UWI
ST. AUGUSTINE CAMPUS

Instrumentation Engineer (Level II)

FURTHER PARTICULARS

Be part of a Great West Indian Tradition

The University of the West Indies (UWI) is a well-established independent university that serves 17 countries of the Commonwealth Caribbean: Anguilla, Antigua & Barbuda, The Bahamas, Barbados, Belize, Bermuda, The British Virgin Islands, The Cayman Islands, Dominica, Grenada, Jamaica, Montserrat, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Trinidad & Tobago, and the Turks & Caicos Islands. Read more …

Ranked Among the Best

An innovative, internationally competitive, contemporary university deeply rooted in the Caribbean, The UWI is an international university, in every respect, with links extending beyond the region to well over 100 universities worldwide.

The Times Higher Education rankings in 2018 and 2019, placed The UWI as the number 1 ranked university in the Caribbean out of over 200 registered institutions across the region; and among the top 3% of some 2,000 registered universities in the wider Latin America and the Caribbean. In 2020 The UWI was ranked among the THE's top 100 "Golden Age" universities established between 1945 and 1967. Read more …

About UWI

The first of UWI's five campuses began in 1948 at Mona, Jamaica, as a College of the University of London. The St. Augustine Campus in Trinidad & Tobago was added in 1961 and UWI achieved full university status in 1962. St. Augustine was followed by campuses at Cave Hill, Barbados (1963), the Open Campus (2008), and the Five Islands Campus in Antigua & Barbuda (2019). Read more …

Our 8 Faculties

Teaching at the St. Augustine Campus takes place within eight faculties - Engineering, Food & Agriculture, Humanities & Education, Law, Medical Sciences, Science & Technology, Social Sciences, and Sport. Each Faculty offers a wide range of undergraduate and postgraduate programmes. Find out more …

Get to Know Us

Visit https://www.uwi.edu/ to find out more about The UWI. For more on the St. Augustine Campus, visit https://sta.uwi.edu/ . Read the latest Campus news in our monthly publication, *UWI Today* and follow us on social media Facebook , Twitter, Instagram, YouTube, LinkedIn.

About The UWI SEISMIC RESEARCH CENTRE

The UWI Seismic Research Centre (SRC) was set up in 1953 and became part of The UWI in 1962. From its headquarters in Trinidad, it operates a network of seismograph stations extending from Trinidad and Tobago through the Lesser Antilles to St. Kitts. The SRC is responsible for monitoring earthquake and volcanic activity in these 11 islands. Persons interested in this post are strongly advised to visit our website at http://www.uwiseismic.com to learn more about the operations of the SRC.

The region in which these islands are located is seismically active and historically has been the site of earthquakes of magnitude greater than 8.0. There are at least 21 live volcanoes in the region, some of which have known historical eruptions. Among the volcanoes that have shown recent eruptions are: La Soufrière in St. Vincent (2020 – 2021), Soufrière Hills Volcano in Montserrat (1995 – present), and Kick 'em Jenny (2017, 2015, 2001, and 1990).

The main method of day-to-day monitoring of these phenomena is the operation of over 60 instruments that comprise a mixture of three-component broadband seismograph stations, three-component short-period seismometers, strong motion stations and single vertical component stations. All three-component stations send their data and those from associated single component stations, to Trinidad using satellite and/or internet technology. Other monitoring techniques in use include ground deformation measurement and thermal and geochemical (gas and water chemistry) measurements. The SRC has an active programme of research in the field of geoscience aimed at complementing hazard awareness, risk assessment and early warning.

The SRC cooperates closely with other seismological and volcanological institutions both within the region and abroad. Although the primary function of the SRC is concerned with public safety, there are ample opportunities for original research and staff members are strongly encouraged to develop independent research projects and to publish their results in the international literature. Since SRC is an integral part of The University of the West Indies, supervision of graduate students is encouraged. The Department offers programmes of study leading to:

Postgraduate:

- M.Phil. Seismology
- M.Phil. Volcanology
- PhD. Seismology
- PhD. Volcanology

A significant proportion of the income of the SRC is raised through external grants. All members of staff are encouraged to develop their skills in soliciting external funding. The SRC is also currently responsible for managing the operations of the Montserrat Volcano Observatory (MVO) in Montserrat and has six members of staff permanently stationed on the island.

