Webinar on Technologies' Worth Exploring Today

20 FEBRUARY, 2021

TEACHER'S ACTIVITY REPORT 2020 - 2021

FACULTY: SCIENCE DEPARTMENT/COMMITTEE: ELECTRONICS IQAC ACTIVITY No: SVC/2020 21/ELECT/SJ/2

NAME OF THE ACTIVITY: Webinar on Technologies' Worth Exploring Today			
DATE	**FACULTY**	**DEPARTMENT/COMMITTEE**	**COORDINATOR NAME**
20 FEBRUARY, 2021	SCIENCE	ELECTRONICS	DR SUNITA JAIN DR RAKHI NARANG
TIME	**VENUE**	**NUMBER OF PARTICIPANTS**	**NATURE: Outdoor/Indoor**
Start Time: 10:00 AM End Time: 11:15 AM	ONLINE/VIRTUAL	74	INDOOR
SUPPORT/ASSISTANCE:	IEEE-EDS Delhi Chapter, New Delhi, India		

BRIEF INFORMATION ABOUT THE ACTIVITY **(CRITERION NO.: III)**

TOPIC/SUBJECT OF THE ACTIVITY	Webinar on Technologies' Worth Exploring Today
OBJECTIVES	To understand the current technological needs of the society and the way forward in research.
METHODOLOGY	Through talk by Dr. Ajay Agarwal, Sr. Principal Scientist from CSIR-CEERI, Pilani followed by an interactive session and Q&A session.
OUTCOMES	Participants were made aware with the recent technological advances that can bring substantial changes in our lives. Fields requiring immediate research and concerns of scientific community were laid out in front of participants.

PROOFS & DOCUMENTS ATTACHED (Tick mark the proofs attached)

Notice & Letters	**Student List of Participation** ✓	**Activity Report** ✓	**Photos** ✓	Feedback Form
Feedback Analysis	News Clip with details	Certificate	Any Other	

IQAC Document No:	Criterion No: III	Metric No:
Departmental File no	IQAC File No;	

NAME OF TEACHER & SIGNATURE	NAME OF HEAD/ COMMITTEE INCHARGE & SIGNATURE	IQAC COORDINATOR (SEAL & SIGNATURE)
DR SUNITA JAIN	DR SUNITA JAIN	

For Reference

Criterion I	Curricular Aspects (planning & Implementation)		Criterion V	Student Support & Progression
Criterion II	Teaching Learning & Evaluation		Criterion VI	Governance
Criterion III	Research, Innovations & Extension		Criterion VII	Institutional Values & Best Practices
Criterion IV	Learning Resources and Infrastructure			

Proofs

ACTIVITY REPORT

A technical webinar on "Technologies' Worth Exploring Today" was organized on 20 February 2021. The webinar was conducted by Dr. Ajay Agarwal, Sr. Principal Scientist, Head- Technology Business Development Unit, CSIR-CEERI, Pilani and Associate Dean, Engineering Sciences AcSIR. He extensively covered Micro and Nanoscale Technologies relevant to the Healthcare and Environment. The sensor realization technologies and their point-of-care and early diagnostic applications were presented. Around 75 participants including students and teachers attended the webinar. The webinar provided an opportunity for participants to know about the technologies which can help achieve Sustainable Development Goals set by the United Nations General Assembly by the year 2030.

