

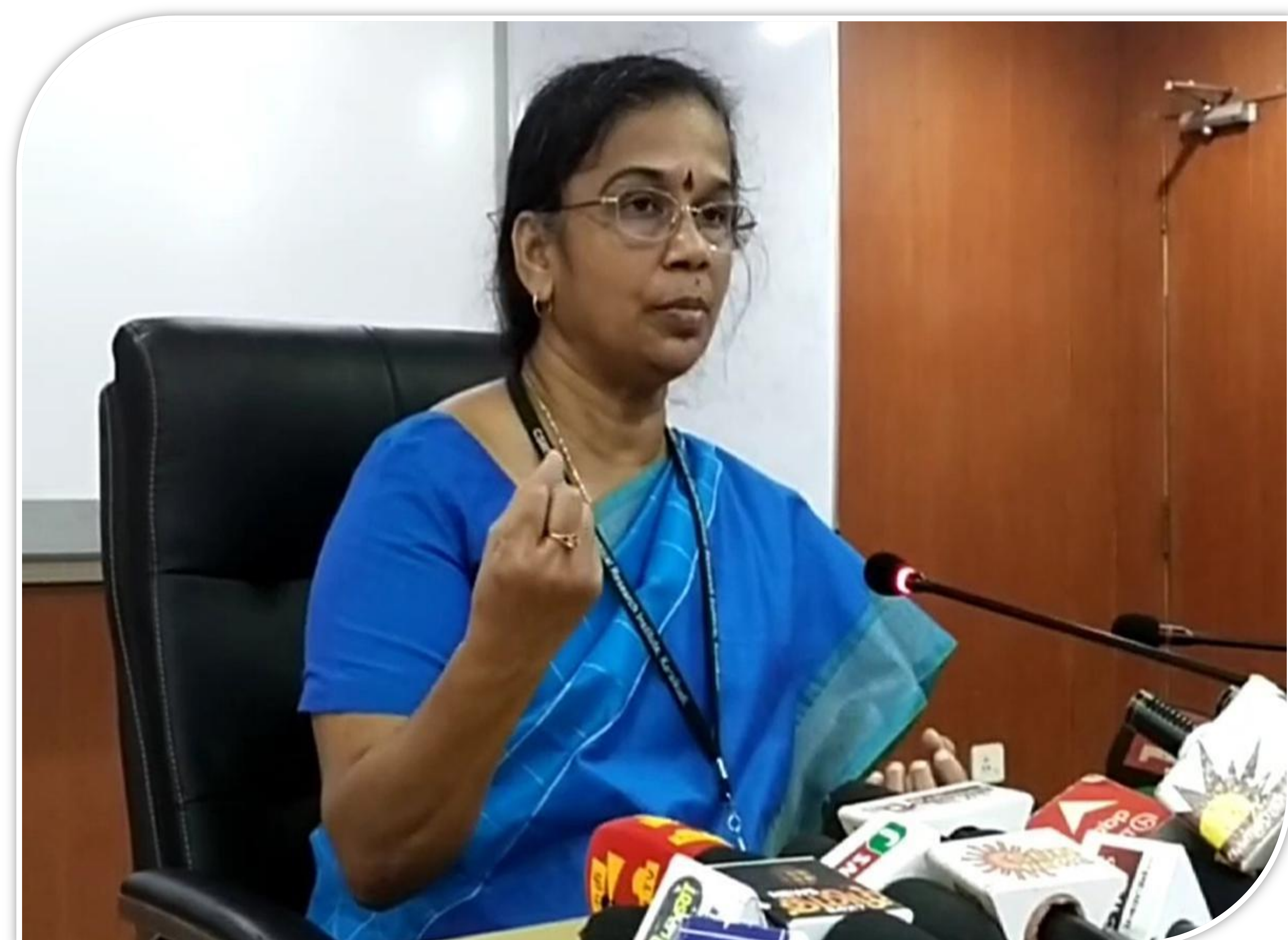
CSIR IN MEDIA



CSIR

NEWS BULLETIN

06 TO 10 AUGUST 2022



Breaking barriers: Nallathamby Kalaiselvi - the first woman to head CSIR

CSIR-CECRI

09th August, 2022

The first woman to head the Council for Scientific and Industrial Research (CSIR), Dr Nallathamby Kalaiselvi, is credited with developing novel materials to be used as electrodes in lithium-ion batteries that improve their storage capacities.



