

DEPARTMENT OF ELECTRICAL ENGINEERING

ACTIVITY REPORT

(2020-21)



GOVERNMENT ENGINEERING COLLEGE PALAKKAD

VISION OF THE INSTITUTE

Excellence through the wings of science and technology

MISSION OF THE INSTITUTE

To transform youth to talented engineers with creativity and integrity who can meet the technological challenges for the service of society.

VISION OF THE DEPARTMENT

To become a Centre of Excellence in Electrical Engineering and allied disciplines for the service of the society.

MISSION OF THE DEPARTMENT

- To impart high quality education to meet the challenges in the field of Electrical and Electronics Engineering.
- To nurture creativity and transform the young minds to become competent electrical engineers.
- To inculcate a sense of commitment to ethical values and a passion to serve the society.
- To foster research, innovation and entrepreneurship skills.

**DEPT.OF ELECTRICAL ENGINEERING
ACTIVITY REPORT 2020-21**

2. Details of Placement (2k17 Admission - NIL)

3.1. Student Achievements (2k17 Admission)

Sl. No.	Name	Semester	Participation in National or International Conference/Technical competitions / Arts / Sports / any other achievements Name of Program	Event	Achievement	Year
1	Gyanesh Krishna V	S7EE	Coursera course from Georgia Institute of Technology	Control of mobile robots		2020-21
2	Arshad Arif M	S7EE	Accenture	Digital skills		2020-21
3	Saajid K S	S7EE	Coursera course from Georgia Institute of Technology	Control of mobile robots		2020-21
4	Rahmath T A	S7EE	Stanford Online Resource	Introduction to the natural capital approach in department of defense		2020-21
5	Sreeraj S	S7EE	Coursera course from Georgia Institute of Technology	Control of mobile robots		2020-21
6	Ajana E A	S7EE	Coursera	Crash course on python		2020-21
7	Ajana E A	S7EE	Coursera course from Georgia Institute of Technology	Control of mobile robots		2020-21
8	Anupama V M	S7EE	DTU Technical University Denmark Coursera	Wind energy		2020-21
9	Jeslin Joy	S7EE	Coursera	Crash course on python		2020-21

3.2. Student Achievements (2k18 Admission)

Sl. No.	Name	Semester	Participation in National or International Conference/Technical competitions / Arts / Sports / any other achievements Name of Program	Event	Achievement	Year
1	IHJAS ASLAM A	S6EE	IEEE IAS SBC	webinar	participation	2020
2	Karthik B	S6EE	International quiz	quiz competition	silver honour (final round)	2020
3	GEETHU P	S6EE	Artifex (IEEE SB GEC PKD-WIE AG)	Digital painting competition	3rd position	April 2020
			SALVOS 2020 (Yearwise online fest)	English Poem Writing	2nd position	May 2020
4	SAGAR	S6EE	ONLINE EVENT BY PES CHAPTER IEEE SB GECI	TRICKY CIRCUITS	First	2020
5	VIBHU MOHAN	S6EE	DAKSHA 20	VANJIPAAT	FIRST PRIZE	2020
			COMMUNICATION SKILLS	ONLINE COURSE	Attended	2020
6	AJITH K P	S6EE	Electrical Power in Real World - Generation to Control	5 Day National Workshop by KSEB Officers (Christ College of Engg.)	Attended	2020
			Daksha	Malayalam Recitation Competition	FIRST PRIZE	2020
			Daksha	Malayalam Essay Competition	SECOND PRIZE	2020

