SUMMARY CV (UoE)

Name: Dr Julius Kipkemboi Kollongei

Designation: Senior Lecturer and former Dean

Current Address: *School of Engineering,*
Department of Agricultural & Biosystems Engineering,
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Qualifications: *Humboldt Fellow (TU Darmstadt), PhD Agricultural Engineering (UKZN), MSc Water Resources Engineering (KU Leuven & VUB), BSc Agricultural Engineering (Egerton), Registered Graduate Engineer (EBK & IEK).*

Qualification	University / Institution	Dates	Achievement
Visiting Researcher (Alexander von Humboldt Fellow)	Technical University of Darmstadt (TU Darmstadt), Germany	November 2021 – October 2024 (18 Months)	Georg Forster Research Fellowship for Experienced Researchers (31st October 2024)
Research Title: *The research incorporated the in-stream kinetics of an in-stream water quality model, QUAL2K, into SWAT, thus improving the overall capability of the SWAT model. The combined model is applied to the Sosiani River Catchment, within Eldoret City, in Kenya.*			
Ph.D.	University of KwaZulu-Natal (UKZN), South Africa	September 2009 – July 2014	PhD in Engineering (15th April 2015)
Thesis Title: *Non-Point Source Pollution Processes and Connectivity Modelling in the Mkabela Catchment, South Africa.*			
Masters	Katholieke Universiteit Leuven (KU Leuven) and Vrije Universiteit Brussels (VUB), Belgium	September 2002-September 2004	MSc in Engineering (17th September 2004)
Thesis Title: *Water Quality Estimation by Hyperspectral and Thermal Remote Sensing.*			
Bachelors	Egerton University, Kenya	August 1990 – April 1996	BSc in Engineering (4th December 1996)
Project Title: *Using Wastewater for Supplemental Irrigation at Egerton University.*			

Specialization:

- Water Resources Engineering
- Engineering Hydraulics
- Water Quality Modelling
- Irrigation and Drainage Engineering
- Environmental Hydrology and Geophysics

Research Interests:

- Modelling of Water and Pollutant Cycles in Urban and Rural Catchments
- GIS-based Modelling of Hydrological Processes
- Use of Isotopes for Catchment Hydrology
- Integrated River Basin Management
- Water Resources Development in Developing Countries

Number of Ph.D. students supervised:

1. Emmanuel Maemba Okori (PhD Agricultural Engineering, UoE) (**January, 2025- to date**). Analysis and Prediction of Sustainable Utilization of Water Resources using WEAP model at the Sosiani River Catchment, Western Kenya.
2. John Taragon Kibunei (PhD Agricultural Engineering, UoE) (**January, 2025- to date**). Hierarchical Systems Integration for Coordinated Urban-Rural Water Quality Management at a Catchment Scale; A Case Study of River Sosiani Catchment, Western Kenya.

Number of Masters students supervised:

1. Maemba Emmanuel Okori (SENG/ABE/M/001/21) (**Graduated, 21st Nov. 2024, UoE**). Evaluation of Water Quality and Modelling Pollutants Dispersion Using QUAL2K Model: Case Study of River Sosiani in Western Kenya.
2. Athanus Chesire Komen (PG/ABE/008/14) **(Graduated, 24th Nov. 2022, UoE**). Soil Erosion Prediction Using Modified Universal Soil Loss Equation (MUSLE) in Tugen Hills, Baringo, Kenya.
3. Manuel Barasa Waswa (PG/ABE/001/14) (**Graduated, 24th Nov. 2022, UoE**). Estimation of Soil Erosion as a Function of Land Use and Rainfall Using rMMF Model on Amukura Hills, Busia County.
4. Mercyline Chepkemoi (SENG/ABE/M/005/18) (**Graduated, 31st Mar. 2022, UoE**). Development of an Extractor to Improve the Processing of Quality Honey Harvested from Indigenous Hives and natural Colonies.
5. Mwangi Veronica Wanjiru (PG/ABE/009/14) (**Graduated, 12th Mar. 2021, UoE**). Effect of Irrigation with Treated Wastewater on Soil Characteristics and Bean Yield: A Case Study of University of Eldoret Farm.
6. Too Gedion (PG/ABE/005/11) (**Graduated, 12th Mar. 2021, UoE**). Comparative Study of Irrigation Water Use and Productivity for Conventional and System of Rice Intensification in Rice Production Systems: A Case Study of Ahero Irrigation Scheme, Kenya.
7. Daniel Kimutai Kiplagat (PG/ABE/002/14) (**Graduated, 30th Nov. 2018, UoE**). Modelling the Impacts of Land Use Changes on Water Quantity and Quality in Kimwarer River Catchment.

