



Tshwane University
of Technology

We empower people

A PEOPLE'S university
that makes
KNOWLEDGE work

Fast **FACTS & FIGURES**

TUT: Established in 2004

We are the **BIGGEST** contact university of technology in Africa.



We attract more than **60 000** students annually.

Student gender ratio:



Female

31 178

53,10%



Male

27 554

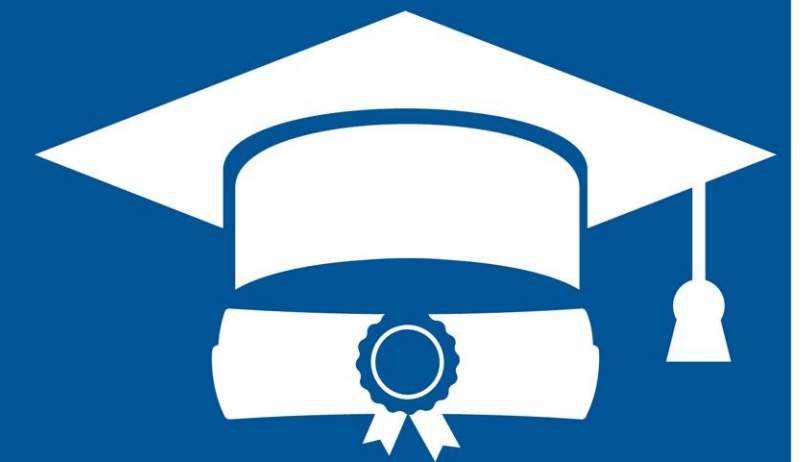
46,90%

More than **1 000** international students are registered at TUT, comprising undergraduate, postgraduate, exchange students and postdoctoral fellows.

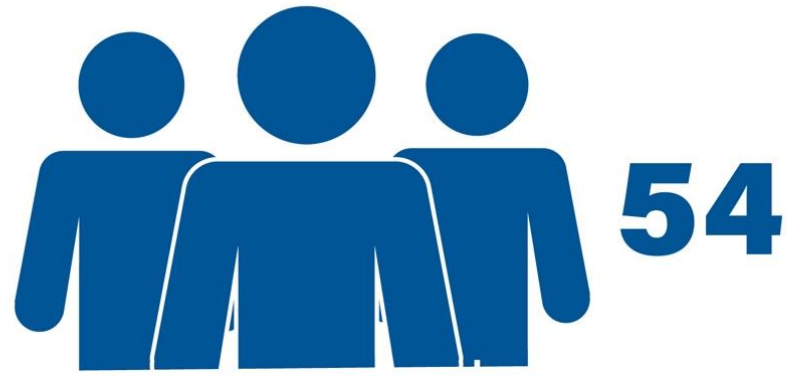


4 006 students are registered for postgraduate qualifications

- 1 737 Masters,
- 569 Doctorates,
- 535 Honours and
- 1 105 Postgraduate Diplomas



The University has **SIX** campuses, namely Tshwane (Pretoria, Arts and Arcadia), Soshanguve, Ga-Rankuwa, Polokwane, eMalahleni and Mbombela, with two contact centres in Durban and Cape Town.



54

NRF Rated Researchers



34

student residences across
TUT campuses.



37

I-Centres across
all campuses.



We boast **seven** campus
clinics offering health services to
students and staff.



TWO

campus radio stations that
cater for students, staff and
surrounding communities.
TUT FM is located at the
Soshanguve Campus and
Tshwane FM at the Pretoria
Campus.

TUT offers
more than

400

career options across
all faculties

In 2022, more than **11 000**
students graduated at
the Autumn graduation
ceremonies.



TUT has more than
220 000
alumni who are also
part of the convocation.

Our **PILLARS** and **GOALS**

We have identified four equally important pillars to support our strategy over the next six years. These are:



Future-ready graduates who make a positive societal impact

Goals

- Deliver research-informed, high-quality teaching and learning experiences to our students.
- Equip our students with knowledge, skills and attitudes to be enterprising and responsible citizens.
- Deploy creative and innovative educational practices in our programmes.
- Engage our students as active participants in their learning experiences.



Impactful research, innovation, engagement and technology transfer to foster growth, development and sustainability

Goals

- Develop our internal capacity and opportunities for creativity, research, innovation, engagement and technology transfer.
- Increase our productivity and impact to advance growth, development and sustainability.



Service and operational excellence through resource optimisation

Goals

- Deploy agile and efficient processes and structures to ensure sound governance, resource sustainability and effective service delivery.
- Develop and support high-performance teams to foster staff engagement, quality leadership as well as personal and organisational growth.