7	Muhammed Nashrah k	S6EE	Saptha	Band war	volunteer	2020
			MHM	IEEE EVENT	volunteer	2020
8	SANDHYA N	S6EE	Design thinking	Webinar by IEEE CS SBC GEC	Participated	2020
			"Moon: The gateway to stars"	Webinar by IEEE GEC Palakkad	Participated	2020
			Life of Gandhi(NSS unit cell,TKM)	Quiz Competition	Participated	2020
			Deep Learning	Online workshop	Participated	2020
			Awareness on Covid -19 (Saintgits college of engineering)	Online quiz (NSS technical cell)	Participated	2020
			Wie Maestro	Quiz competition by IEEE SB GEC I	Participated	2020
			Online course on interview skills	online course of udemy	successfully completed	2020
			Kshitij 2021-IIT Kharagpur	Workshop	Participant	2020
			Petrichor 21 IIT PALAKKAD	Autodesk fusion 360 Workshop	Participant	2021
			Introduction to automotive cybersecurity	Workshop	Participant	2020
			Covid 19 Quiz	National health mission	Participant	2020
			ELECTRICAL SAFETY	IEEE WEBINAR	Participant	2020
			Introduction to renewable energy	In-SDES WEBINAR	Participant	2020
9	ATHULYA PK	S6EE	Session by Mr. KR Mohan Ananthanarayanan	IEEE Event	Coordinator	2020
			Jr Newton	IEEE Event	Coordinator	2020
			Peritia	IEEE Event	Coordinator	2020
			Webinar on basics of electric vehicles	IEEE Event	Coordinator	2020
			Women Equality day celebrations	IEEE Event	Coordinator	2020
			IAS chapter chairperson-2020-21	IEEE IAS Execom	Held the position	2020
			WIE Secretary-2020-21	WIE Execom	Held the position	2020
			IAS and CS Chapter inauguration	IEEE Event	Coordinator	2020
		S6EE	Moon:The gateway to stars	IEEE Event	Coordinator	2020
			Open Discussion	IEEE Event	Coordinator	2020
			Artifex	IEEE Event	Coordinator	2020
			Who is She?	IEEE Event	Coordinator	2020
			Western dance	Salvos	Coordinator	2020
			DAKSHA 20	Western group song	Participant	2020
DAKSHA 20	Hindi skit	Participant	2020			
10	Akhila V	S6EE	Road safety awareness webinar	NSS Event	Participant	2020
			Daksha annual arts fest _ Hindi skit (2nd)	Arts fest	Participant	2020
			Session by Mr. KR Mohan Ananthanarayanan	Webinar	Participant	2020
			Webinar on basics of electric vehicles	IEEE Event	Participant	2020
11	SNEHA K		Online quiz competition organised by NSS unit of TKM	Online quiz	Participant	2020
			Design thinking	Workshop by IEEE CS SBC GEC Palakkad	Participant	2020
			Awareness of covid 19(Saintgits college of engineering)	Online quiz (NSS Technical cell)	Participant	2020
			Wie maestro	Online quiz by IEEE SB GEC I	Participant	2020

3.3. Student Achievements (2k19 Admission)

Sl. No.	Name	Semester	Participation in National or International Conference/Technical competitions / Arts / Sports / any other achievements Name of Program	Event	Achievement	Year
1	Ahmed.m	S3EE	Webinar on topic recent trend in robotics-state level,	Webinar	Participation	2020
2	Alana N	S3EE	English Recitation conducted as a part of SALVOS'20 online arts and games festival of GEC PALAKKAD	College level arts fest	second prize	2020
			English Essay Writing conducted as a part of SALVOS'20 online arts and games festival of GEC PALAKKAD	College level arts fest	third prize	2020
			Webinar on aids awareness	Webinar	participation	2020
			Quiz conducted by pain and palliative care society, thrissur	Quiz	participation	2020
			Road safety awareness webinar conducted by Honda	Webinar	participation	2020
			Webinar on breast cancer awareness	Webinar	participation	2020
3	Anaswara.P	S3EE	The digital marketing workshop organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	Workshop	participation	2020
			The best manager contest organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	Workshop	participation	2020
			BIZCON-Global Entrepreneurial Submit organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	Workshop	participation	2020
			Energy quiz held conducted by APJ Abdul Kalam Technological University NSS Energy Cell	Quiz	participation	2020
4	ANEES MOHAMMED V	S3EE	Mapilappattu competition as a part of college level online cultural fest SALVOS 2020	College level arts fest	First Prize	2020
5	Anupama. R		Malayalam story writing competition conducted by gec palakkad	College level arts fest	third prize	2020
6	Baheera	S3EE	Pencil drawing in salvos 2020 conducted by gec palakkad	College level arts fest	third prize	2020
7	Deva Priya T	S3EE	salvos 2020 conducted by gec palakkad	College level arts fest	Volunteer	2020
8	Mufeedha binth musthafa m.m	S3EE	ARABIC POEM WRITING DAKSHA 20	College level arts fest	participation	2020
			Webinar in Recent trends in science,technology and socio economy.UEC college	Webinar	participation	2020
			ELEQUIZ 2020	Quiz	Participation	2020
9	Kiran C M	S3EE	Webinar on Recent trends in Electrical power system conducted by Angadi Institute of Technology and Management, Belagavi, Karnataka	Webinar	Completed	2020
10	Rachana Rajesh	S3EE	Attended a course of the webinar series "Techno-economic & management concepts in power sector" organised by In-SDES shoranur, kerala	Online course	Completed	2020

