

# HDM 2017

## International Workshop on Hot and Dense Nuclear and Astrophysical Matter

26 November - 2 December 2017

University of Stellenbosch,  
Cape Town, South Africa

3<sup>rd</sup> Year and Honours physics students are  
welcome. Financial support is available

Hot and dense nuclear matter plays an important role in the quark-hadron transition shortly after the big bang, in the element production in stars and the interior of neutron stars. This workshop is aimed at providing experimental and theoretical tools to allow deep understanding of the open problems in the physical processes occurring in relativistic nucleus-nucleus collisions and in the Universe

The topics of the school/workshop have been chosen in the young and fast expanding fields at the interphase between nuclear, particle, and astrophysics. The idea is to bring together internationally highly recognized experts in the field with young scientists and students. In the morning the experts give introductory and review lectures of general and special topics, while the afternoon is mainly devoted to seminars of the participants, leaving time for discussions and special topical schools.

### School Topics:

- ✓ Mathematical Methods
- ✓ Computational Physics
- ✓ Quantum Field Theory
- ✓ Statistical and Thermal Physics of Hot and Dense Matter
- ✓ Nuclear and Particle Astrophysics
- ✓ Physics and High Energy Physics
- ✓ Relativistic Fluid Dynamics and Transport Theory

### Workshop Topics:

- ✓ Space time evolution of hot and dense nuclear matter
- ✓ Transport and Fluid Dynamic Models for hot and dense nuclear matter
- ✓ Equation of State and Transport Coefficients of hot and dense nuclear matter
- ✓ LHC Physics and SA-CERN Program
- ✓ Heavy-ion collisions at high baryon densities and GSI-FAIR
- ✓ High energy Astrophysics
- ✓ Physics and Astrophysics of compact stars

### LOCAL ORGANIZING COMMITTEE:

Eric Maluta (Chair)  
Jean Cléymans  
Simon Connell  
Alan Cornell  
Dino Giovanni  
Thendo Nemakhavhani  
Takalani Nemaungani  
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