



VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

An Autonomous, ISO 9001:2015 & QS I-Gauge Diamond Rated Institute, Accredited by NAAC with 'A++' Grade
NBA Accreditation for B.Tech. CE,EEE,ME,ECE,CSE,EIE,IT,AME, M.Tech. STRE, PE, AMS, SWE Programmes
Approved by AICTE, New Delhi, Affiliated to JNTUH, NIRF (2022) 113 Rank in Engineering Category
College with Potential for Excellence by UGC, JNTUH-Recognized Research Centres: CE, EEE, ME, ECE, CSE
Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O.), Hyderabad – 500 090, TS, India.
Telephone No: 040-2304 2758/59/60, Fax: 040-23042761
E-mail: postbox@vnrvjiet.ac.in, Website: www.vnrvjiet.ac.in



Electronics and Communication Engineering

Guest Lectures conducted under AICTE sponsored Distinguished Chair Professor (DCP) scheme

S. No.	Title	Date	No. of Participants	YouTube Links
1.	Higher Education and National Development	31.05.2022	102	https://youtu.be/eh5VZK9FT5o
2.	Relevance of Nuclear Energy in Achieving Net Zero Emissions	25.06.2022	70	https://youtu.be/5ry2mfwZPiY
3.	Cillage: A Knowledge Inspired Ecosystem for Transforming Rural India	11-07-2022	60	https://youtu.be/wT05gNTbSw4



Speaker: Padma Vibhushan Sri. Anil Kakodkar

AICTE- Distinguished Chair Professor,
Chancellor, Homi Bhabha National Institute,
Chairman, Rajiv Gandhi Science & Technology Commission,
Former Chairman, Atomic Energy Commission,

AICTE-Distinguished Chair Professor scheme

Report on Guest lecture 1

Topic : **Higher Education and National Development**

Date : **31.05.2022**

Under the AICTE - Distinguished Chair Professor (DCP) scheme, the Institution has organized the first lecture of **Padma Vibhushan Sri Anil Kakodkar**, titled '**Higher Education and National Development**' between 2.00 PM to 4.00 PM on 31.05.2022 (Tuesday) for all undergraduate students and faculty at the college. The event was coordinated by Dr. Rajendra Prasad Somineni, HoD and Professor of ECE department, and the lecture and interaction were conducted online through Google Meet platform. The interaction was very productive and a total of 102 students along with other faculty attended the lecture making the session a great success.

The session began with a brief history and achievements of the institution presented by Dr K. Anuradha, Dean academics. The session was moderated by Dr V. Priyanka from department of ECE, introduced the guest to students. A welcome note by Mrs. L. Dharma Teja, Faculty of Department of ECE. The vote of thanks is given by Dr. Naga Deepa Ch. Faculty of ECE department. The main aim of this session is to enlighten the students and faculty on the significance and essence of Higher Education and National Development as a foundation of hope and inspiration for the next 25 years to build a new India.

Upshots from the lecture:

- Human resource development towards an enlightened society
- Strengthening human values to eliminate exploitation
- How a university contributing to National Development beyond Human Resources?
- Ecosystem for nurturing excellence
- Key Education Challenges in specific Indian context
- Enabling environment by R&D, Technology Product / Demonstration, Incubation – start-ups, Research Park, Venture capital, Triple helix framework for large platforms, etc.

Gallery

Higher Education and National Development

Anil Kakodkar
 AICTE Strategic and Chief Professor
 Chairman, Rajya Gandhi Seminar on Technology Curriculum,
 Eastern Chatterjee, Indian Institute of Technology
 WM Vignana Jayala Institute of Engineering & Technology

Number of universities in the Top 100 of global rankings
 (from national level to international level)

Country	Count
USA	137
China	68
South Korea	15
Singapore	10
India	1

2:21 PM | Guest Lecture under AICTE-DCP scheme

Human Resource Development

Towards an enlightened society

Expand Frontiers of Knowledge | **Build Human Capability**

Humane Society | **Technology Empowerment**

Knowledge, Technology, Society, Economy

2:29 PM | Guest Lecture under AICTE-DCP scheme

Ecosystem for nurturing excellence

Institutional values and yardstick for measuring excellence are interlinked.

