CURRICULUM VITAE PERSONAL DETAILS

Name:	**ALEXIS KAYIRANGA**
Residence:	**Xiamen-China**
Nationality:	**Rwandese**
Birth date:	**13th October 1989**
Martal Status:	**Single**
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QUALIFICATIONSUMMARY

Mr. **Alexis KAYIRANGA** is an environmental scientist. As an accomplished, research driven, and highly analytical professional with expertise of conducting studies, monitoring and evaluation throughout life cycles. He is a professional and passionate researcher, with an experience over than 5 years in areas of Urban and agriculture soil ecology, Soil and water remediation, Biochar, Soil fauna in soil health. He is aspired to be part of a progressive team where creative thinking and collaboration solves problems and contributes to the well-being of the company/organization.

EDUCATION

Institution: Chinese Academy of Science, Institute of Urban Environment

Award: Master candidate 2018-2021 and PhD candidate 2021-2025 (IUE/CAS)

Institution: University of Rwanda (UR-CAVM)

Award: Bachelor's degree in Soil and water management (A0) in 2015

Institution: Nyanza School of science

Award: Diploma (A2) in Physics-Chemistry and Mathematics 2010

RELEVANT SKILLS

Technical skills: Highly skilled in Project Study and Development, Research, Value Chain Analysis.

Additional skills:	Excellent Expertise in MS Office, Internet navigation, SPSS, Fluent inR software, Origin, Stata, GIS software tools and GPS
Social skills:	I am team player and builder who believe the people capacities.
Communication skills:	I am fluent in writing and speaking English, French, Swahili and Kinyarwanda

JOB HISTORY

Institution: **Rwanda Agriculture board (RAB)**

Scope work: July 2012-May 2015

Responsibilities :

- Internship at the Rwanda Agriculture Board (RAB), focusing on water treatment plant.
- Nkongwa maize disease protection and fertilizer application in agricultural soils.
- Research on biogeochemistry soil-plant interaction. Research focused on biogeochemicalcycles primarily in terrestrial ecosystems.
- Small scale irrigation technology at Kirehe watershed management project (KWAMP)

Position: **Senior Researcher in department of soil and water management**

Date: **July 2014- May 2016**

Institution: **Rwanda environmental management (REMA)**

Responsibilities:

- Research on the effects of heavy metals to the environment
- Research on health and environmental effects of Air quality
- Research and international conference on the impact of algae blooms on agricultureproduction at Lake Kivu in partnership with National Research foundation of Korea (NRFK)
- Monitoring the seasonal soil degradation level caused by soil erosion, flooding and others factors
- Forest plantation in different district

Position: **Internee**

Date: **October 2016-July 2018**

Non-Profit organization:	**Center for agriculture biodiversity (CABI)**
Responsibilities:	• Research on Pest and Disease Management • Research on Crop Protection • Research related to agricultural biodiversity, including the preservation of plant and animal species and the protection of ecosystems that support agriculture
Position:	**Team Leader**
Date:	**July 2016-October 2018**

Conference Participated

- International symposium on Urban biodiversity and sustainable development (Asia region)
  - Date 20-21/02/2025
  - Location: Institute of Urban environment (IUE), Chinese Academy of Science (CAS), Xiamen, China
  - Role/Position: (attendee)
- Sino-Russia international Symposium on Urban Biodiversity and Ecological Functions
  - Date 20-21/05/2024
  - Location: Location: Institute of Urban environment (IUE), Chinese Academy of Science (CAS), Xiamen, China
  - Role/Position: (attendee)
- International conference on the impact of algae blooms on agriculture production at Lake Kivu in partnership with National Research foundation of Korea (NRFK)
  - Date 20/9/2016

- Location: Kigali, Rwanda
- Role/Position: (attendee)

- International conference on Biodiversity and ecosystem services and their important to human (online conference)
    - Date 24/03/2022
    - Contributions: (papers presented, discussions led)
- International conference on Soil food webs from local scale structure towards global functional gradients (online conference)
    - Date 27/04/2022
    - Role/Position: (Attendee)
- International conference on China-UK workshop on ecosystem and human health (online conference)
    - Date 19/05//2022
    - Role/Position: (attendee)
- International conference on Convergent evolution and adaptation mechanism of Apis Cerana cerana (online conference)
    - Date 6/04/2022

