CURRICULUM VITAE
Dr. Julia Ndong'a Owino

Personal Details

Name: Julia Ndong'a Owino

Date of Birth: 31-01-1978

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Address: Jaramogi Oginga Odinga University of Science and Technology
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Nationality: Kenyan

Gender: Female

Marital Status: Married

Languages: Kiswahili, English, Dholuo

Professional Profile

Academic, researcher and lecturer in Pure Mathematics with expertise in Functional Analysis and Operator Theory and interests in applications of Artificial Intelligence. Experienced in university leadership, postgraduate supervision, grant acquisition and curriculum development.

Education

- PhD in Pure Mathematics, Jaramogi Oginga Odinga University of Science and Technology (*Sept, 2016–1st Nov, 2019*). Thesis: *On Compact Operators Whose Norms Are Eigenvalues*.
- MSc in Pure Mathematics, Maseno University (*Sept, 2010–11th Dec, 2015*). Thesis: *On Completely Positive Maps.*
- B.Ed. (Science), Moi University (*1997–6th Dec, 2001*).
- KCSE (*1992–1995*).

Other Courses Attended

- Basic Certificate Course (BCC), Word of Faith Bible Institute (WOFBI), *Aug, 2015*
- Strengthening Mathematics and Science in Secondary Schools (SMASSE). Kenya, *April, 2006.*
- Kenya National Examination Council, Mathematics Paper II Examination. *25th -30th Aug 2014*

Work Experience

Lecturer, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) | 4th Dec, 2019–Present

Responsibilities:

- Teach and facilitate undergraduate and postgraduate courses in Mathematics, developing course materials, lecture notes, assessments, examinations, and other learning resources.
  Undergraduate courses taught: Basic Mathematics, Logical Functions, Mathematical Methods for Computing, Linear Algebra, Real Analysis, Group Theory, Topology, Complex Analysis, and Measure Theory.
  Graduate courses taught: Functional Analysis, General Topology, Abstract Integration and Operator Theory.
- Supervise undergraduate and postgraduate research projects and theses.
- Any other role as may be assigned by the COD.

Tutorial Fellow, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) | 10th May, 2016–4th Dec, 2019

- Delivered undergraduate Mathematics tutorials, lectures, assessments, and student consultations.
- Developed teaching and tutorial materials and supported students in mathematical problem-solving.
- Participated in examination setting, marking, moderation, and other academic quality-assurance activities.

Part-time Lecturer, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) | Sept, 2015–10th May, 2016

- Delivered undergraduate Mathematics lectures, tutorials, and student consultations across assigned courses.
- Prepared lecture notes, tutorial exercises, assignments, continuous assessment tests, and examination materials.
- Assessed and provided feedback on students' academic work, including assignments, tests, and examinations.

Graduate Teacher:

Lwak Girls High School | 2013–10th May, 2016

Nyang'oma Boys High School | 1st March, 2002–Dec, 2010

Nyamira Girls High School | 2001

Akoko Mixed Secondary School | 2001

- Taught secondary-school Mathematics and Chemistry and supported students in developing mathematical reasoning, problem-solving, and quantitative skills.
- Developed lesson plans, schemes of work, instructional materials, assignments, and assessments aligned with the national curriculum.
- Assessed and monitored student learning through continuous assessment and examinations, providing targeted academic support to improve performance.
- Provided student mentorship, academic guidance, remedial instruction, and examination preparation.
- Participated in curriculum implementation, departmental planning, examinations, co-curricular activities (Christian Union), and school academic programs.
- Collaborated with other institutions in Mathematics and Chemistry symposia, discussions, contests and completions.
- Examined Mathematics Paper II as a National Examiner under KNEC.
- Supervised KCPE National Examinations.

Administrative Experience

Acting Chairperson, Department of Pure and Applied Mathematics, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) | 4th -21st Aug, 2026; 15th Aug-14th Nov 2020

- Coordinated departmental meetings and receipt of departmental Examinations from external moderation.
- Contributed to curriculum review and development, ensuring alignment with university requirements, regulatory standards, and emerging developments in Mathematics and related disciplines, for example, BSc. Mathematics and Data Science program which has been accredited by CUE.
- Applied for scholarship to host students under phase II of the EAC Scholarship Program
- Recommended qualified applicants for the graduate programs offered by the department.

