UCT Quantum Computing Society — Plan of Action (Submit by 30 September)

In accordance with section 5.3.4 of the Society Policy, this document outlines the required Plan of Action, which is essential for demonstrating the sustainability of the proposed society's executive structure, membership base, and planned activities. Submission of this Plan of Action is a prerequisite for the recognition of any aspiring society and must accompany all other required documentation.

A comprehensive Plan of Action must include both the monitoring phase and the period following formal recognition as a society. These components are essential to ensuring the long-term viability and impact of the society within the student community.

Please note that the content provided herein serves as a guideline. Prospective societies are encouraged to expand upon the suggested components and may include any additional material deemed relevant to their application.

1. Purpose and Objectives

The UCT Quantum Computing Society (UCT-QCS) exists to advocate for Quantum Computing in Africa by building an active ecosystem at University of Cape Town. Our mission is to empower students to become future leaders in the field through education, collaboration, and hands-on exposure to real-world quantum technologies.

Our key objectives include:

- Building a strong community of students passionate about quantum and quantum computing.
- Fostering learning opportunities through meetups, seminars, and hands-on projects.
- Facilitating meaningful engagement on discussions related to Quantum and Quantum Computing.
- Facilitate the growth of students by building their leadership and networking skills in the field of quantum computing.

2. Sustainability of the Executive Structure

Membership Fees

To register as members of the UCT-QCS, students will be required to pay a minimum registration fee of R150.00, subject to the yearly budget requirements. Registration fees will be used to arrange QCS merchandise such as banners and other marketing material. In addition,

registration fees will be used to plan for events, including payment for food and transport to external venues.

Executive Committee Applications

In the founding phase of the UCT-QCS, the Executive Committee will be selected through an application process that is open to all students. This is to enable students from different faculties to manage the day-to-day operations of the society. In addition, the application process aims to give students the opportunity to focus on:

- Leading the promotion and advocacy of Quantum Computing in Africa
- Planning educational events on introductory Quantum Computing topics, tools that are currently available, and how the industry is expected to impact the world in the next couple of years.
- Organising Quantum Meetups and talks with industry leaders in South Africa
- Guiding students who want to pursue a career in Quantum Computing

Collaboration with IBM Research

IBM Research is the world's largest industrial research organization consisting of a community of scientists, engineers, and designers creating the next advances in computing technology. To date, IBM Research is the only international commercial research company currently with a dedicated laboratory in South Africa, providing students and academia with state-of-the-art access to global technologies and resources. The formation of this society is in collaboration with IBM Research Africa.

As part of the collaboration, IBM Research Africa will provide students of the UCT Quantum Computing Society with structured support and access to world-class quantum computing resources. This includes:

- *Access to IBM Quantum Hardware:*
  Students will be granted access to IBM's quantum computers through an open plan account, starting with 10 minutes of usage time per month.

- *Learning Resources via the IBM Quantum Learning Platform:*
  Members will have free access to learning materials, courses, and comprehensive documentation on using the Qiskit Software Development Kit (SDK).

- *Inclusion in IBM Research Africa's Quantum Ecosystem:*
  UCT-QCS members will be invited to attend IBM Research Africa's existing quantum meetups, seminars, and technical talks, offering exposure to current research and real-world applications.

- *Research & Mentorship Opportunities:*
  Students will be encouraged to apply for IBM Research Africa internships and may be offered the opportunity to be co-supervised by IBM research scientists.

- *Annual Seminars:*
  IBM Research Africa will further support the initiative by delivering one annual in-person seminar led by IBM scientists, covering state-of-the-art topics in quantum computing and emerging quantum technologies.

- *Annual General Meetings (AGMs):*
  IBM Research Africa will serve as external advisors during the UCT-QCS AGMs, contributing guidance on the society's strategic direction, activities, and growth.

