

Bhamidipati Lakshmidhara Kanakadri Somayajulu

Shanti Swarup Bhatnagar Prize (1978)



MARCH 5, 1937–DECEMBER 19, 2016

Meet **B.L.K. Somayajulu**, an Indian geochemist who was the ultimate detective of the deep ocean! Using tiny clues found in rocks and water, he pioneered the field of **nuclear oceanography**, fundamentally changing how we understand Earth's marine processes.

Born in Visakhapatnam, Dr. Somayajulu completed his Ph.D. in Bombay before honing his skills at prestigious places like BARC Training School, the Tata Institute of Fundamental Research (TIFR) and the Scripps Institution of Oceanography in the USA. He later became a key figure at the **Physical Research Laboratory (PRL)** in Ahmedabad, where he led research for over two decades.

Unlocking Ocean Secrets with Atoms

Dr. Somayajulu's scientific superpower was using **radioisotopes**—atoms with unstable nuclei—as tracers. Imagine them as tiny, timed clocks he used to measure things in the ocean that are otherwise invisible!

- **Measuring Ocean Speed:** He developed innovative methods to study how fast things grow at the bottom of the sea, like **manganese nodules** (rocky lumps rich in metals), and how quickly mud accumulates (sediment accumulation rates).
- **Deep-Sea Mixing:** His techniques helped measure how ocean water mixes with the seabed and how currents carry material across vast distances, a process called **advection-diffusion mixing**.
- **Global Expeditions:** His expertise took him around the world! He participated in major international voyages, including the **GEOSECS Indian Ocean Expedition** and the **Antipode Expedition** to the South Pacific, bringing back data that formed the foundation of modern marine science.

Legacy and Institution Building

Dr. Somayajulu was an exceptional leader. He was instrumental in establishing Accelerator Mass Spectrometry (AMS) facilities in India, bringing cutting-edge technology home. For his groundbreaking work, he received the Shanti Swarup Bhatnagar Prize (1978), India's top science award, and the MoES National Award for Ocean Science & Technology (2006). He authored over 100 peer-reviewed articles and mentored seven Ph.D. scholars, laying a strong foundation for India's nuclear geochemistry and oceanography programs.