10th September 2022, Coimbatore, India.

Functional quality of T-cell phenotypes and neutralizing antibodies in SARS-CoV-2 infection, 13th International Symposium of Health Sciences (i-SIHAT) 2022 on Embracing Resilience in the COVID-19 Pandemic: Health Sciences to the Forefront, 24th August 2022, Fakulti Sains Kesihatan, The National University of Malaysia, Kuala Lumpur, Malaysia.

COVID-19 immunopathophysiology: Mechanisms and beyond, Refresher Course in Biological Sciences 2022, Theme: Learning Outcomes and Competences, UGC-HRDC-Manipur University, 22nd August 2022, Imphal, India.

SARS-CoV-2 and variants: Pathogenesis mechanisms and beyond, Microsummit 2022 International Conference on Infectious Diseases and Advances in Microbial Technology, 05-6th August 2022, Department of Microbiology, Centre for Infectious Diseases, Saveetha Institute of Medical and Technical Sciences, Chennai, India.

Hepatitis - Virology and beyond mechanisms, Basic Medical Sciences Lecture Series in commemoration of World Hepatitis Day (28th July) with the theme *Hepatitis Can't Wait*, 30th July 2022, Department of Microbiology and NABH-ICC, Centre for Infectious Diseases, Saveetha Institute of Medical and Technical Sciences, Chennai, India.

Identification of journals, National Webinar on Academic Writing and Research Publication in Indexed Journals, 28-29th July 2022, Center for Applied Research, The Gandhigram Rural Institute, Gandhigram, Dindigul, India.

COVID-19: Mediators of pathogenesis and protection in the host, SUMMER CAMP International Lecture Series on Health Care, 20th - 27th June 2022, Department of Zoology, School of Life Sciences, Manipur University, Imphal, India.

Pathogenic microbiology of SARS-CoV-2 infection and prospects on immune responses, National Conference on Recent Advances in Life Sciences

towards Health Care (RALSH-2022), 22nd - 23rd April 2022, School of Life Sciences (Ooty Campus), JSS Academy of Higher Education and Research, Mysuru, India.

COVID-19 pathogenesis: Mechanistic perspectives, National Seminar on Recent Advances in Life Sciences, 8th March 2022, PG and Research Department of Zoology, Thiru Vi Ka Government Arts College, Thiruvarur, India.

Immune responses to SARS-CoV-2 and pathogenesis mechanisms, Third International Conference on Genome Biology (ICGB3) and Aqua-Terr Annual Day, 28th February - 1st March 2022, School of Biological Sciences, Madurai Kamaraj University, Madurai, India.

Chronic hepatitis B virus infection and immune dysfunction, National Conference on Advances in Microbiology (MiCON 2022), 2nd February 2022, Yenepoya Research Center (Deemed to be University), Mangalore, India.

The natural history of COVID-19 pathogenesis, Refresher Course in Zoology, HRDC-Bharathiar University, 30th December 2021, Coimbatore, India.

COVID-19 - Complexities in disease pathogenesis, International Virtual Conference on SARS-CoV-2 Contagion - Lessons Learnt, 16th December 2021, Department of Microbiology, Sree Balaji Dental College and Hospital, Chennai, India.

Immunopathogenesis of COVID-19: Cytokine storm and beyond, Inaugural Function of Zoology Association 2021-22, 30th November 2021, Department of Zoology, Kongunadu Arts and Science College (Autonomous), Coimbatore, India.

Immunopathogenesis of COVID-19, HRDC Refresher Course in Life Sciences, 14th September 2021, Human Resource Development Centre, Bharathidasan University, India.

Pathomechanisms of hypercytokinemia in COVID-19, Indian Association of Applied Microbiologists (IAAM), International Virtual Conference on Emerging and Re-emerging Infectious Diseases in Healthcare Settings, 2nd Microsummit - 2021, 13-14th August 2021, Department of Microbiology, Saveetha Dental College & Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai, India.

