



Project Proposal for Ph.D.

Project Details	
Project Title	Aerogels for Extreme Temperature Applications
Project Summary (Minimum 500 and maximum 2000 characters)	Aerogels, due to their nanoporous structure effectively minimizes all modes of heat transfer by conduction, convection, and radiation, and thus are regarded as the best thermal insulators. In applications where protection from high heat is required, aerogels can act as efficient heat shields. They can withstand extreme temperatures and provide a barrier to prevent heat transfer. The key objective of this project is to develop flexible, lightweight, and highly porous aerogels with excellent thermal insulation behaviour for aerospace applications.

Ph.D. Supervisors			
Role	Name of Faculty	Academic Unit in IITD/Institute/University	Email ID (Official)
Supervisor 1	Harun Venkatesan	Textile and Fibre Engineering, IIT Delhi	harun@iitd.ac.in
Supervisor 2	Krishna Bharadwaj Balasubramanian	Department of Material Science and Engineering	bkrishna@mse.iitd.ac.in,

Project requirements (Student qualifications, experience required, etc) *The candidate will be shortlisted based on common shortlisting criteria decided by ScRC (SIRe)
B.Tech / ME / M.Tech/ MSc (Material Science and Engineering, Polymer science, Textile Chemistry, Textile Engineering, Material Science and Engineering, Chemical Engineering, Analytical Chemistry, Chemistry) or Equivalent from a recognized institute/university.
Sol gel chemistry, material characterization, knowledge of fundamental textile/ apparel design concepts including fiber specification and testing, fabric characterization, textile manufacturing processes, etc.

Source of fellowship/funding (CSIR/UGC/DBT/ICMR/ICAR/NEET-PG/DST-INSPIRE/IRD/FITT Project details, if any)
Institute Fellowship/ Project Fellowship

Role of Faculty Members involved:	
Supervisor-1	Dr. Harun Venkatesan
Supervisor-2	Dr. Krishna Bharadwaj Balasubramanian