THE MARM* MODEL IN NAMIBIA

https://www.lms-marm.unam-namibia.org/

* Mentoring African Research in Mathematics

CREDITS

AMMSI

INTERNATIONAL MATHEMATICAL UNION

LONDON MATHEMATICAL SOCIETY
EST. 1865

Prof. Dr. FRANK NEUMANN
Chair of the LMS-MARM PROGRAM

Prof. Dr. MARTIN MUGOCHI.

MARM LOGO

UNAM
UNIVERSITY OF NAMIBIA

NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

The MARM Partnerships

Each partnership has collaboratively defined its own objectives and priorities specific to the needs of the African institution, as well as its own methods of accomplishing these.

Activities underaken have included:

- Exchange visits
- Lectures, seminars and workshop series at African institutions
- Joint PhD supervision
- Improvements in library and IT resources at African institutions
- Support for conference attendance (in Africa and internationally)
- Consultancy and advice on developing postgraduate programmes
- Mentoring and support for African postgraduate students with respect to wider academic skills
- Mentoring African early career staff in research and other skills
- Working with African university administrators to improve recruitment
- Improving African departmental structuring
- Working with African institutions to ensure the maintenance of resources for mathematics departments
- Development of research contacts and networking

ROUND TABLE DECEMBER 8, 2020 | 2.00 pm GMT

CAN MATHEMATICS HELP US TACKLE PANDEMICS, CLIMATE CHANGE, ECONOMIC INEQUALITY AND OTHER PRESSING ISSUES?"

Nearly 20 years ago **Vladimir Arnold**, speaking about the teaching of Mathematics, declared that[1]

"If mathematicians do not come to their senses, then the consumers who preserved a need in a modern, in the best meaning of the word, mathematical theory as well as the immunity (characteristic of any sensible person) to the useless axiomatic chatter will in the end turn down the services of the undereducated scholastics in both the schools and the universities. A teacher of mathematics, who has not got to grips with at least some of the volumes of the course by Landau and Lifshitz, will then become a relict like the one nowadays who does not know the difference between an open and a closed set."

How could we improve math teaching in order to bring benefits to the whole society and improve everybody's life conditions? Is it possible?

IN THE FRAMEWORK OF THE BEGINNING OF 2020-2021 MARM PROGRAM AT UNIVERSITY OF NAMIBIA, WINDHOEK, THE ABOVE HOT TOPICS WILL BE DISCUSSED BY:

- **PROF. MARTIN MUGOCHI**
  Chairman of the Department of Mathematics, University of Namibia
- **PROF. FRANK NEUMANN**
  University of Leicester
  Chairman of the MARM Program at the London Mathematical Society
- **PROF. WANDERA OGANA**
  Program Director of the African Millennium Mathematics Scientific Initiative
- **PROF. PAOLO PICCIONE**
  University of São Paulo, President of the Brazilian Mathematical Society
  Member of the Executive Committee of the International Mathematical Union
- **PROF. JOHN AGURE**
  Maseno University, School of Mathematics and Applied Statistics
  Local MARM referent at the Maseno University
- **PROF. JOSEPHINE WAIRIMU KAGUNDA**
  MARM Referent of University of Nairobi
- **PROF. GIOVANNI MARELLI**
  Italian Researcher at University of Namibia
- **PROF. WINIFRED MUTUKU**
  Kenyatta University, Department of Mathematics and Actuarial Science
  Local MARM referent at Kenyatta University
- **PROF. PHILIP NGARE**
  MARM Referent of the University of Nairobi
- **PROF. PATRICK WEKE**
  MARM Referent of the University of Nairobi

MODERATED BY MS BEATRICE SPADACINI
Journalist, Internews Media & Development,
Editorialist of "La voce di New York"

