DR. CYRUS GITONGA NGARI

Name: Dr. Cyrus Gitonga Ngari
Title/Qualification: PhD. In Applied Mathematics
Position: Lecturer
Department: Mathematics, Computing & IT
School: Pure and Applied Sciences
Area of Specialization: Mathematical Modelling of infectious diseases
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Short Biography

Dr Cyrus Gitonga Ngari is a Doctorate graduate from Moi University, Master of Science (Applied Mathematics) graduate from Kenyatta University and Bachelor of Education (Double Mathematics) graduate from Egerton University.

Research Interests

Mathematical modelling, Mathematical Biology, Mathematical Chemistry, Computation Mathematics, Differential Geometry and stochastic modelling

Publications in Journals:

1. **Ngari, C. G.**, Muthuri, G. G., & James, M. K. (**2020**). Parameters and States Estimates of COVID-19 Model Using Lagrange Polynomial, Least Square Approximation and Kenya Quarantine Data. *Annual Research & Review in Biology*, 25-42.
2. Mercy Kawira, **Cyrus Gitonga Ngari** and Stephen Karanja(**2020**), "A Theoretical Model of Corruption Using Modified Lotka Volterra Model: A Perspective of Interactions between Staff and Students". *Journal of Advances in Mathematics and Computer Science*
3. Mercy Kawira, **Cyrus Gitonga Ngari** and Stephen Karanja **(2020)**, "A theoritical model of corruption using modified lotka volterra equations: a perspective of interactions between

staff and students" Under Review Journal of Advances in Mathematics and Computer Science.

4. James Khobocha Mirgichan, **Cyrus Gitonga Ngari** and Stephen Karanja(**2020**), "Simulation of a Deterministic Model of HIV Transmission between Two Closed Patches". *Journal of Advances in Mathematics and Computer Science*
5. Musyoka Kinyili, Dominic Makaa Kitavi and **Cyrus Gitonga Ngari (2019)**, "Aperture Maximization with half-wavelength Spacing, via a 2-Circle Concentric Array Geometry that is Uniform but Sparse" *Journal of Advances in Mathematics and Computer Science*
6. Veronicah Nyokabi, Dominic Makaa Kitavi and **Cyrus Gitonga Ngari (2019)**," Cramer-Rao Bound of Direction Finding Using Uniform Arc Arrays" *Journal of Advances in Mathematics and Computer Science*
7. Grace NDIRITU, Dominic Makaa KITAVI and **Cyrus Gitonga Ngari (2019)**," Cram´er-Rao Bound of Direction Finding Using a Uniform Hexagonal Array. *Journal of Advances in Mathematics and Computer Science*.
8. James Khobocha Mirgichan, **Cyrus Gitonga Ngari** and Stephen Karanja (**2019**), " A Deterministic Model Of HIV Transmission Between Two Closed Patches Incorporating The Monod Equation". *Mathematical Theory and Modeling*
9. Gogo Jacqueline Akelo, Stephen Muteti Mbunzi and **Cyrus Gitonga Ngari (2019)** "Multinomial Logistic Modelling of Socio-Economic Factors Influencing Spending Behavior of University Students" Asian Journal of Probability and Statistics
10. Gogo Jacqueline Akelo and Cyrus Gitonga Ngari(2018) "Socioeconomic Impact of Establishment of University of Embu on Small Scale Farmers in Nthambo Sub-Location, Kenya", Asian Journal of Probability and Statistics
11. **Cyrus Gitonga Ngari**, Dominic Makaa Kitavi, Paul Muriithi Ngari and David Mugo Muchangi "Parameters and State estimates of sex-based covid-19 model using Kenya data, nonlinear least square and interpolating polynomials "Under Review in IAENG International Journal of Applied Mathematics

12. **C.G Ngari**, G.G Gakii and K.J Mirchigan (**2020**), "States and Parameters Estimates of COVID-19 Model using Lagrange polynomial, Least square Approximation and Kenya Quarantine Data". Article in Press Annual Research & Review in Biology
13. **Cyrus Gitonga NGARI** and Dominic Makaa KITAVI (2020) , "Parameterization and forecasting of childhood pneumonia model using least square approximation, Lagrange polynomial and monte carlo simulation" Annual Research & Review in Biology
14. James Gathungu Gicheru and **Cyrus Gitonga Ngari (2018)**, "Decomposition of Riemannian Curvature Tensor Field and Its Properties" Journal of Advances in Mathematics and Computer Science.
15. **Cyrus Gitonga Ngari (2018)**, "Modelling Vaccination and Treatment of Childhood Pneumonia and Their Implications" *Journal of Advances in Mathematics and Computer Science.*

Presentation of Papers at Academic and Professional Conferences

1. 12th June 2017-16th June 2017, Participated in Second Kenyatta University Workshop On Mathematical Modelling, 2017 at Kenyatta University
   2nd November 2016-4th June 2016, Attended and presented an academic paper in the 2nd DeKUT International Conference on Science, Technology, Innovation and Entrepreneurship at Dedan Kimathi University University of Technology
2. 16th June 2015-19th June 2015, Presented a paper on "a simple model for childhood pneumonia dynamics in Kenyatta Univesity Mathematical conference at Kenyatta Univesity.
3. 1st September 2014-5th September 2014, Participated in the International School on Mathematical Epidemiology at Strathmore University.
4. 17th June 2013-21 st June 2013, Participated in First Kenyatta University On Mathematical Modelling, 2013 at Kenyatta University.
   Review of Academic Journal papers

5. 2017, Reviewed a manuscript in Journal of Applied Science and Technology in

   SCIENCEDOMAIN INTERNATIONAL certificate Ref. No: SDI/HQ/PR/Cert/37681

   18/3/2017, Reviewed a manuscript in British Journal of Mathematics and Computer Science in

   ScienceDomain International certificate Ref. No: SDI/HQ/PR/Cert/2017/BJMCS/32630

Supervision of Student

PhD Student

Veronicah Nyokabi Njenga: Proposal Development

MSC Students

i. Two MSC students from Meru University of Science and Technology One set to graduate this year and the other at defence stage.

ii. Three MSC students from University of Embu: Graduated.

iii. One student from Chuka University at Proposal Stage

Grant Awarded

10th March, 2015, I was awarded PhD research grant by Nation Commission for Science, Technology and Innovation (NACOSTI) Ref No: NACOSTI/RCD/ST&I 6th CALL PhD /069