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**Smruthi SURYAPRAKASH**

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**Home Country**  
India

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**Degree**  
PhD in Biomedical Engineering

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**Expertise**  
Oral Gene Delivery

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**Research Focus**  
Drug Delivery and Biomaterials

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**Host University**  
Columbia University, United States

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**Fellowship Awarded**  
2012

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Smruthi Suryaprakash was born in and grew up in Chennai, the capital city of the Indian state of Tamil Nadu. She is driven by the prospect of being able to help improve the quality of life for people in India, and has worked as a volunteer with Voluntary Health Services and the Cancer Institute, both in Chennai.

Smruthi embarked on a Bachelor of Engineering course, majoring in Chemical and Biomolecular Engineering, at Nanyang Technological University Singapore. She was selected as the President Scholar to pursue research during her undergraduate studies, where she worked on creating thermosensitive scaffolds. Later in her undergraduate career, she secured an internship at the Harvard-MIT Division of Health Sciences and Technology in the United States. There she designed, synthesized, and characterized novel materials for sustained drug delivery—a branch of tissue engineering with significant potential for clinical translation. During her final year, she researched the delivery of genetic therapeutics using nanofibers for nerve regeneration.

The traditional method of treating chronic disorders such as hemophilia, chronic anemia, growth hormone deficiency and diabetes mellitus is through protein therapy, which is expensive and requires frequent administration. Gene therapy is a promising approach to treat such diseases. Oral gene delivery is a particularly attractive option due to its low toxicity, ease of administration, affordability, and convenience; however, its low efficiency and transient expression diminishes its efficacy. Smruthi's PhD project investigates the potential of nanoparticles encapsulated with DNA as a more effective method of oral gene delivery.

On completion of her PhD studies, Smruthi hopes to join an academic institution in India. She wants to continue her research, with a strong focus on diseases affecting this developing country.