With the collaboration of Letterio Gatto, MARM recipient 2020-2021

THE ZOOM LINK WILL BE PUBLISHED 2 HOURS IN AVANCE ON THE WEBPAGE: HTTPS://MARM.LMS.AC.UK/20-02/MARM-UNAM

UNAM

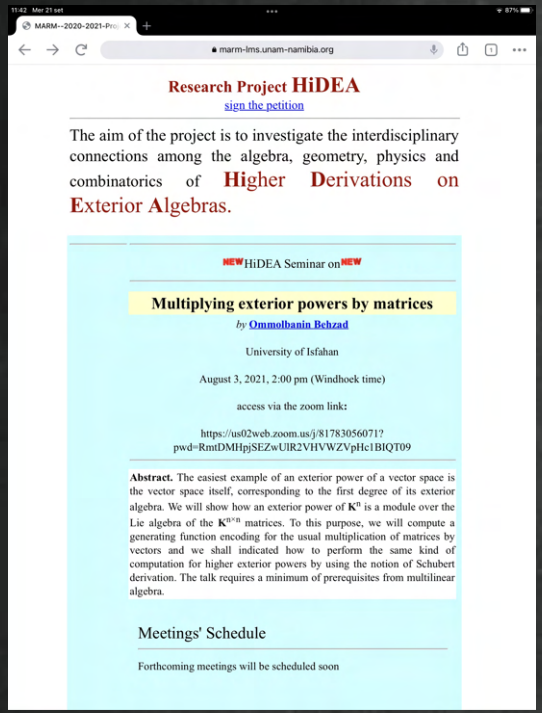
Mentoring African Research in Mathematics (MARM)

UNIVERSITY OF NAIROBI

[1] Arnold, V. I., On the teaching of mathematics. (Russian) Uspekhi Mat. Nauk 53 (1998), no. 1(319), 229–234; translation in Russian Math. Surveys 53 (1998), no. 1, 229–236 (preprint version available here)

Poster ideated and realised by Sara Ciggeno

BEATRICE SPADACINI



Research Project HiDEA

sign the petition

The aim of the project is to investigate the interdisciplinary connections among the algebra, geometry, physics and combinatorics of **H**igher **D**erivations on **E**xterior **A**lgebras.

NEW HiDEA Seminar on NEW

Multiplying exterior powers by matrices

by **Ommolbanin Behzad**

University of Isfahan

August 3, 2021, 2:00 pm (Windhoek time)

access via the zoom link:

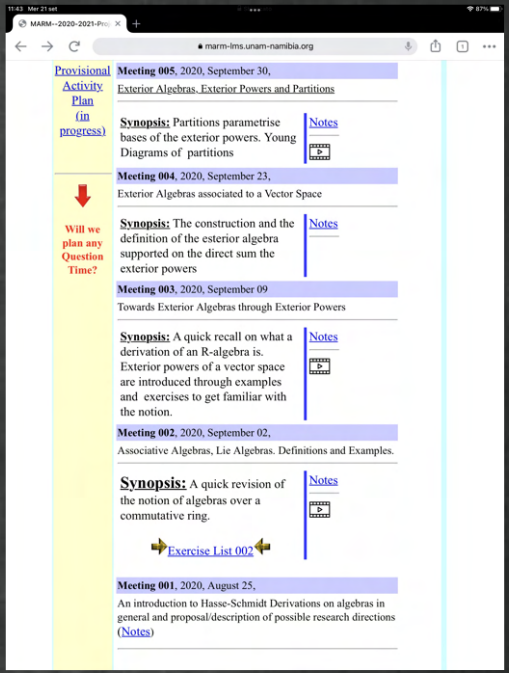
https://us02web.zoom.us/j/81783056071?pwd=RmtDMHpjSEZwUlR2VHVWZVpHc1BIQT09

Abstract. The easiest example of an exterior power of a vector space is the vector space itself, corresponding to the first degree of its exterior algebra. We will show how an exterior power of $\mathbf{K}^n$ is a module over the Lie algebra of the $\mathbf{K}^{n\times n}$ matrices. To this purpose, we will compute a generating function encoding for the usual multiplication of matrices by vectors and we shall indicated how to perform the same kind of computation for higher exterior powers by using the notion of Schubert derivation. The talk requires a minimum of prerequisites from multilinear algebra.

Meetings' Schedule

Forthcoming meetings will be scheduled soon

SIGFRIED AMUKUGD



Provisional Activity Plan (in progress)

Will we plan any Question Time?

