



Indian Institute of Science

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Dear Committee Members,

I am writing this letter to justify the nomination of Ms. Ananya Sharma for the Sun Pharma Scholar Award in the field of Biomedical Sciences.

Ananya is a 2nd year Ph.D. student in the Centre for Biosystems Science and Engineering, Indian Institute of Science, IISc Bangalore. Ananya's research training has been in Biotechnology (MS, IIT Gandhinagar) and Bioengineering (Ph.D., IISc).

Currently, in her Ph.D. research, Ananya proposes to address the biomedical challenge of poor diagnosis and dismal patient outcomes in pancreatic cancer. Early in her research trajectory, she proposed that if the lack of biomarkers could be met through the discovery or validation of certain tissue biomarkers, then imaging probes could be designed specifically for these biomarkers, therefore, aiding pancreatic cancer prognosis. She elucidated that since a percentage of chronic pancreatitis patients eventually get diagnosed with pancreatic cancer, a molecular (biological) marker expressed in pancreatitis and over-expressed in pancreatic cancer could potentially act as a prognostic biomarker for pancreatic cancer. Currently, she is focusing on 3 such biomarkers for preclinical translation. Since the eventual goal of her studies is clinical translation, she focused on developing photoacoustic imaging probes that are specific to the biomarkers that is studying. Photoacoustic imaging is an emerging radiology method that can image deeper into tissues (~cm depth) compared to optical agents with good spatial and temporal resolution. Currently, FDA has approved the use of photoacoustic imaging in clinics for breast cancer diagnosis (2021) and therefore this technology has excellent potential for future clinical translations.

As a researcher, Ananya holds great promise in discovering new avenues in the field of diagnostic agents and molecular imaging of cancer. She has vital skills of perseverance, independence and intellectual ability to drive an ambitious yet rewarding project. Therefore, I feel justified in nominating her for this scholar award. If you have any further queries, please do not hesitate to contact me at sanhitas@iisc.ac.in

Best Regards,

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