Report : Talk on Agile Flight of Vision-Controlled Micro Flying Robots

by Prof Davide Scaramuzza On 18th March 2015

Renowned Robotics specialist, Prof Davide Scaramuzza from the University of Zurich, Switzerland visited Indian Institute of Information Technology, Allahabad during 18-19, March, 2015. He gave an overview of his research activities on visual navigation of MAVs, from slow navigation (using standard frame-based cameras) to agile flight (using eventbased cameras) on 18th March 2015 at IIITA Auditorium. He also briefed the students about quadrotors .This was first technical event under the umbrella of IEEE Robotics and Automation society held in IIITA.



Short Biography of Davide Scaramuzza :

Davide Scaramuzza (1980, Italian) is Assistant Professor of Robotics at the University of Zurich. He is founder and director of the Robotics and Perception Group, where he develops cutting-edge research on low-latency vision and visually-guided micro aerial vehicles. He received his PhD (2008) in Robotics and Computer Vision at ETH Zurich (with Roland Siegwart). He was Postdoc at both ETH Zurich and the University of Pennsylvania (with Vijay Kumar and Kostas Daniilidis). From 2009 to 2012, he led the European project "sFly", which introduced the world's first autonomous navigation of micro quadrotors in GPS-denied environments using vision as the main sensor modality. For his research contributions, he was awarded an ERC Starting Grant (2014) through the SNSF, the IEEE Robotics and Automation Early Career Award (2014), a Google Research Award (2014), the European Young Researcher Award (2012), and the Robotdalen Scientific Award (2009). He is coauthor of the 2nd edition of the book "Introduction to Autonomous Mobile Robots" (MIT Press). He is author of the first open- source Omnidirectional Camera

Calibration Toolbox for MATLAB, also used at NASA, Bosch, and Daimler. He is also author of the 1-point RANSAC algorithm, an effective and computationally efficient reduction of the standard 5-point RANSAC for visual odometry, when vehicle motion is non-holonomic. His research interests are field and service robotics, intelligent vehicles, and computer vision. Specifically, he investigates the use of cameras as the main sensors for robot navigation, mapping, exploration, reasoning, and interpretation. His interests encompass both ground and flying vehicles.