Selection of a suitable research problem is often not considered seriously. The Sustainable Development Goals (SDGs), are the best guidelines set by UN Member in 2015 with the global objectives to end poverty, protect planet & ensure peace and prosperity by 2030. In India, Technology Information, Forecasting and Assessment Council (TIFAC) has also released a vision document in 2015, setting the 12 targets that are relevant for India, and aimed to be achieved by 2035. These targets cover Clean air & potable water, Food and nutritional security, Universal healthcare and public hygiene, 24x7 energy, Decent habitat, Quality education, livelihood & creative opportunities, Safe and speedy mobility, Public safety & national security, Cultural diversity and vibrancy, Transparent and effective governance, Disaster & climate resilience and Eco-friendly conservation of natural resources. Innovative micro and nanoscale technologies relevant to the Healthcare and Environment care were discussed in details. Biosensor being analytical devices it provides either qualitative or quantitative results. Both have their importance; the qualitative analysis is useful for rapid screening applications, as today the world is looking for such devices for COVID-19 suspects. On other hand biosensors provide quantitative analysis like in care of glucose monitoring devices. The future trend of biosensors development is for point-of-care and early diagnostics requirements, mainly for glucose monitoring, infectious diseases testing, cardio-metabolic monitoring, coagulation monitoring, urinalysis, cholesterol test strips, tumour/ cancer markers analysis, pregnancy and fertility testing and many other applications. Nano-structures in consort with micro-fabrication and MEMS technologies have enabled novel nano-dimensional materials, structures and eventually devices which can find frequent applications in the field of early-stage diagnosis and point-of-care analysis. Biosensors with innovative fabrication technologies along with data analytics and artificial intelligence are among various nano-materials realized, CNT, Nano-Gap and Nanowire based bio-chemical sensors are most exploited for the diagnostic applications. Nano-Gap sensors works on two principles; either on the 'change of the conductivity'

of the sensing layers between the nano-electrodes when exposed to analytes or based on 'Electro-magnetic enhancement' using micro Raman spectroscopy. Nanowire sensors work on the principle of 'Field Effect Transistor' (FET) where charges associated with the chemical molecule or the biological specie is attached on the nanowire surface and acts as chemical or bio-gate; the devices are hence termed as CHEM-FET or BIO-FET. MEMS based gas sensors as breathe analyser are also being explored for various diagnostic applications. The sensor realization technologies and their point-of-care and early diagnostic applications were presented.

Department of Electronics

Sri Venkateswara College

In association with

IEEE EDS Delhi Chapter

IEEE
ELECTRON DEVICES SOCIETY

presents

A Webinar on

Technologies' Worth Exploring Today

Speaker: Dr. Ajay Agarwal

***Sr. Principal Scientist, Head- Technology Business Development Unit,* CSIR-CEERI, Pilani**
Associate Dean, Engineering Sciences AcSIR

On
20th February 2021 @ 10:00 am IST

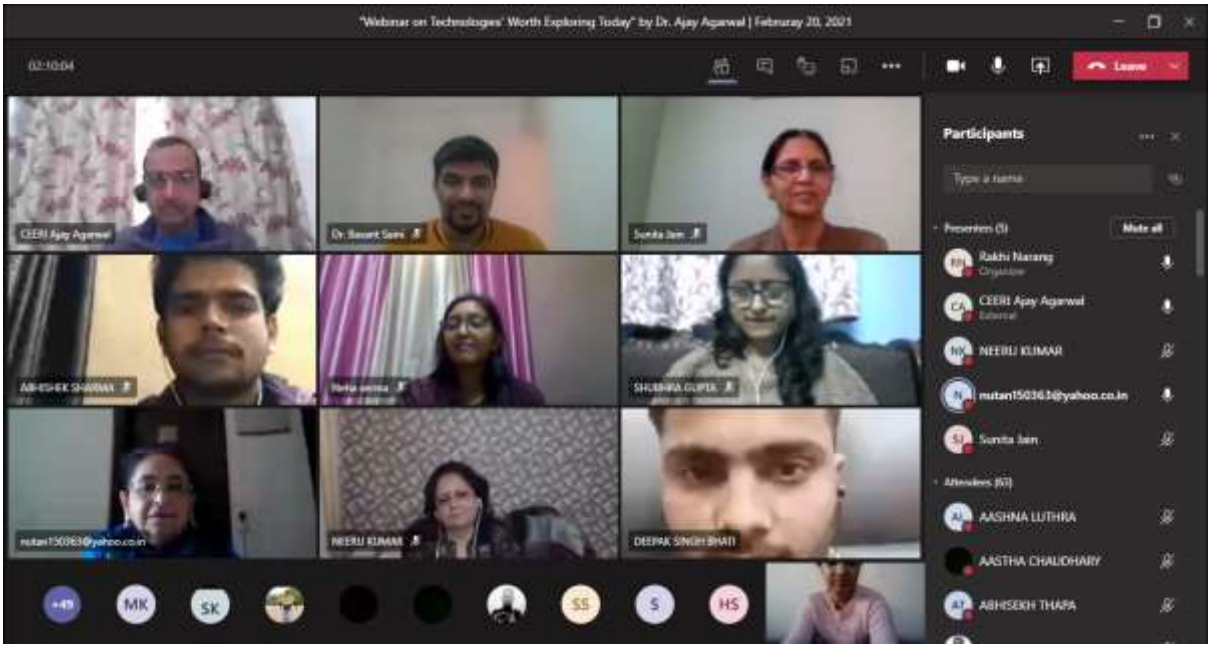
(Online platform: Microsoft Teams)

