R. N. Viswanath obtained his B.Sc. (Physics) in 1982 at the Madurai Kamaraj University, M.Sc. (Physics) in 1984 at the Bharathidasan University and Ph.D in (Physics-Materials Science) in 1992 at University of Madras. After eleven years of service as a visiting scientist and a Research scientist at the Institute of Nanotechnology INT, Research Centre Karlsruhe (presently called Karlsruher Institute of technology KIT), Germany, Viswanath returned to India and joined in Sept. 2010 as a Ramanujan fellow in Indira Gandhi Centre for Atomic Research, Kalpakkam.

**Research Description**

Our research work aims to synthesis mechanically stable nanoporous metallic solids and study their functional properties. The studies were motivated by the strive to explore novel strategy for creating functional materials in which a wide range of properties such as mechanical actuation, magnetism and conductivity can be tuned simply by means of external interactions. We are using the recently procured electrochemical workstation facilities at IGCAR for the synthesis of the nanoporous materials. Our current research focus is in two folds: (i) preparation of different kinds of nanoporous metallic solids (np_Au, np_Au-Dy, Pd, Pt, as examples) and (ii) study their mechanical and physical responses on subjected to external applied load and reversible electrode surface reactions.

**Selected Publications**