<u>Executive Committee Structure</u>

Committee Chair

The Executive Committee Chair (ECC) will communicate directly will lead the UCT-QCS, set agendas and ensure that yearly plans and goals are met. Members who have availed themselves as Executive Chair candidates include:

- Abrahams, Shiraaz
- Baartman, Sonwabile
- Freeman, Kenneth
- Lengwati, Kellem

Vice Chair

The Executive Committee Vice Chair (ECVC) will support the ECC and engage with project plans to define the day-to-day operations of the society. Vice Chair candidates include:

- Abrahams, Shiraaz
- Buthelezi, Lunga
- Chiramba, Tafadzwa
- Gema, Siphesihle
- Lengwati, Kellem
- Lenka, Malefetsane

Secretary

The Secretary will handle the administrative tasks such as keeping a record of members, minutes, and communication with internal and external stakeholders. Candidates for the position of secretary include:

- Buthelezi, Lunga
- Lengwati, Kellem
- Mello, Kgotsofatso
- Mabono, Yivani

Treasurer

The treasurer will have the opportunity to manage the committee's budget, accounting and keeping track of the assets of the society. Budget management responsibilities could potentially be allocated to:

- Buthelezi, Lunga
- Lengwati, Kellem
- Mabono, Yivani
- Matsiko, Keith
- Nkuna, Ditiro

Social Media and Marketing Manager

A key member in promoting the society through social media. This member will have the responsibility to post announcements on upcoming events and key milestones that the society achieves. Prospective members for this role include:

- Khumalo, Sibusiso Chibuike
- Makenete, Sphiwe
- Masvore, Tinashe
- Mjikeliso, Nkcubeko
- Moloi, Siphesihle
- Lengwati, Kellem
- Nahimana, Celestin
- Schroeder, Wade
- Yende, Siyabonga
- Yeuko Manganyi

Members

Members can be grouped in teams that focus on various aspects of Quantum Computing such as software, hardware, and algorithms. Members whose responsibilities are attributed to non-executive roles include:

- Maree, Liam
- True, Alexander
- Manzi, Ethan Kairumba
- Whitfield, Morgynn
- Knight, Oscar
- Honeywell, Amy
- Mzinyana, Relebohile Elsie
- Snyders, Aidan
- Ellis, Rory John
- Carthew, Simon
- Nkemtakeh, Prisco

- Matlaila, Rorisang
- Pandit, Zayd
- Van Wyk, Bongani
- Tjipepa, Wolfgang
- Markram, Josua
- Gqokooda, Indiphile Sixolile
- Sitsheke, Kwazi
- Cano, Juan
- Sechemane, Sifiso
- Campbell, Kayleigh
- Mupuka, Andre
- Iyer, Abhinav
- Wamashudu, Tshivhundo
- Ngcetsheza, Ndiphiwe
- Foflonker, Adam
- Thuo, Tony
- Munjoma, Tinashe
- Jones, Glen
- Legodi, Lebo
- Mukuyu, Tanatswa
- Ntseno, Putsoeli
- Sebeho, Lebohang
- Wang, Remy
- Judin, Elias
- Keetse, Anthony
- Lenyane, Kwakhanya
- Kgafela, Matshego
- D'Oliveira, Damian
- Heqoa, Ishmael
- Ntamnani, Imange
- James, Lucy
- Nair, Pradhyun
- Harris, Akram

Annual General Meetings (AGMs)

AGMs will be held at the end of each academic year to allow Executive Committee to document and reflect on the progress of the UCT-QCS. Furthermore, the AGMs will allow students to formulate strategies for the following year based on their experience and outcomes of the current year. The AGMs will be held with a member of IBM Research Africa as an external advisor.

Membership Sustainability

UCT Plaza Day Prioritisation for Membership Registrations

Students will be allowed to register at the beginning each year at the UCT Society Open Day where the society will be promoted using banners, posters, and electronic brochures. Students will also be encouraged to follow the society's social media pages.

Advertising the UCT-QCS to Students in Related Faculties

Membership will be primarily promoted to students in the Faculty of Science and the Faculty of Engineering & the Built Environment. Students from other disciplines are free to join through word of mouth and social media posts.

3. Activity Plan

Quantum Computing Educational Talks (QCET)

QCETs will be aimed at introducing students to the realm of Quantum Computing from a physics and computational perspective. It also aims to educate students on the different tools that are employed in industry, e.g. Qiskit SDK.

Quantum Computing Roundtable (QCRT)

These events will facilitate a live forum on quantum computing where students can ask questions and discuss recent developments in the industry.

Annual IBM Quantum Meetups

Members for IBM Research Africa will provide an educational talk on Quantum Computing and expectations for future implementations of the technology.

Quantum Games and Movie Nights

Quantum games and movie nights will be held for promotional purpose. At these events, Quantum related movies, games and other fun activities will be open to members and other students who are interested in membership.