



## SAARMSTE CONFERENCE 2015

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**SAARMSTE 2015**  
**TUESDAY 13 – FRIDAY 16 JANUARY 2015**  
Maputo, Mozambique



### HOSTED BY:

PEDAGOGICAL UNIVERSITY and EDUARDO MONDLANE UNIVERSITY  
Maputo, Mozambique

Conference venue: Centro de Conferências das TDM, prolongamento da Av. Kim Il Sung,  
Maputo  
(TDM = Telecomunicações de Moçambique)

Email: [saarmste2015@gmail.com](mailto:saarmste2015@gmail.com)

### CONFERENCE THEME

Mathematics, Science and Technology Education for Empowerment and Equity In this conference we will continue to build on SAARMSTE's strengths in Mathematics, Science and Technology Education research. We also hope to promote interactive research in MSTE in accordance with the theme. While looking for connections across subjects and research areas, we also hope to build on strands in previous conferences. We therefore invite papers to address the following strands:

- Curriculum and assessment reform and evaluation in MSTE
- Equity, access and quality in MSTE
- Language and MSTE
- MSTE and early childhood development.
- MSTE in primary, secondary and tertiary education
- Promising practices in teaching and learning MST
- Research policy and practice in MSTE
- Teacher education and continuous professional development in MSTE

### PLENARY SPEAKERS

**Prof Corine Castela** - Maître de conférences of mathematics didactics; LDAR (Laboratoire de Didactique André Revuz)- ROUEN University

ESPE (École Supérieure du Professorat et de l'Éducation)- ROUEN

After the defence of her PhD in Number Theory, Corine has served as a mathematics teacher in a French upper secondary school for ten years. She was recruited in 1990 by the Rouen University and has served since this day as a secondary mathematics teacher





educator at Rouen University and a researcher at the LDAR (previously Didirem). She has been authorized to supervise PhD since 2011 (Habilitation à Diriger des Recherches).

On the teacher training side of her professional life, she was responsible of a master for secondary mathematics teachers between 2010 and 2013.

As a researcher, she has been interested in several topics with two major directions.

Mathematics problem solving:

Knowledge involved in maths problem solving with hypotheses close to the first Schoenfeld's analyses: every good maths problem solver bases his solution research on his past experience and the knowledge he has drawn from it, because even non routine problems are never totally isolated.

Student homework at the upper secondary and university college levels: Corine's interest for this topic derives from the former point; most of problem solving knowledge (or practical maths knowledge) is not taught, so that its learning is placed under the student's responsibility and depends on her work.

Maths teacher's choice of exercises: the practical knowledge students may build depends also on the variety of exercises and problems proposed by teachers and actually worked on by students. Teachers must be aware of the "practical curriculum" they ought to implement; teacher training must give them some tools to reach this practical objective.

Mathematics in professional contexts:

As a co-supervisor with Michèle Artigue of a PhD on mathematics in the training of engineers, Corine began to work on the transformations academic maths knowledge are submitted to when used in other scientific or engineering disciplines as automatics. Dealing with this issue led on a theoretical work that reformulated the praxeological model developed by the Anthropological Theory of Didactics (Chevallard).

This reformulated model is a central tool of Corine's latest interest on mathematics in the dressmaking practices, with several research contexts, workshops in Argentine and Senegal, professional schools in France.

International collaboration: since 2003, Corine has been regularly working with Latin American universities (Chile-UPCV, Valparaíso, México-IPN, México CD), being an invited conference speaker in the congress RELME in 2008; she is now opening a new collaboration with Senegal (Cheikh Anta Diop University, Dakar).

### **Prof Mechach Mobolaji Ogunniyi - University of the Western Cape, South Africa**

Having worked at the University of Nigeria and the University of Botswana, Prof Ogunniyi understood that Africa, lacked capacity in the fields of Science and Mathematics Education. As the UNESCO Chair holder he was responsible for research capacity building in four UNESCO/UNITWIN Institutions in Southern Africa namely, University of the Western Cape, University of Zimbabwe, University of Namibia and the Eduardo Mondlane Universidade (Mozambique), and later Universidade Pedagogica (Mozambique) where he organized intensive research capacity building workshops for doctoral students and young academics. Often, students and academics from other institutions attended these workshops.