Weighted Impact:

- On peers in the core area being pursued
- On the down stream partners
- On society / industry

Weightages to be determined through an understanding between the individual and the institution

Foundations of research, Applied research, New Innovative Product, Improving an existing product, Revolutionary/ Disruptive Development, Revolutionary Development

SAI PRANEETH has left the meeting

3:13 PM | Guest Lecture under AICTE-DCP scheme

Report on Guest lecture 2

Topic: **Relevance of Nuclear Energy in Achieving Net Zero Emissions**

Date: 25.06.2022

Under the AICTE - Distinguished Chair Professor (DCP) scheme, the Institution has organized the Second lecture of **Padma Vibhushan Sri Anil Kakodkar**, titled '**Relevance of Nuclear Energy in Achieving Net Zero Emissions**' at 3.00 PM on 25.06.2022 (Saturday) for all undergraduate students and faculty at the college. The event is coordinated by Dr. Rajendra Prasad Somineni, HoD and Professor of ECE department, and the lecture is conducted online through Google Meet platform. The interaction is very productive and a total of 70 students along with other faculty attended the lecture making the session a great success.

The session is moderated by Dr. Naga Deepa Ch. from department of ECE, introduced the guest to students. A welcome note and vote of thanks is given by Mrs. K. Manasa, faculty of Department ECE. The main aim of this session is to enlighten the students and faculty on the significance and essence of Green energy, clean energy, etc.

Conclusions from the Lecture:

- Green energy transition needs a major rethink!
- Share of electricity would thus need to go up
- Clean energy consumption would need to increase ~ 80 times
- Discussion on Key elements of suggested sustainable clean energy policy
- Encouraged to develop new technologies even while accelerating approach to net zero for sustainable and cost competitive energy security
- Ecosystem for technology leadership

Gallery

The screenshot shows a Google Meet interface during a presentation. The main slide displays a complex energy balance chart and a table comparing current energy sources with projected needs for 2050 and 2070. The slide includes the following text:

- Very rapid scale up of clean energy resources**
- Emphasis on Gas economy**
- Major energy transition in user segments**
 - > Elect.
 - > Hydrogen
 - > Bio-energy
- The energy mix that we need to adopt in my view would need to be**
 - > Residential & Agricultural (31.8% of total current energy use) → Electricity* + Biomass*
 - > Industrial (57.7% of —do—) → Electricity + Hydrogen + Hydrocarbons** + Coal**
 - > Premises Chowdhary has left the meeting → Electricity + Hydrogen

The table on the slide shows the following data:

Energy Source	Current (2020)	2050	2070
Coal	6,482,289	82.8	15.6
Oil	11,004,910	15.6	1.2
Nuclear	15,110	1.2	1.2
Hydro	15,040	1.2	1.2
Biomass	12,223	1.2	1.2
Crude	2,842,008	27.6	1.2
Oil	12,774,980	15.6	1.2
Natural gas	18,410	1.2	1.2
Hydrogen	171,170	1.2	1.2
Total	19,20,000	100	100

The right side of the screenshot shows a grid of participant video thumbnails, including names like MANASA K, CHIN TU, GUDIPI THIYUMAL, Rajendra Prasad S, Naga deepa Choppo..., Rutwik Lee, and 55 others.

meet.google.com/fhq-otry-giu

REC Naga deepa Choppakatla is presenting

Green energy transition needs a major rethink!

- India has committed to reach net zero emission by 2070 at Glasgow.
- By that time, India can be expected to surpass annual per capita energy consumption level necessary to be on par with the best in world. The threshold per capita energy consumption taking into account improvement of efficiency as a result of clean energy transition could be **10000 kWh/capita/yr**.
Kgoe corresponding to a total energy requirement of **28000 TWh/yr**. (up from present level of ~6580 TWh/yr = CAGR 4.78%).
- Total assessed renewable energy potential in India @ **5855 TWh/yr*** (*Sukhatme, Current Science, Vol. 103, No. 10, 25 November 2012 - includes Solar, Wind, small and large Hydro, Biomass and Tidal). While there may be additional renewable energy potential (particularly the potential of bio-energy @ 2500 TWh/yr as against 60 TWh/yr factored in above assessment), the gap is too large to bridge. The only other non-emitting energy source is **nuclear**. It can meet our needs and is also inevitable for optimum & stable grids.

