NITheCS
National Institute for
Theoretical and Computational Sciences

Apply by: 31 Aug 2023

NITheCS INTERNSHIP PROGRAMME 2023/2024

Research topics

Topic		Host	Host institution
1.	Computational Fluid Dynamics	Dr David Tshwane	CSIR
2.	Data-Driven Modelling and Simulation		
3.	Models Development using Machine Learning		
4.	Multiscale Material Modelling and Simulation		
5.	Compact Stars as Laboratories for Matter at Extremes and Fundamental Physics	Prof Azwinndinni Muronga	NMU
6.	Physics and Evolution of the Early Universe		
7.	Physics of Core-Collapse Supernovae		
8.	Quantum Information Science		
9.	Relativistic Fluid Dynamics in Heavy-Ion Collisions and Particle & Nuclear Astrophysics		
10.	Relativistic Kinetic Theory in Heavy-Ion Collisions and Particle & Nuclear Astrophysics		
11.	Statistical and Thermal Physics in Heavy-Ion Collisions and Particle & Nuclear Astrophysics		
12.	Theoretical & Computational Physics & Finance		
13.	Theoretical & Computational Physics & the Environment		
14.	Theoretical and Computational Biophysics and Medical Physics		
15.	Theory and Phenomenology of Relativistic Heavy-Ion Collisions		
16.	Trends in Computational, Mathematical and Physical Sciences Education in South Africa		
17.	Can we measure Fermi constant with astronomical data?	Prof Yin-Zhe Ma	SU
18.	Categorical Algebra	Prof Zurab Janelidze	
19.	Lattice Theory		
20.	Logic and Computation		
21.	Theory of Forms		
22.	Introduction to open quantum systems	Prof Francesco Petruccione	
23.	Introduction to quantum computing		
24.	Rings and related structures	Prof Amartya Goswami	UJ
25.	Application of Machine Learning to Predict Quantum Correlations	Prof Ilya Sinaskiy	UKZN
26.	Quantum Simulation of Open Quantum Systems using Near-Term Intermediate-Scale Quantum (NISQ) Devices		
27.	Emergent Quantum Phenomena in Non-Equilibrium Many-Body Systems	Dr Aniekan Magnus Ukpong	
28.	The current acceleration of the universe	Dr Aroonkumar Beesham	UNIZULU / MUT

MORE INFO: http://bit.ly/3YBsgfm

APPLY: http://bit.ly/3QJFkgL

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

NRF National Research Foundation

Stellenbosch
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT