CSIR BURSARY PROGRAMME:
CALL FOR 2022 INTAKE

The Council for Scientific and Industrial Research (CSIR) is a leading scientific and technology research organisation that researches, develops, localises and diffuses technologies to accelerate socioeconomic prosperity in South Africa. The organisation's work contributes to industrial development and supports a capable state.

ABOUT THE BURSARY

Throughout history, science has had a critical role to play in contributing towards societal progress and prosperity. Organisations such as the CSIR have an important role to play in advancing science and innovation. Armed with some of the best minds in the world, we work on trying to solve problems that can help all South Africans.

The CSIR hereby invites applications from students wishing to pursue a career in research, technology development and innovation as well as corporate/support areas.

CLOSING DATE: 30 JULY 2021

THE CSIR BURSARY PROGRAMME IS OPEN TO ACADEMICALLY QUALIFYING YOUNG PEOPLE AND ALSO AIMS TO ATTRACT AND INCREASE PARTICIPATION OF WOMEN AND BLACK PEOPLE IN SCIENCE, ENGINEERING AND TECHNOLOGY, SPECIFICALLY IN THE AREAS MENTIONED BELOW:

1. UNDERGRAD – HONOURS DEGREES

- Aeronautical Engineering
- Industrial Physics
- Applied Physics
- Bio-Informatics
- Biological Sciences
- Biomedical Engineering
- Biotechnology
- Chemical Engineering
- Chemistry with Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Computer Science with Chemistry
- Data Science/Modelling
- Electronic/Software Engineering
- Industrial Engineering
- Information Technology
- Material Science
- Mechanical Engineering
- Mechatronics Engineering
- Physical Metallurgy
- Physics with Computer Science
- Economic Science
- Information Systems
- Extractive Metallurgy (Hydrometallurgy), (Pyromet)

2. UNDERGRAD – HONOURS DEGREES (CORPORATE/SUPPORT)

- B Com/BTech in Accounting or Risk Management

3. MASTER'S DEGREE

RESEARCH GROUPS	FIELDS OF STUDY	MUST HAVE THE FOLLOWING QUALIFICATION:
HUMAN & SOCIETAL SYSTEMS	Biomedical engineering	• Honours Degree in Electronic engineering/data science

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Science and Innovation
REPUBLIC OF SOUTH AFRICA

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ADVANCED MATERIALS ENGINEERING	Metallurgical Engineering	• Honours Degree in Material Science/Metallurgical Engineering/Physics (Masters)
ADVANCED MATERIALS ENGINEERING	Mechanical Engineering	• Honours in Mechanical Engineering with Computation Analysis
LASER ENABLED MANUFACTURING	Materials science and metallurgical engineering	• Honours in metallurgy or metallurgical engineering
OPTRONIC SENSOR SYSTEMS	Computer Science/ Information Technology, Electrical/ Electronic Engineering, Computer Engineering, Software Development	• Honours degree, BTech in the following: - Physics/Applied Mathematics; - Computer Science; - Electrical and Electronics Engineering
SYNTHETIC BIOLOGY	Bioinformatics and Synthetic Biology	• Honours Degree in Bioinformatics.
SMART LOGISTICS MANAGEMENT	Industrial Engineering / Operations Research	• B Eng. / B Eng. Honours degree in Industrial Engineering • Honours in Operations Research
COASTAL ENGINEERING AND PORTS INFRASTRUCTURE PAVEMENT DESIGN AND CONSTRUCTION	Civil Engineering	• Honours degree in Civil Engineering with specialisation in the following; • Coastal Engineering • Pavement Engineering

4. DOCTORAL

RESEARCH GROUPS	FIELDS OF STUDY	MUST HAVE THE FOLLOWING QUALIFICATION:
CENTRE FOR ROBOTICS AND FUTURE PRODUCTION	Engineering (Electrical, Electronic, Mechatronics, Mechanical, Computer science) or Computer science.	• MSc in Engineering (Electrical, Electronic, Mechatronics, Mechanical, Computer science) or MSc in Computer science. • **The following would be advantageous:** - Experience in using the Linux operating system; - Experience with the Robot OperatingSystem (ROS); - Experience with the 3D LiDAR and IMU data; - Background in machine learning and computer vision; - Implementation of algorithms on robot platforms; - Experience with the-Loop (HIL) testing.)
HUMAN & SOCIETAL SYSTEMS	Biomedical engineering	• Masters in Electronic engineering / data science
ADVANCED MATERIALS ENGINEERING	Mechanical Engineering	• Masters in Mechanical Engineering with Computation Analysis
OPTRONIC SENSOR SYSTEMS	Physics/Applied Mathematics/ Computer Science/ Electrical and Electronics Engineering/Software Development	• Masters/MTech Degree in Physics/Applied Mathematics, Computer Science, Electrical and Electronics Engineering.

