

Personal information

Name: Dr. Fredrick Tamooh
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Education

2013: Ph.D. in Bioscience Engineering from the Department of Earth and Environmental Sciences, Katholieke Universiteit, Leuven, Belgium.
2008: Master of Science degree in Natural Resource Management from the Department of Natural Resources, Egerton University, Kenya.
2004: Bachelor of Science degree in Natural Resource Management from the Department of Natural Resources, Egerton University, Kenya.

Working Experience

June 2014- Present: Lecturer at Kenyatta University, Department of Zoological Sciences, Mombasa Campus
Dec 2006-June 2014: Research Scientist at Kenya Wildlife Service, Department Biodiversity Research & Monitoring.
May 2009- June 2013: Doctoral Researcher at the Department of Earth and Environmental Sciences, KU Leuven, Belgium.

Scientific Publications in Internationally Reviewed Academic Journals

Ochieng B, Okeyo B, **Tamooh F.** Evaluation of population status and foraging ecology of Sable antelope (*Hippotragus niger roosevelti*, Heller, 1910) in Shimba Hills National Reserve, Kenya. *African Journal of Ecology*. 00:1–9, 2020 (**SCI: 0.893**)

Geeraert, N., Omengo, F. O., **Tamooh, F.**, Marwick, T. R., Borges, A. V., Govers, G., and Bouillon, S.: Seasonal and inter-annual variations in carbon fluxes in a tropical river system (Tana River, Kenya), *Aquatic Sciences*, 2018, 80:19, <https://doi.org/10.1007/s00027-018-0573-4> (**SCI: 3.753**)

Marwick, T. R., **Tamooh, F.**, Ogwoka, B., Borges, A. V., Darchambeau, F., and Bouillon, S.: A comprehensive biogeochemical record and annual flux estimates for the Sabaki River (Kenya), *Biogeosciences.*, 15, 1683–1700, **2018**, <https://doi.org/10.5194/bg-15-1683-2018> (**SCI: 3.753**)

Geeraert, N., Omengo, F.O., **Tamooh, F.**, Paron, P., Bouillon, S., and Govers, G.: Sediment yield of the lower Tana River, Kenya, is insensitive to dam construction: sediment mobilization processes in a semi-arid tropical river system, *Earth Surface Processes and Landforms*, 40,1827–1838, **2015**, doi:10.1002/esp.3763. (**SCI: 2.845**).

Borges AV, Darchambeau F, Teodoru CR, Marwick TR, **Tamooh F**, Geeraert N, Omengo FO, Guérin F, Lambert T, Morana C, Okuku E, & Bouillon S (**2015**). Globally significant greenhouse gas emissions from African inland waters. *Nature Geoscience* 8: 637-642, DOI: 10.1038/NGEO2486.

(SCI: 11.668)

Abril G, Bouillon S, Darchambeau F, Teodoru C, Marwick TR, **Tamooh F**, Omengo FO, Geeraert N, Deirmendjian L, Polsenare P, & Borges AV (2015). Technical Note: Large overestimation of pCO₂ calculated from pH and alkalinity in acidic, organic-rich freshwaters. *Biogeosciences* 12: 67–78. (SCI: 3.753)

Marwick, T. R., **F. Tamooh**, C. R. Teodoru, A. V. Borges, F. Darchambeau, and S. Bouillon.: The age of river-transported carbon: A global perspective, *Global Biogeochem. Cycles*, 29, doi:10.1002/2014GB004911, 2015. (SCI: 3.965)

Tamooh, F., F. J. R. Meysman, A. V. Borges, T. R. Marwick, K. Van Den Meersche, F. Dehairs, R. Merckx, and S. Bouillon.: Sediment and carbon fluxes along a longitudinal gradient in the lower Tana River (Kenya), *Journal of Geophysical Research: Biogeosciences*, 119, doi:10.1002/2013JG002358, 2014. (SCI: 3.426).

Marwick, T. R., **Tamooh, F.**, Ogwoka, B., Teodoru, C., Borges, A. V., Darchambeau, F., and Bouillon, S.: Dynamic seasonal nitrogen cycling in response to anthropogenic N-loading in a tropical catchment, Athi–Galana–Sabaki River, Kenya, *Biogeosciences*, 11, 443–460, 2014, doi:10.5194/bg-11-443-2014. (SCI: 3.753)

Tamooh, F., Borges, A. V., Meysman, F. J. R., Van Den Meersche, K., Dehairs, F., Merckx, R., and Bouillon, S.: Dynamics of dissolved inorganic carbon and aquatic metabolism in the Tana River Basin, Kenya, *Biogeosciences*, 10, 6911–6928, 2013doi:10.5194/bg-10-6911-2013. (SCI: 3.753).

