

Alumni Talk

Dynamic Modelling and Feedback Control in Mechatronics Applications.

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Taranjit Singh completed his bachelor of engineering in Mechatronics from GCET in 2012. He pursued his career in Mechatronics Engineering and joined Msc. at Technical University Hamburg – Harburg, Hamburg, Germany. He also worked as a researcher at Institute of Space Systems, German Aerospace Centre Bremen, Germany. He is pursuing his PhD at Department of Mechanical Engineering KU Leuven University, Belgium. He is working in the area of feedback control of linear system with optimal sensors and actuator selection. He shared his research experience with second year, third year and fourth year Mechatronics students. He explained fundamentals of dynamic modelling, system identification and feedback control of Mechatronics systems. He discussed about Drone formation and collision avoidance during inspection or maintenance of gas pipes in industry. He also shared his experience and research at German Space Centre related to the checking leg flexibility of lender for space exploration where, the controlled load was applied through heavy robots. He also discussed dynamic modelling of space vehicle at Entry Descent and Landing (EDL). He discussed the feedback control design of trailer to be pulled by bicycle with the least effort. Moreover, he explained the disturbance rejection of overhead crane through proper feedback control system. He also provided information regarding active seismic feedback controllers of high rise buildings. He also discussed the dynamics and controls of light robots. His talk was very much informative and encouraging for Mechatronics students.