University Hostel Warden, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) | Sept, 2024–Present

- Support student welfare, discipline, safety, security, and the maintenance of a conducive living and learning environment.
- Monitor compliance with university residential regulations, policies, health and safety requirements, and codes of student conduct.
- Respond to student concerns, emergencies, conflicts, and incidents, facilitating appropriate resolution and escalation where necessary.
- Maintain appropriate records and reports relating to hostel administration, student welfare, incidents, and residential activities.
- Collaborate with student leaders and university accommodation department to identify emerging student needs and strengthen student support mechanisms through dialogue and organized meetings.

Complaints and Compliments Officer, Department of Pure and Applied Mathematics, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) | 6th Sept, 2018–Present

- Coordinate the receipt, documentation, review, and appropriate follow-up of student and stakeholder complaints, compliments, suggestions, and other feedback relating to departmental services.
- Serve as a liaison between students, academic staff, departmental leadership, and relevant university offices in addressing concerns and improving service delivery.
- Facilitate timely and professional responses to complaints and support the resolution of academic, administrative, and student-service concerns.

Examination Officer, Department of Pure and Applied Mathematics, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) | 2020

- Coordinated departmental examination activities, ensuring the timely preparation, administration, marking, moderation, and submission of examination materials and results.
- Liaised with academic staff and relevant university offices on examination timetables, course assessments, examination papers, marking, moderation, and results processing.
- Ensured compliance with university examination regulations, policies, procedures, and quality-assurance requirements.
- Maintained appropriate examination records and documentation to support accountability, transparency, and quality assurance.
- Supported the department in maintaining the integrity, fairness, confidentiality, and reliability of its assessment and examination processes.

Head of Mathematics Department, Nyang'oma Boys High School | 14th June, 2008–Dec, 2010

- Provided academic and administrative leadership for the Mathematics Department, coordinating teaching, learning, assessment, and departmental activities. Such as contests.

Member, Procurement Committee, Nyang'oma Boys High School | 12th Oct, 2007–Dec, 2010

- Participated in the school's procurement planning and decision-making processes in accordance with institutional policies and applicable procurement procedures.
- Contributed to the evaluation and selection of suppliers, goods, services, and other resources required for effective school operations.

Assistant Examination Officer, Nyang'oma Boys High School | 2004

- Assisted in the coordination and administration of school examinations and continuous assessments.
- Supported the preparation, organization, distribution, collection, and secure handling of examination materials.
- Assisted in examination invigilation and ensured adherence to examination rules, procedures, and academic integrity requirements.
- Supported the marking, recording, compilation, and verification of students' examination results.

Research Interests

- Functional Analysis
- Operator Theory
- Norm-attainable Operators
- Operators whose norms are eigenvalues
- Artificial Intelligence Applications
- Statistics
- Health Research
- Agriculture

Conferences Attended

1. ISATT Regional Conference *2026*. Towards Sustainable Teaching for the Future: Advancing Wellbeing, innovation and Industry in Education, *29th June-3rd July, 2026* Paper-*AI4Hope-Cross National Perspectives on AI-Driven Suicide Prevention in Higher Education.*
2. The 7th Kenya Institute for Public Policy Research and Analysis (KIPPRA) Annual Regional Conference at the Ciala Resort in Kisumu County. The Future of Industrialization under the Bottom-Up Economic Transformation Agenda (BETA) *June 26th to 28th, 2024.*
3. The CIMPA Research School in Limbe, Cameroon, hosted at the AIMS Cameroon Research Center**.** "Algebraic Geometry, Number Theory and Applications in Cryptography and Robot Kinematics**.** *July 2 to July 12, 2019*

