

ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDHRAVARAM  
University College of Engineering

**Department of Electronics & Instrumentation Engineering**

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**Report of one-day National Webinar on  
“Opportunities & Challenges in Instrumentation & Control Engineering”  
on 03-08-2021, at 10:30 AM in AY:2020-21**

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## **1. Introduction**

The Department of EIE, University College of Engineering has organized a one-day national webinar on “Opportunities & Challenges in Instrumentation and Control Engineering”. The main theme of this one-day webinar is to enlighten and creating the awareness among the students about various challenges in the field of process control and automation area. The process control area plays a significant role in various industries such as Oil, Gas, Fertilizers, Pharmaceutical, Steel and many plants.

In process-industries, many process variables such as temperature, pressure, flow, level, density, humidity come across to measure and control continuously for maximum yield of the product. The real challenge exists when the process involves MIMO (Multi Input and Multi Input and Multi Output) due to the presence of interaction among process variables and disturbance; it is difficult to design the suitable controller for efficient control of process variables. Moreover, the addition of disturbance variables, noise makes the process more complex. The existing methods or technology does not efficiently provide the feasible solution to face these challenges.

With advancement of the emerging areas such as Machine Learning, Artificial Intelligence, these methods can be extended to solve the challenges associated with the conventional methods in the terms of efficiency, large data, constraints, noise and computation efficiency.

The talk was mainly focused on application of these emerging tools to solve real time problems in the process control plants and application of modern automation tools effectively. The talk addressed by taking bench mark examples in the existing literatures with algorithms and optimization tools in the process control area.

The webinar also provided a great insight into the challenges those who would like to take up their career in this field and emphasized the opportunities in the field of instrumentation and control engineering.

## 2. Brochure



# ADIKAVI NANNAYA UNIVERSITY

## UNIVERSITY COLLEGE OF ENGINEERING

RAJAMAHENDRAVARAM  
[APPROVED BY AICTE]

### DEPARTMENT OF ELECTRONICS & INSTRUMENTATION ENGINEERING

#### National Webinar

### Opportunities & Challenges in Instrumentation & Control Engineering

3 AUGUST, 2021 10:30 AM - 12:30 PM



CHIEF GUEST

**PROF M JAGANNADHA RAO**

Vice Chancellor  
Adikavi Nannaya University



PATRON

**Prof T Ashok**

Registrar  
Adikavi Nannaya University



GUEST OF HONOR

**Dr V Persis**

Principal  
University College of Engineering, AKNU

RESOURCE PERSON

**Mr Kinnera Kiran**

M.Tech, (PhD)

Fellow IETE, Senior Member,  
Senior Technical Officer -2,  
Process Engineering & Technology Transfer Division,  
CSIR-IICT, Hyderabad



For Details

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[Click Here to Register](#)



CONVENER

**Mr J Hanumanthu**

Asst Professor, Dept. of EIE

CO CONVENERS

**Dr D Srinivasa Rao**, Asst Professor, Dept. of EIE

**Dr D Kishore**, Asst Professor, Dept. of EIE

### **3. List of registrants**

List of the Registered participants is provided by the following link.

**[https://docs.google.com/spreadsheets/d/1UKO9hkchUFiu0aFcNQIB\\_Vsciq1I8uU3IXg8Xg4ltA/edit#gid=0](https://docs.google.com/spreadsheets/d/1UKO9hkchUFiu0aFcNQIB_Vsciq1I8uU3IXg8Xg4ltA/edit#gid=0)**

#### **4. Webinar schedule/link**

**WEBMASTER AKNU is inviting you to a scheduled Zoom meeting.**

**Topic: National Webinar on Opportunities & Challenges in the field of Instrumentation & Control Engineering, Time: Aug 3, 2021 10:30 AM India**

#### **Join Zoom Meeting**

**<https://us06web.zoom.us/j/9032683444?pwd=RzhaZDN6ZDAzUUJlaENuU3ZWSjFtZz09>**

**Meeting ID: 903 268 3444**

**Passcode: 03082021**

#### **Youtube Link for Webinar:**

**<https://www.youtube.com/watch?v=JBVDGw0BH9g>**

## 5. Welcome Address & Opening Remarks

The convener & course coordinator of the department of EIE Mr. J. Hanumanthu has commenced the webinar at 10.30AM by welcoming Honorable Vice Chancellor Prof. Mokka Jagannadha Rao, University College of Engineering, Principal Dr. V. Persis, Resource person Mr. K. Kiran Technical -2 CSIR-IICT, Hyderabad. The convener invited all the participants of this program i.e., students of various departments from University College of Engineering, Faculty and from Industry. He emphasized the significance of webinar and brief introduction about scenario of process control. The convener acknowledged the support and encouragement provided by Honorable Vice Chancellor Prof. Mokka Jagannadha Rao & Principal Dr. V. Persis for her continuous encouragement.



