



NEW HORIZON
COLLEGE OF ENGINEERING
New Horizon Knowledge Park, Ring Road, Marathalli
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Report on

Implementation of Industry 4.0 & its Challenges

The Department of Electrical & Electronics Engineering, New Horizon College of Engineering organized Faculty development program on "Implementation of Industry 4.0 & its Challenges". The rise of digital industrial technology, known as Industry 4.0, has transformed the machines and IT systems that are connected in the value chain.

The objective of the Faculty Development Program (FDP) is to provide exposure to Industry 4.0 concepts which revolutionize the boundaries between virtual reality and the real world.

This concept incorporates interdisciplinary knowledge in artificial intelligence, machine learning, sensors and actuators, cloud computing, cognitive computing and Internet of Things.

Throughout this FDP, the participants have got holistic information on various disciplines and their contributions, in realizing the concept of Industry 4.0. The recent trends in technological developments that form the building blocks of Industry 4.0 will be covered in detail.

The design principles, challenge and the future of employment will also be addressed in the FDP.

SESSION IMAGES

Day 1

NEW HORIZON COLLEGE OF ENGINEERING 50th Anniversary
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
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New Horizon Knowledge Park, King Road, Bellur P.O., Bangalore 560 103

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
Presents
AICTE - ATAL SPONSORED

FIVE DAYS AICTE SPONSORED ATAL FACULTY DEVELOPMENT PROGRAMME

Inaugural Ceremony of
"IMPLEMENTATION OF INDUSTRY 4.0 AND ITS CHALLENGES" (ONLINE MODE)

5th July, 2021 @ 09:00 AM - 10:00 AM

Dr. Mohan Manghnani
Chairman
New Horizon Educational Institution
Chief Patron

Mr. Anish Sathyan
Joint Director / Scientist E
Control & Instrumentation Group
C-DAC, Thiruvananthapuram
Chief Guest

Dr. Manjunatha
Principal
New Horizon College of Engineering
Patron

Convenor
Dr. Mahesh M
HOD-EEE

Coordinators
Dr. R. Mohan Das - Associate Professor
Mr. Vinod kumar, S - Senior Assistant Professor
Mr. Mohan B S - Senior Assistant Professor

Zoom Link: <https://zoom.us/j/96757990909?pwd=akYyKlBaY3clcmNTUhFM3pJb3lZlU09>

Meeting ID: 967 5799 0909 | Passcode: 451389

VINOD KUMAR S

Trouble Shooting 01. Mixer Application, No.1 Screen 2 of 4

Mixer Application

Diagram components:
Inlet Valve-1 O/P-1
High Level Float Switch (IP-5)
Start Push Button (IP-1)
Middle Level Float Switch (IP-4)
Stop Push Button (IP-2)
Low Level Float Switch (IP-3)
Drain Valve O/P-6
Motor O/P-3
Inlet Valve-2 O/P-2
Girner

Buttons: Troubleshooting, RESET, PLAY

Click TROUBLESHOOTING TO VIEW TROUBLESHOOTING EXAMPLE

Dr. Subash Kumar C...

Introduction to PLC Programming - Dr. C S Subash Kumar

**KUMARAGURU CENTRE FOR
AI & ROBOTICS
(KC.AIR)**

<https://www.linkedin.com/company/kc-air>

Mobile robots and IIOT in agriculture - Dr.S.A.Pasupathy

Day 2

SMEC Global Market Estimated

IoT for intelligent buildings market evolutions and drivers

Year	Market Value
2017	\$6.3 Bn
2026	+\$22 Bn

"Commercial building owners are feeling the pressure to invest in intelligent building technologies that leverage the IoT, providing better insight on operations and equipment as well as access to real-time data for productivity, convenience, and sustainability"

"As hardware prices continue to drop while storage and computing power increase via cloud computing, the IoT's market growth is increasing"

Industrial Automation - structures & Technologies - Mr.P.Amit Rao

**AICTE Sponsored ATAL FADP on
'Implementation of Industry 4.0 and Its
Challenges'**

Electric Vehicles Automotive Electronics

Presented by
Dr. V. Karthikeyan
Assistant Professor
Dept. of Electrical Engineering
National Institute of Technology Calicut
Kozhikode, Kerala