4. The 2nd Jaramogi Oginga Odinga University of Science and Technology (JOOUST) International Scientific Conference, Grand Royal Swiss Hotel in Kisumu City, *February 26 to March 1, 2019*. Paper- *On Completeness of Compact Operators Whose Norms are Eigenvalues.*
5. The 2nd Biennial Conference on the State of Higher Education in Kenya October *30 to November 2, 2018.*
6. 2nd West African Women in Mathematics Pre-Conference School in Mathematical Finance, University of Ibadan , *18-23, June, 2018* . . Paper- *On Completeness of Compact Operators Whose Norms are Eigenvalues.*
7. 12th Egerton University International Conference and Innovation Week, Kenya , *March, 2018*
8. The 4th Strathmore International Mathematics Conference (SIMC) *June 19 to June 23, 2017*. Paper- *On Compact Operators Whose Norms are Eigenvalues.*
9. 1st Kisii University Symposium, Main Campus in Kenya. Indigenous Knowledge Systems (IKS) for Sustainable Development. *August 2nd–3rd, 2016*.
10. 1st Kibabii University Research Conference. Transformative Leadership for Societal Empowerment in the 21st Century – *June 22nd to 24th, 2016*.

Workshops Attended

1. Pedagogical Workshop-*JOOUST, Main Campus.* Student-Centered Learning and Interactive Teaching Methods *April, 2026.*
2. The Insurance Regulatory Authority (IRA). An Industry Engagement And Student Outreach Session at The College of Insurance in Nairobi, *April 2026*,
3. AI Policy Development and Capacity Building in AI in Teaching and Learning, *October, 2025.*
4. American Institutes for Research (AIR) -Jaramogi Oginga Odinga University of Science and Technology Impact Evaluation Training- *July 2025*.
5. JOOUST Technology, Innovation Support Centre Training on Access to Online Patent and Non-Patent Information, Database Search, Monitoring Technology And Competition, Basic IP laws. *JOOUST, Main Campus, Kenya October, 2018.*
6. Statistical Computing and Data Analysis with R and SPSS. *JOOUST, Main Campus, Kenya. September, 2018.*
7. ICT Capacity Building Training At Jaramogi Oginga Odinga University of Science and Technology – *2017*.
8. Pedegory Workshop, Jaramogi Oginga Odinga University of Science and Technology- *2017*

Membership in Professional Bodies

1. Organization for Women in Science for the Developing World-Kenya (OWSD-Kenya)
2. International Center for Pure and Applied Mathematics (CIMPA)

Publications

1. **Owino J.N., Agure J.O**. and **Nyamwala F.O**., On Completely Bounded Maps , *Ijas, Vol.No.1 (2015), 1-6*
2. **Owino J.N., Agure J.O**. and **Nyamwala F.O.,**Relationship Between Completely Positive Maps And Completely Bounded Maps, *Aja's, Vol . 2, No. 1(2015), 61-66*.
3. **Okelo N.B., Owino J.N and Omolo Ongati** , Strict Characteristics Of Completely Positive Maps, Jgrma, *Vol.4, No.3 (2017), 1-5*
4. **Okelo N.B., Owino J.N and Omolo Ongati,**On Bondedness And Complete Positivity of Maps on Banach Algebras, Jgrma*, Vol.4. No.5 (2017), 8-11*
5. **Owino J.N, Okelo N.B. and Omolo Ongati,**On Compact Operators Whose Norms Are Eigenvalues,*Inter.Jour.Of Contemporary Mathematical Sciences ,Vol.13,No.2 (2018), 49-57.*
6. **Owino J.N, Okelo N.B.and Omolo Ongati,** Characterization Of Tensor Norms And Convergence in C* - Algebras, *Journal of Global Research In Mathematical Archives, Vol.5, No.9 (2018), 9-19.*
7. **Samson Owiti, Benard Okelo and Julia Owino,** A Note on the chebyshev set problem in Normed linear Spaces ,*Int.j.Open problems Compt.math.,16(20,92023),53-618.*
8. **Owuor, Joseph and Okelo, Benard and Owino, Julia and Kinyanjui, Jeremiah,** Density and Dentability in Norm-Attainable Classes. (2024) Available at SSRN: https://ssrn.com/abstract=4754085 or http://dx.doi.org/10.2139/ssrn.4754085
9. **David Kagali, Benard Okelo∗, and Julia Owino,** On Fuglede-Putnam property and orthogonality for derivations induced by hyponormal operators; *Mathematical Analysis and its Contemporary Applications,* Volume 7, Issue 4, (2025), 61–78,
10. **Julia Ndong'a Owino** On Compact Operators Whose Norms are Eigenvalues, *TIJER,* Volume 13, Issue 2, (2026),