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BIOPROCESSING	Microbiology and Biotechnology	• Master's degree in Microbiology and Biotechnology.
HUMAN MOLECULAR DIAGNOSTICS	Human Molecular Diagnostics and Omics Tools research, Synthetic Biology	• Master's Degree in Bioinformatics, Biological Sciences, Microbiology, Molecular Biology and Biochemistry. • **The following would be advantageous:** - Programming skills, preferably in - Python, R or Matlab; - Experience in mammalian cell culture techniques; - Adequate skills in mathematics and environmental modelling.
SUSTAINABILITY, ECONOMICS AND WASTE	Chemical Engineering, Systems Engineering, or Process Engineering; with a focus on Life Cycle Assessment	• A Master's degree in engineering (e.g. Chemical Engineering, Systems Engineering, or Process Engineering); • Adequate skills in mathematics and environmental modelling. • Ability to carry out inter-disciplinary research • Ability to work independently as well as in a team • Knowledge of Life Cycle Assessment (LCA) software/tools • Knowledge of LCA input/output analysis and material flow analysis • Self-motivation and ability to be stimulated by the scientific environment; • Good scientific report writing skills; • Effective communication skills (oral, written and presentation).
CLIMATE AND AIR QUALITY MODELLING	Physical or Mathematical Sciences	• A Master's degree or equivalent in physical or mathematical sciences with at least an application in atmospheric physics, climatology or similar; • The candidate must have strong analytical skills with basics in either R, Python, C++, C, FORTRAN or Bash computer programming languages; • Exposure to machine learning algorithms will be an added advantage; • A publication in atmospheric science or related field will be advantageous; • An ability to communicate well in both spoken and written English will be an advantage.

THIS IS A COMPREHENSIVE BURSARY AND IT COVERS ALL THE COSTS ASSOCIATED WITH UNIVERSITY STUDIES, SUCH AS:

- Registration fees
- Tuition fees
- Books
- Accommodation
- Living Allowances
- Once off laptop allowance

Academic merit will be considered during the selection process, as well as the imperative to increase the participation of women and black people in science, engineering and technology.

REQUIREMENTS:

- Must be a South African Citizen
- Planning to enrol full-time at a South African University for **2022**
- For current grade 12 students, English Level 5, Mathematics Level 6 and Physics Level 6
- For students currently at universities, must have passed all the courses for which you have registered for at the university for the study period already completed

YOUR APPLICATION MUST BE ACCOMPANIED BY THE FOLLOWING DOCUMENTS:

- Application letter stating the field of study you are applying for;
- An updated CV;
- A copy of your certified identity document; and
- A copy of your latest academic record

FAILURE TO ATTACH THESE DOCUMENTS WILL RESULT IN YOUR APPLICATION BEING NULL AND VOID.

APPLICANTS APPLYING FOR MASTERS AND DOCTORAL BURSARIES SHOULD BE SOUTH AFRICAN CITIZENS WHO POSSESS THE FOLLOWING:

- Good scientific writing skills;
- Good organisational and time management skills;
- Excellent academic record;
- A drive to conduct research, self-motivation and the ability to work independently and within a team are essential;
- The ability to formulate and carry out research;
- Excellent technical abilities;
- The ability to work well under pressure as part of a team and meet scheduled deliverables; Good communication skills both verbal and writing (e.g. with evidence of report and/or conference papers writing); and
- Good report writing abilities.

Furthermore, the ideal candidate is an enthusiastic and self-motivated individual who takes ownership and initiative. He/she must also meet the entry requirements for an undergraduate/honours' bursary at the selected university.

NB: PLEASE NOTE THAT APPLICATIONS MUST BE FOR FULL-TIME STUDIES TOWARDS AN ACADEMIC DEGREE AT AN ACCREDITED PUBLIC SOUTH AFRICAN UNIVERSITY.

TO MAKE AN APPLICATION, CLICK ON THIS LINK https://www.csir.auraams.app

FOR MORE INFORMATION, PLEASE CONTACT THE CSIR RECRUITMENT CENTRE ON 012 842 7518 OR EMAIL US AT Bursaryprogramme@csir.co.za. PLEASE DO NOT SEND YOUR APPLICATION TO THIS MAILBOX, IT IS MEANT FOR ENQUIRIES ONLY.

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