



The purpose of this circular is to provide information on the current research support facilities of the Research Institute of Sciences and Engineering (RISE). Currently, the following facilities are being established in RISE to serve university researchers:

- Advanced Materials Research Laboratory
- Transportation and Pavement Research Laboratory
- Geographic Information Systems & Remote Sensing Center
- Renewable Energy Research Laboratory
- Multi-Purpose and Multi-Functional Workshop
- Electrical and Electronics Workshop
- High Performance Computing Facility
- Integrated Analytical Laboratory
- Functional Nanomaterials Synthesis Laboratory
- University of Sharjah Seismic Station



Advanced Materials Research Laboratory

The Advanced Materials Research Laboratory is a general user facility for material synthesis, characterization, and testing. It houses a number of high end machines for XRD, XRF, micro-Raman, AFM, and SEM analysis. The lab specializes in dry and non-destructive analysis in areas such as cultural heritage and archaeometry, as well as nano- and micro-scale materials for energy and environmental applications. The lab provides training opportunities for researchers and technicians in different analytical techniques. It also engages the community by providing consultation and training services to municipalities, forensic labs, environmental agencies, museums, and the energy sector, among others.



Transportation and Pavement Research Laboratory

The Transportation and Pavement Research Laboratory is being developed as a world-class research facility equipped with advanced testing machines, devices and innovative technology to address transportation research; pavement performance analysis, design, rehabilitation, and management; advanced material testing and characterization; development of new and sustainable materials; as well as the development and dissemination of sustainable transportation and pavement practices.



Geographic Information Systems & Remote Sensing Center

The mission of Geographic Information system and Remote Sensing center is to develop a spatial information technology that serves the community and provide interdisciplinary leadership through research, education, and outreach. The center provides spatial knowledge and expertise for multidisciplinary areas related to environmental monitoring, water resources management, transportation, natural hazard and risks management as well as geo-petroleum industry. The center's ambition is to acquire a respectful status within the UAE



and the region as a credible research center through developing and spreading scientific knowledge related to satellite images and geospatial technology.

Renewable Energy Research Laboratory

The mission of the Renewable Energy Research Laboratory is to support the renewable energy research and development program at the university in the areas of solar energy, biofuels, biomass energy systems, wind energy, geothermal energy, energy efficiency and energy management. The Renewable Energy Development Facility will serve also as a testing facility for collaborative research projects between Academia and Industry in the energy field.



Multi-Purpose and Multi-Functional Workshop

The purpose of establishing the workshop is to provide researchers with a facility capable of manufacturing a wide range of experimental setups and small equipment. The workshop has two divisions, a fabrication division and electrical/electronic division. The fabrication division provides researchers who require customized fixtures to contact the dedicated experience technician and use the state-of-the-art machinery. The computer-numerical control (CNC) milling and turning centers are capable of producing parts that are designed on CAD software, which ensures narrow tolerances on all types of conceivable materials. The workshop is also expected to help graduate and undergraduate students with their projects that require specialized machining.



Electrical and Electronics Workshop

Electrical and Electronics Workshop is research support facilities/ fabrication workshop for specialized research activities under the Research Institute of Sciences and Engineering (RISE). The Workshop actively contributes to the applied researches in the different fields of electrical and electronics including analog-digital, sustainable-renewable energy, circuits and systems design besides considering scientific consultancy services.



High Performance Computing Facility

The High Performance Computing Facility is a general user facility that is open to researchers from all fields. The facility will provide unique opportunities for a wide range of applications in science/ engineering encompassing materials research, data science, and other engineering applications. The facility will also be valuable for interdisciplinary research in the medical fields, drug discovery, and even business and the humanities. Researchers can deploy their own software as needed, but they can benefit from an impressive list of available tools that include major compilers, parallelization software, classical molecular dynamics software, ab initio electronic structure and molecular modeling software, as well as other mathematical and visualization software



Integrated Environmental Analytical Laboratory

The Integrated Analytical Laboratory is a state of the art laboratory with a wide range of high resolution and sensitivity instruments including: LC MS/MS, GC MS/MS, HPLC, ICP, TOC, I.R, U.V., and other instruments. The laboratory is meant to support researchers from a variety of disciplines, including but not limited to water and environment, chemistry, applied biology, energy, health sciences, and medical sciences. The laboratory has facilities that can be used to conduct sensitive analyses supporting research and studies in the areas of



environmental quality and pollution, food and product quality and contamination, drug development and evaluation, along with performance of chemical and biological pollution treatment and production systems. In addition, the lab supports studies meant to assure safety and efficacy of pharmaceutical products for human use and studies addressing risk associated with hazardous pollutants in the environment and developing treatment systems to control environmental pollution.

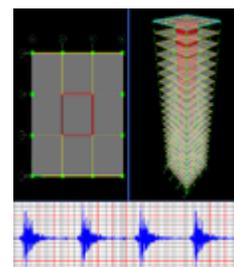
Functional Nanomaterials Synthesis Laboratory

The laboratory mission is to support the diverse and vigorous research interests in materials, specifically those of the nanosize, and to help broaden international collaboration in this growing research field. The laboratory caters to the needs of researchers involved in discovery of nanoparticles science and real world applications in the various science, engineering, environmental, health and medical fields. Overall, the laboratory is comprehensive in synthesis of nano materials, including nanofibers, nanocomposites and nanofilms.



University of Sharjah Seismic Station

The University of Sharjah Seismic Station (UoS) was established according to an agreement signed between the University of Sharjah (UoS), the University of California at San Diego, and the Incorporated Research Institutions for Seismology (IRIS). The UoS was inaugurated on 20th March 2011 in Wadi Al-Helo in Sharjah and was meant to advance international scientific collaboration on seismology through contributing high-quality and open-access data to the scientific community for research and education on earthquake hazard mitigation. Likewise, the data is available to the Indian Ocean Tsunami Warning Centers to provide early warning to countries bordering the Indian Ocean should earthquake occur and cause a tsunami.



Contact Information

Research Institute of Sciences and Engineering (RISE)
University of Sharjah
Phone: + 971 (06) 5050919
Internal Ext: 2919
RISE@sharjah.ac.ae