11	IRSHANA . M	S3EE	SUITS-The best manager contest organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	College level tech fest	Participation	2020
			BIZCON-Global Entrepreneurial Submit organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	College level tech fest	Participation	2020
			SWIPE-UP- The digital marketing workshop organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	College level tech fest	Participation	2020
			Regional Level Webinar on "AIDS AWARENESS" conducted by National Service Scheme,Vidya Academy of Science and Technology Thrissur	Webinar	Participation	2020
12	Drisya.S		Regional Level Webinar on 'AIDS awareness' by Vidya academy of science and technology, Thrissur	Webinar	Participation	2020
			Quiz Competition by TKM, Kollam	Quiz	Participation	2020
13	S SREELAKSHMY	S3EE	Regional Level Awareness Webinar. As a part of Global Handwashing Day Organised by NSS Cell, Thejus Engineering College Thrissur.	Webinar	Participation	2020
			Road Safety Awareness Webinar Conducted by Honda Motorcycle & Scooter India Pvt. Ltd	Webinar	Participation	2020
14	Pooja Raveendran	S3EE	SWIPE-UP- The digital marketing workshop organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	Wokshop	Participation	2020
			BIZCON-Global Entrepreneurial Submit organized as part of V-Fiesta 2020 by IEEE PIE Kerala Section.	Webinar	Participation	2020
15	Lakshmi S Raj	S3EE	Quiz on the topic "Electrical Engineering" conducted by EEE department of NSS College Of Engineering , Palakkad	Quiz	Participation	2020
			Participated National Level Webinar On " Recent Trends In Science Technology and Socio - Economy " Organized by Department of Applied Sciences and Humanities of Universal Engineering College , Thrissur	Webinar	Participation	2020
			Participated in the webinar on "Environment Technologies - Sustainable and Strong" organized by IEEE SIGHT MBCET SB , Mar Baselios College Of Engineering And Technology , TVM	Webinar	Participation	2020
16	FAHAD. C	S3EE	Participated in webinar on " Cyberspace: myths and facts " conducted by GADS	Webinar	Participation	2020
			Participated in road safety awareness webinar conducted by Honda motorcycle and Scooter india pvt Ltd	Webinar	Participation	2020
			Participated in regional level webinar on "Aids awareness " conducted by National service scheme of Vidya Academy of science and technology Thrissur	Webinar	Participation	2020
			Participated in seminar on " Importance of networking "	Seminar	Participation	2020

17	Malavika Suresh	S3EE	Participated in road safety awareness webinar conducted by Honda Motor cycle & Scooter India Pvt Ltd	Webinar	Participation	2020
			Participated in Regional Level Webinar on AIDS AWARENESS conducted by NSS Vidya Academy of science and technology Thrissur	Webinar	Participation	2020
18	Yadhukrishnan AK	S3EE	participated in the webinar on CyberSpace : Myths and Facts conducted by GADS	Webinar	Participation	2020
			participated in Road Safety Awareness Webinar Conducted by Honda Motorcycle & Scooter India Pvt. Ltd	Webinar	Participation	2020
			Blockchain : An Overview organised by CSI Student Branch Government Engineering College Barton Hill,Thiruvananthapuram	Webinar	Participation	2020
			ELECTROBOOM online electrical quiz competition organised by EMRC	Quiz	Participation	2020
			Webinar on Role of physics and engineering in cancer management conducted by NSS unit 201,564 of SJ CET	Webinar	Participation	2020
19	HARITHA ES	S3EE	Regional Level Awareness Webinar. As a part of Global Handwashing Day Organised by NSS Cell, Thejus Engineering College Thrissur.	Webinar	Participation	2020
20	SMINA. M	S3EE	Participated in the National online seminar of professional ethics & HR values organized by Ahalia group of Educational Institutions & Rural Entrepreneurship Development cell	Online Seminar	Participation	2020
			Participated in webinar on Good governance organised by NSS unit 512 St. College of Engineering & technology	Webinar	Participation	2020
21	Shibin Krishnan SR	S3EE	Western dance on Daksha 2020, Gec Palakkad	Western dance	Third Prize	2020
22	Sanjay B	S3EE	Techno - economic and management concepts in power sector organised by IN - SDES SHORANUR , KERALA.	Webinar	Participation	2020
23	SREENATH.U	S3EE	Participated in the webinar on Breast cancer conducted by Dr.Paul Augustine, Regional Cancer Center Thiruvananthapuram	Webinar	Participation	2020
			Participated in the Regional Level webinar on " AIDS AWARENESS " conducted by has National Service Scheme, Vidya Academy of Science and Technology Thrissur,	Webinar	Participation	2020
			Participated in the webinar on GOOD GOVERNENCE organized by NSS UNIT 512 of St. Thomas College of Engineering & Technology,Kannur	Webinar	Participation	2020

