

CURRICULUM VITAE

PERSONAL DATA	Full Name	Eric Okyere
	Date of Birth	16th February 1977
	Nationality	Ghanaian
	Telephone Number	+233-248630849
	Email	eric.okyere@uenr.edu.gh
	Scopus ID	57218441265
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	Mailing address	Department of Mathematics and Statistics School of Sciences University of Energy and Natural Resources P. O. Box 214 Sunyani, Ghana
EDUCATION	Eindhoven University of Technology (TU/e) , Netherlands	2009
	M.Sc. Industrial and Applied Mathematics Thesis was graded in TU/e by Dr.ir. Martijn Anthonissen (Assistant professor, Coordinator Industrial and Applied Mathematics)	
	Johannes Kepler University , Linz, Austria	2010
	Dipl.-Ing. Industrial Mathematics . Thesis: Optimized Schwarz Methods for Elliptic Optimal Control Problems This was a joint master thesis with Eindhoven University of Technology under the Erasmus Mundus Masters Program. Supervisor: A. Univ. Prof. Dipl.-Ing. Dr. Walter Zulehner	
	African Institute for Mathematical Sciences (AIMS) , Cape Town, South Africa,	2007
	PgDip in Mathematical Sciences awarded by the University of the Western Cape (UWC) . AIMS Essay: Deterministic Compartmental Models for HIV and TB Supervisor: Professor John Hargrove, SACEMA Director , (South African Centre for Epidemiological Modelling and Analysis, Stellenbosch University).	
	Kwame Nkrumah University of Science and Technology , Kumasi, Ghana,	2004
	BSc. Mathematics.	
RESEARCH INTEREST	My research interests are non-linear dynamical systems, mathematical biology, numerical methods, fractional calculus, and optimal control problems. I am interested in mathematical modeling of infectious diseases and other processes that follow non-linear behavior.	
ACADEMIC HONORS AND SCHOLARSHIPS	European Union Erasmus Mundus Scholarship for a two-year double Master's degree program in Industrial and Applied Mathematics.	2007-2009
	Scholarship by the African Institute for Mathematical Sciences Cape Town, South Africa.	2006-2007
	BSc. Mathematics (First Class Honours), KNUST, Kumasi, Ghana.	June, 2004

Association of Mathematics Students (AMS) Awards for academic excellence. **2002-2003**

Listed for academic excellence by the **Dean of College of Science**, KNUST . **2002-2003**

ACADEMIC EXPERIENCE

Senior Lecturer: University of Energy and Natural Resources (UENR), **August 2021-to date.**
School of Sciences, Department of Mathematics and Statistics.

Lecturer: University of Energy and Natural Resources (UENR), **August 2018-July, 2021.**
School of Sciences, Department of Mathematics and Statistics.

Acting Head of Department: Department of Basic Sciences, **March 2017-February 2018.**
School of Basic and Biomedical Sciences, University of Health and Allied Sciences.

Lecturer: University of Health and Allied Sciences (UHAS), **Sept 2015-August 2018.**
School of Basic and Biomedical Sciences, Department of Basic Sciences.

Lecturer: Catholic University College of Ghana (CUCG), **Sept 2010-August 2015.**
Faculty of Information, Communication Sciences and Technology (ICST).

Kwame Nkrumah University of Science and Technology

Demonstrator **2005-2006**
Taught Engineering Mathematics (College of Engineering) and Mathematical Methods
(Department of Mathematics).

Teaching Assistant **2004-2005**
Taught Mathematical Methods (Department of Mathematics, Department of Chemistry) and
Optimization Techniques (Department of Mathematics), KNUST, Kumasi, Ghana.