Targeting immune checkpoints in chronic infectious diseases, YSN-ASM International Scientific Virtual Conference (IVSC) 2021 - Track A: Health and Wellbeing, 30th March 2021, Akademi Sains Malaysia, Malaysia.

CoViD-19 Universal precautions and its importance, NSS Webinar Series, 1st March 2021, National Service Scheme, Central University of Tamil Nadu, Thiruvarur, India.

Coronaviruses: SARS-CoV-2 and the Pathogenesis of COVID-19- An update, HRDC Refresher Course in Biosciences, 21st December 2020, Human Resource Development Centre, Bharathidasan University, India.

HIV pathogenesis - CD4+ T cells and beyond, National Level Technical Symposium "Biotechcellence 2020", March 4, 2020, Centre for Biotechnology, Anna University, Chennai, India.

Gender affects immune responses to viruses and vaccines, NSS Webinar Series, 7-22nd August 2020, National Service Scheme-Swachta Pakhwada (Fortnight) Activities, Central University of Tamil Nadu, Thiruvarur, India.

HIV infection - Immune exhaustion and other newer mechanisms of viral evasion, National Conference on Futuristic Approaches in Transformation of Bioscience Research (FATBR-2020), 6-7th March, 2020, Dr. NGP Arts & Science College, Coimbatore, India.

Interdisciplinary Approaches in Health Research, Joint National Conference on Public Health Challenges of Tropical Diseases - Moving Towards Universal Access, 13 - 14th February 2020, Central University of Tamil Nadu, Thiruvarur, India.

Natural History of HIV Immunopathogenesis, Winter Refresher Course in Life Sciences, 25th January 2020, Human Resource Development Center (HRDC), Department of Biochemistry, Pondicherry University, India.

Microbiology of bioplastics - A step towards eco-conservation, 3rd International Conference on Recent Trends in Microbiology (RTM-2019), 9-10th December 2019, Department of Microbiology, Alagappa University, Karaikudi, India.

2B4 (CD244) Expression in iNK T cells and HIV disease pathogenesis, International Science Symposium on HIV and Infectious Diseases, Sri Ramachandra Institute of Higher Education and Research, 12-14th October 2019, Porur, Chennai, India.

T-cell phenotypes and orchestration of cell-mediated immune responses, Refresher Course in Zoology, HRDC-Bharathiar University, 1st July 2019 Coimbatore, India.

MAIT cells in immunity, Science Exhibition cum Plenary Lectures on Immunology and Immunotechnology 2019, 13th March 2019, Bharathidasan University, Tiruchirappalli, India.

Host-gut microbiota interactions and their impact on human health and immunity, International Conference on Recent Trends in Microbiology 2019, 24th - 25th January, 2019, Alagappa University, Karaikudi, India.

Immune check-point molecules - Targets of immunotherapeutics against chronic diseases, International Conference on Advances in Therapeutic Molecules & Drug Design (ATMDD), 9-11th January, 2019, School of Life Sciences, Karpagam Academy of Higher Education (KAHE), Coimbatore, Tamilnadu, India.

Mastering the art of high impact writing in biomedical journals, One-Dav Seminar on Scientific Writing & Publication Skills - A Stepping Stone to Research, 9th January, 2019, Sree Balaji Dental College & Hospital, Chennai, India (CME Points: 5).

Recent trends in immunology, Science Research Forum, 11th September, 2018, Centre for Marine Science & Technology, Manonmaniam Sundaranar

University, Rajakkamangalam Campus, Kanyakumari, India.

Cell-mediated immunity: Mechanistic perspectives, Faculty Development Programme, 27th April, 2018, Department of Biochemistry, Karpagam Academy of Higher Education (KAHE), Coimbatore, Tamilnadu, India.

Negative immune checkpoints in chronic infectious diseases, Workshop on Hands-on-Training in Cell & Molecular Biology Techniques, 21st March, 2018, Department of Biochemistry, School of Life Sciences, Bharathidasan University, Thiruchirappalli - 620 024, India.