Meeting 005, 2020, September 30,
Exterior Algebras. Exterior Powers and Partitions

Synopsis: Partitions parametrise bases of the exterior powers. Young Diagrams of partitions — Notes

Meeting 004, 2020, September 23,
Exterior Algebras associated to a Vector Space

Synopsis: The construction and the definition of the esterior algebra supported on the direct sum the exterior powers — Notes

Meeting 003, 2020, September 09
Towards Exterior Algebras through Exterior Powers

Synopsis: A quick recall on what a derivation of an R-algebra is. Exterior powers of a vector space are introduced through examples and exercises to get familiar with the notion. — Notes

Meeting 002, 2020, September 02,
Associative Algebras, Lie Algebras. Definitions and Examples.

Synopsis: A quick revision of the notion of algebras over a commutative ring. — Notes

Exercise List 002

Meeting 001, 2020, August 25,
An introduction to Hasse-Schmidt Derivations on algebras in general and proposal/description of possible research directions (Notes)

HiDEA Project

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Our Book on Generic Linear ODE

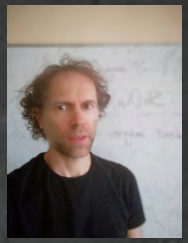
Within the 2021-21 framework of MARM activities we are redacting a book, which is also based on some lectures given in the context of the HiDEA project.

The book will discuss the way to solve generic linear ODE via purely algebraic methods, involving no analysis and showing applications to neighboring mathematical branches (Algebraic Geometry, Algebra, Theory of Symmetric Functions...)

Coordinator:
Giovanni Marelli

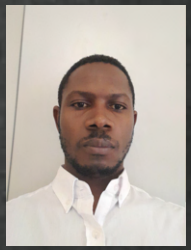
Collaborators:

Sigfried Amukugo, Elise Lazarus, Jesse Lichea, Bettina Wilkens, Ommolbanin Behzad



GIOVANNI MARELLI

ELISE LAZARUS



JESSE LICHELA

WHAT NEXT ?

WHAT CAN BE INVENTED MORE ?

KEY WORD : INCLUSION

⇓

NARM = Networking African Researchers in Mathematics

The initial

NARM TEAM

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The London Mathematical Society Program on

MENTORING AFRICAN RESEARCH in MATHEMATICS

at the University of NAMIBIA

Under the High Auspices of

Embassy of Italy
Pretoria

NCRST
National Commission
On Research Science & Technology

Politecnico di Torino

The 2021 MARM-UNAM MEETING

FROM MARM to NARM

click here for .pdf high resolution

From Mentoring to Networking African Researchers in Mathematics

https://us02web.zoom.us/j/82761114637?pwd=YUxlSFJFMDlvb3dIM0w3NlN2TjhaZz09
Meeting ID: 827 6111 4637
Passcode: 696419
Time: Oct 15, 2021 02:45 PM Africa/Windhoek

Deadline, November 2, 2021
click here for more

October 15 - 16, 2021

SAAVI
MWATILI FANGE

Samuel
Nunqulu

Giulia
Casagrande

LOIDE KAPENDA
EDUCATION OFFICER MANAGER
Ministry of Education

Hideaki HARADA

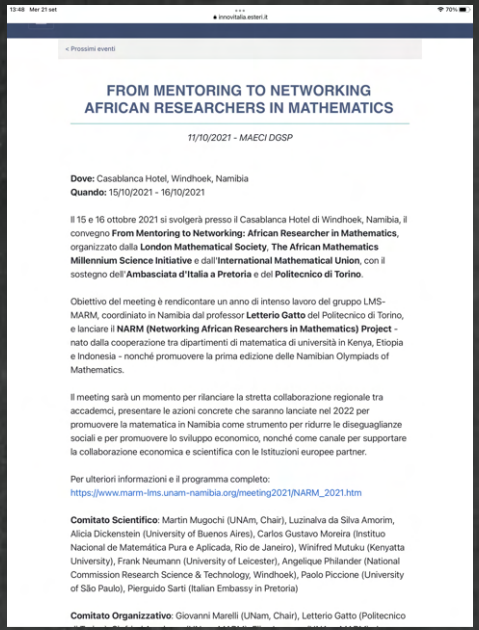
ALESSANDRO
MICHELETTI
CONSOLE ONORARIO

14/10/2021

CHOOLWE SIACOHONO

UNAM

LEO TAPIWA / COMMUNICATION & SOCIAL MEDIA (UNAM)



