



## A FIVE DAY NATIONAL SPARC ONLINE WORKSHOP ON Tribological and Corrosion Behaviour of Advanced Metal Matrix Nano- Composites for Engineering/Biomedical Sector

(18<sup>th</sup> to 22<sup>nd</sup> October, 2021)

### Sponsored by:

Scheme for Promotion of Academic and Research Collaboration (SPARC), MHRD, GOI.

### Organized by:

Department of Mechanical Engineering,  
NIT Warangal, India.

### Collaboration with:

National University of Singapore,  
Singapore.

### Preamble:

Scheme for Promotion of Academic and Research Collaboration (SPARC) is a Ministry of Human Resource Development (MHRD), GOI initiative to improve research ecosystem in India. It supports national premier educational institutions by facilitating academic and research collaborations between Indian institutions and the best and selected institutions across the world's 28 nations. The collaborative educational networks will work on common issue of national or international relevance. It encourages international faculty, to visit Indian institutions to teach courses and conduct workshops for the benefit of Indian researchers and students in the selected research area. Also, it funds Indian students to visit and access the premier laboratories worldwide for training and experimentation. As an outcome patents, monographs, and world-class publications will be produced.

### About NIT Warangal and Department:

NIT Warangal, formerly known as Regional Engineering College was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate and 32 post-graduate programs besides doctoral programs. About 5000 students across the country and about 500 international students study on the campus. The department of Mechanical Engineering offers an UG program, seven PG programs and a Ph.D. program as well. There are 48 qualified and experienced faculty in the department. The department has liaison with reputed industries and R&D organizations like NFTDC, BHEL, DMRL, DRDL, CMTI, etc. Presently the department is handling several R&D projects and consultancy works. The department has also been recognized as a QIP center for M. Tech and Ph.D. programs.

### Course Outline:

- Introduction to Advanced metal matrix Nanocomposites
- Introduction to Corrosion
- Corrosion behaviour of Metal Matrix Nano Composites for Engineering/Biomedical Sector
- Introduction to Tribology
- Tribological behaviour of Metal Matrix Nano composites
- Hands-on experience to fabricate nanocomposites and study of its friction and wear characteristics

**Course Level:** Postgraduate, Ph.D. scholars and Faculty of Mechanical Engineering and allied branches.

**Key Resource Person:** **Dr. Manoj Gupta, Assoc. Professor**, Department of Mechanical Engineering, National University of Singapore (NUS), and Faculty of NIT Warangal.

**Eligibility:** The program is open to the Faculty and Ph.D. scholars/PG students of Mechanical Engineering and allied disciplines. Industry personnel working in the concerned/allied discipline can also attend. Minimum 75% attendance is mandatory for getting the participation E-Certificate of the event.

### Registration

There is no registration fee, interested candidates can register (on or before 15<sup>th</sup> October, 2021) using the **Google link form:**

<https://forms.gle/x2su7WgUxHcKzP4u6>

**Selection Criteria:** Selection will be done based on first-cum-first-serve basis and the confirmed candidates will be notified immediately. The maximum number of participants will be **100 (One Hundred)**.

### Important Dates:

**Last date to register the Workshop: 15<sup>th</sup> October 2021**

### Contact Details:

**Dr. Syed Ismail, Cell: 8143778864,**

**Email: syedismail7@nitw.ac.in**

### Coordinators:

**Dr. Narasimha Rao R, Professor, PI**

**Dr. Syed Ismail, Assistant Professor, Co-PI**

## Biography of Prof. Manoj Gupta



Dr. Manoj Gupta was a former Head of Materials Division of the Mechanical Engineering Department and Director designate of Materials Science and Engineering Initiative at NUS, Singapore. He did his Ph.D. from University of California, Irvine, USA (1992), and postdoctoral research at University of Alberta, Canada (1992).

In August 2017 he was highlighted among Top 1% Scientist of the World Position by The Universal Scientific Education and Research Network and among 2.5% among scientists as per Research Gate. To his credit are: (i) Disintegrated Melt Deposition technique and (ii) Hybrid Microwave Sintering technique, an energy efficient solid-state processing method to synthesize alloys/micro/nano- composites.

He has published over 545 peer reviewed journal papers and owns two US patents and one Trade Secret. His current h-index is 63, RG index is > 47 and citations are greater than 14000. He has also co-authored six books, published by John Wiley, Springer and MRF - USA. He is Editor-in-chief/Editor of twelve international peer reviewed journals.

In 2018 he was announced World Academy Championship Winner in the area of Biomedical Sciences by International Agency for Standards and Ratings. A multiple award winner, he actively collaborate/visit Japan, France, Saudi Arabia, Qatar, China, USA and India as a visiting researcher, professor and chair professor.