Digitally-advanced University

Goals

- Deploy digital and smart technologies to enhance student learning experiences, facilitate knowledge creation, increase engagement and accelerate technology transfer.
- Deploy digital technologies to strengthen our internal capabilities to foster sound University governance and deliver effective services.

FLAGSHIP Projects



TUT boasts a novel **Bursary and Scholarship Fund**, specifically aimed at alleviating insufficient funding available for financially needy and academically deserving students. Over 20M has been raised for the TUT Bursary and Scholarship Fund.



For 24 years, the University has offered more than 3 000 candidates the opportunity to improve their marks through the **Mathematics and Science Development Programme**, thus securing them acceptance into scientific, medical and engineering programmes at university level.



Assist-a-student Project, on its 10th year now, is a University intervention programme focussed on food insecurity for needy students across all TUT campuses.



For 10 years, staff members, alumni and students have been reaching out to the homeless, providing food and clothing and other interventions in Pretoria and Johannesburg, through a University Community Programme named **Feeding the Multitudes**.



Winter Shoe Project - The University has donated more than 18 000 pairs of shoes to primary schools in Pretoria since 2013.



The Day Care Mothers Community Project, one of the University's flagship community projects, spearheaded by the Department of Education Studies is an early childhood development project, equipping women with skills on how to take care of younger children.



FLAGSHIP Projects



The Tshwane University of Technology (TUT) is recognised as **one of the best 11 universities in South Africa**. This is according to the latest Times Higher Education ranking of the world's top universities for 2022, listing 11 South African universities among them.



We are ranked as **one of the best computer sciences and engineering institutions** in the world. This is according to the latest 2022 Times Higher Education World University Rankings by subject for computer science and engineering.



Our **Department of Journalism** is one of the best 12 Africa Centres of Excellence in Journalism training.



The first Skin Bank in South Africa is based at TUT's Centre for Tissue Engineering.



We are the only institution in South Africa with a **Faculty of Information and Communication Technology**, offering diverse fields of study.



The University launched an Institute for the **Future of Work (IFoW)**, an ideation hub for global public-private collaboration and invention, designed to respond to the requirements of the rapidly changing world of work brought about by the 4IR.



Our **Department of Auditing at the Faculty of Economics and Finance** is among 47 international higher education institutions accredited by the Institute of Internal Auditors in the United States of America (USA), as part of an internal Auditing Education Partnership (IAEP) school.



UNIQUE *Features*



The University also boasts **the Tshwane School for Business and Society (TSB)**, one of the top internationally rated Business Schools on the African continent. The school is accredited by the South African Council of Higher Education (CHE) to offer a Masters in Business Administration (MBA) and a Doctorate in Business Administration (DBA).



TUT Solar Car (SunChaser) – Staff members and students at the Faculty of Engineering and the Built Environment built an energy efficient, high technology solar powered vehicle, which was ranked NUMBER ONE in the Sasol Solar Challenge, and achieved fourth place internationally. There are only a handful of solar cars in Africa, and TUT is the top performing teams on the continent.



We are the only University of Technology in South Africa offering an **M.Eng Degree in Engineering Management**.



TUT's Department of Drama and Film, established in 1971, is the oldest training facility for filmmakers in South Africa and its courses are based on classical methodology, similar to world-famous international film schools.



We are the only university of technology in South Africa offering a **sign language module** to Language Practice undergraduate students.



UNIQUE *Features*



The Gibela Research Chair in Manufacturing and Skills Development pioneers cutting-edge research in manufacturing technology development and manufacturing value chain skills development, geared for the revitalisation of the South African railway manufacturing sector. The aim is to build 600 state-of-the-art passenger trains for the South African rail network over the next 5 years.



