



Telkom

TELKOM BURSARIES FOR POSTGRADUATE STUDIES

PhD and MSc (Eng)/MSc

CENTRE OF EXCELLENCE (CoE) FOR BROADBAND NETWORKS AND APPLICATIONS
UNIVERSITY OF CAPE TOWN

THIS IS A CALL FOR ALL INTERESTED STUDENTS TO APPLY FOR A TELKOM POSTGRADUATE BURSARY TO PURSUE DEGREES BY RESEARCH AT THE CENTRE OF EXCELLENCE FOR BROADBAND NETWORKS AND APPLICATIONS AT THE UNIVERSITY OF CAPE TOWN.

ELIGIBILITY: STUDENTS SHOULD BE SA CITIZENS OR PERMANENT RESIDENTS IN THE REPUBLIC OF SOUTH AFRICA AND SHOULD BE CURRENTLY REGISTERED OR INTENDING TO REGISTER FOR AN MSc (Eng)/MSc OR PhD IN 2020.

STUDENTS NEED TO APPLY BY SENDING *ELECTRONIC COPIES* OF THEIR FULL ACADEMIC TRANSCRIPTS AND CONCISE CVs TO THE ATTENTION OF Mr. Gys Booysen at GysB@openseve.co.za or booysegj@telkom.co.za (phone: 0123111952, 0814279457)

Note: Mandatory that you copy in the Head of the Centre of Excellence for Broadband Networks at UCT (Neco Ventura) at neco.ventura@uct.ac.za (phone: 0216502804, 0824651000)

CLOSING DATE FOR SUBMISSIONS IS FRIDAY 25 OCTOBER 2019

TELKOM will interview prospective applicants at the Department of Electrical Engineering, University of Cape Town, in early November 2019.

NOTE:

1. Final year students in 2019, completing their Undergraduate 4 year degree in Elec Eng or BSc Honors in Computer Science, will be considered
2. Masters and Doctoral students are encouraged to apply. TELKOM will consider students who have already started with their postgraduate degree; an appropriate duration will be proposed
3. Bursaries carry a "work back" period equivalent to the duration of the bursary
4. No employment at the end of the bursary support period is guaranteed, but TELKOM will have first option to offer employment
5. Applicants should not have any other current bursaries that have employment obligations
6. 24-month bursary of R10000 per month for a Master student or 36-month bursary of R12000 per month (tax-free) for a Doctoral student will be awarded to those successful applicants

A handwritten signature in black ink, appearing to read 'Neco Ventura'.

Neco Ventura
Head: CENTRE FOR BROADBAND NETWORKS
Department of Electrical Engineering,
University of Cape Town
Date: 2019 09 09



PhD and MSc (Eng)/MSc RESEARCH AT THE CENTRE FOR BROADBAND NETWORKS AND APPLICATIONS UNIVERSITY OF CAPE TOWN

Tremendous efforts have been devoted to 5G and Internet of Things (IoT) over the last decade due to their potential applications, such as smart city, smart homes, and augmented reality (AR). 5G represents a complete revolution of mobile networks for accommodating the ever-growing demands of users, services and applications. 5G will provide super-high data rates, better quality of service and very low latency through dense base station deployments. Factories, businesses and critical infrastructure will all rely on 5G data connectivity, and this technology will transform business models and network infrastructures.

5G networks allows the coexistence of broad use cases, i.e., enhanced Mobile Broadband (eMBB), ultra-Reliable & low-Latency Communication (uRLLC), massive Machine Type Communication (mMTC), over the same physical infrastructure. Due to the diversified service requirements in these use cases, 5G needs an intelligent way of managing the physical resources including networking computing and storage in not only the radio interface but also the core network, Internet and the cloud.

Due to the relevance for industries, the research brings together NFV/SDN with 5G as an integrated approach to improve industrial use cases in the future.

Research at the Centre aims to bring results for Internet of Things technologies for various applications in the era of 5G and the management of Fixed and Mobile Networks, Clouds and Vertical Ecosystems.

Key Topics include:

- Novel IoT techniques
- IoT for augmented reality
- Fog Services and enabling technologies
- Software-Defined fog and cloud architectures and technologies
- Fog Computing in 5G Radio Access Networks
- Virtualized Industrial IoT infrastructure, applications and services
- Network Function Virtualization and Network Function Chaining in 5G
- 5G and its applications including virtual/augmented reality
- 5G and future mobile networks for smart city
- 5G New Radio (NR) Industrial IoT
- Knowledge-based discovery of devices, data and services in 5G
- Real-world applications of 5G: security, healthcare
- Machine learning for 5G network security
- Management of Smart Verticals in the Industry 4.0
- Machine Learning Techniques for Network and Service Management
- Theoretical and practical aspects on End-to-End Intelligent Resource Management for 5G.
- Autonomous context-aware traffic classification

The objective of the Centre is to build a bridge between the mobile communications industry and academia so that future collaborations between the two sectors can be identified.

Visit the Centre for Broadband Networks and Applications website at <https://www.cbn.uct.ac.za> to view past, current projects and research activities at the PhD and MSc levels.