

ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDHRAVARAM  
University College of Engineering

**Department of Electronics & Instrumentation Engineering**

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**Report of one-day National Webinar on  
“Modern Trends in Process Modeling and Control”  
on 08-09-2021, at 10:30AM in AY:2021-22**

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## **1. Introduction**

The Department of EIE, University College of Engineering has organized a one-day national webinar on “**Modern Trends in Process Modeling and Control**”. The main theme of this one-day webinar is to enlighten and creating the awareness among the students about various process modeling methods and control techniques in the field of process control and automation area. The modeling and control of various parameters is desired in any process industry such as such as cement, sugar, steel, oil and natural gas, fertilizers, pharmaceutical 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. In such situation, it s very important to develop the process models of the plant using different methods and selection of suitable method. After selection of suitable model, design of controller for the desired controlled variable is a challenging task.

With advancement of the emerging areas such as Machine Learning, Artificial Intelligence, the modern methods can be extended to solve above said problem. The talk was mainly focused on the process identification methods and closed loop identification methods and relay identification methods. The bench mark examples like continuous stirred tank reactor, four tank system and the, boiler drum level control, temperature control system has been considered for discussion.

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. Broucher



# ADIKAVI NANNAYA UNIVERSITY UNIVERSITY COLLEGE OF ENGINEERING Rajamahendravaram



AICTE Approved



## DEPARTMENT OF ELECTRONICS & INSTRUMENTATION ENGINEERING

### NATIONAL WEBINAR

'MODERN TRENDS IN PROCESS MODELING AND CONTROL'

8<sup>th</sup> September, 2021 10:30 AM



#### Guest of Honor

**Dr. V. Persis**  
Principal  
University College of Engineering



#### Chief Guest

**PROF M. JAGANNADHA RAO**

**VICE-CHANCELLOR**

Adikavi Nannaya University



#### Patron

**Prof T. Ashok**  
Registrar  
Adikavi Nannaya University



#### Resource Person

**Dr. Rames Chandra Panda**

Sr. Principal Scientist  
CSIR-Central Leather Research Institute (CLRI)  
Adyar, Chennai - 600 020

[Click Here to Register](#)

[For Details](#)

9949723988, 7416131869  
eie.uceng@aknu.edu.in

Free Registration

**zoom**  
**JOIN US**

#### Convener

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

#### Co-Conveners

**Mr. J. Hanumanthu** Assistant Professor, Dept of EIE  
**Dr. D. Kishore** Assistant Professor, Dept of EIE

### **3. List of Registered participants**

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

**<https://docs.google.com/spreadsheets/d/1zZGypaJR5RfHK2CDTVGABmZNIhGbOuHnB9EetZ5gM0c/edit?usp=sharing>**

#### **4. Webinar Schedule link**

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

**Topic: National Webinar on “Modern Trends in Process Modeling and Control”, on 08-09-2021, Time: 10:30 AM, India**

#### **Join Zoom Meeting**

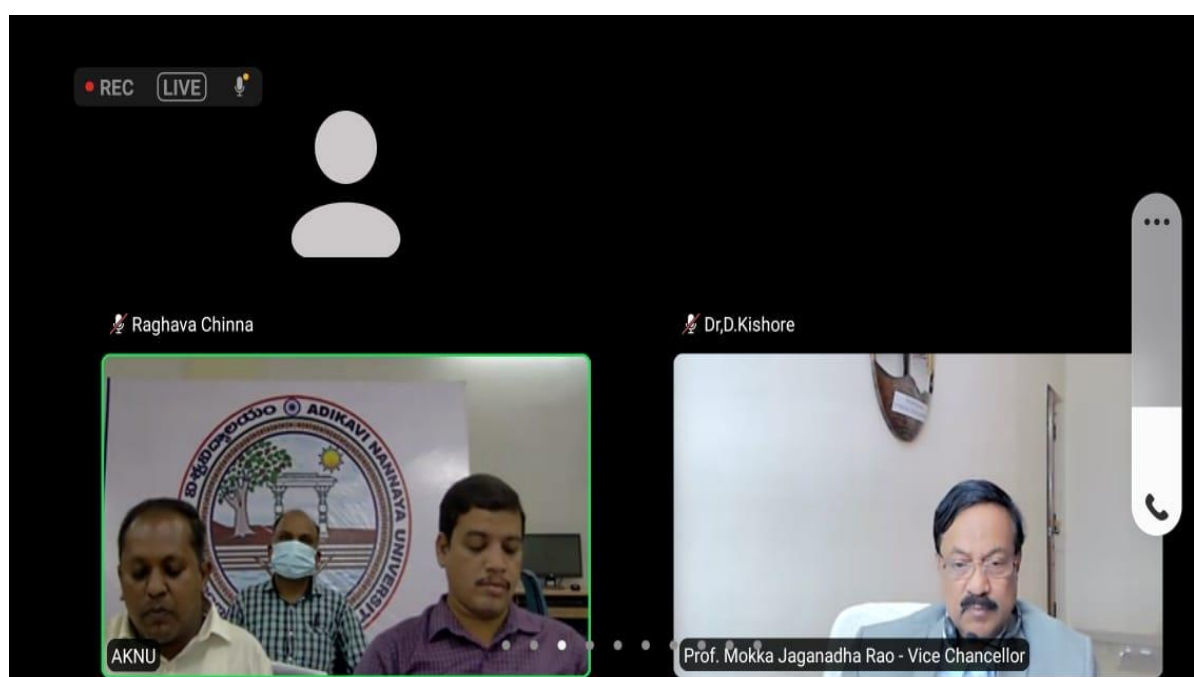
**<https://us06web.zoom.us/j/89242449691?pwd=cFRpQk9uelldEpRU1hGcHJGdldhdz09> to start or join a scheduled Zoom meeting.**