< Prossimi eventi

FROM MENTORING TO NETWORKING AFRICAN RESEARCHERS IN MATHEMATICS

11/10/2021 - MAECI DGSP

Dove: Casablanca Hotel, Windhoek, Namibia
Quando: 15/10/2021 - 16/10/2021

Il 15 e 16 ottobre 2021 si svolgerà presso il Casablanca Hotel di Windhoek, Namibia, il convegno **From Mentoring to Networking: African Researcher in Mathematics**, organizzato dalla **London Mathematical Society**, **The African Mathematics Millennium Science Initiative** e dall'**International Mathematical Union**, con il sostegno dell'**Ambasciata d'Italia a Pretoria** e del **Politecnico di Torino**.

Obiettivo del meeting è rendicontare un anno di intenso lavoro del gruppo LMS-MARM, coordiniato in Namibia dal professor **Letterio Gatto** del Politecnico di Torino, e lanciare il **NARM (Networking African Researchers in Mathematics) Project** - nato dalla cooperazione tra dipartimenti di matematica di università in Kenya, Etiopia e Indonesia - nonché promuovere la prima edizione delle Namibian Olympiads of Mathematics.

Il meeting sarà un momento per rilanciare la stretta collaborazione regionale tra accademci, presentare le azioni concrete che saranno lanciate nel 2022 per promuovere la matematica in Namibia come strumento per ridurre le diseguaglianze sociali e per promuovere lo sviluppo economico, nonché come canale per supportare la collaborazione economica e scientifica con le Istituzioni europee partner.

Per ulteriori informazioni e il programma completo:
https://www.marm-lms.unam-namibia.org/meeting2021/NARM_2021.htm

Comitato Scientifico: Martin Mugochi (UNAm, Chair), Luzinalva da Silva Amorim, Alicia Dickenstein (University of Buenos Aires), Carlos Gustavo Moreira (Instituo Nacional de Matemática Pura e Aplicada, Rio de Janeiro), Winifred Mutuku (Kenyatta University), Frank Neumann (University of Leicester), Angelique Philander (National Commission Research Science & Technology, Windhoek), Paolo Piccione (University of São Paulo), Pierguido Sarti (Italian Embassy in Pretoria)

Comitato Organizzativo: Giovanni Marelli (UNam, Chair), Letterio Gatto (Politecnico

la collaborazione economica e scientifica con le Istituzioni europee partner.

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Comitato Organizzativo: Giovanni Marelli (UNam, Chair), Letterio Gatto (Politecnico di Torino), Sigfried Amukugo (UNam-MARM), Elise Lazarus (UNAm-MARM), Jesse Lichela (UNam-MARM), Leo Guichu, Luca San Mauro (UNam-MARM), Bettina Wilkens (UNam), Dipo Aldila (University of Indonesia), Ommolbanin Behzad (University of Isfahan), Manalebish Debalike (University of Addis Ababa), Josephine Wairimu Kagunda (University of Nairobi), Fabio Pagan (Journalist and Science Writer, Trieste, Italy)

COMUNICATO INNOVITALIA

MAECI

WHAT'S NEXT?

1st NAMIBIAN MATHS OLYMPIADS

NAMIBIA MATHEMATICS OLYMPIAD

REGISTRATION PERIOD
01 - 17 November 2021 at 17h00

OPEN TO LEARNERS
Currently enrolled in Grades 8 - 11

The National Commission on Research, Science and Technology (NCRST) in collaboration with the Namibia Ports Authority (Namport), the Petroleum Training and Education Fund (PETROFUND), the London Mathematical Society, the Ministry of Education, Arts and Culture, the University of Namibia (UNAM), Namibia University of Science and Technology (NUST) invites interested school teams to register to participate in the Namibia Mathematics Olympiad (NMO) 2021.