Organized by
NEW HORIZON
COLLEGE OF ENGINEERING

00:21:25 / 04:43:06

Chat Messages

- Vishal Gayakwad (From Belgaum) 05:12
GM - If any one has yesterdays second session feedback form link, kindly share.
- DAISON STALLON S 07:50
GOOD MORNING ALL
- DAISON STALLON S 08:30
DAISON STALLON AP/EEE NEHRU INSTITUTE OF ENGINEERING AND TECHNOLOGY COIMBATORE , TAMIL NADU
- deepak bhuttewadkar 09:06
very good morning to all participants.
- Sampa Das 10:22
Good morning all.
- Deepak Kumar 11:44

Electric Vehicles Automotive Electronics - Dr. V Karthikeyam

IoT Architectures and Applications

AICTE-ATAL Sponsored Faculty Development Programme
On
Implementation of Industry 4.0 and its Challenges
Organized by
Department of EEE
New Horizon College of Engineering Bengaluru

Presented by
Prof.E.Chandira Sekaran
Professor,
Department of Electrical and Electronics Engineering,
Coimbatore Institute of Technology,
Coimbatore-641 014,
Tamil Nadu.
E-mail:ecseeeecitnew@gmail.com
echandirasekaran@cit.edu.in
Mobile No.:9486353930

Chat Messages

- Very Informative session sir. Thank you
- Dr.Booma Jayapalan 01:57:14
good informative sir
- Dr.Booma Jayapalan 01:57:20
thank you sir
- Nilima Warke 01:57:23
Thank you Sir.....!!!
- Sampa Das 01:57:29
Thank you sir. nice session
- MUTHURAM G 01:58:04
Thank You Sir., Very Informative too
- ಶಿವ ಕುಮಾರ್ ಕೆ ಎಸ್ 01:58:06
Sir, feedback link

IOT Architectures and Applications - Prof. Chandira Sekaran

Day 3

Smart Healthcare Systems and Solutions for COVID 19 Pandemic

Dr.S.Balamurugan
ACM Distinguished Speaker,
Founder & Chairman-Albert Einstein Engineering and Research Lab,
Vice-Chairman-Renewable Energy Society of India (RESI)
India

Health Care and Industry 4.0 - Dr.S.Balamurugan

Industrial Applications of Advanced Process Control & Optimization

PRATHEESH H, Scien

Industrial Application of Advanced Control System and Optimization - Mr.H.Pratheesh

Video_2021-07-07_142554.wmv - VLC media player

Media Playback Audio Video Subtitle Tools View Help

CHRIST Deemed to be University

NEW HORIZON COLLEGE OF ENGINEERING 50th Anniversary
 DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
 AICTE ATAL SPONSORED
 FIVE DAYS FACULTY DEVELOPMENT PROGRAM
 "IMPLEMENTATION OF INDUSTRY 4.0 & ITS CHALLENGES"
 05.07.2021 TO 09.07.2021

Smart sensors, Challenges & Digital transformation

Dr. Manikandan.P
 Assistant Professor - Department of EEE
 Faculty coordinator - Centre for Industrial Automation
 CHRIST (Deemed to be University)
 Jury – Mechatronics

02:00 2:57:24

116%

Smart Sensors, Challenges and Digital transformation - Dr.Manikandan

Day 4

(42) WhatsApp NEW HORIZON COLLEGE OF Mail - mohanbs@newhorizonind

zoom.us/rec/play/SqFXy9v06sG1ChKpKGGt4vcVTaTYjcScwVi_RIOifT5TrtbmsWr61oJRNdTJ9DoaVIC7UMckmJhsX9O.vVRy...

zoom NEW HORIZON COLLEGE OF ENGINEERING'S ... - Shared screen with speaker view Download (3 files)

Do we really need College?

Is college a waste of time in today's world?

I know there's a whole movement against college.