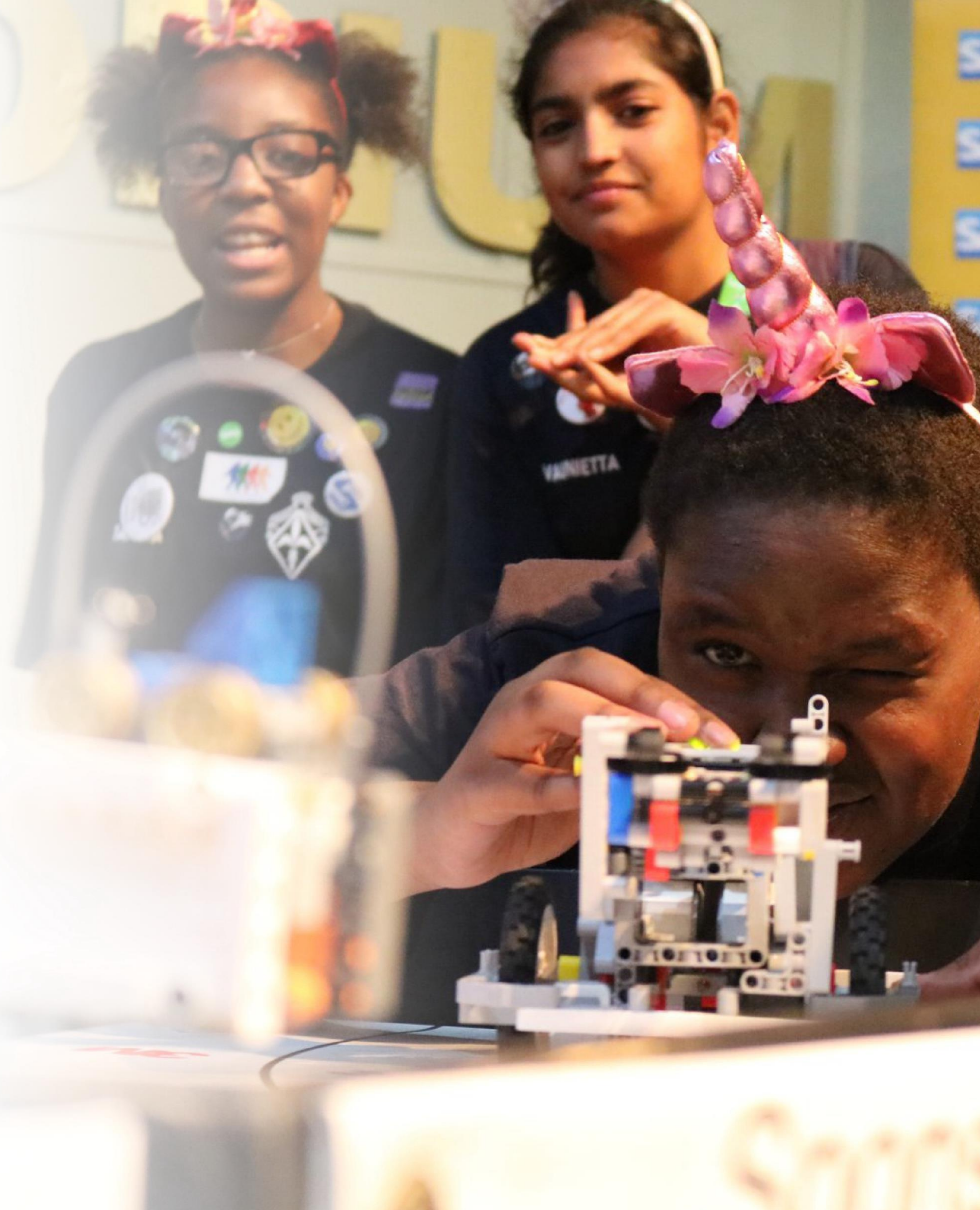
The Faculty of Humanities boasts an **the Africa Research Chair for Campus and School Public Safety**, a first of its kind on the African continent. The chair contributes extensively to focussed research in finding knowledge-based, innovative solutions that could stem the tide of school/campus-based crimes and, in the longer run, violence on the African continent.



TUT in partnership with SAP Africa has been running **the First Lego League Robotics Programme** for 15 years. The First Lego League's mission is to inspire young people to become science and technology leaders. This is done by engaging them in exciting mentor-based programmes that build science, engineering, and technology skills, inspire innovation, and foster well-rounded life capabilities, including self-confidence, communication, and leadership.



A world-class automated **weather station** is based at the Pretoria Campus. The facility is the first of its kind to be based at a university in South Africa and monitors local conditions, especially as an early warning system.



INTERNATIONAL *Rankings*

World University Rankings

2019-2020

- No. 13 Nationally (out of 26 universities)
- No. 1 for the teaching of ICT and Engineering subjects

Times Higher Education (THE) Rankings

2021

- No. 11 Nationally (out of 26 universities)