JOURNAL PUBLICATIONS

Asamoah, J. K. K., **Okyere, E.**, Yankson, E., Opoku, A. A., Adom-Konadu, A., Acheampong, E.,
& Arthur, Y. D. (2022). Non-fractional and fractional mathematical analysis and simulations for Q
fever. *Chaos, Solitons & Fractals*, 156, 111821. [**Scopus, SCI**]

Acheampong, E., **Okyere, E.**, Iddi, S., Bonney, J. H., Asamoah, J. K. K., Wattis, J. A., & Gomes,
R. L. (2022). Mathematical modelling of earlier stages of COVID-19 transmission dynamics in
Ghana. . *Results in Physics*, 34, 105193. [**Scopus, SCI**]

Asamoah, J.K.K., **Okyere, E.**, Abidemi, A., Moore, S.E., Sun, G.Q., Jin, Z., Acheampong, E. &
Gordon, J.F. (2022). Optimal control and comprehensive cost-effectiveness analysis for COVID-19.
Results in Physics,33, 105177. [**Scopus, SCI**]

Moore, S. E., & Okyere, E. (2022). Controlling the transmission dynamics of covid-19. *Commun.
Math. Biol. Neurosci.*, 2022, Article ID 6. [**Scopus**]

Akindeinde, S. O., **Okyere, E.**, Adewumi, A. O., Lebelo, R. S., Fabelurin, O. O., & Moore, S. E.
(2022). Caputo fractional-order SEIRP model for COVID-19 Pandemic. *Alexandria Engineering
Journal*, 61(1), 829-845. [**Science Citation Index Expanded**]

Asamoah, J. K. K., Yankson, E., **Okyere, E.**, Sun, G. Q., Jin, Z., & Jan, R. (2021). Optimal
control and cost-effectiveness analysis for dengue fever model with asymptomatic and partial immune
individuals. *Results in Physics*, 31, 104919. [**Scopus, SCI**]

Rehman, A. U., Singh, R., Abdeljawad, T., **Okyere, E.**, & Guran, L. (2021). Modeling, analysis
and numerical solution to malaria fractional model with temporary immunity and relapse. *Advances
in Difference Equations*, 2021(1), 1-27. [**Scopus**]

Ankamah, J. D., **Okyere, E.**, Appiah, S. T., & Nana-Kyere, S. (2021). Nonlinear dynamics of COVID-19 SEIR infection model with optimal control analysis. *Commun. Math. Biol. Neurosci.*, 2021, Article-ID 13. [**Scopus**]

Asamoah, J. K. K., Jin, Z., Sun, G. Q., Seidu, B., Yankson, E., Abidemi, A., Oduro, F.T., Moore, S.E. & **Okyere, E.** (2021). Sensitivity assessment and optimal economic evaluation of a new COVID-19 compartmental epidemic model with control interventions. *Chaos, Solitons & Fractals*, 146, 110885. [**Scopus, SCI**]

Okyere, E., Olaniyi, S., & Bonyah, E. (2020). Analysis of Zika virus dynamics with sexual transmission route using multiple optimal controls. *Scientific African*, 9, e00532. [**Scopus**]

Okyere, E., De-Graft Ankamah, J., Hunkpe, A. K., & Mensah, D. (2020). Deterministic epidemic models for ebola infection with time-dependent controls. *Discrete Dynamics in Nature and Society*, 2020, Article ID 2823816, 12 pages. [**Scopus**]

Okyere, E., Ackora-Prah, J., & Oduro, F.T. (2020). A Caputo based SIRS and SIS fractional order models with standard incidence rate and varying population. *Commun. Math. Biol. Neurosci.*, 2020, Article-ID 60. [**Scopus**]

Nana-Kyere, S., **Okyere, E.**, & Ankamah, J. D. G. (2020). Compartmental SEIRW COVID-19 optimal control model. *Commun. Math. Biol. Neurosci.*, 2020, Article-ID 87. [**Scopus**]

S. Nana-Kyere, J. Ackora-Prah, **E. Okyere**, S. Marmah, T. Afram (2017). Hepatitis B Optimal Control Model with Vertical Transmission. *Applied Mathematics* , 7 (1), 5-13.

Eric Okyere, Francis Tabi Oduro, Samuel Kwame Amponsah, Isaac Kwame Dontwi and Nana Kena Frempong (2016). Fractional Order SIR Model With Constant Population. *British Journal of Mathematics and Computer Science* . 14(2): 1-12, DOI: 10.9734/BJMCS/2016/23017.

Sacrifice Nana-Kyere, Glory Kofi Hogar, **Eric Okyere**, Seth N. Marmah, Justice Kwame Appati, Obuobi Darko Victor. (2016). A Qualitative Analysis of Neisseria Gonorrhoea Disease with Treatment Effect. *Applied Mathematics*, 6(1): 6-15, DOI:10.5923/j.am.20160601.02.