While most attention on her is focused on the fact that she is the first woman to head the Council for Scientific and Industrial Research (CSIR), the largest network of research laboratories in the country, Dr Nallathamby Kalaiselvi's core expertise is very much in sync with some of the most pressing national scientific priorities.

A “materials electrochemist”, as one of her former colleagues described her, Kalaiselvi's most important scientific contributions have been in the efforts to improve efficiency of lithium-ion batteries. She is credited with developing novel materials to be used as electrodes in lithium-ion batteries that improve their storage capacities.

“Electric mobility... that is something very close to her heart, and that needs improved batteries. Also, wider utilisation of renewable energies like wind or solar,” said Dr T Prem Kumar, a former colleague at the Central Electrochemical Research Institute (CECRI) in Karaikudi, Tamil Nadu. “We are still some distance away from creating efficient batteries to store the energy harnessed from these sources. India is very actively looking for these solutions right now, and I think she is just the right person for the top CSIR job at this moment.” Kalaiselvi joined CECRI in 1997 and rose to become the institute's director in 2019, again a first for a woman scientist. She did not have a background in electrochemistry when

she joined CECRI. She was an organic chemist and had taught the subject for about three years at a private college after completing her PhD from Annamalai University in Chidambaram.

“But she took a liking for electrochemistry when she started working on lithium-ion batteries. She is a very fast learner, and soon started publishing research papers on the subject,” Dr Prem Kumar said.

She received some big independent projects, and used the Raman fellowship to go and study at the University of Texas. Incidentally, her daughter, an engineering graduate, is now pursuing PhD from the same university.

Hailing from Vikramasinghapuram, a small municipal town in Tamil Nadu’s Tirunelveli district, Kalaiselvi was raised almost like a boy by her teacher-father. Another former colleague recalled her saying that, as a child, she used to enjoy playing all the boys’ games.

Kalaiselvi studied entirely at government schools and colleges in Tamil Nadu.

“She is a very powerful public speaker, in both Tamil and English. And she likes to speak extempore... about science and other things as well,” Dr S Sathiyarayanan, chief scientist at CECRI and a long-time associate and collaborator of Kalaiselvi, said.

Prem Kumar said this could be because she used to frequently participate in debates and discussions in schools and colleges. “There is a tradition of public debate called Pattimandram in Tamil Nadu. A certain topic is picked up, usually from the epics such as Ramayan and Mahabharat, and participants are encouraged to critique those episodes. This is common in families, schools, colleges and at community events.”

“Kalaiselvi was a very active participant, and participated in some of these at the local All India Radio station. This has made her a formidable public speaker,” he said.

Sathiyarayanan, who described her as “friendly and amiable” but a demanding boss, said Kalaiselvi was very passionate about technology and its applications to solve real-world problems.

“She doesn’t like it when a technology developed by a research group or a laboratory remains unutilised because it couldn’t be scaled up or made marketable,” he said. “As the director of CECRI, she made a lot of efforts to upgrade the semi-developed technologies, so that they matured and were accepted by the industry. I think that would be something that she might push as head of CSIR as well.”

According to Prem Kumar, Kalaiselvi often laments about the fact that basic sciences is losing out on talent to engineering. “We must be able to attract the best talents to basic sciences, she says. But for that we have to provide opportunities for research, facilitate hassle-free funding, and develop the right atmosphere. I am sure that she would make some efforts in this direction,” Kumar said.

सीएसआइआर को मिली पहली महिला महानिदेशक

नई दिल्ली, प्रेस : देश की वरिष्ठ वैज्ञानिक नल्लथम्बी कलाइसेल्वी वैज्ञानिक और औद्योगिक अनुसंधान परिषद (सीएसआइआर) की पहली महिला महानिदेशक बन गई हैं। सीएसआइआर देशभर के 38 अनुसंधान संस्थानों का एक संघ है।

कार्मिक मंत्रालय के शनिवार को जारी एक आदेश के अनुसार, वह शेखर मांडे का स्थान लेंगी, जो अप्रैल में सेवानिवृत्त हो गए। मांडे के सेवानिवृत्त होने के बाद जैवप्रौद्योगिकी विभाग के सचिव राजेश गोखले को सीएसआइआर का अतिरिक्त प्रभार दिया गया था। लिथियम आयन बैटरी के क्षेत्र में अपने काम से ख्याति पाने वाली



