THE SAMSA
MASAMU PROGRAM

SAMSA

The Third Annual Masamu Advanced Study Institute (MASI) and Workshops in Mathematical Sciences

November 23 — December 1, 2013
The Wallenberg Center
Stellenbosch University

Stellenbosch, South Africa

THE SAMSA MASAMU PROGRAM

The primary goal of the Masamu (masamu means mathematics in Southern Africa) Program is to enhance research in mathematical sciences within Southern Africa Mathematical Sciences Association (SAMSA) institutions through promotion of international research collaboration. A key component of the Masamu Program is the Masamu Advanced Study Institute (MASI) and Workshop Series in mathematical sciences that provides a platform for such collaboration. Other activities include Research Workshop, Career Development Workshop, Department Heads and Chairs and Senior Research Scientists Workshop, Colloquia and Webinar Series, and AfricaMath. The target audiences of the MASI are graduate and undergraduate students and early career faculty (rank less than associate professor) while the workshops are open to students, faculty, and other researchers in the mathematical sciences.

The Masamu US-Africa Advanced Study Institute and Workshop Series in Mathematical Sciences program is a collaborative effort between African, European, and US mathematicians. This program has three main goals: (1) Strengthen the US and Southern African human infrastructure in mathematical sciences research; (2) Drastically increase and sustain research collaboration between UK, US and Southern African mathematicians; and (3) Improve collaboration between US, European and Southern African colleges and universities.

In order to effectively use the MASI and Research Workshops, the Masamu Program has created a Collaborative Research Network consisting of 41 research faculty (16 Sub-Saharan Africa, 16 US, 2 Canada, and 7 Europe) forming 4 research teams in Pure Mathematics (Algebra and Geometry, Analysis, Topology, Coding Theory and Information Theory, and Graph Theory) and 3 research teams in Applied Mathematics (Epidemiological Modeling, Numerical Approximation of Solutions of Partial Differential Equations, and Mathematics of Finance and Statistics). Each research team will has at least 4 faculty and at least 4 undergraduate and graduate students. The primary objectives of the network are to drastically increase both the quantity and quality of research publications and the number of PhD degrees especially among women and underrepresented minorities in each of the areas represented by the seven research teams in both the US and Sub-Saharan Africa, and promote research collaboration between European, Sub-Saharan Africa, and US mathematicians. Participants in this Collaborative Research Network will take advantage of the annual SAMSA conferences, Masamu Institutes, and Workshops to meet face to face, work on research problems, plan research activities for the following year, and present their research findings at the conferences.

About SAMSA: The Southern Africa Mathematical Sciences Association (SAMSA) was established in 1981 to further the mathematical sciences in the Southern African region (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe) and beyond.

About the NSF: The National Science Foundation (NSF) is an independent US federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense…" In many fields such as mathematics, computer science and the social sciences, NSF is the major source of federal backing for America's colleges and universities.

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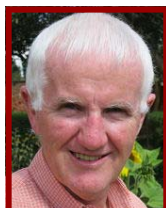*Graph Theory*

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2013 ADVANCED STUDY INSTITUTE AND RESEARCH WORKSHOP PROGRAM DIRECTORY

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2013 MASAMU ADVANCED STUDY INSTITUTE (MASI)
FRIDAY, NOVEMBER 22— FRIDAY, NOVEMBER 29, 2013
DAILY SCHEDULE

Day 1: Friday, November 22

05:00 – 06:00 Registration

06:00 Dinner and Networking

Day 2: Saturday, November 23

09:00 – 09:30 Opening Remarks

09:30 – 10:00 Overview of Program, Logistics, Expectations

10:00 – 10:20 Break

10:20 – 12:00 Research Group Problem Sessions

12:00 – 01:30 Lunch

01:30 – 02:50 Research Group Problem Sessions

02:50 – 03:10 Break

03:10 – 04:30 Research Group Problem Sessions

04:30 – 06:00 Break

06:00 Dinner, Recap, and Networking

Day 3: Sunday, November 24

09:00 – 10:20 Research Group Problem Sessions

10:20 – 10:40 Break

10:40 – 12:00 Research Group Problem Sessions

12:00 – 01:30 Lunch

01:30 – 02:50 Research Group Problem Sessions

02:50 – 03:10 Break

03:10 – 04:30 Research Group Problem Sessions

04:30 – 06:00 Break

06:00 – 07:30 Dinner, Recap, and Networking

Day 4: Monday, November 25

09:00 – 01:00 SAMSA Conference

01:00 – 02:10 Lunch

02:10 – 03:30 Research Group Problem Sessions

03:30 – 03:50 Break

03:50 – 05:10 Research Group Problem Sessions

05:10 – 06:00 Break

06:00 – 07:30 Dinner, Recap, and Networking

2013 MASAMU ADVANCED STUDY INSTITUTE (MASI)
FRIDAY, NOVEMBER 22— FRIDAY, NOVEMBER 29, 2013
DAILY SCHEDULE

Day 5: Tuesday, November 26

09:00 – 01:00 SAMSA Conference

01:00 – 02:10 Lunch

02:10 – 03:30 Research Group Problem Sessions

03:30 – 03:50 Break

03:50 – 05:10 Research Group Problem Sessions

05:10 – 06:00 Break

06:00 – 09:00 Conference Dinner

Day 6: Wednesday, November 27

09:00 – 11:00 Research Group Problem Sessions

11:00 – 11:15 Break

11:15 – 01:15 Research Group Problem Sessions

01:15 – 02:30 Lunch

02:30 – 06:00 Visit to the University of Cape Town

06:00 – 07:30 Dinner, Recap, and Networking

Day 7: Thursday, November 28

09:00 – 10:20 Research Group Problem Sessions

10:20 – 10:40 Break

10:40 – 12:00 Research Group Problem Sessions

12:00 – 01:30 Lunch

01:30 – 06:00 Visit to Cape Peninsula

06:00 – 07:30 Dinner, Recap, and Networking

Day 8: Friday, November 29

09:00 – 12:00 SAMSA Conference

12:00 – 02:00 Lunch

Day 8: Friday, November 29

02:00 – 03:15 Research Presentation and Discussion

03:15 – 03:30 Break

03:30 – 04:45 Research Group Breakout Sessions

04:45 – 06:00 Break

06:00 Dinner and Discussion

Day 9: Saturday, November 30

09:00 – 10:20 Research Group Problem Sessions

10:20 – 10:40 Break

10:40 – 12:00 Research Group Problem Sessions

12:00 – 01:30 Lunch

01:30 – 02:50 Research Group Problem Sessions

02:50 – 03:10 Break

03:10 – 04:30 Research Group Problem Sessions

04:30 – 06:00 Break

06:00 – 07:30 Dinner, Recap, and Networking

Day 10: Sunday, December 1

09:00 – 11:00 Research Presentation and Discussion

11:00 – 12:00 Lunch and Closing Remarks

MASAMU PROGRAM STEERING COMMITTEE

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