

Dr. MARILYN C. RONO

Lecturer/Applied Mathematics/ Biomathematics/Infectious Disease Modeling/Researcher



SUMMARY

Dr. Marilyn C. Ronoh is a Lecturer and Researcher of Applied Mathematics and Infectious Disease Modelling. She is currently teaching at the University of Embu, Kenya on a full-time basis. She has a BSc. degree in Mathematics, MSc. in Applied Mathematics and PhD in Applied Mathematics (Mathematical Modelling). She is also an alumni of the Organization for Women in Science for the Developing World (OWSD) PhD Fellowship and Mawazo PhD Scholars programme. She has supported the implementation of the Mawazo Learning Exchange (MLEx) programme and the MLEx mentorship programme. Her recent research centered on constructing mathematical models to understand the transmission dynamics of HIV/AIDS among the adolescents and young people in Kenya. She has authored and co-authored published manuscripts in emerging infectious diseases. Currently, she is involved in multidisciplinary and international collaborations, particularly modelling the effectiveness of COVID-19 containment strategies in Kenya and, modelling the social drivers of HIV/AIDS disease. She is also part of the Mathematics in Southern Africa (MASAMU) Advanced Institute Program whose aim is to promote international research collaboration. Outside research, she is a member of the Kenya Women in Mathematics Association (KWIMSA), Organization for Women in Science for the Developing World (OWSD), African Women in Mathematics Association (AWMA) and Southern Africa Mathematical Sciences Association (SAMSA). Dr. Ronoh is passionate about quality education and mentoring children, adolescents and young adults and, showing them the positive side of mathematics.

WORK EXPERIENCE

01/2022-
Date

Lecturer
University of Embu, Kenya
Responsibilities

- Preparation of course content and teaching materials
- Deliver undergraduate and postgraduate lectures, tutorials and seminars
- Supervise postgraduate students
- Assess students work
- Invigilate examinations
- Conduct research
- Mentor students in their career choices, postgraduate choices and social issues
- Set and mark examinations
- Participate in training activities, conferences and workshops

09/2014-
12/2021

Lecturer (Part-time)
University of Nairobi
Responsibilities


- Preparation of course content and teaching materials
- Deliver undergraduate and postgraduate lectures, tutorials and seminars
- Assess students work
- Conduct research
- Mentor students
- Set and mark examinations

01/2019-
12/2021


Managing Director
Shema School
Responsibilities

- Designed and implemented a dynamic teaching program in line with Shema School mission and philosophy of education
- Supervised all teaching and non-teaching staff
- Organized learning materials and resources
- Maintained an open line communication with parents
- Reported to Shema School Board and Shema School Governing Board
- Marketed the school to prospective parents
- Ensured the school complied with relevant regulations enacted by the County and National Government as well as international teaching and school safety standards.

CONTACT INFORMATION

 104081- 00101, Nairobi,
Kenya

 mcronoh1@gmail.com

 +254727878308

PARTICULARS

Date of Birth: 18/02/1987

Gender: Female

Nationality: Kenyan

PROFESSIONAL SKILLS

- Teaching
- Research
- Proposal writing
- Grant writing
- Scientific writing
- Budgeting
- Financial management
- Publishing
- Opinion Editorials
- Management
- Science communication to non-scientists
- Infectious disease modelling
- Data modelling
- Data analysis

TECHNOLOGY SKILLS

- Simulations
- MATLAB
- Latex
- STATA
- MAPLE
- R
- Microsoft Word
- PowerPoint
- Excel
- Internet

INTERPERSONAL SKILLS

- Teamwork
- Training
- Communication
- Leadership
- Community work

PERSONAL ATTRIBUTES

- Hard worker
- Fast learner
- Meet deadlines
- Honest
- Flexible
- Persistent
- Professional
- Organized
- Keep time

LANGUAGES

- Swahili (Spoken and written)
- English (Spoken and written)

02/2017-
06/2017

Research Intern
African Population and Health Research Center (APHRC)

Responsibilities

- Trained in Data analysis using STATA in the Populations Dynamics and Reproductive Health (PDRH) DREAMS project
- Assisted in developing questionnaires for data collection
- Participated in primary data collection
- Participated in workshops and trainings
- Participated in staff meetings
- Participated in the DREAMS project
- Established networks with dynamic and accomplished researchers at the institution

09/2016-
12/2016

Lecturer (Part-time)
Kiriri Women's University of Science and Technology

Responsibilities

- Prepared course content and teaching materials
- Delivered undergraduate lectures, tutorials and seminars
- Assessed students work
- Invigilated examinations
- Mentored students
- Set and marked examinations