- उपलब्धि : नल्लथम्बी कलाइसेल्वी के नाम पर 125 से अधिक शोध पत्र और छह पेटेंट हैं
- वरिष्ठ वैज्ञानिक लिथियम आयन बैटरी के क्षेत्र में अपने काम के लिए प्रसिद्ध हैं

वैज्ञानिक और औद्योगिक अनुसंधान परिषद की पहली महिला महानिदेशक नल्लथम्बी कलाइसेल्वी • दिवट्टर

कलाइसेल्वी अभी तमिलनाडु के करईकुडी में सीएसआइआर-केंद्रीय विद्युत रासायनिक अनुसंधान संस्थान (सीईसीआरआई) की निदेशक हैं। कलाइसेल्वी का 25 साल से ज्यादा का अनुसंधान कार्य मुख्यतः

विद्युत रासायनिक ऊर्जा प्रणाली, खासतौर से इलेक्ट्रोड के विकास पर केंद्रित रहा है। वह अभी सोडियम-आयन/लिथियम-सल्फर बैटरी और सुपरकैपेसिटर के विकास पर काम कर रही हैं। कलाइसेल्वी ने

‘नेशनल मिशन फार इलेक्ट्रिक मोबिलिटी’ में अहम योगदान दिया है। उनके नाम पर 125 से अधिक शोध पत्र और छह पेटेंट हैं। उन्होंने उसी संस्थान में प्रवेश स्तर के वैज्ञानिक के रूप में शोध में अपना करियर शुरू किया था। कलाइसेल्वी वैज्ञानिक और औद्योगिक अनुसंधान विभाग की सचिव का प्रभार भी संभालेंगी। उनकी नियुक्ति दो साल की अवधि के लिए है। कलाइसेल्वी ने सीएसआइआर में अपनी नौकरी की शुरुआत करते हुए संस्थान में अच्छी-खासी साख बनाई और फरवरी 2019 में सीएसआइआर-सीईसीआरआई का नेतृत्व करने वाली पहली महिला बनीं।

CSIR

10th August, 2022

'CSIR to become a model for world'

Huge investments made in research and development of lithium battery

SPECIAL CORRESPONDENT
KARAIKUDI

The vision of the Council of Scientific and Industrial Research (CSIR) was to become a global model in catering to the world needs for science and technology by 2050, said its newly appointed Director General N. Kalaiselvi.

Interacting with the media personnel here on Wednesday, Ms. Kalaiselvi, the first woman DG of the CSIR,



N Kalaiselvi. ■

said she would strive to put the organisation in a position where the world would look up to it.

She said the field of

science and technology offered equal opportunities to women. "Women should look forward to opportunities and put in more sincere efforts than their male counterparts. Women do need to multitask in order to maintain a better work-life balance in order to become successful," she said.

Stating that e-vehicles had become the order of the day, Ms. Kalaiselvi said the CSIR had made huge investments in research and development of lithium battery to produce "safe and secure" batteries that would suit the Indian atmospheric and road conditions.

Indian Coast Guard conducts marine pollution response seminar cum workshop

CSIR-NIO

10th August, 2022

Kochi (Kerala) [India], August 10 (ANI): Indian Coast Guard on Wednesday started its two-day seminar cum workshop on marine pollution response in No. 4 Coast Guard District Headquarters (Kerala and Mahe) with an aim of increasing knowledge and cohesiveness among government and non-government organizations such as port authorities, oil companies, fisheries, and other agencies on the subject.



As per a press release from the Indian Coast Guard, the rationale of the seminar is to build and launch coordinated efforts for protecting the shores during any unforeseen situation of oil spillage at sea or within port limits. The seminar was inaugurated by DIG N Ravi, Commander Coast Guard Headquarters (Kerala and Mahe).

The first day of the seminar includes presentations on relevant topics by representatives of ICG, BPCL, KITCO, CIFT, KSPCB and INCOIS. The second day of the seminar will begin with a presentation by CSIR-NIO Kochi followed by a tabletop exercise.