Research Funds, Awards and Scholarships

1. African Mathematics Millennium Science Initiative (AMMSI) PhD Scholarship 2016 (**US$1000= KES100, 000)**
2. National Research Fund (NRF) PhD Research Grant (**KES 1,252,950).)**
3. Research school travel grant by CIMPA for two weeks to African Institute for Mathematical Sciences, Limbe, Cameroon-2018 **(700 EURO)**
4. Research school travel grant by CIMPA for two weeks to African Institute for Mathematical Sciences, Cape Town, South Africa, -2020 **(700 EURO)**

Supervision of Graduate Students

Ph. D. Supervision

1. **Owino Joseph Owuor**
   Thesis Title: On Density and Dentability in Norm-attainable Classes
   Program: PhD in Pure Mathematics
   Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya
   Status: Completed

Masters Supervision

1. **Owiti, Ndiege Samson**
   Thesis Title: On Convexity of Chebyshev Sets in Norm-attainable Classes
   Program: PhD in Pure Mathematics
   Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya
   Status: Completed

2. **David Kagali**
   Thesis Title: On Fuglede-Putnam Property and Orthogonality of Derivations Induced by Hypornormal operators
   Program: Msc. in Pure Mathematics
   Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya
   Status: Completed

Internal Thesis Examination

PhD Internal Thesis Examination

1. **Wesley Nyaluke**

Thesis Title: Characterization of Continuity and Convergence of Fredholm Operators Perturbed by Spectrally Infinitesimal Orthogonal Idempotents in Banach Spaces
Program: PhD in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

2. **Sabasi Omaoro**

Thesis Title: Characterization of Norm-attaining operators in C*-algebras
Program: PhD in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

3. **Njoroge James Mwangi**

Thesis Title: Orthogonality and boundary of the numerical range of algebraic elementary operators
Program: PhD in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

4. **Lameck Otae**

Thesis Title: On Birkhoff-James Orthogonality and Norm-Attainability of Operators in Banach Spaces
Program: PhD in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

5. **Asamba Samwel Okeri**

Title: On Semi-Continuous functions and Convex Optimization in L^P - Spaces
Program: PhD. in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

6. **Winda Charles Akatch**

Title: Decomposability of Positive Maps on Positive Semi definite Matrices
Program: PhD. in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

7. **Onyango, Allan Onyango**

Title: Toplogical Data Analysis of Stability for Functions in Persistent Homology
Program: PhD**.** in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

8. **Gachago Jacob Kimani**

Title: Characterization of Spectra of Symmetrized Two-Sided Multiplication Operators Induced By Orthogonal Isometries
Program: PhD. in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

***MSc* Internal Thesis Examination**

9. **Onyango, Allan Onyango**

Title: Characterization of Topological Points in Big Data Sets of Hausdorff Spaces
Program: MSc. in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

10. **Duncan Otieno Onyango**

Title: Extended Spectrum of Composition Operator on Sequence Spaces
Program: MSc in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

11. **Nguli Elijah Musyoki**

Title: Compactification of Semi-Normal Spaces
Program: MSc in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

12. **Mogoi Nyangau Evans**

Title: *Characterization of Orthogonal Polynomials in Norm- Attainable Classes*

Program: MSc. in Pure Mathematics
Institution: Jaramogi Oginga Odinga University of Science and Technology, Kenya

Research Interests

Main Research Area: Functional Analysis/Operator theory,

Other research areas: Algebra, Statistics, Contemporary Issues in Special Needs Education, Health and Agriculture and AI.

Community Service

1. Church Children's ministry
2. A member of Gideon's International having served in different capacities over the years'

Extra Curricula Activities

Reading gospel books, Evangelism, Song Writing and Singing.

Referees

1. Prof. Omolo Ongati.
   Department of Pure and Applied Mathematics
   School of Biological, Physical, Mathematics and Actuarial Sciences,
   Jaramogi Oginga Odinga University of Science and Technology,
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2. Prof. Benard Okelo.
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3. Dr. Mildred Ayere,
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4. Prof. Regina Nyunja,
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