4. FACULTY ACHIEVEMENTS

1	Dr. Vinita Chellappan	Outstanding IEEE Student Branch Counselor, Malabar Subsection
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4.1 FACULTY PUBLICATION DETAILS

Year	Authors	Title of paper	Journal/Conf.	Journal/Conf. details
2021	Stella Kurian and Dr. Nisha G.K.	Torque Ripple Minimization of SRM using Sliding-mode Current Controller and Torque-sharing Function	International Online Conferences on Smart Grid Energy Systems and Control (SGESC-2021)	"In press"
2020	Salma Abdul Aziz Kormath, Muhammedali Shafeeque K, KT Ajmal	Non-Isolated Five Switch CCM Boost Inverter	IEEE International Conference On Electronics and Sustainable Communication Systems (ICESC), 2020	DOI: https://doi.org/10.1109/ICESC48915.2020.9155820
2020	Salma Abdul Aziz Kormath, Muhammedali Shafeeque K, KT Ajmal	Non-Isolated DCM/DCD Operated Step-Up Inverter Derived Novel CCM Operated Five Switch Step-Up/Down Inverter for Renewable Energy Applications	IEEE International 2020 International Conference on Power Electronics and Renewable Energy Applications (PEREA)	DOI: https://doi.org/10.1109/PEREA51218.2020.9339806

4.2 FACULTY TRAINING - STTP/ FDPs

Year	Faculty	Course Name	DTE/TEQIP /Others	Organiser	Period
2020-21	Vinita Chellappan	Research Initiatives in Advanced Control Systems	Muthoot Institute of Technology & Science	Dept. of Electrical & Electronics Engineering, MIT Ernakulam	Feb. 22-26, 2021
2020-21	Vinita Chellappan	State of the Art Technologies in EV Control	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 3-5, 2021
2020-21	Vinita Chellappan	Robotics - Modelling, Planning and Control - Phase I	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 15-20, 2021
2020-21	Vinita Chellappan	Research Trends and Advances in Navigation and Control of UAVs	DTE	Dept. of Electrical Engineering, CET Thiruvananthapuram	March 22-27, 2021
2020-21	Abdul kareem Puthiya Veettil	State of the Art Technologies in EV Control	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 3-5, 2021
2020-21	Abdul kareem Puthiya Veettil	Robotics - Modelling, Planning and Control - Phase I	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 15-20, 2021
2020-21	Abdul kareem Puthiya veettil	Advances in Deep Learning	DTE	Dept. of Computer Science and Engineering, CET Thiruvananthapuram	March 8-13, 2021
2020-21	Sajitha.M	Advances in Deep Learning Approaches	DTE	Dept. of Computer Science and Engineering, CET Thiruvananthapuram	March 8-13, 2021
2020-21	Sajitha.M	Robotics - Modelling, Planning and Control - Phase I	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 15-20, 2021
2020-21	Sajitha.M	Research Trends and Advances in Navigation and Control of UAVs	DTE	Dept. of Electrical Engineering, CET Thiruvananthapuram	March 22-27, 2021

2020-21	Muhammad Farooque EK	Research Opportunities, Challenges in Power Electronics for EV and Its Impact on Smart Grid.	NIT TRICHY	Department of Electrical and Electronics Engineering National Institute of Technology Tiruchirappalli	December 14-20,2020
2020-21	Muhammad Farooque EK	State of the Art Technologies in EV Control	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 3-5, 2021
2020-21	Muhammad Farooque EK	Advances in Deep Learning Approaches	DTE	Dept. of Computer Science and Engineering, CET Thiruvananthapuram	March 8-13,2021
2020-21	Muhammad Farooque EK	Robotics - Modelling, Planning and Control - Phase I	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 15-20, 2021
2020-21	Muhammedali Shafeeque K	Advances in Deep Learning Approaches	DTE	Dept. of Computer Science and Engineering, CET Thiruvananthapuram	March 8-13,2021
2020-21	Muhammedali Shafeeque K	Robotics - Modelling, Planning and Control - Phase I	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 15-20, 2021
2020-21	Muhammedali Shafeeque K	Cyber Security Analysis and Cyber Forensics	Others	Department of Computer Applications, Saintgits College of Engineering, Kottayam	December 16-20, 2020
2020-21	Muhammedali Shafeeque K	Recent Trends in Operation and Planning of Distribution System and Planning	Others	Department of Electrical and Electronics Engineering, NIT Trichy	January 04-08, 2021
2020-21	Stella Kurian	State of the Art Technologies in EV Control	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 3-5, 2021
2020-21	Stella Kurian	Robotics - Modelling, Planning and Control - Phase I	TEQIP	Dept. of Electrical Engineering, GEC Palakkad	March 15-20, 2021