Saheed Ojo Akindeinde, **Eric Okyere** (2016). New Analytic Technique for the Solution of N^{th} Order Nonlinear Two-point Boundary Value Problems. *British Journal of Mathematics and Computer Science* . 15(2): 1-11, DOI: 10.9734/BJMCS/2016/24365.

David Adedia, Atinuke Adebajji, **Eric Okyere**, James Kwaku Agyen (2016). Leverages, Outliers and the performance of robust regression estimators. *British Journal of Mathematics and Computer Science* . 15(3): 1-14, DOI: 10.9734/BJMCS/2016/24281.

Eric Okyere, Nana-Kyere Sacrifice, Nana Kena Frempong, Saheed Ojo Akindeinde, Johnson De-Graft Ankamah, David Adedia. James Kwaku Agyen (2016). On Some Compartmental Models for Ebola Disease. *Journal of Mathematical Theory and Modeling*. Vol.6, No.2, pp.34-49.

Nana-Kyere Sacrifice, **Eric Okyere**, Nana Kena Frempong, Saheed Ojo Akindeinde, Johnson De-Graft Ankamah, James Kwaku Agyen, David Adedia. (2015). An SITR Analysis of Treatment Model of Hepatitis B Epidemic. *Journal of Mathematical Theory and Modeling*. Vol.5, No.13, pp. 120-132.

Acheampong, E., Aerts, M., Hens, N., **Okyere, E.** and Boyetey, D. (2014). On A Model For The Cross Protection Of Two Infectious Diseases. *Journal of Mathematical Theory and Modeling*.

Vol. 4, No. 2, PP. 73-85.

Acheampong, E., Boyetey, D. B., Gyimah, F. O. and **Okyere, E.** (2013). Assessing Student Satisfaction: An Application of Logistic Regression Analysis to Methodist University College Ghana (MUCG) Data. *Open Science Repository Mathematics, Online (open-access)*, e23050464. doi:10.7392/openaccess.23050464.

**Unpublished
Research Papers**

I have archived four unpublished research papers in the Cornell University Library (<http://arxiv.org/>). Research papers or reports that are uploaded in this University Library are assigned a unique identification code and they are citable in research papers or articles in scientific journals.

E. Okyere, F. T. Oduro, S. K. Amponsah, I. K. Dontwi (2016). Fractional Order Optimal Control Model For Malaria Infection. *arXiv preprint arXiv:1607.01612*.
<http://arxiv.org/abs/1607.01612>

E. Okyere, F. T. Oduro, S. K. Amponsah, I. K. Dontwi and N. K. Frempong (2016). Fractional Order Malaria Model With Temporary Immunity. *arXiv preprint arXiv:1603.06416*.
<http://arxiv.org/abs/1603.06416>

**COMPUTER
SKILLS**

Matlab, Mathematica, Octave, LaTeX, MS Office, Gnuplot, R and Python Programming.

**LANGUAGE
SKILLS**

Fluent in English and Twi.

HOBBIES

Table Tennis and Football.

**EXTRA-
CURRICULAR
ACTIVITIES**

Departmental Examination Officer (Mathematics and Statistics), 2020/2021 Academic year

Departmental Examination Officer (Mathematics and Statistics), 2019/2020 Academic year

Chairman of security committee for UHAS first graduation (2015/2016)

UHAS policy reviews committee member (second semester, 2015/2016)

Mathematics resource personnel for recruitment of academic staff, CUCG: **29th July, 2013**

Mathematics resource personnel for recruitment of academic staff, CUCG: **5th July, 2012**

Mathematics resource personnel for recruitment of academic staff, CUCG: **15th August, 2011**

Examination Officer, Faculty of ICST, CUCG, **December, 2011- September, 2013**

Examination Malpractices Disciplinary Committee member, Faculty of ICST, CUCG, **2010-2011**.

REFERENCES

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Faculty Of Physical Sciences
Department of Mathematics
Knust, Kumasi, Ghana *E-Mail: ikedontwi@Hotmail.Com*

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(Senior Lecturer)
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