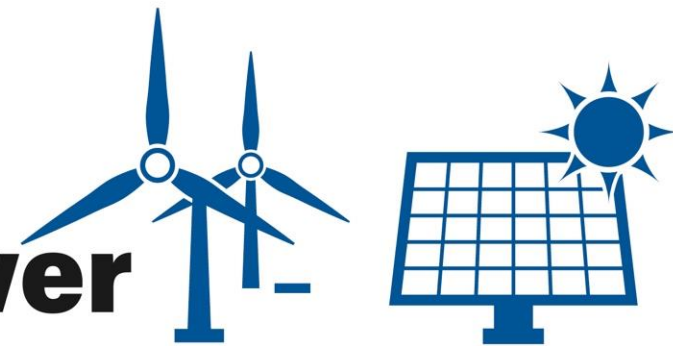
RESEARCH *Chairs*

RESEARCH CHAIR AREA	FACULTY	DEPARTMENT/INSTITUTE	TYPE OF CHAIR
Water Quality and Wastewater Management	Science	Environmental, Water & Earth Sciences	NRF SARChI
Innovation Studies	Engineering and the Built Environment	Department of Industrial Engineering	NRF SARChI
Phytomedicine	Science	Pharmaceutical Sciences	NRF SARChI
Acid Mine Drainage	Science	Environmental, Water & Earth Sciences	NRF SARChI
Enabled Environment and Assistive Living	Engineering and the Built Environment	Electrical Engineering/French South African Institute of Technology (F'SATI)	NRF SARChI
Phytochemical Food Network to Improve Nutritional Quality for Consumers	Science	Crop Sciences	NRF SARChI
Spatial Transformation (Positive Change in the Built Environment)	Engineering and the Built Environment	Architecture and Industrial Design	NRF SARChI
Future Transport Manufacturing Technologies (FTMT)	Engineering and the Built Environment	Industrial Engineering	DSI-NRF-SARChI
Gibela Manufacturing and Skills Development			Gibela
4th Industrial Revolution	Information and Communication Technology (ICT)	Computer Systems Engineering	MICTSETA
Wastewater and Solid Waste Management	Engineering and the Built Environment	Civil Engineering	EWSETA

RESEARCH CHAIR AREA	FACULTY	DEPARTMENT/INSTITUTE	TYPE OF CHAIR
Intelligent Manufacturing	Engineering and the Built Environment	Office of the Dean/ Technology Station in Electronics (TSE)	MerSETA
African Research Chair for the Campus and School Public Safety	Humanities	Safety and Security Management	Campus and School Public Safety
Sasol DSI-NRF	Engineering and the Built Environment	Electrical Engineering/ Centre for Energy and Electric Power	NRF/DSI SARCHI
African Integration and Innovation	Economics and Finance	Institute for Economic Research on Innovation	UNESCO Chair
Infrastructure Research Chair	Engineering and the Built Environment	Electrical Engineering	DBSA

Research Flagship Area

Energy and Power



Faculty: Engineering and the Built Environment

Department/Institute: Electrical/CEEP/Dean's Office

Type of Flagship: NRF: Research and Innovation for Societal Development



R9 970 000

Internal funding provided for postgraduate students (2022)



R76 110 754

The overall amount dedicated to the University's internal research (2022)

FUTURE-READY *Initiatives*

Institute for Future of Work (IFoW)

The IFoW works with companies across sectors, including technology, financial services, health care and manufacturing, to create a community of advocates and partners at the highest level.

The strategic objectives of the Institute are to:

- Engage in high-impact research and facilitate industry-funded and directed research in the areas of 4IR and Future of Work.
- Develop 4IR technologies that solve local problems.
- Optimize the use of TUT resources to serve the industry better in the area of 4IR
- Provide an ideational platform for strategic dialogue and thinking on 4IR among different stakeholders in South Africa and internationally.
- Forge strategic relations with the industry and Government to enhance work integrated learning (WIL) opportunities and funding for students. Influence curricula development endeavours and pedagogical practices to centre 4IR technologies in the University's instructional offerings.
- Build capacity and capability for 4IR technologies at TUT; and generate new businesses in areas of 4IR technologies.



FUTURE-READY *Initiatives*

Artificial Intelligence Hub

The Artificial Intelligence Institute of South Africa is the brainchild of the Department of Communications and Digital Technologies (DCDT), the University of Johannesburg and the Tshwane University of Technology.

Founded upon the vision set out by the Presidential Commission on the Fourth Industrial Revolution (PC4IR), the institute positions itself as an adjacent innovation engine for public and private sectors. It will generate knowledge and applications that will position South Africa as a competitive player in the global artificial intelligence (AI) space.

The Department of Communication & Digital Technologies launched the Artificial Intelligence Institute on 30 November 2022. The UJ AI Hub was launched on the same day, while the TUT AI Hub was launched on 24 March 2023. TUT has a number of AI projects in agriculture, health and manufacturing.



CITSIs *wholly-owned by* TUT

Centre for Energy and Electric Power (CEEP)

Engineering and the Built Environment

- Conducting research and provide services (including training) in energy and electric power.

Institute for Advanced Tooling (IAT)

Engineering and the Built Environment

- Provide technical expertise/services to the SMEs/industry in tooling industry.