Finally, he instructed all the participants about how the webinar will progress and for smooth conducting of the webinar and welcomed all again.

## **6. Inaugural Address – Chief Guest**

Honorable Vice Chancellor Prof. Mokka Jagannadha Rao, in his inaugural speech welcomed all the participants and resource person of the one-day webinar. He has briefed about the importance of the webinar and the various activities that are initiated by the AKNU and also expressed his delight over the conduction of this program for individual as well as institutional development and also encouraged the organizing committee to come up with many more proposals of this kind in the future. He has shared his experience in this field and motivated with his knowledge and dynamic skills.

The Honorable VC has addressed the gathering to use opportunities and address the challenges in the field of Instrumentation and Control Engineering effectively and to maintain the long term interaction with resource person.

The Honorable VC has concluded his message to the students to take-up internships and projects in the chosen field and explore further for their betterment.



## **7. Key note Address-Guest of Honor**

Respected Principal, Dr.V. Perisis University College of Engineering started her speech by welcoming all the participants, resource person Mr.K.Kiran, Senior Technical Officer- 2,IICT-Hyderabad and conveyed her regards to Honorable Vice Chancellor Prof. M. Jagannadha Rao.

At the outset Respected Principal has congratulated the Convener and the Department of EIE to come with this idea of conducting the One-Day webinar. Respected principal has clarified the apprehensions about the EIE branch and motivated the students to explore further challenges in the field of Instrumentation and Control Engineering.



Respected Principal concluded her discourse to the students to utilize the One-Day National Webinar for current trends in the area of Instrumentation & Control Engineering aspects.



## 8. Technical Session

Dr. D. Kishore, Assistant Professor (Ad-hoc), Department of EIE briefed the profile of Mr. K. Kiran to the dignitaries, faculty and the students and is as follows.

Mr K. Kiran is a **Fellow** of IETE (The Institution of Electronics & Telecommunication Engineers, India). Mr. K. Kiran is an IEEE (*The Institute of Electrical and Electronics Engineers*) Senior **Member**, USA. Mr Kiran is a Senior Member of International Society of Automation. A Life Member of IUPRAI (*Indian Unit of Pattern Recognition and Artificial Intelligence*), The Institution of Engineers (India) [IEI] and Instrument Society of India (ISOI).

Mr. Kinnera Kiran pursuing his Ph.D in Engineering Sciences (Applied Artificial Intelligence) from ACSIR, he has a M.E. (Master of Engineering) in Systems & Signal Processing (Electronics & Communication Engineering) from University College of Engineering, Osmania University Hyderabad. B.Tech in Electronics & Instrumentation Engineering from Kakatiya Institute of Technology & Science, Kakatiya University, Warangal.

Mr. K.Kiran has made contributions in the area of Artificial Intelligence & Automation. He has published research papers in the area of Artificial Intelligence & Bioinformatics in International journals.

After the formal introduction of resource person, he took over the session by greeting Vice Chancellor Prof. M. Jagannadha Rao, respected Principal Dr.V.Perisis, Convener of the program Mr.J. Hanumanthu & participants from all various fields.

Mr. K. Kiran has started his session with the fundamental concepts of the process control, presented on the role of process control in the process-industries and significance of the process control. The session was presented with real time example of the process control applications in the chemical plants. SISO (Single Input and Single Output) & MIMO (Multi Input and Multi Output). The presented the role of optimization for efficient implementation of control algorithms and application of advanced concepts such as machine learning, artificial intelligence.

Further, the speaker pointed the new directions to take-up for the better implementation of process control systems in the real plant. He motivated the students with some illustrative examples and student participants also showed much enthusiasm in interacting with the speaker.

