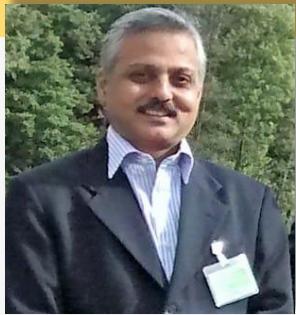


सीएसआईआर-केंद्रीय काँच एवं सिरामिक अनुसंधान संस्थान CSIR-Central Glass & Ceramic Research Institute



कर्मणोव हि सिद्धिम

राष्ट्रीय प्रौद्योगिकी दिवस समारोह 2020 National Technology Day Celebration 2020



Wednesday, May 13, 2020

Technology Day Webinar on

“Connecting hidden Gems of Ceramics”

f LIVE WEBINAR | 1600 h by **Dr R.N. Das**, former General Manager, BHEL

<https://www.facebook.com/CSIR.CGCR.INDIA/>

Programme Schedule:

16:00 – 16:10 h: Welcome Address by Dr. K. Muraleedharan, Director, CSIR-CGCR

16:10 – 16:50 h: National Technology Day Lecture by Dr. R. N. Das, Former General Manager, BHEL R&D, Hyderabad

16:50 – 17:00 h: Interactive Session through Q & A

17:00 – 17:05 h: Vote of Thanks by Mr. Sitendu Mandal, Chief Scientist, CSIR-CGCR

Dr. K. Muraleedharan, Director, CSIR-CGCR

You are cordially invited to attend the webinar...

Phone: 033-24735829; Email: director@cgcri.res.in, URL: www.cgcri.res.in

Title of the lecture: **Connecting Hidden Gems of Ceramics**

Abstract

The National Technology Day is historically a celebration of India's great technological achievements in strategic areas where ceramic and materials engineers/scientists have enormous contributions. On 22nd annual celebration of this national pride of self-reliance, it is also relevant to discuss some of the great indigenous technologies which are still hidden and yet to challenge the world in spite of their huge potential. In this lecture, interesting scientific aspects of some less discussed but potentially impactful Indigenous technologies are selected to connect their stories into the future. Particularly, the biggest disruption due to COVID-19 made ceramic technologies more relevant to offer natural and cost effective solutions to many burning issues hitherto left to multidisciplinary expertise. Critical but inexpensive ceramic materials responsible for removing 99% of vehicular emissions of the world is the India lite, named so because it was first discovered in India, now synthesized into a ceramic monolith, which has become the most consumed single engineering ceramic product. The same class of product can reduce 30% of the fuel consumption in large industrial furnaces and can save 50% of the fuel when used in cooking stove. Less known lotus ceramics with its nature-inspired lotus-root type structure has potential to disrupt the entire water filtration business. SOFC-GT (Solid Oxide Fuel Cell-Gas Turbine), a favored concept of NITI Aayog, is shown to have efficiency more than 50% higher than that of the best known advanced ultra-supercritical power plant, still requires only a fraction of the later size and far less polluting. Smart Catalyst is a novel self-diagnostic catalyst concept demonstrated by embedding FBG (Fibre Bragg Grating) based optical fiber in catalyst walls for best optimization in remote reactor areas which are inaccessible due to severe dust, chemicals or temperatures. Apart from sensors and AI applications, additive manufacturing also offers huge value addition proposition for manufacturing ceramic products by 3D printing of mould and dies. These ceramic technologies rely on local raw materials and local skills may be the true choice for rebooting the economy post COVID-19. Are we ready for the re-start?



f LIVE WEBINAR | 1600 h

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