In 1996, Prof Ogunniyi was requested to start a journal for SAARMSTE. As the founding Editor of the Southern African Journal of Mathematics and Science Education, he approached the international UNESCO fraternity to assist with the funding of the journal.

Prof. Meshach Ogunniyi has served as external examiner and moderator of masters and doctoral theses for many universities in and outside Africa. He has also edited many conference proceedings. For over three decades he has been an editorial member/reviewer





for several leading Mathematics, Science and Technology Education journals. Since 2004 he has been the Contributing Editor for the African region for journal Science Education, probably the oldest and one of the highest impact journals in the field of Science Education. He was a founding Editorial Board member of the International Journal of Science and Mathematics Education. He has been nominated thrice for the Distinguished Award of the National Association for Research in Science Teaching (NARST), "a worldwide organization of professionals committed to the improvement of science teaching and learning through research" (NARST, 2013) based in the USA and founded in 1928. The NARST journal known as the Journal of Research in Science Teaching currently has the highest impact factor in the field of Science Education.

Renowned for his work in contiguity argumentation theory and dialogical argumentation instruction, Prof Ogunniyi has supervised over 80 masters and doctoral theses and published more than 12 books and 200 articles. He strives to ensure that his students rub shoulders with the best of the best in the field of Science and Mathematics Education by inviting them to UWC. He has been involved in many small and large-scale research projects all of have the common theme that revolved around capacity building.

Prof Meshach Ogunniyi, of the School of Science and Mathematics Education, Faculty of Education, received a Life Time Achievement Award for his meritorious service to the Southern African Association for Research in Mathematics, Science and Technology Education, (SAARMSTE), at its conference in January 2014. The conference was hosted by the Nelson Mandela Metropolitan University.

**Prof Boaventura Cuamba** - Eduardo Mondlane University, Mozambique

Boaventura Chongo Cuamba graduated as BSc in Physics by the Eduardo Mondlane University in 1981, in Maputo, Mozambique, as "Diplomphysiker" (MSc in Physics) at the University of Jena in 1985, in Jena, Germany, having specialized in X-Ray Physics, and as PhD in 1996 at the Northumbria University, in Newcastle Upon Tyne, United Kingdom, with specialisation in Renewable Energy Physics. He is employed by the Eduardo Mondlane University since 1982, where he is now Professor of Renewable Energy Physics and chairs a research group on renewable energy systems. His main research interest is oriented to development and optimization of renewable energy supply systems for a wide range of applications, with focus on rural energy use, analysis of interaction between energy systems and the environment/climate. Boaventura Cuamba has been participating in various research/consultancy activities in the fields of renewable energies and energy efficiency, particularly in promoting the use of solar energy systems. He has written various papers, participated and presented communications in a number of national, regional and international conferences.

**Prof Edward Lungu** - University of Botswana, Gaborone

Edward Lungu is a professor of mathematics at the University of Botswana, in Gaborone, Botswana. His first degree came in 1975 from the University of Zambia. A Master's degree and also his 1980 Ph.D. followed, being awarded by the University of Bristol.

Edward Lungu has been described as a "fundamental person" in the development of teaching and research in applied mathematics in Southern Africa. As founder and leader of SAMSA (Southern Africa Mathematical Sciences Association) and later of AMMSI (the Millenium Initiative) he has organized, encouraged, supervised, and led by his personal example in teaching and research. For Botswana itself Professor Lungu has developed models in:

- hydrology — Botswana relies on storing rainfall;
- ecology — domestic livestock as well as wildlife are keys to the economy; and
- epidemiology — to understand the progression of HIV/AIDS and how to help the victims.