Publications done:

Refereed Journals and Peer Reviewed Publications as a Senior Lecturer

1. **Kollongei, J.K.** and Schmalz, B. **(2026)**. Water Quality Modelling of the Sosiani River Catchment in Western Kenya – applying the SWAT model in a data poor African catchment. *Journal of Hydrology: Regional Studies*, *Elsevier Series EJRH-D-24-02022R2* (Under 2nd Review).
2. **Kollongei, J.K.** and Lorentz, S.A. **(2026)**. Using Geophysical Techniques and Stable Isotopes to Interpret Soil Water Dynamics and Hydrological Connectivity at a Field Scale. *Water SA Journal* (Ref 3825). (Under 2nd review).
3. Maemba, O. and **Kollongei, J.K**. **(2025**). Application of the QUAL2K Water Quality Model to Assess Pollutant Dispersion in River Sosiani in Western

Kenya. *American Journal of Water Science and Engineering*. Vol. 11, No. 4, pp.122-129. https://doi.org/10.11648/j.ajwse.20251104.12

4. Maemba, O., **Kollongei, J.K**. and Lang'at, J.K. **(2025**). Analysis of spatiotemporal variation of River Sosiani water quality in Western Kenya. *Journal of Engineering in Agriculture and the Environment Vol 10 (3), pp. 12-19.*
5. Schulze, R.E., **Kollongei, J.** and Lorentz, S.A. (**2023**). South African and International Verification Studies of the ACRU Daily Time-Step Model across a Range of Processes, Applications and Spatial Scales: *Modelling Nutrient and Sediment Dynamics at the Catchment Scale with the ACRU-NPS Model Using a Calibration-Validation Approach.* WRC Research Publication No. 2833/3/22. Water Research Commision, Pretoria, SOUTH AFRICA, pp: 189. ISBN No. 978-0-6392-0380-5
6. Chepkemoi, M., **Kollongei, K**. and Some, K. **(2023**). Development of an Extractor for Processing Honey from Indigenous Hives and Natural Colonies. *Journal of Engineering in Agriculture and the Environment Vol 9 (1), pp. 56-73.*
7. Chesire, A.K., **Kollongei, J.K.** and Ng'etich, W. **(2022)**. Sediments Yields in Saimo Catchment of Tugen Hills in Baringo County, Kenya. *African Environmental Review Journal Vol 5 (1), pp. 15-26.*
8. Waswa, M.B., **Kollongei, J.K.** and Mutai, E.B.K. **(2022)**. Estimation of Soil Erosion as a Function of Land Use and Rainfall Using rMMF Model on Amukura Hills, Busia County. *African Environmental Review Journal Vol 5 (1), pp. 1-14.*
9. Chepkemoi, M., **Kollongei, J**. and Some, D. **(2021)**. Characterization of Honey from Marigat in Baringo County, Kenya, based on their Physical Properties. *African Environmental Review Journal Vol 4 (2), pp. 227-233.*
10. Too, G, **Kollongei, J.K.,** Onyando J.O. and Kipkorir, E.C. **(2020)**. Comparative Study of Rice Yield Production for Conventional Paddy Rice and Systems of Rice Intensification. *American Journal of Water Science and Engineering Vol 6 (2), pp. 70-75.* Doi: 10.11648/j.ajwse.20200602.13
11. Too, G, **Kollongei, J.K.,** Onyando J.O. and Mulindi, S.A. **(2019)**. Analysis of Water Use in Rice Production under Paddy System and SRI in Ahero Irrigation Scheme, Kenya. *African Environmental Review Journal Vol 3 (2), pp. 190-198.*
12. Mwangi, V.W., **Kollongei, J.K**. and Kipkorir, E.C. **(2019)**. Effect of Irrigation with Wastewater on Soil Characteristics and Bean Yield: A Case Study of University of Eldoret Farm. *African Environmental Review Journal Vol 3 (2), pp. 179-189.*
13. Kiplagat, D.K., **Kollongei, J.K**. and Kiptum, C.K. **(2019)**. Modeling the Impacts of Land Use Change on Stream Flow in the Kimwarer Catchment Using SWAT. *American Journal of Water Science and Engineering*. Vol. 4, No. 4, pp.107-116. Doi: 10.11648/j.ajwse.20180404.14