Centre for Environmental Health (CEH)

Science

- Provides expertise to industry and the community through Community Engagement, Industry involvement, Research and Innovation in the environmental health and related sectors.

Technology Station In Chemicals (TSC)

Engineering and the Built Environment

- TSC is operating in the chemical technology sector and position itself in the chemical industry to assist SME's as the main clients with the technology solution, skills development through short learning programme, technology demonstration and transfer.

Technology Station in Electronics (TSE)

Engineering and the Built Environment

- To assist SMMEs with services covering a wide field of key performance areas consisting of product development, manufacturing, training and consultation in electronics manufacturing sector.

Centre for Tissue Engineering (CTE)

Science

- The CTE is a Tissue bank that generates income from the supply of tissues for transplant purposes to hospitals around the country. The center sources, processes and supplies human tissue for implant, transplant and therapeutic purpose in order to enhance the quality of life.

Institute for Economic Research on Innovation (IERI)

Economics and Finance

- IERI was established for the purposes of developing research and innovation in Economics and Economic policy within TUT and South Africa in general. Focus Areas to be summarised as:
 - Evidence-based Policy Research
 - Competency Support
 - Capacity Development
 - Networking and Knowledge sharing.

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F'SATI

Engineering and the Built Environment

- The French South African Institute of Technology is considered a national asset that contributes to the creation of knowledge and prosperity and the transfer of technology in the Southern African region by establishing collaboration with other higher education and research institutes.

Institute for Nanoengineering (INER)

Engineering and the Built Environment

- INER accelerate innovation and skills development in nanotechnology and advanced materials processing through the promotion of collaborative interdisciplinary research and technology transfer between academia and relevant industries.

Centre for Creative Industries

Arts and Design

- To promote creativity, innovation and entrepreneurship through capacity development and training of cultural professionals and increasing employment opportunities in the cultural and creative industries sector for inclusive and equitable economic growth and sustainable development.

Centre for Sustainable Tourism

Management Sciences

- To serve tourism destinations and industries through research, training and outreach within the communities.

Centre for Entrepreneurship Development

Management Sciences

- To foster entrepreneurship and to serve start up with mentoring, coaching, training, access to networks to accelerate their success and create jobs for economic development.

Centre for Applied Chemistry Research

Science

- Centre for Applied Chemistry Research is to conduct chemistry based research into the many challenges facing the country and the wider scientific community and to provide a platform and mechanisms whereby research capabilities can be matched with funding sources while contributing to the country's intellectual and skills development and developing perspectives and approaches that lead to cooperative work and a coherent and focused research effort.

RESEARCH & INNOVATION *Niche Areas*

NICHE AREA TITLE	FACULTY
Reconstruction of the Past and Crafting a New Multicultural South African Landscape through the Arts	Arts and Design
Critical Studies in Visual Arts	Arts and Design
Sustainability Management Accounting and Finance	Economics and Finance
Climate Change, Water Security and Disaster Management	Engineering and the Built Environment
Applied Refrigeration and Thermal Energy Systems	Engineering and the Built Environment
Advanced Catalysis Technologies	Engineering and the Built Environment
Operations and Engineering Management	Engineering and the Built Environment
Assessment for Learning	Humanities
Information and Communication Technology for Development (ICT4D)	Information & Communication Technology
Information and Communication Technology for Business Enhancement (ICT4BE)	Information & Communication Technology
Enterprise Development and Management Research in the BRICS Block	Management Sciences
The Future of Work and the Alleviation of Unemployment and Poverty	Management Sciences
Material Composites	Science

SPORT *at* TUT



We had
4 TUT
athletes selected
to be part of the
**2020 Tokyo
Olympics.**

TUT was appointed as a
**STRATEGIC
PARTNER**

by Minister of Sport
Arts and Culture, Hon
Nathi Mthethwa and
successfully launched
the Sport Ambassadors
Programme at
Lihawu Secondary
School, Kanyamazana
Mbombela on
14 March 2022.



**Stephen Mokoka, TUT
Athletics coach, broke the
50KM WORLD
RECORD**

in a time of 2:40.13 in
Gqeberha on 6 March 2022
at the Nedbank Runified
50km race.

THREE Athletes selected
for the Athletics South Africa
(ASA) preparations squad
for **2022 World Athletics
Championships and
Commonwealth Games**
include TUT's Sokwakhana
Zazini (400mH), Lindokuhle
Gora (400mH), Coach Stephen
Mokoka (Marathon).





future-ready **graduates**

+

impactful **research**

+

problem-solving **innovation**

=

KNOWLEDGE THAT WORKS