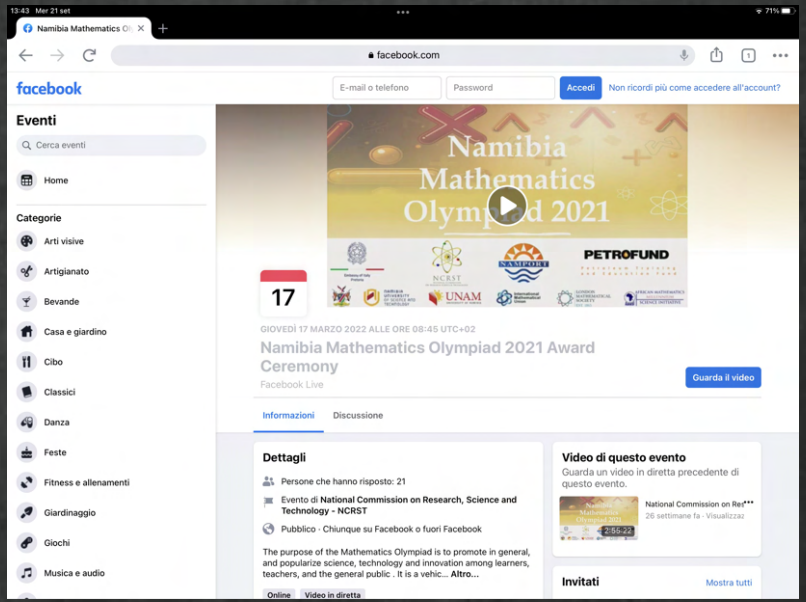
REGISTRATION: visit **www.ncrst.na**
Go to Mathematics Olympiad and register to access the competition guidelines and forms.

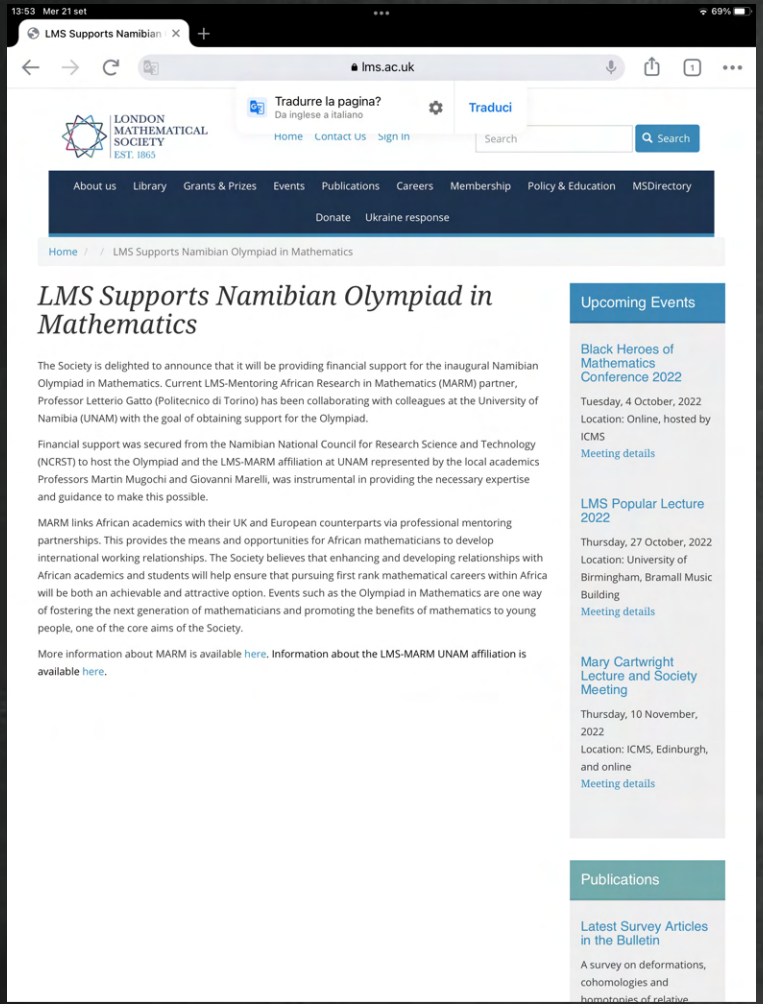
It is mandatory for schools to register their teams to participate in the Mathematics Olympiad which will be conducted virtually through the Mathematics Olympiad online platform.