Tamooh, F., Van den Meersche, K., Meysman, F., Marwick, T., Borges, A., Merckx, R., Dehairs, F., Schmidt, S., Nyunja, J., and Bouillon, S.: Distribution and origin of suspended matter and organic carbon pools in the Tana River Basin, Kenya. *Biogeosciences*, 9: 2905-2920, 2012,doi:10.5194/bg-9-2905-2012. (SCI: 3.753)

Huxham, M., Langat, J., **Tamooh, F.**, Kennedy, H., Mencuccini, M., Skov, M., and Kairo, J.: Decomposition of Mangrove Roots: Effects of location, nutrients, species identity and mix in a Kenyan forest. *Estuarine, Coastal and Shelf Science*, 88, 135-142, 2010. (SCI: 2.057)

Tamooh, F.,Huxham, M., Karachi, M., Mencuccini, M.,Kairo, J. G., and Kirui, B.: Below-ground root yield and distribution in natural and replanted mangrove forests at Gazi bay, Kenya, *Forest Ecology and Management* 256, 1290–1297, 2008. (SCI: 2.66).

Selected recent meeting abstracts, presented at local and international scientific conferences

Tamooh, F., and S. Bouillon.: “Second Research Coordination Meeting on the use of Isotopes to Study Nitrogen Pollution and Eutrophication of Rivers and Lakes”. “*Carbon and Nutrient Cycling in River Sabaki, Kenya: a Dry Season Survey* , 27th Nov – 1st Dec 2017, Vienna, Austria, *Oral presentation*.

Tamooh, F., Cherono, S, Borges, A. V., Bouillon, S. Carbon and Nutrients Sources and Transformation in River Sabaki, Kenya. Tenth Western Indian Ocean Marine Science Association (WIOMSA) Scientific Symposium, 30th October to 4th November 2017, Dar es Salaam, Tanzania, *Poster presentation*.

Tamooh, F., and S. Bouillon: “*Isotopic tracing of nitrate sources and transformation in Sabaki River, Kenya*”. Inception Workshop for Improved Nitrate Pollution Management in the Lake Victoria Basin, Kenya., Kisumu, Kenya, January 24-25, 2017. *Oral presentation*.

Tamooh, F., and S. Bouillon.: “*Isotopic tracing of nitrate sources and transformation in River Sabaki, Kenya*” “First Research Coordination Meeting on the use of Isotopes to Study Nitrogen Pollution and Eutrophication of Rivers and Lakes”, Vienna, Austria from the 7th-10th June 2016, *Oral presentation*.

Tamooh, F, Meysman, F J. R., Borges, A. V. Trent, T. R., Meersche, K', Dehairs, F., Merckx, R., Bouillon, S.: Land to ocean: Sediment and carbon fluxes along a longitudinal gradient in the lower Tana River. The 1st Kenya Coastal Development Project (KCDP) Conference “Coastal Resources and People” 21st – 23rd March, 2016, Taita-Taveta County, Kenya, *Oral presentation*.

Tamooh, F, Meysman, F J. R., Borges, A. V. Trent, T. R., Meersche, K', Dehairs, F., Merckx, R., Bouillon, S.: Land to ocean: *Sediment and carbon fluxes along a longitudinal gradient in the lower Tana River*. The 1st Kenya Coastal Development Project (KCDP) Conference “Coastal Resources and People” 21st – 23rd March, 2016, Taita-Taveta County, Kenya, *Oral presentation*.

Postgraduate Students Under Supervision

Benard Ochieng, Registration Number; N50/PU/3036/14 with a Master’s *thesis* titled:

Evaluation of Population Status and Foraging Ecology of Sable Antelope (*Hippotragus niger roosevelti* – Heller,1910) in Shimba Hills National Reserve, Kenya. The student was registered at Pwani University, Department of Environmental science. Student has graduated

Issa Hussein Shally, Registration Number; I56/MSA/24588/2013 with a Master’s Proposal

titled: “*The Status of Lobster Fishery in Kiunga Ecosystem, Kenya: Biological and Management Aspects*”, registered at Kenyatta University, Department of Zoological sciences.

Ngomeni Noel Mbaru, Registration Number; I56/MSA/PT/27615/2013 with Master’s Proposal

titled: “*Analysis of Mangrove Voluntary Carbon Market Sequestration Standards*”, registered at Kenyatta University, Department of Zoological sciences.