01/2016-
12/2016

Lecturer (Part-time)
Multimedia University of Kenya

Responsibilities

- Prepared course content and teaching materials
- Delivered undergraduate lectures, tutorials and seminars
- Assessed students work
- Invigilated examinations
- Mentored students
- Set and marked examinations

EDUCATION

03/2016-
09/2021

PhD - Applied Mathematics
University of Nairobi and University of KwaZulu-Natal, South Africa (OWSD Sandwich program)

09/2012-
08/2014

MSc. - Applied Mathematics
University of Nairobi

10/2008-
08/2012

BSc. Mathematics
University of Nairobi
First Class Honors

PUBLISHED MANUSCRIPTS

B. Levy, H. Correia, F. Chirove, M. Ronoh, A. Abebe, M. Kgosimore, O. Chimbola, H. Machingauta, S. Lenhart, J. White, *Modeling the effect of HIV/AIDS stigma on HIV infection dynamics in Kenya*, Bulletin of Mathematical Biology Journal, 83(5),2021, DOI: <https://doi.org/10.1007/s11538-021-00891-7>

D. Burton, S. Lenhart, C. Edholm, B. Levy, M.L. Washington, B.R. Greening, K.A.J. White, E. Lungu, O. Chimbola, M. Kgosimore, F. Chirove, M. Ronoh, M.H. Machingauta, *A mathematical model of contact tracing during the 2014-2016 West African Ebola outbreak*, Mathematics MDPI, 9(608), 2021, DOI: <https://doi.org/10.3390/math9060608>.

M. Ronoh, F. Chirove, S. Pedro, M. Seuneu et al, *Modelling the spread of Schistosomiasis in Humans with Environmental Transmission*. Applied Mathematical Modelling-Elsevier Journal, 95, pp. 159-175, 2021, DOI: <https://doi.org/10.1016/j.apm.2021.01.046>.

M. Ronoh, F. Chirove, J. Kagunda, W. Ogana, *Evidence-based modeling of combination control on Kenyan youth HIV/AIDS dynamics*, PLoS One, 15(11): e0242491 November (2020), DOI: <https://doi.org/10.1016/j.apm.2021.01.0461371/journal.pone.0242491>.

M. Ronoh, F. Chirove, J. Wairimu, W. Ogana, *Modeling Disproportional Effects of Educating Infected Kenyan on HIV/AIDS*, Journal of Biological Systems, 28(2), (2020), pp. 1–39, DOI: <https://doi.org/10.1142/S0218339020400045>.

J. Wairimu, F. Chirove, M. Ronoh, D. Malonza, *Modeling insecticides resistance in Malaria transmitting mosquitoes in endemic regions of Kenya*, Biosystems, 174, (2018), pp. 49-59.

J. Lugoye, J. Wairimu, C. Alphonse, M. Ronoh, *Modeling Rift Valley Fever with Treatment and Trapping Control Strategies*, Journal of Applied Mathematics, 7(6), (2016), pp. 556-568.

J. Wairimu, M. Ronoh, *Modeling insecticide resistance in endemic regions of Kenya*, Journal of Applied Mathematics, 7(6), (2016), pp. 542-555.

M. Ronoh, R. Jaroudi, V. Kamdoun et al, *A Mathematical Model of Tuberculosis with Drug Resistance Effects*, Journal of Applied Mathematics, 7(12), (2016) pp. 1303-1316.

MANUSCRIPTS SUBMITTED FOR REVIEW

M. Ronoh, F. Chirove, J. Kagunda, W. Ogana, *Modeling the Spatial Effects of Targeted HIV/AIDS Controls among the Kenyan Youth in High Risk Counties* (Manuscript submitted to Taylor & Francis – Journal of Biological Dynamics for review).

MANUSCRIPTS UNDER PREPARATION

S. Lenhart, F. Chirove, M. Ronoh, E. Manda, *COVID-19 modelling and within household transmission*.

J. Wairimu, F. Chirove, M. Ronoh, T. Kinyari, *Modelling the interplay between COVID-19 infections and the heterogeneous susceptible and infective landscape of the Kenyan population*.

CONFERENCE PRESENTATIONS

Ronoh, M. (2018, November). Modeling Disproportional Effects of Educating Infected Kenyan on HIV/AIDS. SAMSA-MASAMU workshop held at Botswana International University of Science and Technology in November 2018.

Ronoh, M. (2016, June). *Calculating the Reproduction Number*. University of Nairobi Public Lectures on Mathematical Modeling, Chiromo Campus, Nairobi, Kenya.

Ronoh, M. (2015, July). *A Mathematical Model of TB with Drug Resistance Effects*. Presentation at the CIMPA School on Mathematical Modeling and Analysis of Complex Systems, Lake Naivasha Panorama Park, Kenya.