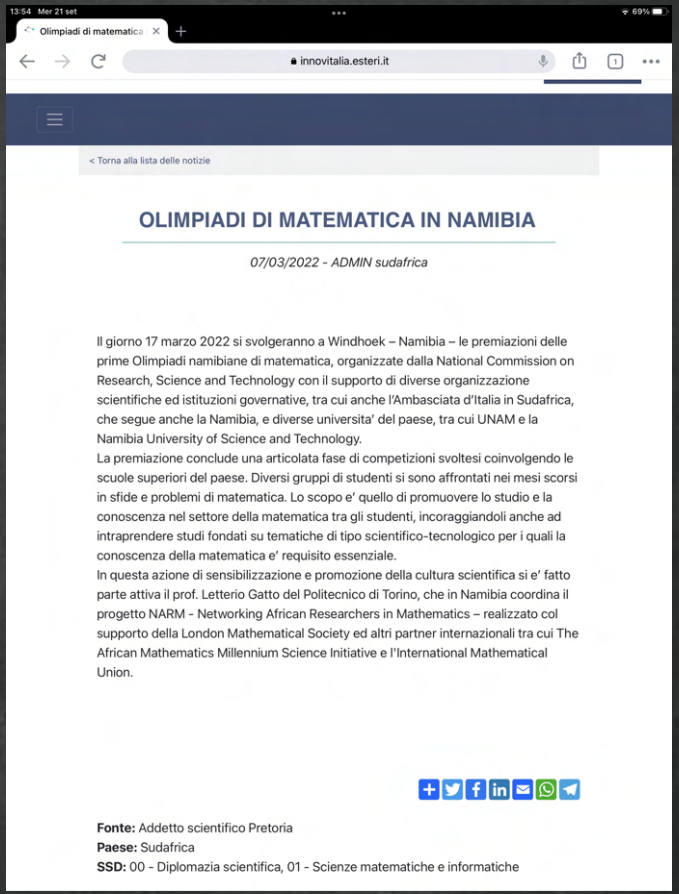
PRIZES:
Prizes will be awarded for team and individual performances. Participation certificates will be issued to all learners registered.

For more information please contact:
Ms. Generosa Simon or Mr. Johannes Ndjamba at **nmo@ncrst.na** or
call: +264 61 4317 000

NCRST · NAMPORT · PETROFUND Petroleum Training and Education Fund
Namibia University of Science and Technology · UNAM · London Mathematical Society EST. 1865 · African Mathematics Millennium Science Initiative · International Mathematical Union







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NOWADAYS (ongoing)

twitter.com/unammmarm1

don't forget:

course for learner

PRECEEDED BY

The Second

NAMIBIAN OLYMPIAD OF MATHEMATICS

Sponsored by LMS-MARM

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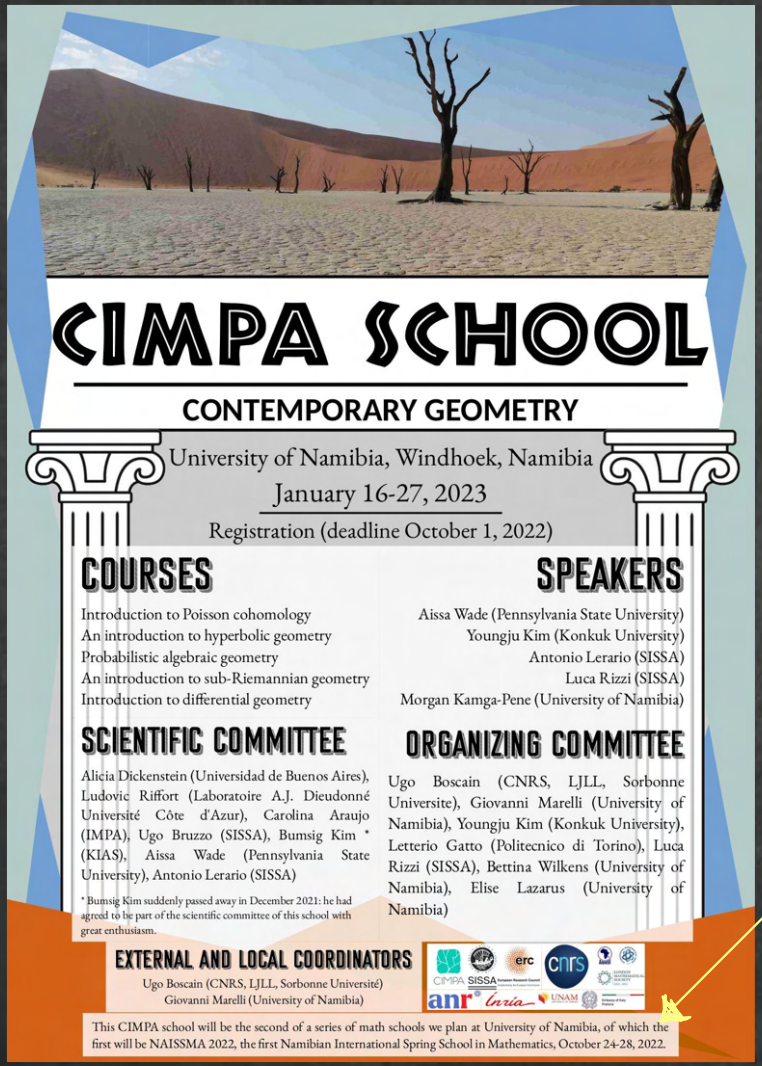

CIMPA SCHOOL

CONTEMPORARY GEOMETRY

University of Namibia, Windhoek, Namibia

January 16-27, 2023

Registration (deadline October 1, 2022)

COURSES

Introduction to Poisson cohomology
An introduction to hyperbolic geometry
Probabilistic algebraic geometry
An introduction to sub-Riemannian geometry
Introduction to differential geometry

SPEAKERS

Aissa Wade (Pennsylvania State University)
Youngju Kim (Konkuk University)
Antonio Lerario (SISSA)
Luca Rizzi (SISSA)
Morgan Kamga-Pene (University of Namibia)

SCIENTIFIC COMMITTEE

Alicia Dickenstein (Universidad de Buenos Aires), Ludovic Riffort (Laboratoire A.J. Dieudonné Université Côte d'Azur), Carolina Araujo (IMPA), Ugo Bruzzo (SISSA), Bumsig Kim * (KIAS), Aissa Wade (Pennsylvania State University), Antonio Lerario (SISSA)

* Bumsig Kim suddenly passed away in December 2021: he had agreed to be part of the scientific committee of this school with great enthusiasm.

ORGANIZING COMMITTEE

Ugo Boscain (CNRS, LJLL, Sorbonne Universite), Giovanni Marelli (University of Namibia), Youngju Kim (Konkuk University), Letterio Gatto (Politecnico di Torino), Luca Rizzi (SISSA), Bettina Wilkens (University of Namibia), Elise Lazarus (University of Namibia)

EXTERNAL AND LOCAL COORDINATORS

Ugo Boscain (CNRS, LJLL, Sorbonne Université)
Giovanni Marelli (University of Namibia)

This CIMPA school will be the second of a series of math schools we plan at University of Namibia, of which the first will be NAISSMA 2022, the first Namibian International Spring School in Mathematics, October 24-28, 2022.

"This CIMPA school will be the second of a series of math schools we plan at University of NAMIBIA, of which the first will be NAISSMA 2022, The first International Spring School in Mathematics October 24-28, 2022

a: Partners in Sustainable Development'
'EU-Namibia: Partners in Sustainable Development'
Come to study and teach in Europe
STUDENTS AND DOCTORAL CANDIDATES
KIMPA SCHOOL
NAMIBIA

GRAZIE!