



SUMMIT DAY 1

MARCH 26, 2019

THEME: INTERNATIONAL BEST PRACTICES IN THE TEACHING OF MATHEMATICS

9.00 AM - 10:30 AM

PLENARY SESSION 1

FROM FEAR TO EMPOWERMENT IN MATHEMATICS

PRESENTERS:

- **Professor Paul Riccomini**, Penn State University, USA
- **Ms. Antonia Cameron**, Metamorphosis Teaching Learning Communities, New York, USA

MODERATOR:

Dr. Asburn Pinnock, President, The Mico University College, Jamaica

DESCRIPTION

This session will highlight strategies and methodologies related to the Psychological approach to the Teaching and Learning of Mathematics which will move students from the fear of Mathematics to one where Mathematics is considered enjoyable, exciting and manageable.

The fear of Mathematics is one of the major obstacles for our students to learn Mathematics and be proficient in this subject. This fear results in a mental block which frustrates the student and the teacher sometimes leading to avoidance of this subject from the early Education through to the Primary, Secondary and Tertiary levels of the education system.

In an internationally competitive marketplace it is of critical importance that this obstacle be removed in order for the Performance of our students to meet and surpass international standards in the area of Mathematics.

Effective strategies for teacher collaboration in schools is also explored.

10.30 AM - 11:00 AM

BREAK: VISIT THE MATHEMATICS MARKETPLACE



11:00 AM - 12:30 PM

PLENARY SESSION 2

INCLUSIVE PEDAGOGICAL SKILLS FOR MATHEMATICS

PRESENTERS:

- **Professor Jennifer Bay- Williams**, Professor Mathematics Education, University of Louisville, U.S.A
- **Dr. Jodie Hunter**, Senior Lecturer, School of Education Massey University New Zealand

MODERATOR:

Ms Karren Foster, Dean, Faculty of Education, The Mico University College

DESCRIPTION

This session will increase your knowledge about transformational educational practices, strategies and techniques for the teaching and learning of mathematics which cater to diversity of students – from gifted to those with special learning needs and students from a mixture of socio-economic and cultural situations.

There will be emphasis on teaching methodologies that promote equitable participation in the mathematics classroom and create a culture of inclusion rather than exclusion or marginalization.

Come and hear about these methodologies as well as mathematical problem posing as critical aspects of doing and learning mathematics and improving the quality of mathematics learning by equalizing student opportunities to participate in the mathematics classroom at all levels primary, secondary, and tertiary through productive group work norms and coaching strategies.

12.30 PM - 1:30 PM

LUNCH: VISIT THE MATHEMATICS MARKETPLACE NETWORKING

1:30 PM - 2:30 PM

LUNCH KEYNOTE PRESENTATION: SCIENTIFIC THINKING AND HUMAN CAPACITY BUILDING FOR SUSTAINABLE DEVELOPMENT

SPEAKER:

Professor Kiyoshi Kurokawa, Professor Emeritus
University of Tokyo, Japan

MODERATOR:

Ms. Cynthia Hobbs, Lead Education Specialist,
Inter-American Development Bank (IDB) Washington DC



2:40 PM - 3:40 PM

CONCURRENT WORKSHOPS

WORKSHOP 1 : INTEGRATING MATHEMATICS WITH THE VISUAL AND PERFORMING ARTS

FACILITATORS:

- **Dr. Lorna Thompson**, Education Officer Core Curriculum Unit, Ministry of Education Youth and Information, Jamaica
- **Dr. Lois George**, Lecturer, Mathematics Education University of the West Indies, Mona, Jamaica

MODERATOR:

Dr. Beverley Johnson, Senior Research Fellow, ITER

DESCRIPTION

This session will focus on Using Music, Entertainment, Theatre Arts and Digital Media in the teaching and learning of Mathematics to make the subject exciting, interesting and relevant for students.

Come and hear how Music, Entertainment, Animation, Theatre Arts and Digital Media can be effectively integrated in the mathematics classroom to make it participatory, enjoyable and of value to student.

WORKSHOP 2 : MENTORING AND COACHING FOR EFFECTIVE TEACHING AND LEARNING OF MATHEMATICS

FACILITATOR:

Professor Jennifer Bay- Williams, Professor Mathematics Education, University of Louisville, U.S.A

MODERATOR:

Mrs. Shandalene Binns-Thompson, Head of the Caribbean Centre of Excellence for Mathematics Teaching, The Mico University College.

DESCRIPTION

This session will share international practices and experiences using the skills and techniques of mentoring and coaching to develop the proficiency and capacity of teachers to improve students' performance in mathematics.

