



Industrial Partners Program at CHPC

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HPC User Forum: Richmond, Virginia

18th April 2012



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

CSIR

our future through science

Vision

- An accomplished and preferred partner for HPC solutions in the country and the region

Mission

- Provide world-class HPC that enable cutting-edge research with high impact on the South African Economy

Rationale for Investment

- HPC is central to most modern developments globally and defines competitiveness of countries
- South Africa has some key industries that drives its own economic development.
- Evident success of HPC impact in other nations

Engagement Strategy

CHPC / DIRISA

Special Interest Groups

Advanced Computer Engineering
Astronomy/Cosmology
Bioinformatics
Epidemiology
Chemistry
Computer Science/GRID
Computational Finance
Earth Sciences
Humanities
Finance
Physics
Remote Sensing
Materials Science
Visualisation

Activities

Flagship Projects
(About 16 Projects. Total of about 60 students and postdoctoral fellows.)

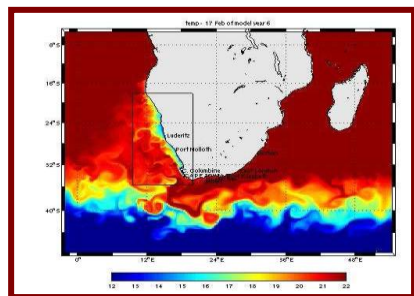
Training Programs
(Workshops, Short-Courses , outreach activities amounts to more than 80 events to date)

Annual HPC Conference
(4 successful meetings with the support from international collaborators. Integration with Main Stream Conferences)

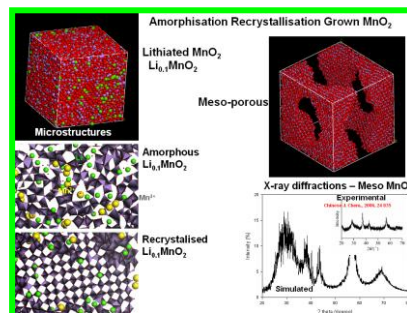
Partners

High Education Institutions
Government Departments
Science Councils
Research Agencies
Industry
International Collaborators
Policy Makers
Academic Organisations

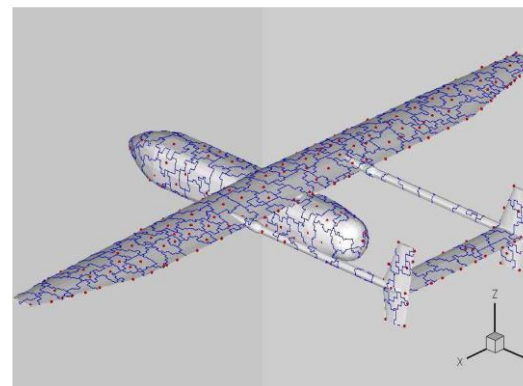
Flagship Projects



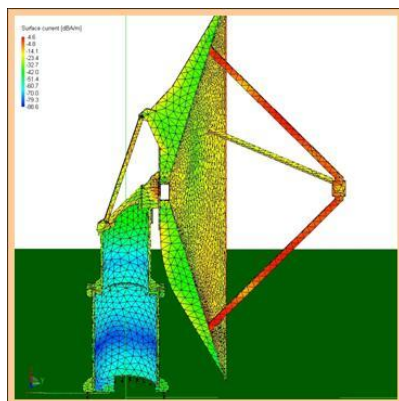
Climate Change



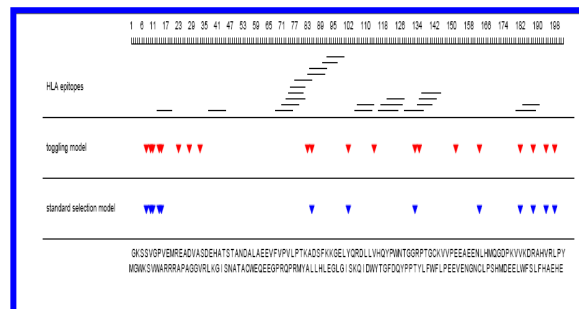
**Energy Security
Mineral Beneficiation
Drug discovery**



**CFD Code
Development**



**SKA Dish design
Astrophysics**



**HIV Mutation
Brain Imaging
Cardio-Vascular**



3D Animation

HPC Platforms available to date



SADC HPC Workshop

- Participation from most SADC member states
- Resolved on building capability within the region
- Identified key research areas for collaborations
- Report adopted by Ministerial Committee
- Challenge in connectivity



Each country had representation from government official and research community.

Industrial User Forum

- Develop long term partnership with industries within the country
- Provide 30% of the resources for this program to avoid unfair competition with academia
- SLA signed based on the requirement of the industrial partner
- Customized agreements tailored to your needs
- Initiated an Industrial User Forum in 2011 to enable mutual benefits for different industries

What is the Value Proposition?

- Scientists and Engineers can focus on real R&D issues rather than ICT.
- Access to generic knowledge base already existing in the center and HEI.
- Shared developmental programs for efficient HCD and Government Incentives.
- Dedicated Engineers and Scientist to provide efficient service.
- Operational experience with minimal downtime and secure environment.

DC Arch Furnace for Pyrometallurgy



- Heat assisted mineral extraction process
- Understanding of alloys at H.T.
- Combination of atomic scale simulations and F.D. and FEA
- Full time PhD on projects for last 3 years



THANK YOU

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Join us in Durban on 3rd -7th December 2012 for
5th Annual HPC Meeting