#### **YouTube Link for Webinar:**

**<https://www.youtube.com/watch?v=olxnr7pM5iI>**

## 5. Welcome Address & Opening Remarks

The convener Dr. D. Srinivasarao, Assistant Professor, department of EIE has commenced the webinar at 10.30 AM by welcoming Honorable Vice Chancellor Prof. Mokka Jagannadha Rao, University College of Engineering, In-charge Principal Dr. P Venkateswara Rao, Resource person Dr. Rames C. Panda, senior principal scientist, CLRI, Chennai. The convener invited all the participants of this program i.e., students and faculty of various departments from the University College of Engineering, and also 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.

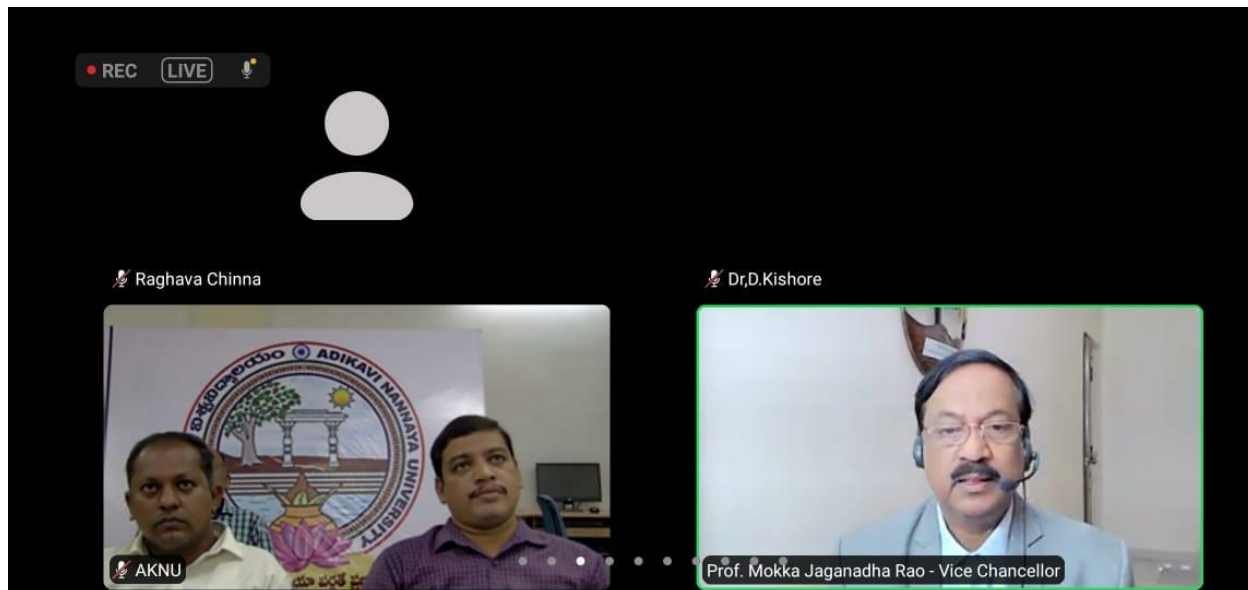


Finally, he instructed all the participants about how the webinar will progress and for smooth conducting of the webinar and welcomed all again.