Hepatocellular carcinoma, photodynamic therapy & anti-tumor immunity, International Conference on Biochemical Understanding of Cancer Cell Survival & Progression [ICBUCCSP'18] 5th - 7th February, 2018, Department of Biochemistry, Karpagam Academy of Higher Education (KAHE), Coimbatore, Tamil Nadu, India.

Chronic infectious diseases and immune checkpoints, International Conference on Recent Trends in Microbiology 2018, 11th - 12th January, 2018, Alagappa University, Karaikudi, India.

Food & water-borne infections: Newer paradigms of disease control, Refresher Course on Environmental Sciences & Geosciences, 18th January 2018, Human Resource Development Center (HRDC), Pondicherry University, University Grants Commission, New Delhi, India.

Ebola: Nature's 'bat'ting call against human disruption of forest ecosystem? Refresher Course on Environmental Sciences & Geosciences, 17th January 2018, Human Resource Development Center (HRDC), Pondicherry University, University Grants Commission, New Delhi, India.

Interdisciplinary research, PhD Orientation Program, 28 August, 2017, Department of Social Work, Central University of Tamil Nadu, Thiruvarur, India.

Writing quality research papers, Special Lecture Series-2017, Periyar University Microbiology Club (PUMIC), 24 August, 2017, Department of Microbiology, School of Biosciences, Periyar University, Salem 630 011, India.

Genetics and Evolution, CHAIR PERSON for Revising the Biology Curriculum at Higher Secondary Level, 22 July 2017, Curriculum Team, State Council of Educational Research and Training (SCERT), Government of Tamilnadu, Chennai 600 006, India.

Emerging concepts on immunopathogenesis of experimental melioidosis, Two-day Symposium on Emerging Infectious Diseases & Novel Drug Development, 7 - 8 July 2017, Department of Microbiology, Vivekanandha Arts & Science College for Women, Thiruchengode, India.

Human papilloma virus and cancer: An immortal affair, Biological Sciences Seminar, 6 January 2017, Department of Biochemistry, Karpagam Academy of Higher Education (KAHE), Coimbatore, Tamil Nadu, India.

Immune exhaustion as an escape mechanism for HIV from host immune armor, Refresher Course on Environmental Sciences, 1 - 21 December 2016, Human Resource Development Center (HRDC), Pondicherry University, University Grants Commission, New Delhi, India.

Burkholderia pseudomallei: From a soil saprophyte to a successful human pathogen, Refresher Course on Environmental Sciences, 1 - 21 December 2016, Human Resource Development Center, Pondicherry University, University Grants Commission, New Delhi, India.

Immune exhaustion: HIV's escape mechanism from immune armory, Indian Association of Medical Microbiologists (IAMM), Tamilnadu Chapter: CME on HIV/AIDS - An update, 1st December 2016, Department of Microbiology, Meenakshi Ammal Dental College & Hospital, Meenakshi Academy of Higher Education & Research, Meenakshi University, Maduravoyal, Chennai, India.

Immunopathogenesis of clinical dengue infection & diagnostics, Winter School Workshop on Dengue Awareness, 11th November 2016, Department of Life Sciences, Department of Social Work & Department of Epidemiology & Public Health, CUTN, Thiruvarur, India.

Essentials of academic writing, Two-day Research Methodology Workshop Series-I, 1st - 2nd November, 2016, Department of Life Sciences, Department of Social Work & Department of Epidemiology & Public Health, Central University of Tamil Nadu, Thiruvarur, India.

Essentials of literature review, Two-day Research Methodology Workshop Series-I, 1st - 2nd November, 2016, Department of Life Sciences, Department of Social Work & Department of Epidemiology & Public Health, Central University of Tamil Nadu, Thiruvarur, India.

