APPLICATIONS INVITED FOR THE POST OF NETWORKING & COMMUNICATION RESEARCH LAB (NCRL) SRF

Last date for applications: 25th December 2026

1 Position

Designation	NCRL – Senior Research Fellow (SRF)
Job Description	• **5G/6G Network Infrastructure Development:** Design, implementation and configuration of experimental 5G and emerging 6G networks using OpenAirInterface (OAI) and srsRAN, integrating radio access networks (RAN), core networks and user equipment. • **Linux System-Based Programming:** Development of Linux-based networking applications, system-level software and tools for network configuration, monitoring, performance optimization and automation. • **Networking and Communication Protocols:** Implementation, integration and evaluation of next-generation wireless communication protocols, including traffic monitoring and Quality of Service (QoS) assessment. • **Network Security and Cybersecurity:** Investigation of security challenges in 5G/6G networks through vulnerability analysis, threat modelling, security testing, attack detection and development of security mechanisms. • **Experimental Testbeds and Demonstrations:** Establishment and integration of communication and cybersecurity testbeds using software-defined radios (SDRs), open-source networking platforms, virtualized network functions and security tools.
Educational Qualifications	• **M.Tech/M.E/M.S:** Computer Science, Electronics and Communication Engineering, Electrical and Electronics Engineering, Telecommunications Engineering or a related discipline, with a good academic record. • **B.Tech/B.E:** In any of the above or related disciplines, with a minimum of 2 years of relevant experience in networking, wireless communication, Linux-based software development or cybersecurity.

Required Skills	• **Linux System Programming:** Proficiency in C/C++, Python and Shell scripting; socket programming, multithreading, inter-process communication and system-level debugging. • **Open-Source 5G Platforms:** Hands-on experience with OpenAirInterface (OAI), srsRAN or similar platforms, including installation, configuration, integration and troubleshooting. • **5G/6G Networking and Architecture:** Understanding of 5G NR, RAN, 5G Core (5GC), network slicing, emerging 6G technologies and 3GPP architecture. • **Networking and Communication Protocols:** Strong understanding of TCP/IP, UDP, SCTP, GTP-U, routing and switching; familiarity with RRC, NAS, NGAP and PDCP. • **Networking Tools and Performance Analysis:** Experience with Wireshark, tcpdump, iPerf and Linux networking utilities for packet analysis, troubleshooting and performance evaluation. • **Network Security and Cybersecurity:** Knowledge of secure communication protocols, authentication, encryption, firewalls, intrusion detection and attack mitigation. • **Vulnerability Analysis and Security Testing:** Experience in vulnerability assessment, protocol security analysis, threat modelling and authorized penetration testing using tools such as Nmap and OpenVAS. • **Scripting and Automation:** Proficiency in Python, Shell scripting and automation for network deployment, monitoring, testing and experimental data collection.
Desirable Skills	• Experience with SDR platforms such as USRP and GNU Radio. • Knowledge of O-RAN, SDN and NFV. • Familiarity with Open5GS, Docker, Kubernetes and cloud-native network deployment. • Exposure to AI/ML-based network security, anomaly detection and intelligent network management. • Ability to design experiments, analyse results, document findings and contribute to research publications.
Pay and Allowances	As per norms of the institute.
Last date for applications	Interested candidates may apply with a detailed resume and contact details through the designated Google Form, latest by 25th December 2026. Application link: https://docs.google.com/forms/d/1QTCQJh-vYZhmUjQaXOHEu0njUMHMA5Eb5XnV26sNa6s/edit