Menza Edward, Registration Number; I56/MSA/PT/27108/2013 with Master’s proposal titled:

“*Evaluation of Mangrove Management and Governance Systems in Kilifi County, Kenya*”, registered at Kenyatta University, Department of Zoological sciences.

Shawlet Cherono Registration Number; I56/32981/2015 with *Master’s* Proposal titled: “Effects of Umba River Sedimentation on the Health of Mangroves of Vanga, Kenya” registered at Kenyatta University, Department of Zoological sciences.

Professional consulting

October 2016- Consulted to develop Kenya Mangrove Management Plan by Kenya Marine and Fisheries

Research Institute as a Technical expert

October 2016- Consulted as a Technical expert for a Trans-coast project on coastal processes and human Resource utilization patterns by VLIR-UOS Project organized by Kenya Marine and Fisheries Research Institute, Institute of Marine sciences (IMS) of University of Dar Es Salaam, University of Brusesels (VUB), Belgium and Kenya Wildlife Service.

Current Administrative Responsibilities

May 2015- present- Students Complaints Officer, Mombasa Campus

August 2016- present-Examination Coordinator, Mombasa Campus

August 2016- present- Programme Leader- Coastal and Marine Resource Management Course

November 2017- present- Staff Mentor, Mombasa Campus for 2017/2018 and 2018/2019 academic year

Appointment as external examiner

External Examiner for **George Kipkorir Tarus** for a Master's Thesis titled: *Comparison of soil carbon stocks and fluxes in different management regimes in Eastern Mau Forest Reserve, Kenya* from Egerton University, June 2017.

External Examiner for **Victor Ondongo Otieno** for a Master's Thesis titled: *Evaluation of carbon Sequestration in the sea grass meadows of Malindi Marine Park and Reserve, Kenya* from Pwani University, September 2017.

External Examiner for **Benjamin K. Nyilitya** for a PhD Thesis titled: *Nitrate source apportionment in surface and groundwater of the Lake Victoria basin in Kenya* from Department of Green Chemistry and Technology (ISOFYS), Faculty of Bioscience Engineering, Ghent University, Belgium in September 2020.

Professional Courses

9th-14th November 2015: *Climate Change "Tools" Training- Strategies for monitoring and Evaluating* in Mahe, Seychelles.

30th May – 6th June 2014: *Assessing vulnerability to Climate Change, Scenario Planning and Evaluating Adaptation Strategies* in Zanzibar, Tanzania.

15th-23rd November 2013: *Understanding and Communicating Climate Change* at the Environmental Learning Resource Centre (ELRC) at Rhodes University, Grahamstown, South Africa.

Feb 2011 - June 2011: *Global Biogeochemical Cycles* from the Department of Earth and Environmental Sciences, KU Leuven, Belgium.

Oct 2006 - Jan 2007: *Scientific Research Methods and Application* from the School of Life Sciences, Napier University, Scotland.

April 2003 – May 2003: *Participatory Rural Appraisal* from Egerton University, Kenya.

Recent Projects and grants received

- Chief Scientific Investigator of International Atomic Energy Agency Research Grant, (IAEA Research Contract No: 20411) *Isotopic tracing of nitrate sources and*

transformation in River Sabaki, Kenya”, as part of IAEA Coordinated Research Project, February 2016-February 2019.

- Chief Scientific Investigator-2016/2017 Vice Chancellor’s Research Grant for a research project titled: “*Soil carbon pool in mangroves of Kenya*”
- Co-scientific Investigator of a collaborative project funded by VLIR-UOS South Initiatives projects between KULeuven Belgium, Kenya Wildlife Service and Kenyatta University for a research project titled: *Hydrological and biogeochemical indicators to assess ecosystem health and ecological integrity of Mt. Kenya and Aberdares, Kenya*” from January 2019-December 2020

Other Awards and Honours

- Awarded *Travel Grant* by Western Indian Ocean Marine Science Association (WIOMSA) to attend the Tenth Western Indian Ocean Marine Science Association (WIOMSA) Scientific Symposium held from 30th October to 4th November 2017 in Dar es Salaam, Tanzania.
- Awarded *VLIR- Global Minds programme Travel Grant* by Katholieke Universiteit Leuven Belgium as a **Visiting Scholar** from 02nd August 2018 to 22nd September 2018 in the Faculty of Bioscience Engineering.
- Awarded *Travel Grant* by Western Indian Ocean Marine Science Association (WIOMSA) to attend the Eleventh Western Indian Ocean Marine Science Association (WIOMSA) Scientific Symposium held from 1st to 6th July 2019 at the University of Mauritius in Mauritius.