With its prowess, proficiency, and professionalism, the Indian Coast Guard is establishing an indelible mark on national and international forums, said a press release. Being entrusted with the duty of nodal agency for co-coordinating pollution response inside Indian Maritime Zones. (ANI)

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[Aninews](https://www.aninews.in)

How RIL leveraged its IP, R&D capabilities to fight Covid

CSIR-IIIM, NCL

08th August, 2022

New Delhi, Aug 8 (IANS): Reliance, a responsible organisation, leveraged its intellectual capital to contribute to the countrys fight against Covid-19.

Reliance's scientists analysed more than 1,000 genomes of the virus.

The knowledge base was used to develop novel cost-effective diagnostic kits called 'R-Green' and 'R-Green pro one'. These kits have received ICMR approval and showed a high degree of accuracy and specificity during validation studies.

Reliance has also collaborated with CSIR-IIIM (Jammu) to develop an RT-LAMP Kit to facilitate the point-of-care diagnosis of Covid-19.

The R&D team actively contributes to the company's technical wisdom to facilitate innovation globally by publishing research articles on diagnostics and treatment. Application of natural-astaxanthin for COVID-19 management published in 'Biomedicine and Pharmacotherapy' journal is recognised as top 100 research paper. The paper is listed in WHO's global repository.

PSA based oxygen concentrators can produce oxygen with 93 per cent (+- 3 per cent) purity. The unit is an excellent solution during hospitalisation situation due to Covid-19 to maintain the SpO₂ level of a patient. Reliance R&D has designed oxygen generator with a purity of 90 per cent to 95 per cent with 5 LPM oxygen leveraging its expertise in adsorption technology.

Reliance collaborated with India's CSIR-National Chemical Laboratory (CSIR-NCL) to recycle Covid-19 PPE waste. Useful products such as automotive components and flowerpots are being made from the recycled PPEs.

Reliance Industries Limited issued its Annual Report for FY22 on August 6. The company will be holding its Annual General Meeting on August 29.

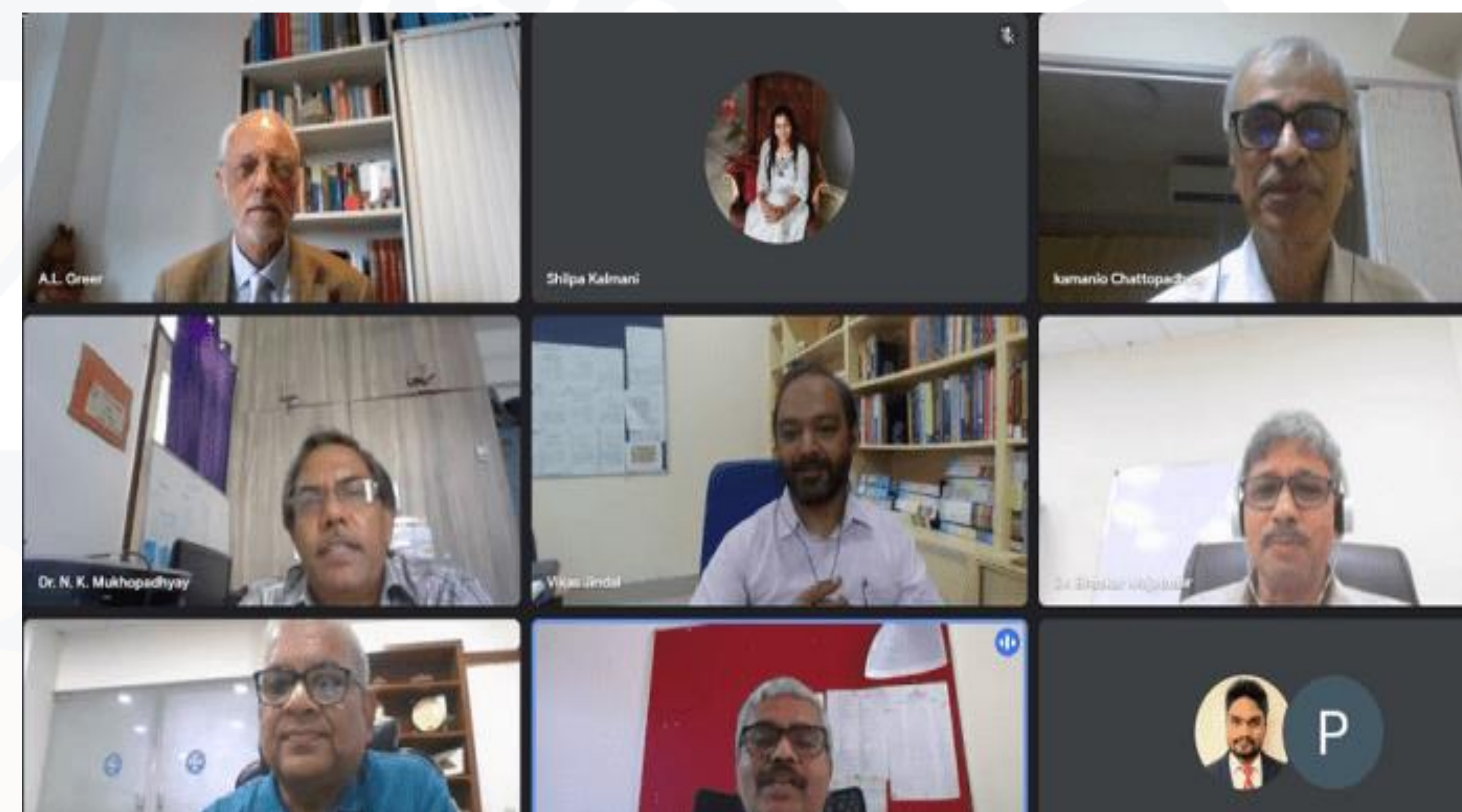
Among other things, the RIL Annual Report mentioned about the progress made by all its business verticals viz. Retail, Digital Services, O2C and E&P, and spoke about RIL's intentions in the Green Energy field.