3:17 PM | AICTE-OCP scheme - Second Lecture on 25-0...

meet.google.com/fhq-otry-giu?pli=1&authuser=1

REC Naga deepa Choppakatla is presenting

Surplus Biomass useable as energy

Sr. No.	Biomass type	Quantity	Calorific value	Energy	Remarks
1	Firewood (sustainable production)	~100 MT*	17,000-22,000 KJ/Kg	~ 550 TWh	*IA. Bi. S.K. Chakrabarti. "Current and future of biomass and timber in India: March 2018-January 2019" 17(3):263-270
2	Animal-dung	2600 MT of wet dung or 150-250 b Cu. M of biogas	6-8 MJ/ Kg(dried)	~ 1400 TWh	*Emergies 2017, 10(7), 847; https://doi.org/10.3390/em10070847
3	Surplus agri. residue	178 MT 51.3 b Lt ethanol	~10 MJ / Kg ~ 26.8 MJ/Kg for ethanol	~ 500 TWh ~ 278 TWh	https://link.springer.com/journal/12145/9/34455
5	MSW	~ 60 MT	~7 MJ/kg	~118 TWh	More then energy resource important useful to reduce public health management burden
6	Total			~ 2000 - 2500 TWh	Comparable to current petroleum product consumption in the country

Challenge - to use this energy resource in a manner that does not impact air quality and enables a healthy ecosystem.

3:32 PM | fhq-otry-giu

REC Naga deepa Choppakatla is presenting

Other critical technologies to be deployed

- Steam electrolysis (and also SOFC)
- Thermo-chemical splitting of water (Radiolysis of water could also be explored)
- Energy storage
- Production of hydro-carbon substitutes using hydrogen and bio-mass
- CCU&S to meet energy needs, meet emission targets and produce value

3:55 PM | fhq-otry-giu

Report on Guest lecture 3

Topic: **Cillage: A Knowledge Inspired Ecosystem for Transforming Rural India**

Date: 11.07.2022

Under the AICTE - Distinguished Chair Professor (DCP) scheme, the Institution has organized the third lecture of **Padma Vibhushan Sri Anil Kakodkar**, titled “**Cillage: A Knowledge Inspired Ecosystem for Transforming Rural India**” at 3.00 PM on 11.07.2022 (Monday) for all faculty at the college. The event is coordinated by Dr. Rajendra Prasad Somineni, HoD and Professor of ECE department, and the lecture is conducted online through Google Meet platform. The interaction is very productive and a total of 60 faculty attended the lecture making the session a great success.

The session is moderated by Dr. Naga Deepa Ch. from department of ECE, introduced the guest to students. The main aim of this session is to enlighten the faculty on the significance and essence of city to village Knowledge transfer, etc. The speaker has been propagating the concept of CILLAGE, a knowledge-based ecosystem for bridging city and village gaps for technology enabled sustainable development in rural areas. The session is concluded by Dr. Chennakesava Rao, Director of advancements and vote of thanks is given by Dr K. Anuradha, Dean academics.

Conclusions from the lecture:

- Opportunities in rural domain
- Higher education institutions need to be both, knowledge creators as well as value creators
- Cillage ecosystem
- CILLAGE Architecture
- Ecosystem for technology leadership
- Science & Technology Resource centre (STRC) Gondwana University Gadchiroli

Gallery

The image shows a Google Meet gallery view of a meeting. The meeting title is "AICTE -DCP Scheme third lecture". The time is 16:03. The interface includes a grid of participant tiles, a "People" list on the right, and a Windows taskbar at the bottom.

Participant Tiles (Top Row):

- RadhaKrishna G (Initials: R)
- Anil Kakodkar (Video on)
- Padmasree L (Initials: P)

Participant Tiles (Second Row):

- sarath chandra k (Initials: S)
- director advancement (Video on)
- nagaleela s (Initials: n)

Participant Tiles (Third Row):

- Rajendra Prasad S has left the meeting (Initials: A)
- 39 others (Initials: M)
- You (Initials: You)

People List (Right Panel):

- director advance...
- Dr. D Srinivasa Rao
- ganeshababu b
- HEAD ECE - VNRV... Meeting host
- Innovation VNRVJL...
- JAVANGULA VAM...
- JHANSI LAKSHMI ...
- KrishnaKumari N

Windows Taskbar (Bottom):

- Search: Type here to search
- System tray: 24°C, Light rain, ENG, 16:05, 11-07-2022