4.3 VFS/VES/ EXPERT TALKS CONDUCTED FOR STUDENTS

Year	Faculty	Topic and Details of Faculty	VFS/VES/TEQIP/....	Class	Date(s)	Expenditure
2020-21	Vinita Chellappan	Hardware design and integration process employed to develop an Unmanned Aircraft System by Dr. Harikumar Kandath, IIIT Hyderabad	TEQIP - III Cell	S7EE	One session done	3000
2020-21	Abdul Kareem Puthiya Veettil	Expert talk on "Electrical standards and safety " Bu Noufal P. Electrical inspectorate palakkad	TEQIP - III Cell	S7EE	15/01/2021	4050
2020-21	Muhammedali Shafeeque K	Expert talk on "Electric Vehicle Architecture" by Dr. Sheik Mohammed S, TKM College of Engineering Kollam	TEQIP - III Cell	S7EE	30/03/2021	3000

4.4 FDP CONDUCTED BY THE DEPARTMENT

Year	Faculty	Course name	DTE/TEQIP/Others	No.of faculty attended	Period	Expenditure
2020-21	Sajitha.M & Muhammedali Shafeeque K	State of the Art Technologies in EV Control	TEQIP	125	March 03-05,2021	32250
2020-21	Dr. Vinita Chellappan & Muhammad Farooque E K	Robotics – Modeling, Planning and Control - Phase I	TEQIP	89	March 15-20,2021	38000

PHOTOGRAPHS OF MAJOR EVENTS IN THE DEPARTMENT



Session on ‘Electrical Safety Standards’ by Mr. Noufal P, Electrical Inspectorate



Students feedback on the session on ‘Electrical Safety Standards’

The slide is titled "Position sensors" and lists the following types: Inductive, LVDT, Indotsyns, and Resolvers. It features a diagram of an inductive sensor with a coil and a core, and a photograph of a red Inco-Order encoder. The advantages listed are: "Not affected by dust" and "unaffected by magnetic fields". The disadvantages listed are: "Needs excitation and signal conditioning" and "Needs shielding".

Session on 'Sensors and Actuators for Robots' by Prof. Ajith R R, CET, Thiruvananthapuram

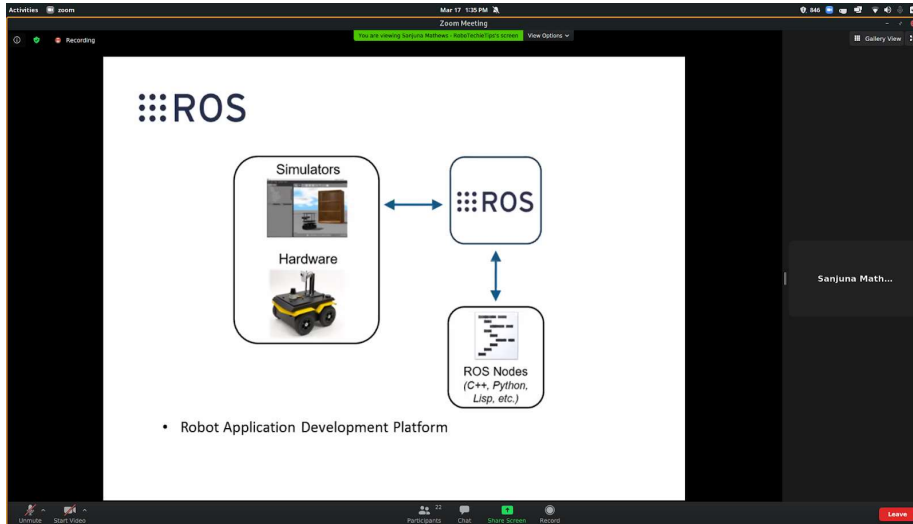
The slide features the logo of the National Institute of Technology Calicut at the top. Below it is a photograph of the institute's main building. The title of the presentation is "Robot Kinematics :Kinematic Modeling of Robotic Manipulators". The presenter is identified as "SUDHEER A.P Assistant Professor in Mechanical Engineering National Institute of Technology Calicut." The session is part of an "FDP, RITK" held "On 16th March 2021".