Chat Messages

- BasavaRaja A S 01:58:36 nice information sir
- Nilima Warke 01:58:54 Can we get email Id of sir?
- deepak bhuttewadkar 01:59:34 sir share your email and contact number
- GOHIL KANAKSINH BAPUBHAI 02:00:01 thank sir get information
- RATHIKRINDA YEDUKONDALU 02:00:08 thank you sir
- Dr. Pushparajesh V 02:00:22 Thank you sir
- R.Mahesh 02:00:52

05:50:33 / 07:57:32 Speed

Core Skills for Teachers- Dr.S.A.Pasupathy



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 On
"IMPLEMENTATION OF INDUSTRY 4.0 & ITS CHALLENGES"

BUILDING AUTOMATION
 Dr.G.Manavaalan,
 Associate Professor-EEE,
 Coimbatore Institute of Technology,
 Coimbatore.

To Register : <https://atalacademy.aicteindia.org/login>
05 JULY 2021 - 09 JULY 2021

Building Automation - Dr.G.Manavaalan

zoom NEW HORIZON COLLEGE OF ENGINEERING'S ... - Shared screen with speaker view Download (3 files)



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SMART CNC MACHINES
 Dr.B.Vinod,
 Professor & Head,
 Robotics and Automation Department,
 PSG College of Technology,
 Coimbatore.

To Register : <https://atalacademy.aicteindia.org/login>
05 JULY 2021 - 09 JULY 2021


Chat Messages

- deepak bhuttewadkar 03:43:23
slideshow is stop??? same slide last few minutes
- GOHIL KANA SINH 03:44:00
cnc any videos explane share slide
- deepak bhuttewadkar 03:48:24
sir you are sharing great information please share pics/video (for more clarity), we are from EC background
- deepak bhuttewadkar 03:49:41
ok fine
- Pkm Yedukondalu Rathikrinda 04:32:17

Smart CNC Machines - Dr.B.Vinod

Day 5

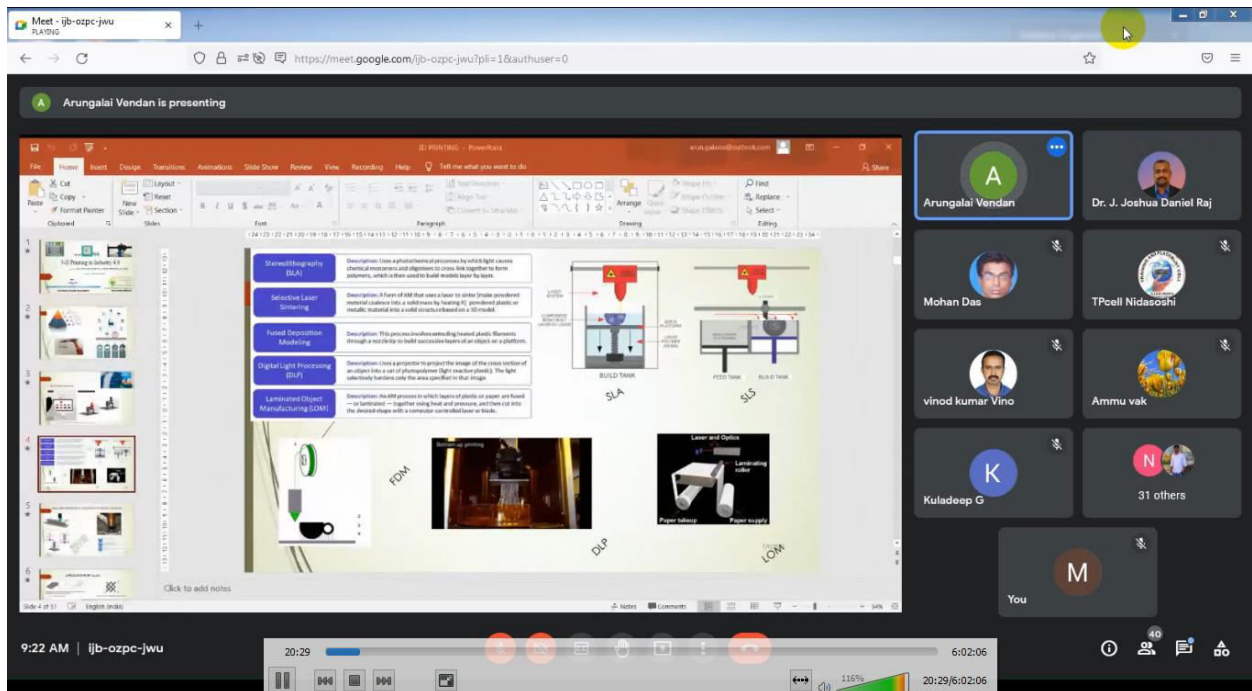
Influence of Control Engineering in Cyber Physical Systems