## 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 importance of Process modeling and control methods for the process industries and to maintain the long term interaction with resource person.



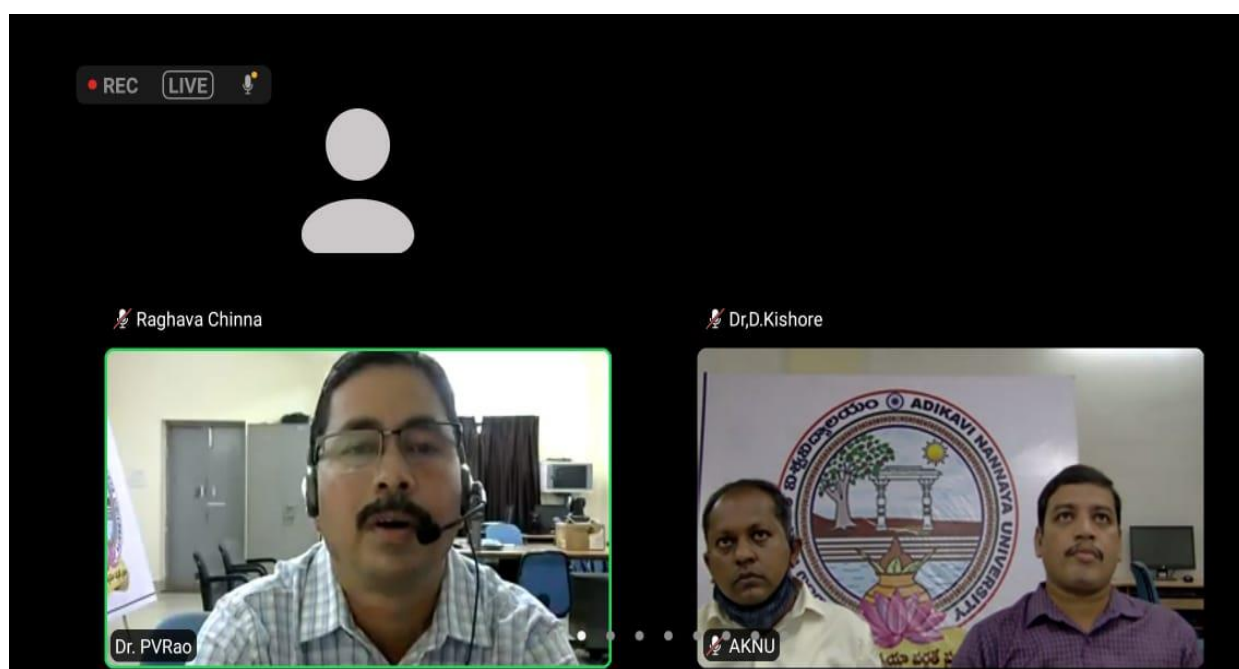
The Honorable VC has concluded his message to the students to take-up internships and projects in the chosen field and explore further for their betterment.



## 7. Key note Address-Guest of Honor

Respected In-charge Principal, Dr. P. Venkateswara Rao, University College of Engineering started his speech by welcoming all the participants, resource person Dr. Rames C. Panda, senior principal scientist, CLRI, Chennai and conveyed his regards to Honorable Vice Chancellor Prof. M. Jagannadha Rao.

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



Respected In-charge Principal concluded his discourse to the students to utilize the One-Day National Webinar on “**Modern Trends in Process Modeling and Control**”.



## **8. Technical Session**

Dr. D. Kishore, Assistant Professor, Department of EIE briefed the profile of Dr. Rames C. Panda, to the dignitaries, faculty and the students and is as follows.

Dr. Rames C. Panda, completed his B. Tech from Jadavpur University, Kolkata. He received his M. Tech and Ph. D from IIT Madras in the field of process control. Presently he is working as principal scientist at Chemical Engineering. department of CLRI, Chennai. His works include Basic research, Engineering consultancy and teaching. His field of interests are Process Design, process modeling, parametric estimation/ identification, auto tuning of PID controllers, Relay feedback PID controllers, Predictive control, model based control, process engineering, smith predictor, Multivariable systems.