Current Members of Staff

SRC has provision for a staff complement of 26 persons including 13 Academic, Senior Administrative and Professional Staff and 13 Administrative, Technical and Service Staff. The complement of professional staff is split between Trinidad and Montserrat and includes the following persons:

Dr. Erouscilla Joseph	B.Sc. (UWI), M.Phil. (UWI), Ph.D. (UWI) – Director SRC
Prof. Richard Robertson	B.Sc. (UWI), M. Phil (Leeds), Ph.D. (UWI) – Senior Research Fellow (Geologist)
Dr. Ilias Papadoupolos	MSc (A.U.Th), PhD (A.U.Th) –Research Fellow (Geophysics)
Dr. Graham Ryan	MPhys (Manchester), PhD (Lancaster) – Director MVO
Dr. Adam Stinton	B.Sc. (Plymouth), M.S. (Buffalo), Ph.D (Buffalo) – Research Fellow (MVO Volcanologist)
Dr. Thomas Christopher	B.Sc. (UWI), Ph.D. (Cambridge) – Research Fellow (MVO Volcanologist)
Dr. Karen Pascal	B.Sc. (Blaise-Pascal), M.Sc. (Leeds), Ph.D. (Leeds) – Research Fellow (MVO Volcanologist)
Mrs. Stacey Edwards	B.A. (Howard), Ed.M (Harvard) – Education Officer
Mr. Chandradath Ramsingh	B.Sc. (UWI) - IT Officer II
Mr. Kisira Odero	B.Sc. (Jomo Kenyatta University) - IT Officer II
Dr. Racine Basant	B.Sc. (UWI), M.Phil. (UWI), Ph.D. (UWI) Junior Research Fellow (Ground Deformation)

Tenure of Appointment

Appointment as Instrumentation Engineer (Level I) will normally be for three (3) years in the first instance, with the eligibility for consideration for renewal.

Subsequent to the first appointment, a member of staff who has served in an equivalent position in this or some other University for a period of six (6) years will be eligible for consideration for indefinite tenure.

Appointment to this post is subject to the Charter of the University and to its Statutes, Ordinances, Rules and Regulations, including Statute 36 – Retirement of Members of Staff.

Further details may be obtained from the Campus Registrar,
The University of the West Indies, St. Augustine, Republic of
Trinidad and Tobago.

Research

The University of the West Indies supports the research activities of permanent members of staff by providing study leave, special leave for scholarly purposes, and sabbatical leave, as well as offering funding for research trips, fieldwork, institutional visits, conference participation and organization, and research assistants.
For more information on research funding, see http://sta.uwi.edu/research/funding.asp

Instrumentation Engineer (Level II)

The Instrumentation Engineer will be expected to work with a team of earth scientists, data analysts, electronics technicians, a workshop machinist and ICT professionals to apply fundamental knowledge and skills of geophysical instrumentation, digital communications systems, computer systems (for data acquisition, processing and archiving) and remote power systems to seismology and geophysics in support of the UWI-SRC Seismic and Volcanic surveillance programme. He/She will play a lead role in the operations, maintenance and continuous development of the geophysical monitoring network. This will include design, development, testing, analysis, and modification of electronic hardware and software that will enable continuous data communications between computer-based instrumentation and data acquisition computers via programmable digital telemetry. He/She will also be expected to work with vendors, manufacturers, contractors, service providers and local personnel in establishing and maintaining stations. In addition, he/she will participate in the SRC's scientist-on-duty rotation and assist with the day-to-day operations of the SRC as the need arises.

Qualifications and Experience

The successful candidate must possess at minimum, a Master's degree in Electronics, Computer Science or Electronics Engineering.