Session on 'Robot Kinematcs' by Dr. Sudheer A P, NIT Calicut

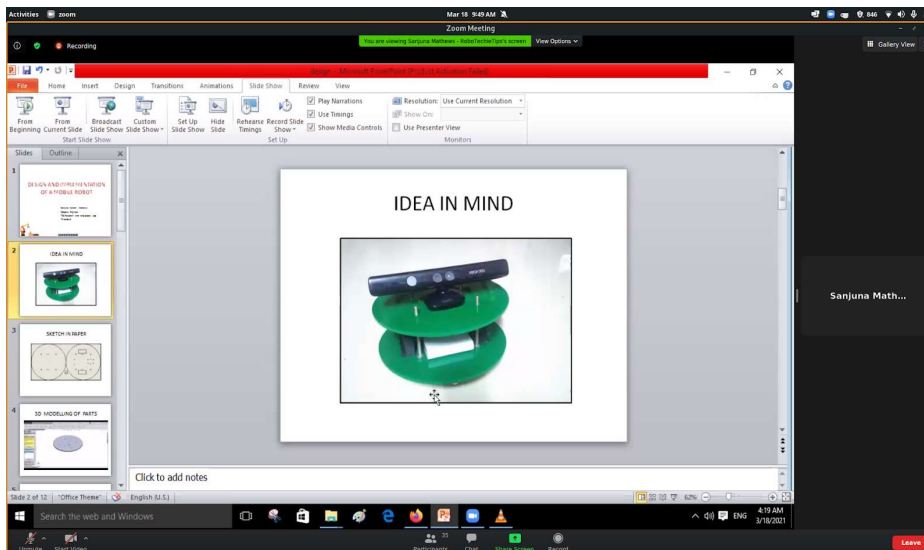
The screenshot shows a digital whiteboard with handwritten text. At the top, the word "solution" is written in green. Below it, a list of books is provided in blue ink:

- Books: J. J. Craig
- Fu, Lee, Gzalez
- Spong, Udiyasagan
- Skotim, Lee
- Sciortano
- Ghisal (IISc)
- Saha (IITD)

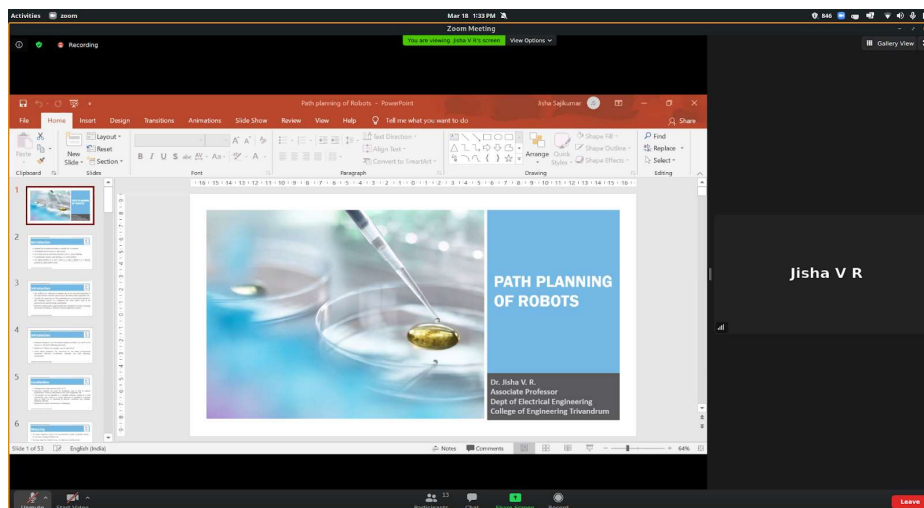
Session on 'Dynamics and Control of Robots' by Prof. Kurien Isaac, IIST, Thiruvananthapuram



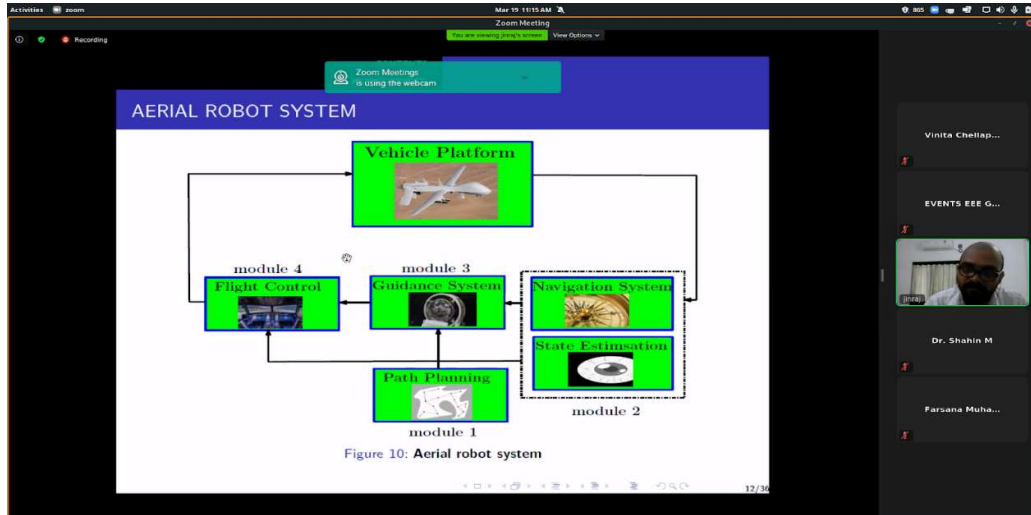
Session on Introduction to ROS by Sanjuna Mariam Mathews, TCS, Thiruvananthapuram