He worked in several countries like in Germany as PDF, in Taiwan (NTU) as visiting Fellow, in Australia as a faculty. Presently, he is an honorary faculty in Anna University, Chennai. He has received many scholarships and many awards like Dr. Sisir Kumar Mitra Memorial Award, NRC award, Dr. APJ Abdul Kalam Award for best scientist etc.

He is edited books "PID Controllers" by InTech Publishers. He has received many sponsored research projects from DST, CLRI, CSIR etc. He has guided 30 B. Techs, 8 M. Techs and 10 Ph. Ds and supervising 4 Ph. D scholars at present. Dr. Panda has many credentials in international Journal 42, in National Journals 06 and in conferences 27.

After the formal introduction of resource person, he took over the session by greeting Vice Chancellor Prof. M. Jagannadha Rao, respected In-charge Principal Dr. P Venkateswara Rao, Convener of the program Dr. D. Srinivasarao & participants from all various fields.

Dr. Rames C. Panda, 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. He presented about the importance of modeling a process and explained various modeling methods. Presented about the necessity of tuning and design of the controller and elaborated design of different controllers.

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 contact details for further interactions.

## **9. Concluding Remarks**

The One-Day National Webinar on “Modern trends in Process Modeling and control” was concluded with the following remarks.

1. The basics of process control were introduced.
2. The various real-time applications of chemical plants in the area of process control was discussed.
3. Discussed about the importance of Modeling a process/plant and explained about various modeling methods.
4. Tuning of Controller and different control strategies for the control of various process parameters explained in detail
5. Application of modeling methods and controller techniques were illustrated on some real time applications
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.

A special thanks was conveyed to the respected In-charge Principal Dr. P. Venkateswara Rao for his support and suggestions for completion of this program.

Profound thanks to the Course Coordinator of department of EIE Mr. J Hanumanthu, for his restless efforts to bring this a fruitful discussion.

A special gratitude and immense thanks to the resource person Dr. Rames C. Panda, senior principal scientist, CLRI, Chennai was conveyed for spending his valuable time in spite of his busy schedule for the talk on One-Day National webinar on **“Modern Trends in Process Modeling and Control”**.

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.

## **12. Outcome**

The main outcome of this program is to create awareness among the students and faculty about the modern trends in process modeling and controller techniques in process industries. 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 process modeling and control techniques 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. Feedback**

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List of the Responses/ Feedback report is provided by the following link

<https://docs.google.com/spreadsheets/d/1f5pdaR-w0FxMYaNAmgeFKTmsa1GWEqdiVq3vYL02tZQ/edit?usp=sharing>

## 14. Press Report on Webinar

### ప్రాసెస్ మోడలింగ్

### కంట్రోల్ తో ప్రయోజనాలు

రాజానగరం: ఆధునిక సమాజంలో ప్రాసెస్ మోడలింగ్ కంట్రోల్ ద్వారా అనేక ప్రయోజనాలను అందుకుంటున్నామని ఆదికవి నన్నయ యూనివర్సిటీ వీసీ ఆచార్య ఎం.జగన్నాథరావు అన్నారు. సాంకేతిక విజ్ఞాన నైపుణ్యాలను మరింతగా జోడించి, అభివృద్ధి చేస్తే మరిన్ని ఫలితాలను అందుకోగలమ

న్నారు. క్యాంపస్ లోని కాలేజ్ ఆఫ్ ఇంజనీరింగ్ లో ఈఈఈ విభాగం ఆధ్వర్యంలో 'ప్రాసెస్ మోడలింగ్ అండ్ కంట్రోల్ లో ఆధునిక పోకడలు' అనే అంశంపై బుధవారం వెబినార్ నిర్వహించారు. డాక్టర్ డి.శ్రీనివాసరావు కన్వీనర్ గా వ్యవహరించిన ఈ కార్యక్రమంలో సెంట్రల్ లెడర్ రీసెర్చ్ ఇనిస్టిట్యూట్ సైంటిస్టు డాక్టర్ రమేష్ చంద్ర పాండా, రిజిస్ట్రార్ డాక్టర్ టి.అశోక్, ప్రిన్సిపాల్ డాక్టర్ వి.పెర్నిస్, తదితరులు పాల్గొన్నారు.

**సాక్షి**  
శాస్త్రగోదారం

Thu, 09 September 2021

<https://epaper.sakshi.com/c/63010643>