Dr. G. Prabhakar., M.Tech., Ph.D., MIEEE-CSS, MISTE, MSEEE, MIAENG.,
Associate Professor and Research Coordinator
Department of Electrical and Electronics Engineering,
V.S.B. Engineering College,
Karur-639 111, Tamilnadu, India.
Anna University Recognized PhD Supervisor (Recogn. No.: 3330024)
Guest Editor: Bentham Science Publications (RACSC & CSTT)

July 8, 5:43:57 gprabhakar2488@gmail.com, gprabhakar2488@iecc.org 7:52:24

Influence of Control Engineering in Cyber Physical Systems - Dr.G.Prabhakar



The screenshot shows a Google Meet window with a presentation titled "3D Printing in Industry 4.0- Piloting Digital Transformation" by Dr. S. Arungalai Vendan. The presentation slide is visible, detailing various 3D printing technologies:

- Wireless Laser (DLA)**: Description: Uses a photochemical process by which light causes chemical reactions and adhesion of cross link together to form patterns, which are then used to build models layer by layer.
- Selective Laser Sintering**: Description: A form of AM that uses a laser to sinter powder particles of metal, ceramic or plastic to form a solid structure based on a 3D model.
- Particle Deposition Manufacturing**: Description: This process involves depositing material through a nozzle onto a substrate to build an object layer by layer.
- Digital Light Processing (DLP)**: Description: Uses a projector to project the image of the cross section of an object into a vat of photosensitive liquid resin. The light selectively hardens only the area specified in that image.
- Laminated Object Manufacturing (LOM)**: Description: An AM process in which layers of plastic or paper are fused together in a computer-controlled process and then cut into the desired shape with a computer controlled laser or blade.

The slide also includes images of a "BUILD TANK" and "PRINT TANK" for SLS and DLP processes, and a "Laser and Optics" diagram for LOM. The meeting interface shows participants: Arungalai Vendan, Dr. J. Joshua Daniel Raj, Mohan Das, TPcell Nidasoshi, vinod kumar Vino, Ammu vak, Kuladeep G, and 31 others.

3D Printing in Industry 4.0- Piloting Digital Transformation - Dr.S.Arungalai Vendan

Meet - jib-ozpc-jwu

https://meet.google.com/jib-ozpc-jwu?pli=1&authuser=0

Hariram Satheesh is presenting

What we do

ABB is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB's success is driven by about 110,000* talented employees in over 100 countries.

The diagram illustrates ABB's business structure. At the top, 'Technology solutions' branches into 'Products', 'Systems', and 'Services & Software'. Below this, 'For whom Customers' includes 'Utilities', 'Industry', and 'Transport & Infrastructure'. At the bottom, 'Where Geographies' covers 'Asia, Middle East and Africa', 'Europe', and 'Americas'. Red lines connect the technology solutions to the customers and then to the geographies.

Participant list:

- Hariram Satheesh
- vinod kumar Vino
- Dr. Sumit Kumar
- Jnanesh Kalbag
- Mohan Das
- Daison Stallon
- Anand Singh
- 32 others
- You

11:41 AM | jib-ozpc-jwu

2:39:33

6:02:06

116%

2:39:33/6:02:06

Industry 4.0 and its Allied Challenges- Dr.B.Hariram Satheesh Kumar

Meet - jib-ozpc-jwu

https://meet.google.com/jib-ozpc-jwu?pli=1&authuser=0

Mohan PSP is presenting

The slide is titled 'AICTE Training and Learning (ATAL) Academy'. It contains several sections:

