



## DEPARTMENT OF CLINICAL VIROLOGY

### CHRISTIAN MEDICAL COLLEGE

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#### Justification for the nomination of Dr Deepti Parashar for being considered for

#### SUN PHARMA RESEARCH AWARD

It is my pleasure to write a nomination letter for Dr. Deepti Parashar. Dr. Parashar, has been engaged in Dengue and Chikungunya research for nearly 17 years. I have known her from last 4 years as Director of ICMR-National Institute of Virology, Pune. During these years, she has made significant contributions to antiviral testing and drug delivery systems for both these viruses which widely prevalent in India.

Her work in the area of RNA interference against the chikungunya virus (CHIKV) is indeed a piece of pioneering work in the country. The small interfering RNA (siRNA) developed as an RNA interference agent for the inhibition of chikungunya virus, was validated, published and granted patents at both national and international levels.

She obtained the Endeavour Executive Fellowship for undertaking work in the area of solid lipid nanoparticles for drug delivery at Melbourne, Australia, during the period from 13<sup>th</sup> March – 13<sup>th</sup> July 2016. With this exposure, she went ahead and demonstrated the utility of solid lipid nanoparticles in delivery of the anti-CHIKV siRNA in *in-vitro* and *in-vivo* model systems. In addition, Dr Parashar has also worked towards the development of a metal-organic-framework-based delivery system (ZIF-C) to enhance the antiviral activity of siRNAs directed against CHIKV. I understand that the technology is currently being submitted as an 'Expression of Interest' for exploring licensing and/or joint development with an industrial partner.

In the area of antiviral therapeutics, she identified anti-dengue and anti-chikungunya activity of bioactive compounds (viz. mangostin, chebulinic acid and carpaine) from medicinal plants and traditional medicinal plant extracts (*P. alba*, *A. heyneanus*, *B. monnieri*, *C. papaya*, *V. negundo*, *O. basilicum*, *S. androgynous*) in collaboration with multiple institutes including CSIR-IICT, Hyderabad & ICMR-NITM Belagavi. She also investigated the antiviral activity of the active ingredient, carpaine, a major alkaloid from *papaya* leaves, providing evidence of antiviral activity against dengue virus (DENV) replication. In addition, for the first time she has reported the antiviral efficacy of stearylamine, a cationic lipid, against CHIKV. She also used a systems biology approach to identify FDA approved drugs for repurposing against DENV & CHIKV in collaboration with the Bioinformatics group, ICMR-NIV, Pune.

Dr. Deepti has been a recipient of several awards including the ICMR-International Fellowship for work at Maryland, USA. Dr. Parashar has authored over 70 national/ international publications in high impact factor peer reviewed journals, several of these specifically elaborate on the above-mentioned areas of work.

Dr. Priya Abraham MD, FRCP, FRCP, PhD  
Senior Professor