



K.S.Narayan

MSc (Physics) IIT Bombay

PhD The Ohio State Univ

Scientist Wright Patterson Air Force Base USA

Present: Professor and Sir J. C. Bose National Fellow at JNCASR

He has been active in the general field of molecular/organic/polymer/bio electronics at JNCASR. Narayan's research interests are in applied physics and materials-physics with a focus on electronic and optoelectronic processes of extended macromolecular systems and utilizing it for device development. After contributing to the initial discoveries in the field of molecular magnetism during his PhD, he branched out to different research themes. His sustained, original and rigorous efforts over the last two decades at JNCASR, where he established a unique laboratory for this pursuit led to the early reports on plastic optical-field effect transistors, polymer solar cells and polymer light emitting diodes. He has also contributed to research area of these soft-electronic polymers in biomedical arena where these materials have exhibited utility in tissue engineering and for vision prosthetic elements. His present laboratory theme focusses on exploring advanced materials for integrating seamlessly the connected world with human sensory systems for variety of biomedical applications and understand it from a device physics perspective. In this regard, host of modern materials offers a unique combination of optoelectronic and mechanical properties for sensing and stimulating neuronal activity. This possibility of triggering neuronal signals using these smart materials in a blind chick retina in his laboratory has opened up a route for utilizing these substrates as a prosthetic element. His other current pursuits include developing noise measurement and scanning techniques to predict the full life cycle of photovoltaic modules. His work has received international coverage (Physics World, Laser Focus World, Printed Electronics World, Materials Research Society Bulletin, Nature India). He has been regularly invited to speak at APS and MRS meetings.

Besides research, he has taken up administrative mantle of Dean (R&D) and initiated the culture of startups, innovation and translation activities at JNCASR, which has led to sizable number of international patents, recognition of a National Award from Ministry of Commerce, Gol and CII/IPO, nurturing of successful startups. This activity involves a constant search for industry partners for jointly taking the many inventions forward, and provide well-defined relevant problems for the academic community. He is a co-founder of a startup hbaromega ( $\hbar\omega$ ). His ability to communicate, interact and collaborate with theorists, polymer chemists, engineers, biophysicists and work on interdisciplinary problems reflects on his well-rounded scientific temper and calibre has led to his contributions in a wide spectrum of journals and has attracted students from different disciplines. Graduate students trained in KSN's laboratory have pursued careers in academia, industry and entrepreneurship.