Session on 'Design and Implementation of a Robot' by Sanjuna Mariam Mathews, TCS, Thiruvananthapuram



Session on 'Trajectory planning' by Dr. Jisha V R, CET, Thiruvananthapuram



Session on 'Introduction to Aerial Robots' by Dr. Jinraj Pushpangathan, Research Fellow, IISc Bangalore

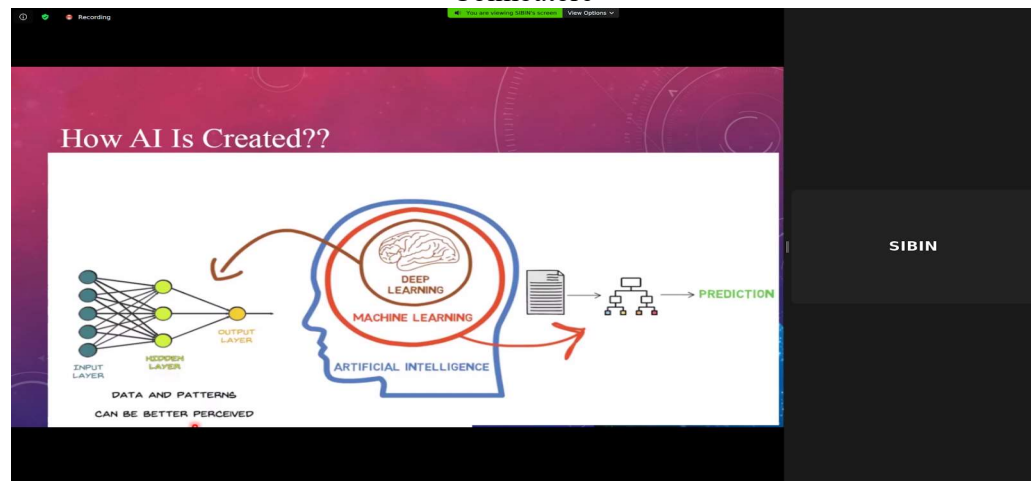
Service Robots

- Humanoid
- Surgical Robots
- Underwater Robots
- Ariel Robots
- Mining
- Space

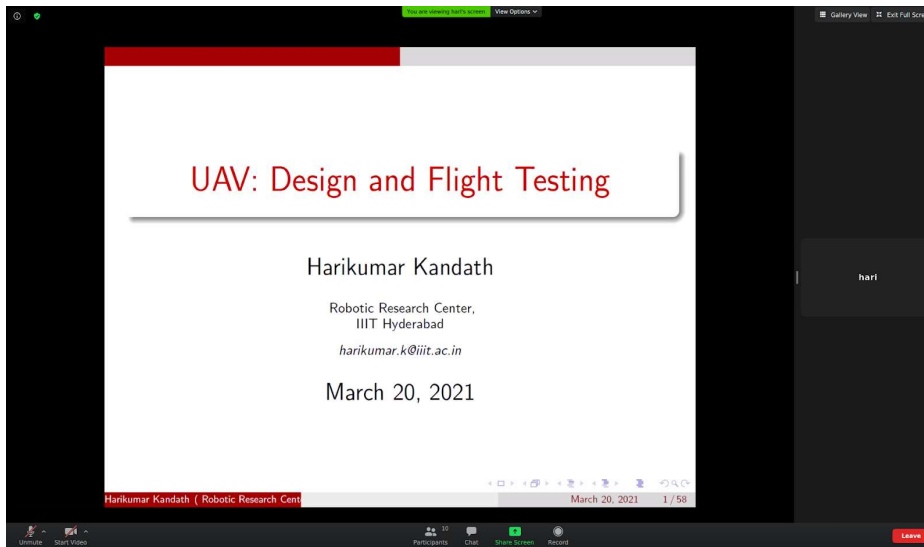
Dept. of RAE, PSG College of Technology

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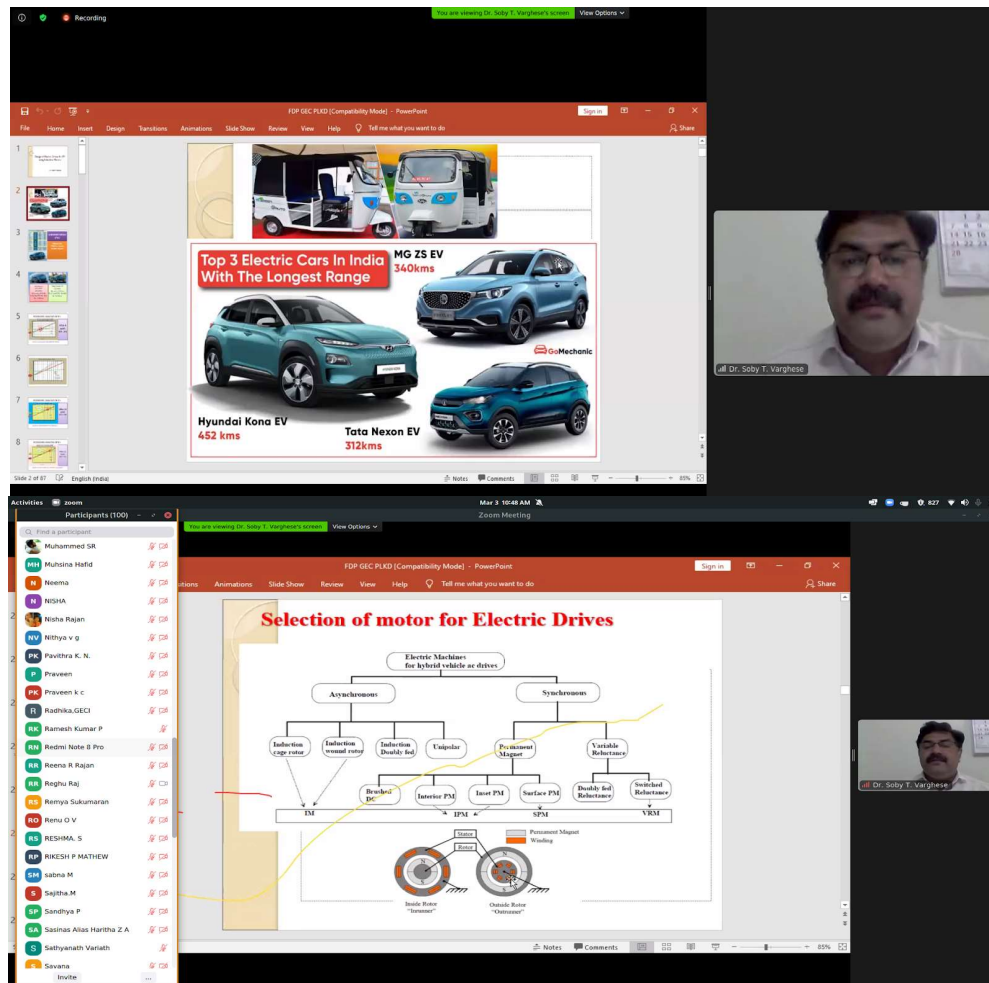
Session on 'Industrial and Service Robots by Prof. Vinod Balakrishnan, PSG College of Engineering, Coimbatore



Session on 'Artificial Intelligence in Robots' by Er. Sabin Sam, Siemens



Session on Design and Implementation of an Aerial vehicle by Dr. Harikumar Kandath, IIIT Hyderabad