Ronoh M. (2015, May). *Compartmental Models in Epidemiology*. Presentation at CDC Global Health-Kenya on mathematical modeling, KEMRI, Nairobi.

RESEARCH GRANTS RECEIVED

S / N o	Title of the Project	Name of the Researcher	Award month and year	Awarding Body	Amount
1.	BESHTE: A Chatbot to Enhance HIV testing, Status Awareness, and Status Disclosure Among Adolescent Boys and Girls and Young Women and Men in Kenya	<u>Principal Investigator</u> Dr. Victoria Mukami <u>Research Team Members</u> Dr. Marilyn Ronoh Dr. Consolata Gakii Dr. David Mugo	December, 2022	Infectious Diseases Unit – Makerere University	USD 39873
2.	Using Computational Modelling and Artificial Intelligence to Enhance HIV Testing, Status Awareness, and Status Disclosure among Adolescent Boys and Girls and, Young Men and Women in Kenya. https://owsd.net/news/news-events/owsd-early-career-fellows-announced	<u>Principal Investigator</u> Dr. Marilyn Ronoh <u>Research Team Members</u> Dr. Victoria Mukami Dr. Consolata Gakii Dr. David Mugo	December, 2022	Organization for Women in Science for the Developing World (OWSD)	USD 49997

SUMMER SCHOOL

Aug, 2022, Co-organizer and Speaker in the 2022 Summer School in Computational Biology for Sustainable Environment, <https://www.summercompschool.mawazoinstitute.org/>

OPINION EDITORIALS

M. Muendo, N.B. Ndlovu, A. Weltman, J. Koskey, A. Beaudet, M. Achoko, M. Ronoh, *Want to be a woman in science? Here's advice from those who've gone before*, The Conversation, 7th February, 2019 3.36pm SAST.

M. Ronoh, *How we can better understand the spread of Covid-19*, Healthy Nation, Thursday, May 26, 2020.

M. Ronoh, *How we can better understand Covid-19 spread*, Daily Nation, May 30, 2020.

AWARDS, HONORS AND GRANTS RECEIVED

OWSD PhD Fellowship to support 6 months/year research visits to University of KwaZulu-Natal, South Africa (2017-2020).

Mawazo PhD Fellowship to support research and professional skills training for the years 2018/2019.

Simons Foundation Fellowship through the **Research and Graduate Studies in Mathematics and its Applications (RGSMA)** program to support tuition at the University of Nairobi for the academic years 2017/2018.

Mawazo Conference Grant to participate in the Masamu Institute and Workshops and SAMSA Conference held at Botswana International University of Science and Technology, Botswana (16th November 2018 – 25th November 2018).

ICTP Sponsorship to participate in the Hands-On Research on Complex Systems held at International Center for Theoretical Physics, Italy (16th July – 27th July, 2018).

SACEMA and ICI3D Sponsorship to participate in the Meaningful Modeling of Epidemiological Data Clinic held at African Institute of Mathematics (AIMS), South Africa (27th May - 9th June, 2018).

DCID Sponsorship to participate in the Global Change Impact on Diseases and Alien Species Expansion Workshop at African Institute of Mathematics (AIMS), South Africa (2nd May-6th May, 2016).

VLIR-UOS Sponsorship to participate in the Introduction into Statistical Software using R and Stata Workshop at the University of Nairobi, Chiromo Campus (6th July-10th July, 2016).

AMMSI Grant for travel and subsistence in CIMPA School- Kenya at Lake Naivasha Panorama Park, Kenya (20th July-31st July, 2015).

IMU/CWM Grant for travel and subsistence in the African Women in Mathematics Workshop on Mathematics for Social Change and Sustainable Livelihoods at Lake Naivasha Panorama Park, Kenya (16th July-18th July 2015).

EAUMP Grant to participate in the East African School on Applicable Algebraic Geometry at Bandari College, Mombasa, Kenya (8th July-26th July, 2013).

University of Nairobi Scholarship for Post Graduate Studies to facilitate my pursuit of a Master of Science degree in Applied Mathematics (September, 2012- September, 2014).

PROFESSIONAL MEMBERSHIP

2018 to date	Member of the Mathematics in Southern Africa Advanced Institute (MASAMU)
2016 to date	Member of the Organization for Women in Science for the Developing World (OWSD)
2015 to date	Member of the African Women in Mathematics Association (AWMA)
2015 to date	Member of the Southern Africa Mathematical Sciences Association (SAMSA)
2014 to date	Member of the Kenya Women in Mathematics Association (KWIMSA)

REFEREES

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