The session will focus on effective coaching and mentoring skills, competencies and techniques that can be utilized by Master Teachers, Heads of Mathematics Departments and Grade Coordinators -who perform the roles of mentors and coaches - for building the capacity of classroom teachers -from early education, primary to secondary levels - to yield improved performance of Students in Mathematics.



WORKSHOP 3 : TEACHING MATHEMATICS USING THE INTERNET OF THINGS (IOTS)

FACILITATORS:

Dr. Padmanabhan Seshaiyer, Professor of Mathematical Sciences
Dean for Academic Affairs in the College of Science and Director of (Centre for Outreach in Mathematics Professional Learning and Educational Technology)
George Mason University VA, U.S.A.

MODERATOR:

Professor Carol Clarke, Vice President Academic Affairs, The Mico University College

DESCRIPTION

The internet linked with new technological gadgets and instruments present new opportunities for both the training of teachers in mathematics as well the students learning mathematics.

This workshop will focus on the use of the internet of things (IoT) in the teaching of mathematics.

The effective use of instruments such as smart phones, tablets and Ipads for on-site and distance, outreach, in-service and online teaching of mathematics will be explored, Experiences from the Outreach in Mathematics Professional Learning and Educational Technology initiative conducted in the USA will be shared and the extent to which this can be replicated in the Caribbean will be explored.

3:30 PM - 4:30 PM PLENARY PANEL DISCUSSION NATIONAL POLICIES AND PROGRAMMES FOR MATHEMATICS TEACHING AND INNOVATION

PANELISTS:

- **Dr. Kiyoshi Kurokawa**, Professor Emeritus University of Tokyo, Japan
- **Dr. Tamika Benjamin**, National Mathematics Coordinator MOEYI, Jamaica
- **Mr. Leo Pahkin**, Counsellor of Education, Finnish National Agency for Education, Finland

MODERATOR:

Mrs Judith Williams-McFarquhar, Quality Assurance Officer,
The Mico University College





SUMMIT DAY 2

MARCH 27, 2019

THEME: BUILDING CAPACITY FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS IN THE CLASSROOM OF THE FUTURE

9.00 AM -10:30 AM

PLENARY SESSION 1

CURRICULUM INNOVATIONS FOR IMPROVED PERFORMANCE IN MATHEMATICS AND SCIENCE

PRESENTERS:

- **Professor Masataka Koyama**, Professor of Mathematics Education and Dean of Graduate School of Education, and School of Education, Hiroshima University, Japan
- **Mr Leo Pahkin**, Counsellor of Education, Finnish National Agency for Education, Finland

MODERATOR:

- **Ms Onika Miller**, Managing Director, MCS Group
- JN Group, Platinum Sponsor

DESCRIPTION:

Proficiency in mathematics is an important requirement to capitalize on opportunities for Economic Growth and Job Creation.

This session will explore how we can use the Mathematics Classroom from the Early Education, Primary Secondary and Tertiary Levels to build important skills for success in the FUTURE: Knowledge Creation and Innovation, Mental Elasticity and Complex Analysis and Problem-Solving which utilize the Application of Proficiency in Mathematics.

The advent of new and emerging technologies combined with international economic competitiveness have resulted in the need for all countries to focus on transferable problem solving skills to ensure that the next generation of young employees are confident and capable with expertise in numeracy, statistics and mathematics to meet the future needs of business, commerce and industry.

This session will present and share two international initiatives to meet these needs, These initiatives focus on curriculum innovations for improved performance in mathematics and science.

10.30 AM -11:00 AM

BREAK: VISIT THE MATHEMATICS MARKETPLACE



11:00 AM - 12:30 PM

PLENARY SESSION 2

THE ROLE OF STUDENTS' FUNDS OF KNOWLEDGE AND TEACHER SUBJECT KNOWLEDGE IN CRITICAL THINKING AND MATHEMATICAL PROBLEM SOLVING

PRESENTERS:

- **Professor David Burghes**, Director, Centre for Innovation in Mathematics Teaching University of Plymouth, UK
- **Dr. Jodie Hunter**, Senior Lecturer, School of Education, Massey University, New Zealand

MODERATOR:

Dr. Patrick Sterling, Human Resource and Industrial Relations Manager, Seprod Limited

DESCRIPTION

This session will focus on how improvement of the teacher's subject knowledge and understanding of Mathematics combined with the use of students' funds of knowledge are key strategies for improving critical thinking, problem-solving and student's Proficiency in Mathematics.