All are cordially invited.
There is no registration fee.
Meeting Link: Click here to join the meeting

Convener
Dr. Sunita Jain

Patron
Prof. C. Sheela Reddy, Principal


'Technologies'
Worth Exploring Today
Prof. (Dr.) Ajay Agarwal
Sr. Principal Scientist, CSIR-CEERI, Pilani
Associate Dean, Engineering Sciences, AcSIR
20th Feb. 2021
Webinar
Sri Venkateswara College, DU
in association with
IEEE EDS Delhi Chapter
IEEE
CSIR-Central Electronics Engineering Research Institute
Pilani Jaipur Chennai


"Webinar on Technologies' Worth Exploring Today" by Dr. Ajay Agarwal | February 20, 2021
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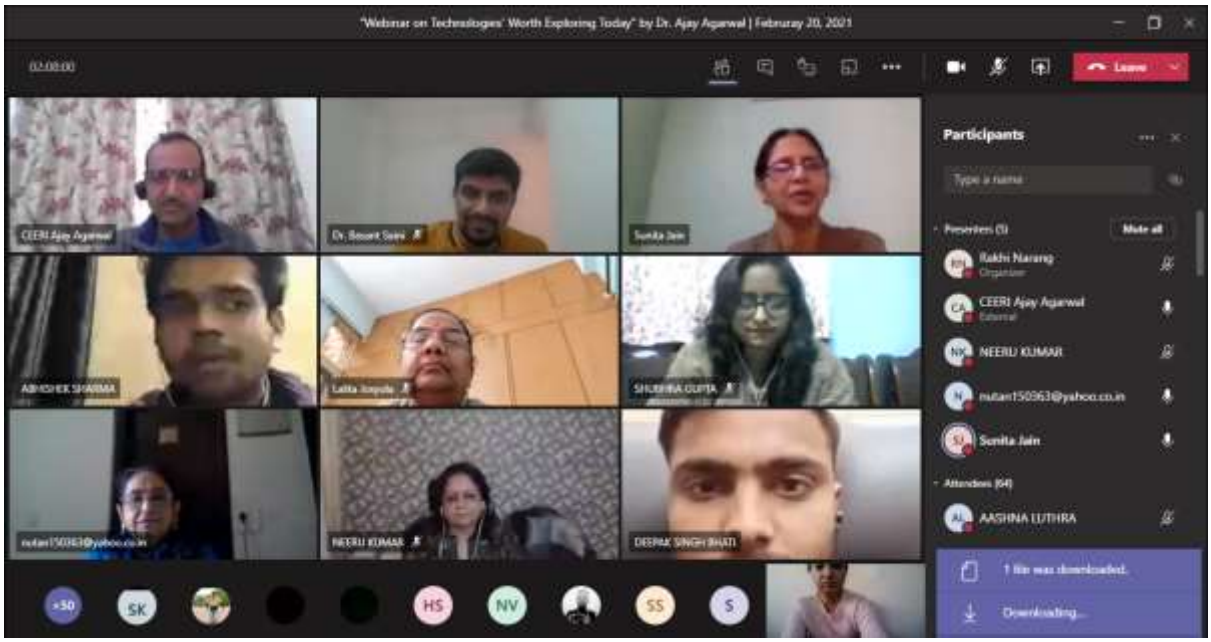
NEERU KUMAR
Sunita Jain
AASHNA LUTHRA
AASTHA CHAUDHARY
ABHISEKH THAPA


"Webinar on Technologies' Worth Exploring Today" by Dr. Ajay Agarwal | February 20, 2021
Leave
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Internal Quality Assurance Cell

This is to certify that the Activity report (Teacher/Department /Society/Association) has been submitted for documentation to IQAC, Sri Venkateswara College, University of Delhi.

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