| SIMC 2019 Mathematical Finance and Economics Conference Program<br>Venue: Palm room, SBS | | | |
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| | **PRE-CONFERENCE SCHOOL (12th-13th August 2019)** | | |
| **Time** | **Day 1 (August 12, 2019)** | | |
| 8:00 am-9:00 am | **Arrival and registration** | | |
| 9:00 am-9:30 am | **Opening remarks**<br>**Mr. Ferdinand Othieno, Dean SIMS**<br>**Venue: Auditorium** | | |
| | **Activity / Session Topic** | *Speaker* | **Session Chair** |
| 9:30 am-10:30 am | Introductory Concepts in Stochastic Processes | *Dr. Lucy Muthoni* | Dr. Helen Osiolo |
| 10.30 am-11.00 am | Health Break | | |
| 11:00 am-1:00 pm | Multivariate Brownian Motion and its Application in Decision Making | *Prof. Michael Ingleby* | Dr. Lucy Muthoni |
| 1.00 pm-2.00 pm | Health Break | | |
| 2:00 pm-4:30 pm | Application of Stochastic Processes in Finance | *Dr. Lucy Muthoni* | Meleah Oleche |
| 4:30 pm-4:45 pm | Health Break | | |
| 4:45 pm - 5:30 pm | MASAMU<br>Speaker: Prof. Overtoun Jenda (Auburn University, USA)<br>Venue: Auditorium | | |
| | **Day 2 (August 13, 2019)** | | |
| 8:30 am -10:30 am | Application of Stochastic Processes in Economics | *Dr. Lucy Muthoni* | Dr. Caroline Kariuki |
| 10:30 am-11.00 am | Health Break | | |
| 11:00 am-1:00 pm | Stochastic Processes and Artificial Intelligence - The Hough Transform | *Prof. Michael Ingleby* | Dr. Godfrey Madigu |
| 1:00 pm-2:00 pm | Health Break | | |
| 2:00 pm-4:30 pm | Participants Feedback and Research Ideas Presentation | *Prof. Michael Ingleby and Dr. Lucy Muthoni* | Mercy Kano |
| 4:30 pm-5.00 pm | Health Break | | |

| INTERNATIONAL MATHEMATICS CONFERENCE (14th-16th August 2019) | | | |
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| | **Day 3 (August 14, 2019)** | | |
| 8:00 am-8:30 am | **Registration** | | |
| 8:30 am - 8:50 am | **Welcome address**<br>**Prof. John Odhiambo**<br>Vice Chancellor, Strathmore University<br>**Venue: Auditorium** | | |
| 8:50 am-9:00 am | DAAD<br>Speaker: Mrs. Beate Schindler-Kovats<br>Venue: Auditorium | | |
| 9:00 am- 9:45 am | Plenary session<br>Title: **STEM as the Driver of a Knowledge-based Economy**<br>Speaker: Prof. Abba Gumel (Arizona State University, USA)<br>Venue: Auditorium | | |
| 9:45 am - 10:30 am | Plenary session<br>Title: **Ordering your life for success: Lessons from the number line**<br>Speaker: Prof. F. Nyabadza (University of Johannesburg, South Africa)<br>Venue: Auditorium | | |
| 10.30 am-11:00 am | Health Break | | |
| | **Activity / Session Topic** | ***Speaker*** | **Session Chair** |
| 11:00 am-11:40 am | Monetary De-measurement of Taxation using Cogni-economic Pressure Coefficient on a Continuous Progressivity Model: Towards Equitable Taxation for Kenya | *Stanley Kirika* | |
| 11: 40 am – 12:20 pm | An Assessment of Select Market Timing Strategies' Performance in Nairobi Securities Exchange | *Judah Ng'Ang'A* | |
| 12:20 pm – 1:00 pm | Discussion | | Gillian Nduko Kimundi |
| 1:00 pm-2:00 pm | Health Break | | |
| 2:00 pm-2:40 pm | Recursive Moments of the Aggregate Discounted Claims | *Franck Adekambi* | |
| 2:40 pm-3:20 pm | On the European Logistic-Type Option Pricing with Jump Diffusion | *Brian Oduor and Adanje Mulambula* | |
| 3:20 pm –4:00 pm | Volatility Extraction in Information Based Asset Pricing Framework Via Non-Linear Filtering | *Cynthia Ikamari* | |
| 4:00 pm – 4:30 pm | Modelling Loss Given Default using Probability of Default | *Wangai Joy Mwende* | John Ocheche |
| 4:30 pm – 5:00 pm | Health Break | | |

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| | **Day 4 (August 15, 2019)** | | |
| 8:15 am-9:00 am | Plenary Sessions<br>Title: **Supersingular Elliptic Curves in Cryptography**<br>Speaker: Prof. Alfred Menezes (University of Waterloo, Canada)<br>Venue: Auditorium | | |
| | ***Activity / Session Topic*** | ***Speaker*** | ***Session Chair*** |
| 9:15 am-9:45 am | Stock return predictability and Market integration | *Osoro Ivy Bina* | |
| 9:45 am – 10:30 am | Comparative Evaluation of BRT systems using SDEA analysis. | *Mugabi Patsi Nalukenge* | Edwin Obonyo |
| 10:30 am-11:00 am | Health Break | | |
| 11:00 am-11:45 pm | Time Frequency Analysis of Macroeconomic Announcement Effects on Forex Volatility and Quote Frequency | *Masinde Samson* | |
| 11:45 am – 12:30 pm | Post earnings announcement drift: A long-short equity trading strategy | *Njagi Kennedy Muturi* | |
| 12:30 am – 1:00 pm | Discussion | | Sahib Singh Kholsa |
| 1:00 pm-2:00 pm | Health Break | | |
| 2:00 pm- 5:00 pm | EXCURSIONS - Half-day excursions | | |
| 5:30 pm - | DINNER<br>Venue: Auditorium | | |
| | **Day 5 (August 16, 2019)** | | |
| 8:00 am - 8: 45 am | Plenary session<br>Title: **Mathematics in Language Processing**<br>Speaker: Prof. Michael Ingleby (University of Leeds, UK)<br>Venue: Auditorium | | |
| 8: 45 am-9.30 am | Plenary session<br>Title:**Teaching Cultures in University Mathematics: Pedagogic Investigations That Aim for Student Understanding**<br>Speaker: Prof. Barbara Jaworski (Loughborough University, UK)<br>Venue: Auditorium | | |
| | ***Activity / Session Topic*** | ***Speaker*** | ***Session Chair*** |
| 9:30 am-10:00 am | Predicting Customer Churn In The Banking Industry Using a Hybrid Decision Tree and Logistic Regression Model | *Njuguna Trevor Karaba* | |
| 10:00 am – 10: 30am | Discussion | | Ishmael Maina |
| 10:30 am-11:00 am | Health Break | | |
| 11:00 am-11:40 am | Predatory lending orchestrated by the proliferation of fintech companies in Kenya and its corollary to Financial Stability in the Kenyan Banking sector. | *Levi Mulase* | |
| 11: 40 am – 12:20 pm | Weather index linked crop insurance in the context of climate change | *Otsieno Ezekiel Wesonga* | |
| 12: 20 pm – 1:20 pm | Discussion | | Steve Makambi |
| 1:20 pm-2:10 pm | Health Break | | |
| 2:10 pm – 2:50 pm | **Closing Remarks**<br>**Venue: Auditorium** | | |