



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

www.sathyabama.ac.in

Justification letter by Nominator

I am R. Kamarajan, a Senior Research Fellow (SRF) in the DST-SHRI project and a PhD student at the International Research Centre of Sathyabama Institute of Science and Technology in Chennai, Tamil Nadu. My B-Tech was completed with 7.9 CGPA in the Kalasalingam Academy of Research and Education in Srivilliputhur, Tamil Nadu. In B-Tech, I worked on reverse vaccinology projects and successfully published two research articles on dengue virus and Covid-19 in Journal of Applied Pharmaceutical Science (IF: 1.37) and Journal of Biomolecular Structure and Dynamics (IF: 3.3). My M-Tech was completed with 8.9 CGPA at the International Research Centre of Sathyabama Institute of Science and Technology in Chennai, Tamil Nadu. I discovered that heat-inactivated coelomic fluid from the earthworm *Perionyx excavatus* is a viable alternative supply of fetal bovine serum in animal cell culture, and my findings were published in the Journal of Biotechnology Progress (IF: 2.86). In addition, I hold an Indian patent for that. In the second year of my M-Tech, I was attempting to understand the molecular process of regeneration of earthworm blastema in-vitro, and after much work, I was able to establish a protocol for in-vitro culturing of earthworm tissue and organs. I have found the novel modes of earthworm *Eudrilus eugeniae* blastema regeneration under the *in-vitro* conditions. Following my M-Tech, I worked as a Project Assistant in the Human Genetics and Stem Cell Biology Lab at Bharathiar University in Coimbatore, Tamil Nadu. I was fortunate in submitting two articles on autism, Covid-19, to the Journal of Genes and Diseases (IF: 7.1) and the Science of Total Environment (IF: 10.75). After successfully completing the NRDMS project, I was hired as a Junior Research Fellow in the DST-SERB Project for two years, and I contributed to an article published in the Journal of Nature Scientific Reports (IF: 4.996). "Understanding the molecular mechanism of regeneration through AICP studies" is the topic of my PhD. Apoptosis-induced Compensatory Proliferation (AICP) is a study environment in which pro-apoptotic caspases stimulate stem cell proliferative signals for tissue loss compensation. As a first step, I conducted a comparison of the survival and regeneration potential of juvenile and matured *Eudrilus eugeniae* upon in vivo and in vitro maintenance. It was accepted for publication in the Journal of In Vitro Cellular & Developmental Biology - Animal (IF: 2.416). Following that, I have discovered that primary view of AICP in earthworm that published in the International e-conference on Bio-engineering for Health and Environment (ICBHE 2021). Then, since I firmly believe that cell fate determinants like TCTP/p53 helped AICP progress, I worked on TCTP's role in regeneration. As a result, my paper "Understanding the Multi-Functional Role of TCTP in the Regeneration Process of the Earthworm, *Perionyx Excavatus*" (IF: 4.5) was just accepted for publication in the Journal of Tissue Engineering and Regenerative Medicine. I have nine publications in total (five research papers, four reviews, and one conference proceeding), 794 citations, and an H-index of five. In addition, I will describe myself as a well-organized researcher with substantial hands-on experience and current technology knowledge. Finally, I believe that the most important aspect of reaching success is hard effort.

I have clearly read the terms and conditions given on the website <https://sunpharmasciencefoundation.net/spsfn/12>. I satisfy the minimum eligibility conditions for the Sun Pharma Science Scholars Awards-2023. I certify that to the best of my knowledge and belief the particulars given in the application are correct. I have also noted that if my application is found incomplete in any respect, shall be cancelled and no correspondence will be entertained in this regard.

Place: Chennai

Date: 28.08.2023

Signature of Nominator