Suppressor T cell expansion: Unveiling additional immune evasion strategies of HIV-1, National Conference/ MIMLS 23rd National Scientific Conference, Kuala Lumpur, Malaysia, 2nd - 4th October 2012, Malaysian Institute of Medical Laboratory Sciences, Kuala Lumpur, Malaysia.

Biosignatures of negative T-cell costimulation: Unveiling additional preprints of T-cell dysfunctions in HIV infection, National Symposium/HIV SCIENCE 2010, 3rd Annual Science Symposium on HIV/AIDS, 2010, YRG Center for AIDS Research & Education, VHS, Chennai, India.

Immunoregulatory roles of mesenchymal stem cells, Stem cells on molecular perspective, National seminar and Workshop, 28 & 29 April 2015, National Orthopaedic Centre of Excellence for Research & Learning, Department of Orthopaedic Surgery, University of Malaya, Kuala Lumpur, Malaysia.

Newer scientific approaches to prevent HIV transmission & disease progression, First Annual Science Symposium on HIV/AIDS, HIV SCIENCE 2008, YRG Center for AIDS Research & Education, VHS, Chennai, India.

GB virus: An anti-HIV panacea from within? National Seminar-Biozephyr'08, Molecular Basis of Microbes, March 29 March 2008, National Biological Association for Students, All India Biotech Association, University of Madras, Chennai, India.

RESEARCH GRANTS | PROJECTS

Completed

Title: Evaluation of synergistic inhibitory effect of antimicrobial peptide and lantibiotics against *Acinetobacter baumannii* LAC-4 strain through *in silico* and *in vitro* studies (45/2/2020-DDI/BMS) Role: Mentor/Principal Investigator; Year: 21-01-2021 to 20-01-2024; Source of Funding: Indian Council of Medical Research, New Delhi, India; INR 2022720.00

Title: Characterization of negative immune checkpoints in MR-1 restricted mucosal associated invariant CD161⁺CD8⁺ TCR Va7.1 T-cell (MAIT) phenotypes and potentials for use of negative immune checkpoint inhibitors for improvement of functional MAIT cell responses in HBV infection (CRG/2019/006096) Role: Principal Investigator; Year: 2019-23; Source of Funding: Department of Science and Technology-Science and Engineering Research Board, Government of India; INR 3047800.00

Title: Biomarkers of abnormal liver functions in chronic hepatitis B and D virus infections *TNSTST Student Project Fellowship* (BS-614) Role: Supervisor; Year: 2022-22; Source of Funding: Tamil Nadu State Council for Science and Technology, DTEC Campus, Chennai; INR7500.00

Title: UM Research Grant - Mechanism study of silymarin as a novel antiviral against chikungunya virus (Frontier Science Research Cluster) (RG356-15AFR); Year: 30/01/2015 - 30/01/2016; Field of Research: Medical and Health Sciences; Source of Funding: UMRG; Total: RM34,000.00

Title: UM Research Grant - Investigations on inhibitory molecules in T cells of antiretroviral therapy naive and treated HIV-1 infected individuals (PG011-2014B); Year: 02/03/2015 - 02/03/2018; Field of Research: Medical and Health Sciences; Source of Funding: UMRG; Total: RM21,000.00

Title: UM Research Grant - Suppression of host cell-mediated immune responses by *Burkholderia pseudomallei* (RP013A-13HTM); Role: Principal Investigator; Year: 11/11/2013 - 31/12/2015; Field of Research: Medical and Health Sciences; Source of Funding: UMRG; Total: RM178,600.00

Title: UM Research Grant - Characterization of enterovirus 71-specific adaptive immune responses in patients with hand, foot and mouth disease (RG522-13HTM); Role: Co-Investigator; Year: 2012 - 2014 (Principal Investigator: Chan Yoke Fun); Field of Research: Medical and Health Sciences; Source of Funding: UMRG; Total: RM93,000.00

