



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with "A" Grade by NAAC

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DEPARTMENT OF AUTOMOBILE ENGINEERING

International Fellowship

Faculty of Engineering

Department of Mechanical Engineering



May 7, 2019

Overseas Visiting Fellow Certificate

This is to certify that Dr.V.K.Bupesh Raja, Professor, School of Mechanical Engineering, Sathyabama Institute of Science and Technology, Chennai, India, has completed his Overseas Visiting Fellowship (**equivalent to Post Doctoral Fellow (PDF) in India as NUS does not use this term**) research under my mentorship.

He conducted his research work on the topic "**Biocompatibility studies on Resorbable Magnesium Bioimplants**". The research work was for a period of one year from 1st May 2018 to 30th April 2019. From 1st May 2018 to 30th June 2018 he was attached to Materials Division of the Mechanical Engineering Department of National University of Singapore. During his stay in the Materials Division, he was involved in the synthesis and characterization of resorbable magnesium based composite and alloys for application as bio implants; magnesium based alloys and composites for Laser Surface Modification studies, wear studies and, Gas Tungsten Arc Welding (GTAW) and Laser Beam welding (LBW) studies. Also he conducted further experiments in association with interdisciplinary research teams in his parent institution, other Government Institutions, laboratories in India and, the analysis and characterization were carried out by the research team in National University of Singapore, Singapore.

His overseas research responsibilities were:

- Synthesis of Magnesium alloys and composites in NUS, Singapore.
- Mentoring Interns in Materials Division, Mechanical Engineering Department, National University of Singapore.
- Conducting In vitro and In vivo studies in association with interdisciplinary teams in India.
- Mentoring Final Year Project (FYP) and carrying out biocompatibility studies, wear studies, Laser surface modification studies and welding studies in his parent institution in India.
- Testing and characterization of experimental specimens.
- Analyzing the test results and publishing the research findings.

While working as overseas research fellow, Prof. Bupesh Raja proved himself to be a highly capable and conscientious worker. The work stint demanded strenuous lab sessions, for the casting and other operations, besides extensive knowledge and a strong theoretical background, for which he willingly and rapidly picked up the required skill set in a very short period of time. Such initiative, involving lots of hard work and patience, is indeed appreciable qualities. He also proved himself to be a team player, maintaining an excellent rapport with his team of researchers. The quality of the work completed was excellent, securing a

conference in Singapore, another in Perlis, Malaysia and several conferences in India. Further several papers have been published / accepted in reputed indexed journals and conferences under his authorship. The decision to offer him a overseas visiting fellowship proved to be highly rewarding and it was a great experience in guiding such a promising and enterprising researcher. It should be stated that he is a creative person who is capable of thinking out of the box to bring innovative ideas. I strongly believe he shall be a valuable asset to his research team and his parent institution.

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I am glad to award Overseas Research Fellowship (ORF) to Dr.V.K.Bupesh Raja as he has completed the one year period research fellowship satisfactorily under my mentorship, producing good number of deliverables as given in the annexure.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Manoj Gupta", is positioned below the "Yours sincerely," text.

Manoj Gupta
Associate Professor