Department of Physics at the University of Yangon

KHIN KHIN WIN
DEPARTMENT OF PHYSICS, UNIVERSITY OF YANGON

The University of Yangon was established in 1878 as an affiliated college of the University of Calcutta. At that time, the affiliated college was called the Rangoon College. In 1904, the college was renamed as the Government College and subsequently the University College in early 1920. Rangoon University was officially founded in December 1920 through the University of Rangoon Act. Established as the first and oldest university in Myanmar, the University of Yangon soon became one of the most prestigious universities in South East Asia. Currently, there are about twenty academic departments at the university, including twelve arts departments and eight science departments. Each academic year is comprised of two semesters; the first semester starts on the first week of December and lasts until the last week of March, while the second semester starts on the first week of June and lasts until the last week of September.

HISTORY OF THE PHYSICS DEPARTMENT

The Department of Physics began soon after the establishment of the University of Yangon. Located at the right side of Chancellor Road within the main Yangon campus as a three-storey science building, the department currently offers undergraduate and graduate education leading to the following types of degrees: BSc, BSc (Hons), MSc, MEP, MRes, DAP and PhD. The department also offers laboratory courses in electronics, nuclear physics, and X-ray crystallography, Courses on thin film solar cells and nanotechnology are taught at the postgraduate level. Courses on heat; sound; electricity and magnetism; mechanics; atomic physics; and a computer based laboratory (CBL) are available at the undergraduate level.

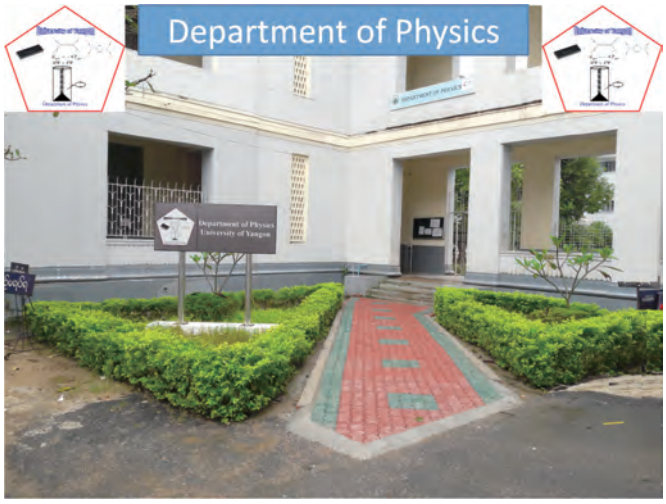

Fig. 2: The Department of Physics at the University of Yangon.

Fig. 3: The university library at Yangon University.

CURRENT RESEARCH AREAS

The department has several key focus areas in research. These areas range from material science to renewable energy and nuclear physics to theoretical physics. Some of particular areas of focus are as follows:

- Materials Science: Thin film solar cells; organic photovoltaic cells; organic inorganic perovskite solar cells; dye sensitized solar cells; ferroelectric thin film memory devices; ferroelectric ceramic; biomass and biochar; graphene oxide and conductive graphene layers; nanoparticles; nanofibers; nanorods; nanowire fabrication; biomaterials.
- Microelectronic: Microcontroller based applications, sensors network.
- Renewable Energy: Photovoltaic applications, wind energy, solar thermal, biomass energy.
- Nuclear Physics: Radon measurement; shielding for protection from radiation; radiation monitoring & analysis; pollution in different regions and states (industrial zones, rivers, and caves).
- Signal and Image Processing: Fuzzy logic controls and intelligent systems; embedded systems designs; integrated navigation systems; micro-fabrication; digital signal processing; digital water marking techniques, DSP (digital single processor) architectures, computer vision with medical imaging.
- Theoretical Physics: General relativity; theoretical astrophysics and cosmology; dark matter; dark energy and computational magneto-hydrodynamics (CMHD); astrophysical fluid dynamics (AFD); on-commutative geometry and quantum mechanics.

Khin Khin Win is a professor and head of the Department of Physics, University of Yangon. She received her PhD in information technology from the joint collaboration of the University of Yangon, Myanmar, and Sejong University, the Republic of Korea. She was awarded her BSc (Hons) and MSc by the University of Yangon, Myanmar. She is the chairperson for the Physics Curriculum & Syllabus Committee for Basic Education, Board of Studies for Higher Education (Physics) and the PhD Steering Committee (Physics, Yangon). She is also a member of the Institute of Physics (IOP).