Candidates should also possess:

- At least five (5) years' experience in computer science and electronics
- At least three (3) years' experience with expertise in at least three (3) of the following areas:
  - Computer Programming
  - Computer Hardware and Interfacing
  - Computer Networking
  - Digital Communication Systems
  - Power Systems
  - Geophysical Sensors
  - Data Acquisition Systems
- Demonstrated competence in software and hardware development with expertise in at least three (3) of the following areas:
  - Analog and Digital Electronics Design
  - Communication Electronics
  - Digital Signal Processing
  - Instrumentation and Control
  - Internet of Things
  - Programming Languages e.g. Python, C, C++
  - Systems Engineering

Candidates with the following would have an advantage:

- A Postgraduate Diploma in Electronics or Computer Science
- A minimum of two (2) years working with seismic or geophysical equipment, such as digital data loggers, broadband seismometers, accelerometers, and/or high precision GPS instrumentation
- At least three (3) years' experience with preparing reports or preparation of project proposals, including budgeting

The following would be considered assets:

- Bachelor's degree in Electronics, Computer Science or Electronics Engineering
- At least three (3) years relevant working experience in geophysical data monitoring systems
- Demonstrated competence in troubleshooting and repair of geophysical equipment

Key Responsibilities

- Assisting in site selection, permitting processes, and conducting on-site visits to evaluate proposed station sites
- Working with contractors and service providers, local personnel/authorities and station operators and other SRC staff for preparation and construction of new monitoring stations
- Corrective and preventive maintenance of station equipment
- Conducting on-site visits to inspect, maintain or repair station infrastructure as needed, and prepare related reports
- Providing on-site and/or virtual training to local station operators
- Managing projects, including planning, budgeting, and coordinating with local authorities, to maintain and improve monitoring station operations
- Liaising with local personnel and station operators to establish and maintain data communications
- In coordination with other SRC staff, track station downtime and record of system faults; provide support to sustain station operations; assist in the evaluation of station performance; assist in the upkeep of station metadata and other records
- Supporting the development and implementation of procedures for the reliable operation, maintenance and overall sustainment of SRC's monitoring facilities, including the development and review of station specific technical documentation
- Managing SRC's equipment inventory including working with vendors and manufacturers to specify and procure equipment
- Assisting with the preparation of reports and project proposals including, but not limited to, equipment and telecommunications budgeting
- Contributing to education and outreach efforts of the SRC
- Supervising Electronic technicians and Machinist
- Assuming responsibility as scientist-on-duty for approximately 1 weekend every 5 weeks, which may involve receiving phone calls from the public, media, government officials and alerting other SRC staff as necessary
- Performing other duties as assigned by the Director, Seismic Research Centre or her delegate

Personal Attributes

The Campus places high priority on individuals of integrity who can work well in a team and student friendly environment. Strong communication and interpersonal skills, with proficiency in both oral and written English, are essential. Candidates should also:

- Be able to work well with colleagues and support staff
- Be willing to forge meaningful working relationships with stakeholders

Remuneration Package

Annual Salary Range:

Level III:
Minimum: TT$ 299,916.00 per annum
Maximum: TT$ 333,456.00 per annum

Level II:
Minimum: TT$ 239,544.00 per annum
Maximum: TT$ 279,792.00 per annum

Benefits:

- Special allowance of 6% of basic salary;
- Transportation Allowance of TT$3,250.00 per month;
- Up to five economy class passages plus baggage allowance of US$3,000.00 (TT$ equivalent) on appointment and normal termination (persons recruited from outside of T&T);
- Unfurnished accommodation at 10% or furnished at 12.5% of basic salary, or housing allowance of 20% of basic salary to staff making own housing arrangements;
- UWI contribution of equivalent of 10% of basic salary to Superannuation Scheme;
- Annual Study and Travel Grant (available after first year of service) -TT$24,548.00 per annum;
- Institutional Visit Allowance (available after first year of service) – TT$7,200.00 per annum;
- Book Grant – TT$6,000.00 per annum
- Contributory Health Insurance – 50%
- Group Life Insurance Scheme

The Registry
St. Augustine
File # 60/2/6
2024 November
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