

## Physics in Your Pocket: Exploring Smartphone Experiments Dr. Praveen Pathak, HBCSE-TIFR

Embark on an exciting physics adventure using your everyday smartphone as a versatile tool for experiments in education. This talk explores how smartphones, equipped with built-in sensors, can serve as affordable and accessible labs. The talk will present a range of easy yet captivating experiments suitable for homes and classrooms, emphasizing the smartphone's role as a portable and effective learning tool. Additionally, we can uncover fascinating optical experiments using smartphone screens, revealing unique diffraction patterns that draw intriguing parallels to the famous DNA diffraction pattern of Photo 51. These insights extend to mainstream education, now integrated into Olympiad exams as problem-solving challenges. Join us for an enjoyable journey, merging physics education with the convenience of your pocket.

*Dr. Praveen Pathak joined HBCSE in 2005 as a Scientific Officer. He earned his Ph.D. in Condensed Matter Physics from Sagar University (M.P.) in 2012. With a focus on Physics Education, Teaching-Learning processes, Problem-solving, and addressing misconceptions in physics, Dr. Pathak has been dedicated to the Olympiad program in the country. He plays a pivotal role in selecting and training students to represent the Indian Team. In response to the challenges posed by the pandemic, he started learning the experiments using smartphones. Driven by the belief in hands-on learning, he actively promotes these experiments to encourage students to engage in practical, small-scale experiments.*

### November 10, 2023 at 4 p.m.

Hybrid: Lecture Theatre AG 66

YouTube Live Link: <https://tinyurl.com/ASETon10Nov>