The talk ended with some Q& A session both student participants and faculty. He shared his possible future assignments and contact details for further interactions.

## **9. Concluding Remarks**

The One-Day National Webinar on Opportunities and Challenges in Instrumentation and Control Engineering was concluded with the following remarks.

1. The fundamental concepts on the process control were introduced.
2. The real-time application of the process control in the various chemical plants was discussed.
3. Optimization, constraints, noise, computational aspects were dealt with detailed example.
4. Application of the advanced modern tools to deal the challenges in process control application was discussed such as Artificial Intelligence, Machine Learning aspects.
5. Case studies of some practical process control were illustrated.
6. The program was concluded by question & answer session with the resource person

## 10. Vote of thanks

Vote of thanks was proposed by Dr. D. Srinivasarao, Assistant Professor, Department of EIE, University College of Engineering, AKNU. He started with thanking the Honorable Vice Chancellor Prof. M. Jagannadha Rao for providing all the necessary approvals for the smooth conduct of the program.

A special vote of thank was conveyed to the respected Principal Dr. V. Persis for her continuous support and suggestions from time to time for successful completion of the program.

Profound thanks to the Course Coordinator& Convener of the One-Day National Webinar for his restless efforts to bring this a fruitful discussion.

A special gratitude and immense thanks to the resource person Mr.K.Kiran, Senior Technical Officer-2 was conveyed for spending his valuable time inspite of his busy schedule for the talk on One-Day National Webinar on “Opportunities & Challenges in Instrumentation & Control Engineering”.



A special vote of thanks to the Course Coordinators of other departments, Non-teaching staff, administrative staff, press media and their services were acknowledged.

Last but not the least, the active and enthusiastic student participants were highly appreciated.

## **11. Outcome**

The main outcome of this program is to create awareness among the students and faculty about the challenges and opportunities in the field of Instrumentation and Control Engineering. The one-day webinar has provided a great opportunity for all the participants to interact with the eminent resource person and thereby got clarifications regarding the opportunities, challenges, latest developments and new software's related to Instrumentation and Control research area. The main outcome attributed out of this program is to have MOU'S and internships to the students in due course of action.



### 13. Press Report on Webinar

## **ఇంజనీరింగ్లో అవకాశాలు అందిపుచ్చుకోవాలి**

రాజాసగరం: ఇనుస్టుమెంటేషన్ అండ్ కంట్రోల్ ఇంజనీరింగ్లో సవాళ్లను సమర్థంగా ఎదుర్కొంటూ అవకాశాలను అందిపుచ్చుకోవాలని ఫెలో ఇనిస్టిట్యూట్ ఆఫ్ ఎలక్ట్రానిక్స్ అండ్ టెలి కమ్యూనికేషన్ ఇంజనీర్స్ సీనియర్ మెంబర్ కిన్నెర కిరణ్ అన్నారు. నన్నయ యూనివర్సిటీ కాలేజ్ ఆఫ్ ఇంజనీరింగ్, డిపార్టుమెంట్ ఆఫ్ ఎలక్ట్రానిక్స్ అండ్ ఇనుస్టుమెంటేషన్ ఇంజనీరింగ్ ఆధ్వర్యంలో మంగళవారం నేషనల్ వెబినార్ నిర్వహించారు. 'ఇనుస్టుమెంటేషన్ అండ్ కంట్రోల్ ఇంజనీరింగ్లో సవాళ్లు, అవకాశాలు' అనే అంశంపై నిర్వహించిన ఈ వెబినార్లో రీసోర్స్ పర్సన్ గా పాల్గొన్న కిన్నెర కిరణ్ మాట్లాడుతూ కృత్రిమ మేధస్సు ప్రక్రియలో కొత్తగా వస్తున్న మార్పులు, సవాళ్ల గురించి వివరించారు. ఇందులో ఉన్న ఉపాధి, ఉద్యోగా వకాశాలను వివరిస్తూ అందుకు అవసరమైన మార్గ నిర్దేశం చేశారు. జె. హనుమంతు కన్వీనర్ గా వ్యవహరించిన ఈ వెబినార్లో యూనివర్సిటీ కాలేజ్ ఆఫ్ ఇంజనీరింగ్ ప్రిన్సిపాల్ డాక్టర్ వి.పెర్నిస్ తదితరులు పాల్గొన్నారు.