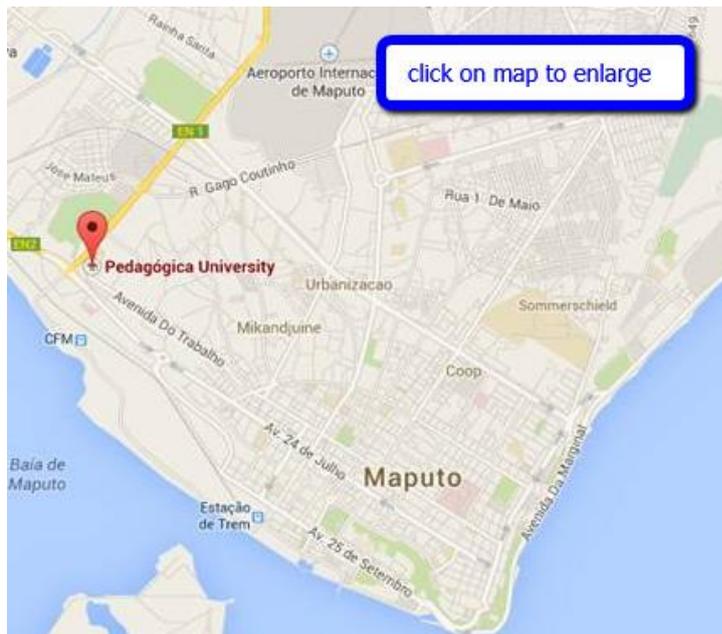
In choosing these three research areas, he has responded to the greatest needs of his fellow men and women. The series of recent papers in mathematical biosciences model the differential progression of HIV/AIDS based on characteristics of patients and the care they receive. His years of work have brought successes for applied mathematics that we are very happy to recognize today.

Prof. Lungu is the recipient of the International Council for Industrial Applied Mathematics (ICIAM) 2011 Su Buchin Prize.

## REGISTRATION

If you are registering from **Mozambique**, [click here](#) to register online. You can also download a registration form [here](#).

If you are registering from **South Africa or any other country**, [click here](#) to register online. You can also download a registration form [here](#).



## TRANSPORT, ACCOMMODATION AND MEALS

### TRANSPORT

The conference venue (Centro de Conferências das TDM) is situated 20 minutes driving from the airport. Please make all your own travel bookings directly. Travel arrangements are for your own account. There are transport companies available at the airport and LOC staff will be at the airport on January 12 to assist the delegates.





Contact details for taxis are:

Tel. no. [+258827988450](tel:+258827988450) or [+258843001944](tel:+258843001944)

E-mail: [agostinho.coelho00@hotmail.com](mailto:agostinho.coelho00@hotmail.com)

## MEALS

The Conference programme includes mid-morning and mid-afternoon teas with lunch mid-day

Welcome evening event (drinks and light refreshments) on Tuesday 13 January 2015 at Maputo Municipality Hall

Gala Dinner (to be pre-booked through: [saarmste2015@gmail.com](mailto:saarmste2015@gmail.com)) on Thursday 15 January 2015 at Residential Kaya Kwanga - near the beach

Any other meals are for the delegate's own account at an outlet of their choosing

## ACCOMMODATION

Bookings for accommodation are for the delegates own account and they need to be made directly with the hostel, guest house or hotel.

### Hostels accommodation

There are two possibilities of hostels accommodation:

Conference venue Hostel (TDM Hostel). (Not included in the second announcement)

40 rooms are available at TDM Hostel (Lar das TDM). The cost of Hostel Accommodation is 1000Mt (R335) single or 1600Mt (R535) sharing per night bed only. The charge for breakfast is 200Mt (R70) in their Coffree Shop.

Address: Lar das TDM, Prolongamento da Avenida Kim Il Sung; Phone: +25821498004; email: [aqueiroz@tdam.mz](mailto:aqueiroz@tdam.mz) or [aqueiroz@gmail.com](mailto:aqueiroz@gmail.com) or [rogerio@tdm.mz](mailto:rogerio@tdm.mz)

### Pedagogical University Hostel

Basic student hostel residence is offered on UP campus. The cost of Hostel Accommodation is 600.00mt (ZAR 200) per night without breakfast.

Distance to the conference venue is around 45 minutes driving. Transport to conference venue and back can be provided to the conference delegates in the UP hostel residence.

Address: Residência Universitária da Universidade Pedagógica, Campus Lhanguene; Av de Moçambique Km1 nº 62; Phone: +258824334025 or +258823101141; email: [madalenadejesus77@outlook.com](mailto:madalenadejesus77@outlook.com) .

### Other Accommodation Options

A list of guest houses hotels is available on the 2nd announcement.