Prof P Ramachandra Rao Memorial Lecture concludes at CSIR-NML

CSIR-NML

06th August, 2022

Jamshedpur, August 6: Prof P Ramchandra Rao Memorial Lecture was organised today on the “Transitions between the liquid, glassy and crystalline states in metallic alloys” at CSIR-NML on virtual platform. The programme was jointly organised in collaboration with Prof. N.P. Gandhi Memorial Metallurgy Trust, Department of Metallurgical Engineering, IIT (BHU), Varanasi, Department of Materials Engineering, IISc and the CSIR-National Metallurgical Laboratory, Jamshedpur.



The lectures in this series are delivered in honour of Prof. P. Ramachandra Rao (21.03.1942–10.01.2010), a distinguished and highly decorated materials scientist who pioneered research in rapid solidification, metallic glasses, quasicrystals, and biomimetics, the first at the Department of Metallurgical Engineering, IIT (BHU) and later at NML-Jamshedpur. He served as Director, CSIR-National Metallurgical Laboratory (1992-2002), Vice Chancellor, Banaras Hindu University (2002-05), and Vice Chancellor, Defence Institute of Advanced Technology (2005-07).

The programme began with the welcome address delivered by Prof. Sunil Mohan, IIT (BHU), Varanasi. He extended thanks to all the participants and the chief guest. Dr. Arvind. Sinha, Chief Scientist and Advisor Management CSIR, NML spoke about Prof.P. Ramachandra Rao Memorial Lecture.

Prof. N.K. Mukhopadhyay, IIT (BHU), Varanasi introduced the keynote speaker, Prof. A.L. Greer, who obtained his B.A. (1976) and PhD (1979) degrees in Metallurgy and Materials

Science from the University of Cambridge. His current research interests are in metallic glasses (principally their wide range of structure and their mechanical properties), nucleation in condensed systems, chalcogenide phase-change materials for computer memory, and grain refinement (experimental studies and modelling) in the solidification of alloys, particularly aluminium alloys.

Furthermore, Prof. A.L. Greer, of the University of Cambridge, delivered the lecture. He has nicely explained the fundamentals of the transitions between the liquid, glassy, and crystalline states in metallic alloys. His lecture was thought-provoking for the participants.

At the end of the program, a vote of thanks was proposed by Dr. Vikas Jindal, IIT (BHU), Varanasi. He said this memorial lecture has dual advantage in that we remember the renowned personalities of the world as well as enhance our knowledge base. More than 150 participants were present from India and abroad. He has expressed thanks to all the participants, who attended the programme on the virtual platform.



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