There will be emphasis on how Mathematical foundations can be taught and reinforced through problem solving by ensuring that all students learn to explain and justify their mathematical reasoning, inquire into and explore the reasoning of others, and justify or challenge this reasoning

12.30 PM -1:30 PM

LUNCH: VISIT THE MATHEMATICS MARKETPLACE NETWORKING

1:30 PM - 2:30 PM

LUNCH KEYNOTE PRESENTATION: STREAMING - HOLISTIC INTEGRATION OF STEM, READING LITERACY AND THE ARTS TO INSPIRE THE NEXT GENERATION

SPEAKER:

Dr. Padmanabhan Seshaiyer, Professor of Mathematical Sciences
Dean for Academic Affairs in the College of Science and Director of (Center for Outreach in Mathematics Professional Learning and Educational Technology)
George Mason University VA, U.S.A.

MODERATOR:

Senator Aubyn Hill, Chairman, National Water Commission, Platinum Sponsor



2:40 PM - 3:40 PM

CONCURRENT WORKSHOPS

WORKSHOP 1 : TEACHING MATHEMATICS USING DISRUPTIVE TECHNOLOGIES

FACILITATORS:

- **Mr. Wayne Thompson**, Lecturer, Mathematics, The Mico University College
- **Dr. Albert Benjamin**, Dean, Faculty of Science and Technology,
The Mico University College

MODERATOR:

Mr. Rudolph Sewell, Vice President, Administration, The Mico University College

DESCRIPTION

Disruptive Technologies such as robotics and autonomous, augmented and assisted artificial intelligence will have a negative impact on the future of work in particular displacing of a large number of current jobs. On the other hand, these technologies will open up opportunities for new, different and higher level jobs and opportunities from a wide range of business ventures.

This workshop will focus on integration of emerging and disruptive technologies in the teaching and learning of Mathematics and how this approach can prepare students for engaging in entrepreneurial and business ventures for their wealth creation. The effective use of Robotics in the mathematics classroom will be emphasized.

WORKSHOP 2 : TEACHING MATHEMATICS WITH FOCUS ON UNLEASHING STUDENTS' CREATIVITY AND INNOVATION

FACILITATORS:

- **Dr. Paul Riccomini**, Penn State College of Education, U.S.A
- **Mrs. Joy Baker- Gibson**, Head Mathematics Department,
The Mico University College

MODERATOR:

Dr Renee Rattary, JN Group

DESCRIPTION

This workshop will share international methodologies used in the teaching of mathematics to promote critical thinking and problem-solving in a manner that allow students to develop and display their unique creativity and innovation in a variety of situations.



WORKSHOP 3 : USING LESSON STUDY FOR IMPROVING PERFORMANCE IN MATHEMATICS: THE JAPANESE MATHEMATICS TEACHING METHODOLOGY

FACILITATORS:

Professor Masataka Koyama, Dean of Graduate School of Education and School of Education, Hiroshima University, Japan

MODERATOR:

Mr Owen Speid, Jamaica Teachers' Association

DESCRIPTION

This workshop will share the teaching methods used in Japan for developing mathematical Critical Thinking and complex problem-solving of students at the Primary, Secondary and Tertiary Levels and examine how these could be replicated in educational institutions in the Caribbean.

WORKSHOP 4 : MENTORING AND COACHING FOR EFFECTIVE TEACHING AND LEARNING OF MATHEMATICS

FACILITATOR:

Ms. Antonia Cameron, Metamorphosis Teaching Learning Communities
New York, USA

MODERATOR:

Karla Boswell-Lewis, Vice Principal, Roger Clarke High School

DESCRIPTION

This session will share international practices and experiences using the skills and techniques of mentoring and coaching to develop the proficiency and capacity of teachers to improve students' performance in mathematics.

The session will focus on effective coaching and mentoring skills, competencies and techniques that can be utilized by Master Teachers, Heads of Mathematics Departments and Grade Coordinators -who perform the roles of mentors and coaches - for building the capacity of classroom teachers -from early education, primary to secondary levels - to yield improved performance of Students in Mathematics.

3.45 PM -4:15 PM PANEL DISCUSSION REFLECTIONS AND THE WAY FORWARD

PANELISTS:

- **Dr. Grace McLean**, Permanent Secretary (Acting), Ministry of Education Youth and Information, Jamaica
- **Mr Leo Pahkin**, Finnish National Agency for Education, Finland
- **Dr. Alfonso Echazarra**, PISA Analyst, Directorate for Education and Skills OECD, France