Title: UM Research Grant - RNA Interference mediated inhibition of chikungunya virus entry in target cells (RG309-14AFR); Role: Co-Investigator; Year: 2014 - 2016 (Principal Investigator: Hussin A Rothan); Field of Research: Medical and Health Sciences; Source of Funding: UMRG; Total: RM29,600.00

Title: UM Research Grant - Immunology of persistent bacterial infections with *Burkholderia pseudomallei* as a model (RG505-13HTM); Role: Co-Investigator; Year: 2013 - 2016 (Principal Investigator: Jamuna Vadivelu); Field of Research: Medical and Health Sciences; Source of Funding: UMRG; Total: RM200,000.00

Title: Postgraduate Research Grant (PPP) - Association between Toll-like receptors expression and human hepatitis C virus persistence (PG118-2014A); Year: 29/01/2015 - 29/01/2016; Field of Research: Advanced Engineering & Technology; Source of Funding: IPPP; Total: RM5000.00

Title: High Impact Research Grant - Mechanisms of T cell dysfunctions in hepatitis C infection (UM.C/625/1/HIR/ 139); Role: Principal Investigator; Year: 2012 - 2014; Field of Research: Medical and Health Sciences; Source of Funding: HIR; Total: RM180,000.00

Title: UM Research Grant - Investigations on regulatory molecules in T cells of antiretroviral therapy (ART) naive and treated HIV-1 infected individuals (RG448-12HTM); Role: Principal Investigator; Year: 2013 - 2014; Field of Research: Medical and Health Sciences; Source of Funding: UMRG; Total: RM110,000.00

Title: Indian Council of Medical Research, Junior & Senior Research Fellowship Grant - Pulmonary infections in HIV-1 infected individuals with special reference to *Mycoplasma pneumoniae*; Role: Junior Research Fellow & Senior Research Fellow; Year: 2004 - 2006 (Supervisor: Usha Anand Rao); Field of Research: Health Sciences; Source of Funding: ICMR, Ministry of Human Resources, Government of India, New Delhi (Award No. 3/1/3(54)/JRF/2003 - MPD, 10/02/04).

Title: UGC-SAP Grant - Characterization of clinical and environmental isolates of *Burkholderia pseudomallei* in Tamilnadu; Role: UGC-SAP Project fellow; Year 2002 - 2004 (Supervisors: Prof. S.P. Thyagarajan and Prof. Usha Anand Rao) Source of Funding: University Grants Commission-Special Assistance Programme Financial assistance: University Grants Commission, New Delhi (Project number: CO/Taramani/SAP/Dr. SPT/2002/1546 Dated 2nd September, 2002).

Consultancy

- 2015 - 2018, Investigations on functional correlates of virus-specific CD4⁺, CD8⁺ T cell in different stages/types of clinical DENV infection, Consultant, Geran Penyelidikan Universiti Malaya (UMRG Programme) - HTM (Wellness)
- 2014 - 2017, Immune mechanisms of disease and immune correlates of protection among emergency human respiratory viruses among children in Malaysia, Consultant, Geran Penyelidikan Universiti Malaya (UMRG Programme) - HTM (Wellness)
- 2014 - 2016, RNA interference-mediated inhibition of chikungunya virus entry in target cells, Consultant, Geran Penyelidikan Universiti Malaya (UMRG) - AFR (Frontier Science)
- 2014 - 2015, Free circulating mitochondrial DNA and its association with tuberculosis-associated immune reconstitution inflammatory syndrome (TB-IRIS), Consultant, Research Officer Grant Scheme (ROGS)
- 2014 - 2016, Emerging concepts in hepatitis B and hepatitis D viral co-infection in Kuala Lumpur, Malaysia, Consultant, Geran Penyelidikan Universiti Malaya (UMRG)
- July 1, 2015 - 2016 - Visiting Consultant Immunologist, Geneflux Biosciences Sdn Bhd, Molecular Diagnostics Laboratory, Puchong, Malaysia.

EXTERNAL LINKAGES | COLLABORATIONS

Marie Larsson, Molekylär Virologi, Institutionen för Klinisk och Experimentell Medicin, Linköpings Universitet, Sweden.

