

SYSTEM DYNAMICS SAVANNAH SCHOOL

**Organised and hosted by
SYSTEM DYNAMICS AFRICA CHAPTER
c/o KCA UNIVERSITY
THIKA ROAD, RUARAKA
P.O. Box 56808 - 00200
NAIROBI, KENYA**

18th -20th January 2016

PARTICIPANTS

Regional PhD Researchers and Practitioners in System Dynamics Modelling

Coordinator

Prof. Ddembe Williams
Centre for Systems Modelling and Data Analytics
KCA University

Facilitators

TBA

PURPOSE

OVERVIEW

System Dynamics is a rigorous method for the qualitative description, exploration and quantitative analysis of complex systems in terms of their processes, information, organisational boundary and feedback structure. This facilitates computer-based quantitative simulation modelling and analysis for the design of the system structure and control. Recent developments in Systems Science (and its support by computer-based operational research) have seen developments and extensions to System Dynamics methodology that focus on feedback structure, delays and non-linearity in systems being modelled. The School will expose researchers and practitioners to an assortment of sustainable development domains that use System Dynamics as a problem solving methodology.

The three day intensive and interactive school for PhD Researchers and practitioners training in System Dynamics Modelling is intended primarily for the researchers' skills building in conceptual, analytical and modelling skills needed for the analysis of dynamic systems as an aid to policy development and strategic decision making in business, industry and government. The course will combine interactive lectures with practical modelling case studies. There will be sessions for discussions reflecting participants own research work in progress.

SYSTEM DYNAMICS SAVANNAH SCHOOL AIMS

The general aims of this school are that participants should:

- be able to identify problems, structure problems and specify their solutions using the System Dynamics methodology
- be able to evaluate and specify criteria for designing an effective System Dynamics model
- appreciate the role of technological advances within the System Modelling process
- be familiar with various System Dynamics tools used to solve different application domain areas.

WHO SHOULD ATTEND

The school is of interest to participants from diverse professional backgrounds, intending to pursue or pursuing a higher research degree using the System Dynamics approach. All participants will receive a copy of the presentation notes and a Computing Research Methodology book prior to the course. Due to the intensive nature of the programme, participants are kindly advised to read these materials in advance. The facilitator will assume acquaintance with these basic readings.

SAVANNAH SCHOOL FEE

There will be a fee of USD 250 for all participants. The fee will be inclusive of day meals and all the school sessions.

SYSTEM DYNAMICS SAVANNAH SCHOOL PROGRAMME

Monday, 18th – Wednesday, 20th January 2016

Arrival of participants

Monday, 18th 2016 – Introduction to Systems Thinking and Dynamic Modelling

- 08:00 – 08:30 Opening of the School
- 08:30 – 10:30 Introduction to Dynamic Modeling for Complex Systems
- 10:30 – 11:00 Health Break
- 11:00 – 13:00 Effective management of System Dynamics Research Projects
- 13:00 - 14:00 Lunch
- 14:00 – 15:00 Overview of Systems Thinking and Simulation Modelling
- 15:00 – 15:30 Health Break
- 15:30 – 16:30 Systems Thinking Modelling Case Study
- 16:30 – 17:30 School Review /Q&A

Tuesday, 19th Jan 2016 – Conceptual Modelling and Simulation of Dynamic Problems

- 08:00 – 08:30 Review of Previous Day Work
- 08:30 – 10:30 Conceptualising System Dynamics Problems
- 10:30 – 11:00 Health Break
- 11:00 – 13:00 Improving System Dynamics Model Behaviour
- 13:00 - 14:00 Lunch
- 14:00 – 15:00 Effective Modelling with Data Analytics
- 15:00 – 15:30 Health Break
- 15:30 – 16:30 Validation and Verification of Simulation Results
- 16:30 – 17:30 School Review /Q&A

Wednesday, 20th Jan 2016 – Review of Individual Candidates' Proposal

- 08:30 – 12:30 Scientific and scholarly writing Day
- 12:30 – 13:30 Lunch
- 13:30 – 17:30 Review of Proposals and PhD Colloquium