EAUMP-ICTP School: Topics in Concrete Mathematics

3 - 14 August 2020
Kigali, Rwanda

ICTP

This School will be held at the ICTP-East African Institute for Fundamental Research (EAIFR) in Kigali, Rwanda; it will offer the students concrete and effective mathematical tools from algebra, group theory and geometry that can be applied to any scientific field.

Description of courses:

- **Advanced linear algebra**
  This goes beyond a first course on the subject. Topics like Jordan normal form will be studied as well as bilinear forms, multilinear forms and tensor products.

- **Groups, Counting and FFT**
  We start with group theory via rotations in 3d space; this will be used in Pólya counting problems. We then moves on to character theory culminating in fast Fourier transform.

- **Introduction to Lie Algebras**
  The course introduces Lie algebras and aims towards of the classification of semisimple Lie algebras which is widely considered one of the most elegant results in mathematics.

- **Modular forms**
  The course introduces modular forms. We will study many concrete examples, like the Eisenstein series, from which we will construct the finite dimensional spaces of modular forms of any weight.

Organisers:

Omololu Akin-Ojo (EAIFR - Nigeria)

Celestin Kurujyibwami (U. Rwanda)

Balázs Szendroi (U. Oxford)

Fernando Rodriguez Villegas (ICTP - Trieste)

Angela Tabiri (AIMS - Ghana)

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Lecturers:

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Angela Tabiri (AIMS - Ghana)

Katrin Wendland (U. Freiburg)

How to apply:

Online application:
http://indico.ictp.it/event/9110/

Female scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Deadline:

5 April 2020

Eastern Africa Universities Mathematics Programme

CIMPA

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EAIFR
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