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JUSTIFICATION LETTER
TO WHOM IT MAY CONCERN

It is my immense pleasure to nominate Ms Puspangana Singh for the Sun Pharma Science Scholars Awards-2023 in the Bio-Medical category. Puspangana is a recipient of the Prime Minister's Research Fellowship (PMRF). She started her doctoral work with a focus on unravelling the coronavirus spike protein mediated entry mechanism using fluorescence and single molecule techniques. When the pandemic struck, she started working on the problem of finding out the triggering factors specifically for SARS-CoV-2 entry and fusion. She led the project to completion, and published her findings in Cell Reports (**Singh, P et. al. *Cell Reports*, 2022**). Her work has established that endo-lysosomal pH and calcium concentration are critical parameters for SARS-CoV-2 fusion, and that evolved SARS-CoV-2 strains show higher sensitivity to calcium concentration. Through many fluorescence techniques and cell-based assays, the work showed that the fusion peptide of the SARS-CoV-2 spike is involved in sensing calcium ion concentration. This is an surprising result and the role of Calcium in virus entry would further help us in understanding the molecular mechanism behind SARS-CoV-2 entry.

She has been a meritorious student from her college days, and has always been among the toppers during her coursework in M.Sc. and PhD. She has always been pro-active towards expanding her scientific network and interaction, and has always been an enthusiastic participant in scientific discussions and various fora. This has led to her participation in a handful of conferences, where her oration and presentation skills have brought her awards and laurels.

Being a part of the Sun Pharma Science Scholars Awards will provide her with a platform to expand her scientific horizon and network. I strongly recommend Puspangana for selection in the Sun Pharma Science Scholars Awards-2023.

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