- AIMS:** To empower faculty to achieve goals of Higher Education such as access, equity and quality.
- Mission:** To establish AICTE Training and Learning (ATAL) cell in all the technical institutions. Encourage, Develop and Facilitate an effective ecosystem of technical learning. AICTE will support the establishment of AICTE Training and Learning (ATAL) cell in all the technical institutions. Encourage, Develop and Facilitate an effective ecosystem of technical learning. AICTE will establish AICTE Training and Learning (ATAL) Academies in Major Technical, Government and Autonomous. However, in those cases assistance may be given as per requirements. AICTE (TD) will have a standing cell who will coordinate with existing academies of AICTE and taking cells across the country. To establish Academies, web portal and monitor application for carrying out an application. To build a database of course/content, Value Propositions, Training material and training needs of technical institutions. Training needs analysis of technical manpower of the country.
- OBJECTIVE OF FACULTY DEVELOPMENT PROGRAM:** The Department of Electrical & Electronics Engineering, New Bannur College of Engineering (organizing Faculty development program on 'Implementation of Industry 4.0 in Challenges'). The use of digital industrial technology, known as Industry 4.0, has revolutionized the machine and IT systems that are connected in the value chain. The objective of the Faculty Development Program (FDP) is to provide exposure to Industry 4.0 concepts which re-examine the boundaries between virtual reality and the real world. This concept encompasses interdisciplinary knowledge in artificial intelligence, machine learning, sensors and actuators, cloud computing, cognitive computing and Internet of Things. Throughout the FDP, the participants will get holistic information on various disciplines and their contribution in building the concept of Industry 4.0. The recent trends in technological developments that form the building blocks of Industry 4.0 will be covered in detail. The design principles, challenges and the future of employees will also be addressed in the FDP.
- TOPICS & RESOURCE PERSONS:**
 - INTRODUCTION TO PLC PROGRAMMING:** Dr. CS Subramanian, Associate Professor-EEE, PSG Institute of Applied Science and Research, Coimbatore.
 - IoT ARCHITECTURES & APPLICATIONS:** Dr. J. Chandrashekar, Professor-ECE, Coimbatore Institute of Technology, Coimbatore.
 - HEALTH CARE & INDUSTRY 4.0:** Dr. S. Rajamangalak, ACM Distinguished Speaker, Founder and Chairman, Albert Einstein engineering and research Lab.
 - BUILDING AUTOMATION:** Dr. G. Manivannan, Associate Professor-ECE, Coimbatore Institute of Technology, Coimbatore.
 - INDUSTRIAL APPLICATION OF ADVANCED CONTROL, SYSTEM & OPTIMIZATION:** Mr. H. Pradeep, Scientist-E, Control and Instrumentation Group C-02, Thiruvananthapuram.
 - SMART SENSORS, CHALLENGES AND DIGITAL TRANSFORMATION:** Dr. Mani Lakshmi, Assistant Professor EEE, School of Engineering & Technology, Christ Deemed to be University, Bangalore.
 - 3-D PRINTING IN INDUSTRY 4.0 - PILLARS OF DIGITAL TRANSFORMATION:** Dr. S. Anandha Vasudevan, Assistant Professor-ECE, Reynolds Nageswari University, Bangalore.
 - INDUSTRIAL AUTOMATION - STRUCTURES & TECHNOLOGIES:** Mr. P. Anand Rao, Techno of Intel, SMEC Automation Pvt Ltd, Hyderabad.
 - MOBILE ROBOTS & IoT IN AGRICULTURE:** Dr. S.A. Prasadipati, Professor & Head-ECE, Head Karnataka's Center of AI & Robotics, Kuvempu College of Technology, Coimbatore.
 - SMART CNC MACHINES:** Dr. R. Vinod, Professor & Head, Robotics and Automation Department, PSG College of Technology, Coimbatore.
 - INDUSTRY 4.0 & ITS ALLIED CHALLENGES:** Dr. B. Balasubrahmanyan, Principal Scientist, ABB (ISPL), Bangalore.
 - ELECTRICAL VEHICLES & AUTOMOTIVE ELECTRONICS:** Dr. S. Kambhakar, Assistant Professor, NIT, Calicut.

Participant list:

- M Mahesh
- vinod kumar Vino
- VIJAYARAGAVAN SP
- Dr. Sumit Kumar
- Mahesh RajKumar
- Mohan PSP
- 42 others
- You

2:39 PM | jib-ozpc-jwu

5:37:33

6:02:06

116%

5:37:33/6:02:06

Vote of Thanks