



**DEPARTMENT OF MECHATRONICS ENGINEERING**

**Annual Report 2020-21**

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1	E-commerce in IT Industry
2	Mechatronics Engineer – An Industry Perspective
3	Balancing and Fault Diagnosis in Industrial Machines using FFT Analyzer
4	Industry Expectation from The Engineering Graduates
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7	Role of AI in Industries
8	Higher Education in USA & GRE Preparations

**MECHATRONICS & AUTOMATION CLUB FOR  
XPLORATION**

Mechatronics and Automation Club for Xploration (MACX) is a Technical and cultural Association run by and for the students of Mechatronic Engineering, MITE Moodbidri, under the guidance of a faculty coordinator. It is headed by the President, Vice President, Secretary, Treasurer, Sports Coordinator and Cultural Coordinator who are nominated and elected by the students of the department.

Since its inception in 2014, MACX has been actively organizing various activities to instill passion, vigor and enthusiasm amongst the students. It has consistently been the pioneer in subduing difficulties of the various aspects of technical fields through guest lectures, workshops, seminars, tech-talks and alumni interactions. The prime motive of the association has been to encourage students to display their hidden talents and to provide a platform to showcase their competence and nourish interpersonal skills which would help them in realizing their dreams.

The association also focuses on keeping up with the present trends by actively organizing workshops on current technologies and guiding students for higher education by various interactive sessions. Students are also mentored and encouraged to participate in social impact programmes such as blood donation camps, Swachh Bharat Campaigns, Visits to Orphanages and old age homes and providing selfless service to rural areas to aid in overall development.



### **MTR01: Webinar on Importance of E-Commerce in IT Industry**

Mr. Ramesh Babu, Principal consultant, Infosys spoke to 98 students from Mechatronics Engineering on 25<sup>th</sup> September 2020 on Ecommerce in IT industry. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems, he said. The webinar then focused on the Logistics in e-commerce mainly concerns fulfilment. Online markets and retailers have to find the best possible way to fill orders and deliver products. Most large companies hire a fulfilment service that takes care of a company's logistic needs, he said.



### **MTR02: Webinar on Mechatronics Engineer: An Industry perspective**

Ms. Abhinandan Shreekumar, Product Lead, Incubation/ Innovation Lab, Servify spoke to 96 students of Mechatronics on the scope of Mechatronics Engineering and the essential technical skills that the industry looks forward to. The webinar was held on 03<sup>rd</sup> October 2020. He also stressed on graduates to put efforts to develop both communication and technical skills to excel in their profession. Students must strike a balance between the two to ensure that they are relevant in the industry. Communication is key for understanding customer requirement and cater to their needs. Student needs to learn subjects with an orientation towards applications to solve problems with the tools that engineer he said.

**MTR03: Webinar on Balancing & fault diagnosis in industrial machines using FFT analyzer**

Mr. Madhusudhan Nagaraj, ISO CAT-2 Vibration Analyst, Diagnostic Engineers addressed the Final year Mechatronics and pre-final year Mechatronics Engineering on basics of vibration, including simulation of spring-mass-damper system, importance of vibration reduction and its use in industrial machines were covered with damping effects. The webinar was held on October 10, 2020. The basics of vibration was covered in detail along with free vibration, damped vamped and forced vibration. A wide number of major case studies handled by resource person, during his 20 years of professional career were presented to participants.

**MTR04: Webinar on Industry Expectation from the Engineering Graduates**

Manava Ratna Dr.(Hc) PGK NAIR, Chairman and Mentor, Tia Technology spoke to students on the role of engineers and how industries perceive the importance of engineering role and what is expected from the freshers on 28<sup>th</sup> October 2020. The speaker highlighted the importance of skillsets rather than plain knowledge and asked the students to explore it through innovation and creativity. The students were also informed to be updated with the current trends in the field of science so that it will provide them an edge over the other potential jobseekers. The event had 142 students of Mechatronics Engineering.

**MTR05: Webinar on Industrial Automation**

Mr. Santhosh M S, Senior Manager, Sales Didactics spoke to 98 final & pre final year Mechatronics students on 29<sup>th</sup> October 2020. He briefed about the Hydac India Pvt Ltd, and the components manufactured by them. He explained the concepts of hydraulics and pneumatics and the way in which they are integrated into smart systems to overcome the problems associate with them. Briefing about the process automation, he explained the use of PLCs and Sensors to implement discrete process control to incorporate the use of digital sensors and actuators. The use of control was explained by referring to the Industrial Robots and IOT enablers and emerging trends in Industrial automation.

**MTR06: Webinar on Introduction to technical concept in a merchant ship**

Mr. Paul George Thailath, Chief Engineer, Synergy Maritime Pvt. Ltd. spoke to 46 students of the final year Mechatronics Engineering Paul shared experiences of his challenging yet rewarding career in merchant ship. The webinar was held on 11<sup>th</sup> November 2020. A merchant ship engineer needs to toil day or night for months, with ultra-flexible hours of work. It's like – Work, Eat, Sleep, Repeat, he said. Marine engineer requires a specialized set of skills require to operate, monitor and maintain a 4 storey, 600 tonner engine which produces power almost equivalent to 50 BMWs (III series), he said. He informed that team work plays a major role for all the onboard activities and shared the trails of unpredictable weather.



**MTR07: Webinar on Role of AI in industries**

Mr. Arun Kumar, Founder, Ensimumylix Technologies elaborated the application of the AI at work, daily life and in business opportunities to 65 students from Mechatronics Engineering on November 12, 2020. He discussed the elements of AI such as knowledge representation, automated reasoning, expert systems, conversion from speech to text and robotics. The speaker also discussed the types of AI, the year 2020 the narrow AI, 2040 the general AI and the above the year 2060 it is called as super AI. The general AI is human level AI that can match human intelligence. The session was followed by the application of AI in different domains one is health care systems

**MTR08: Webinar on Higher studies in the US & GRE preparations**

Ms. Anuradha M Rangreji, Data Engineer (Master's in Computer Science), University of North Texas, Humana, USA addressed the final year Mechatronics Engineering students on the admission process for Post-Graduation at US universities and selection of the right universities on November 21, 2020. She discussed about applications, course available and mock test. Discussions were held regarding GRE and TOEFL/IELTS, options of internships, stay back period and number of working hours were discussed. The resource person has briefed about fee structure and scholarships etc.