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एवं प्रौद्योगिकी संस्थान
TRANSLATIONAL HEALTH SCIENCE
AND TECHNOLOGY INSTITUTE
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Dr. Pramod Garg, MD, DM, FAMS
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Executive Director

Sub.: Nomination of Dr Amit Awasthi for Sun Pharma Science Foundation Research Awards 2021

Sir/ Madam,

This letter is to confirm my willingness as an Executive Director of THSTI to nominate Dr Amit Awasthi for Sun Pharma Science Foundation Research Awards, 2021.

The primary focus of Dr. Amit Awasthi's research is to understand the molecular pathways that are required for the generation and functions of inflammatory and regulatory T cells in autoimmune diseases and cancer immunotherapy for which he had secured India-Alliance intermediate fellowship, Innovative Young Biotechnologists Award (IYBA) in 2012. In last one and half year, he has tremendously contributed to Covid19 research by setting up two critical national platform, 1) SarsCov2 animal models, and 2) human immunogenicity to support Covid19 vaccine and therapeutic efforts in the Country.

Amit's research contribution on T cells biology, especially Th9 cells, and its association with cancer and inflammatory diseases is very significant. In fact, he is only researcher who is working on Th9 cells and its transcriptional regulation in India. In last three to five years, Amit has published his research work on Th9 cells and their functions in high impact journals (**Nature Communications 2017**, 8:815**; Nature Communication 2021**, 12(1):3182). He delineated the molecular pathways that are required for generations and functions of Th9 cells. He used variety of techniques like transcriptomics, proteomics, metabolomics and mutant mice strains to unravel the role of transcription factors, Foxo1 and HIF1alpha, in the functions of Th9 cells in autoimmune diseases and cancers. He has identified that table salt triggers anti-tumour immune response by promoting the abundance of *Bifidobacterium,* which activates anti-tumour functions of NK cells (**Science Advances 2021,** 7(37): eabg5016). Amit's lab has developed animal models for inflammatory bowel disease (IBD) to understand the pathophysiology of IBD and how dietary factors affect the outcome of disease. He has identified that potassium rich diet suppresses intestinal inflammation by promoting generation of anti-inflammatory T cells (Foxp3$^+$ Tregs) via modulation of Smad2/3 and Smad7 pathways. Using his expertise in the field of IBD, he further identified that posttranscriptional modification, sumoylation, plays key role in the pathogenesis of IBD (**Cell Reps 2019**, 29:3522-3538.e7).

Amit Awasthi' Laboratory contribution in the times of Covid19 pandemic: Amit has contributed to the Covid19 pandemic National emergency by establishing the animal models platform to study the pathogenesis of SarsCov2 infection, and to support academic and non-academic partners to test their vaccine candidates and

antiviral drugs. Using animal model platform, he has supported the testing of Covid19 vaccine preclinically for Zydus Cadila DNA Vaccine (**ZycovD**,) **BioE, Myvax** subunit vaccine. This platform is still operating and testing emerging new Covid19 vaccines candidates for **Reliance Bio**, **Premas Biotech** and **Syngene international**. In addition, Amit has contributed to cellular assays for Sputnik-V (Reddy Lab) clinical trial. ZycovD and Sputnik-V received the clearance of emergency authorization while BioE CORBEVAX vaccine received DCGI approval for Phase III Clinical trials for adults and Phase II/III for paediatric trial.

Amit's publications and productivity from the time of his PhD up till now as an independent investigator at THSTI reflect from his citation index where his papers are cited more than 11,000 times with h index of 31. He was awarded GN Ramchandran DBT-Bioscience Award 2021 for career development. He has received various other awards such as Dr. GP Talwar Mid-Career Scientist Award for the year of 2016 from Indian Immunology Society, NASI Young Scientist Platinum Jubilee Award for the year of 2012 from the National Academy of Sciences, India.

I fully support his application of Dr Amit Awasthi for Sun Pharma Science Foundation Research Awards 2021. Please feel free to ask me if you have any questions regarding her candidature.

Thanking you

Pramod Garg

डॉ. प्रमोद गर्ग / Dr. Pramod Garg
कार्यकारी निदेशक / Executive Director
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