Refereed Journals and Peer Reviewed Publications as a Lecturer

1. **Kollongei, J.K**. and Lorentz, S.A. (**2015**). Modelling Hydrological Processes, Crop Yields and NPS Pollution in a Small Sub-tropical Catchment using ACRU-NPS. Published in *Hydrological Sciences Journal, Vol.60, No.11 (http://dx.doi.org/10.1080/02626667.2015.1087644)*
2. **Kollongei, J.K**. and Lorentz, S.A. (**2014**). Connectivity Influences on Nutrient and Sediment Migration in the Wartburg Catchment, KwaZulu-Natal Province, South Africa. Published in *Journal of Physics and Chemistry of the Earth, 67-69 (2014) 12-22, Elsevier Series (http://dx.doi.org/10.1016/j.pce.2014.01.002)*

3. Lorentz, S., Freese, C., Orchard, C., Chaplot, V., Grellier, S., Pickles, J. and **Kollongei, J.** (**2013**). Collaborative Contribution to the Water Research Commission: The Use of Isotope Hydrology to Characterise and Assess Water Resources in South (ern) Africa. *Use of Isotopes in Catchment Hydrology, Vegetation Uptake and Non-Point Source Pollution Analyses*. WRC Research Publication No. TT 570/13. Water Research Commision, Pretoria, SOUTH AFRICA, pp: 211. ISBN No. 978-1-4312-0460-1
4. Lorentz, S.A., **Kollongei, J.** Snyman, N., Berry, S.R., Jackson, W., Ngaleka, K., Pretorius, J.J., Clark, D., Thornton-Dibb, S., Le Roux, J.J., Germishuyse, T. and A. Görgens. (**2012**). *Modelling Nutrient and Sediment Dynamics at the Catchment Scale.* WRC Research Publication No. 1516/3/12. Water Research Commission, Pretoria, SOUTH AFRICA, pp: 113. ISBN No. 978-1-4312-0242-0
5. Lorentz, S., Miller, J., Lechler, P., Mackin, G., Lord, M., **Kollongei, J.**, Pretorius, J., Ngeleka, K., Zondi, N. and le Roux, J. *Definition of Process Zones and Connectivity in Catchment Scale NPS Processes. (***2011**). WRC Research Publication No. 1808/1/11. Water Research Commission, Pretoria, SOUTH AFRICA, pp: 130. ISBN No. 978-1-4312-0112-9.
6. **Kollongei J.K.**, Batelaan O., Triest L. and Kipkorir, E.C. (**2008**). New Trends in Remote Sensing for Water Resources Management: Hyperspectral Remote Sensing of Water Quality. Published in *International Journal for Disaster Management and Risk Reduction (IJDMRR). Vol. 1 No. 2, 2008 pp: 8*

Google Scholar:
https://scholar.google.com/citations?user=XwOGrj0AAAAJ&hl=en

REFEREES: To be provided upon request