Laboratories in EEE

converging towards the low-voltage low-power applications and the wireless personal communication systems. Such trends also include very large mixed technology integration as in Multi Chip Module (MCM), as well as very large mixed signal integration as in System-on-Chip (SOC) or System-on-Chip-in-package-in-Package (SOICIP). Circuits for biomedical applications will also be the focus of attention for the Centre in light of the emphasis towards life sciences.

Centre for Modeling and Control of Complex Systems

Complex systems is a field of science that cuts across all traditional disciplines of science, as well as engineering, management, and medicine. The complex systems concepts originate from efforts to understand physical, biological and social systems and they now provide a new unity of approach to many different problems and applications. The study of complex systems may focus on certain questions about parts, wholes and relationships of these systems. Indeed the field of complex systems has provided a number of sophisticated tools, some of them concepts that help us think about these systems, some of them analytical for understanding these systems in greater depth, and some of them computer based for describing, modeling or simulating these systems.

Photonics Research Center (PhRC)

The Photonics Research Group in the Division of Microelectronics was formed in 1994 and has been recognized for its active contributions to the development of the photonics industry in Singapore and globally through training, research and consultancy. Photonics is recognized worldwide as an enabling technology in the 21st century covering a broad spectrum of applications from biomedical, information technology and telecommunications to microelectronics. In Oct 2002, the Research Group comprised 16 academic staff, 25 research staff, 25 research students and 10 supporting technicians. Since its formation in 1994, the Photonics Research Group has secured research funding of more than S$20M. Currently the group has 15 on-going research projects with an aggregate funding of S$11M. The Research Group has been actively publishing research findings in various learned international journals and has filed numerous patents. The group’s innovation in research has led to two spin-off companies: Inventive Fibre Pte Ltd was set up to commercialize innovative and differentiated fiber-optic sensor technologies for structural health monitoring applications, and DensaLight Semiconductors Pte Ltd to commercialise semiconductor-based devices for the telecommunication industry.

The recent addition of two new blocks of laboratories has eased the pressure on lab space. They provide a conducive environment for undergraduates and research staff to conduct their experiments and research projects.

The new blocks are well equipped; in terms of lab equipment, apparatus, instruments, chemical storage, special services, network services and high capacity power supplies. The overall standard in the design of the labs meets the requirements and the needs of an undergraduate training favourably and is also conducive for scholarly endeavours and investigations.

Undergraduates and research staff alike warmly welcome the new settings and facilities. The non-academic staff in these new blocks also look on with pride. The general feeling is that the new laboratories will help to enhance the reputation of the School, securing more recognition from professional institutions.

List of 16 New Laboratories in EEE • Power Engineering Design Lab • Centre for Integrated Circuits & Systems • Media Technology Lab • Software Engineering Lab • Intelligent Robotics Lab • Process Instrumentation Lab • Biomedical Instrumentation Lab • Spacecraft Assembly Lab • Satellite Design Lab • Satellite Engineering Lab • Module Assembly Lab • Mechanical Assembly Lab • Microfabrication Facilities Lab • Photonics Training Lab • Sensors & Actuators Lab VII • InfoComm Research Lab