Jamuna Vadivelu, Department of Medical Microbiology, University of Malaya, Kuala Lumpur, Malaysia.

Ravishankar Ram Mani, UCSI University, Cheras, Kuala Lumpur, Malaysia.

Raj Eri, Gut Health Inflammation, University of Tasmania, Launceston, Hobart, Australia.

Vijayakumar Velu, Assistant Professor, Emory Vaccine Center, Emory University, Atlanta, GA, USA.

Yean Kong Yong, Associate Professor, Department of Immunology, Xiamen University, Sepang, Malaysia.

Nirmal Robinson, Associate Professor, Inflammation and Cancer Biology, University of South Australia, Australia.

James Ussher, Department of Microbiology and Immunology, University of Otago, Dunedin, New Zealand.
Karlhans Fru Che, Assistant Professor, Respiratory Airway Research, Karolinska Institutet, Solna, Sweden.
Wong Won Fen, Associate Professor, Department of Medical Microbiology, University of Malaya, Kuala Lumpur, Malaysia.
Kumutha Malar Vellasamy, Department of Medical Microbiology, University of Malaya, Kuala Lumpur, Malaysia.
Vanitha Mariappan, National University of Malaysia, Selangor, Malaysia.

MEDIA HIGHLIGHTS (ACADEMIC/RESEARCH)

Newspaper Article. *Vaccinated elderly with comorbid conditions at higher risk.* (Referring to our paper published in the *Frontiers in Medicine* 2022, 9:887974. doi: 10.3389/fmed.2022.887974) In: *The Times of India*, Dated 11th June 2022 URL:
http://timesofindia.indiatimes.com/articleshow/92139755.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

G.S. Mudur. *City scientists offer clue to severe covid.* In: *The Telegraph*, Dated 09th August, 2021 URL:
https://epaper.telegraphindia.com/imageview_368158_175352323_4_71_09-08-2021_4_i_1_sf.html
<https://www.telegraphindia.com/india/covid-calcutta-scientists-offer-clue-to-severe-infections/cid/1825796>

All India Radio Report on 13th Conference on Vectors and Vector Borne Diseases held from 27th February - 1st March 2017, Chennai on 2nd March 2017.

TEACHING AREAS

Taught MBBS, MD, MS, MPath, BDS, MDS, BPharm, MSc, MMedSci, iMSc graduates as well as Paramedical and Allied Health students for over 15 years, the following titles:

Cellular and Molecular Immunology
Medical Virology
Medical Bacteriology
Medical Mycology
Medical Parasitology and Tropical Infectious Diseases
Human Physiology
Microbial Pathogenesis
Theoretical Pathology
Infectious Diseases and Basic Microbiology

LANGUAGE PROFICIENCY

Tamil, Malayalam, Hindi, English, Kannada

COUNTRIES LIVED/VISITED

Sweden, England, Japan, Finland, USA, Thailand, Malaysia

ALUMNI

Dr. Yean Kong Yong, Senior Lecturer, Xiamen University, Sepang, Malaysia.
Dr. Hong Yien Tan, Associate Professor, Xiamen University, Sepang, Malaysia.
Dr. Alireza Saeidi, Postdoctoral Scientist, Department of Paediatrics, Emory University, Atlanta, USA.
Dr. Jaisheela Vimali, Postdoctoral Scientist, Department of Microbiology and Immunology, Medical University of South Carolina, USA.

PROFESSIONAL PROFILE

<https://www.webofscience.com/wos/author/record/B-3132-2019>
<https://loop.frontiersin.org/people/83660/overview>
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<https://scholar.google.com.my/citations?user=eEOGooMAAAAJ&hl=en>
<https://www.scopus.com/authid/detail.uri?authorId=9738051300>
https://www.researchgate.net/profile/Esaki_Muthu_Shankar
<https://cutn.ac.in/lifesciences/>