Session on "Design of Electric Drives for EV using Induction motors "by Dr.Soby T Varghese,Asst.Professor,College of applied Science ,Chelakkara

Inner current control loop

$$i_L^*(t) = M \sin \omega_g t$$

$$I_L^*(s) = \frac{M\omega_g}{s^2 + \omega_g^2}$$

$$\frac{E(s)}{I_L^*(s)} = \frac{1}{1 + C(s)(I_L(s)/d(s))}$$

$$E(s) = \frac{1}{1 + C(s)\left(\frac{I_L(s)}{d(s)}\right)} \left(\frac{M\omega_g}{s^2 + \omega_g^2}\right)$$

Session on "Power converters for EV applications" by Dr.Shreelakshmi M P, Asst.Professor, NIT Calicut

Control System Aspects of Electric Vehicles

Dr. Ramesh Kumar P
EEE Department
GEC Thrissur

Online Faculty Development Programme
on "State of the Art Technologies in EV Control"
Government Engineering College Palakkad-Kerala,
Mar. 04- 2021

Session on "Controllers for Electric Vehicles" by Dr. Ramesh Kumar P, Asst.Professor, GEC Thrissur

DC Motor Speed Control

inQbe

Session on "Hardware Implementation of BLDC Drive for EV" by Mr.Mohamed Aslam, CEO,inQube Innovations