- Role/Position: (Attendee)

- International conference on Many ecologists glibly designate soil as the abiotic environment of plants, a phrase that gives me the creeps (online conference)
  - Date 14/10/2022
  - Role/Position: (Attendee)
- International conference on Quantitative reconstruction of ancient CO_2 levels using multiple isotopic proxies (online conference)
  - Date 14/10/2022
  - Role/Position: (Attendee)

Empowering Students Through Research: A Summer School Experience (2024)

Sampling Activity

Soil sampling in Xiamen, China

- 25-27/3/2022-Soil vegetation types (invasive and native plants)
- 13/09/2023 Urban green space (phase I)
- 27/09/2023-Urban green space (phase II)
- 25/10/2023-Urban green space (phase (phase III)
- 15/11/2023-Urban green space (phase IV)
- 20/12/2023-Urban green space (phase V)

Soil sampling in Rwanda

- Huye City, 2/04/2024 (park, residential area, cultivated land, forest)
- Kigali City, 3/04/2024 (park, residential area, cultivated land, forest)
- Musanze City, 4/04/2024 (park, residential area, cultivated land, forest)
- Rwamagana City, 5/04/2024 (park, residential area, cultivated land, forest

Published Papers

- **Kayiranga, A**., A. Isabwe, H. Yao, H. Shangguan, J. L. K. Coulibaly, M. Breed, and X. Sun. 2024. Distribution patterns of soil bacteria, fungi, and protists emerge from distinct assembly processes across sub communities. Ecology and Evolution 14: https://doi.org/10.1002/ece3.11672
- **Kayiranga, A**., Z. Luo, J. C. Ndayishimiye, F. Nkinahamira, E. Cyubahiro, T. Habumugisha, C. Yan, J. Guo, Z. Zhen, A. Tuyishimire, and H. D. Izabayo. 2021. Insights into thallium adsorption onto the soil, bamboo-derived biochar, and biochar amended soil in Pomelo orchard. Biochar 3:315-328. https://doi.org/10.1007/s42773-021-00095-1
- **Kayiranga, A**., Z. Li, A. Isabwe, X. Ke, C. H. Simbi, B. E. Ifon, H. Yao, B. Wang, and X. Sun. 2023. The Effects of Heavy Metal Pollution on Collembola in Urban Soils and Associated Recovery Using Biochar Remediation: A Review. Int J Environ Res Public Health 20. https://doi.org/10.3390/ijerph20043077
- Zhuanxi L., **Kayiranga, A**., Ernest U., Qinghua Z., Changzhou Y., Jianhua G., Baoshan X 2020. Thallium contamination in agricultural soils and associated potential remediation via biochar utilization: Biochar, Vol 2:33–46:

https://doi.org/10.1007/s42773-020-00042-6

- Theobald B., **Kayiranga, A**., Noel M., Khaldoon A., 2018. The Effect of Land Use Systems on Soil Properties; A case study from Rwanda: Sustainable Agriculture Research, Vol 7, No 2 (2018) Available on: https://doi.org/10.5539/sar.v7n2p30
- Cyubahiro, E., Z. Luo, **Kayiranga, A**, T. Habumugisha, F. Nkinahamira, J. C. Ndayishimiye, C. Yan, J. Guo, and Z. Wang. 2022. Thallium removal by the montmorillonite biochar composite: insights and environmental implications. Desalination and Water Treatment **253**:177-193. doi: 10.5004/dwt.2022.28301
- Coulibaly, J. L. K., X. Gong, Y. Shao, H. Shangguan, **Kayiranga, A**, I. Koné, Y. Cai, and X. Sun. 2025. Urban greenspaces reduce the community specialization of soil nematodes. Geoderma. DOI:10.1016/j.geoderma.2024.117139
- Kalisa, W., J. Zhang, T. Igbawua, **Kayiranga, A**, F. Ujoh, I. S. Aondoakaa, P. Tuyishime, S. Li, C. H. Simbi, and D. Nibagwire. 2021. Spatial Multi-Criterion Decision Making (SMDM) Drought Assessment and Sustainability over East Africa from 1982 to 2015. Remote Sensing 13. https://doi.org/10.3390/rs13245067
- Habumugisha, T., Z. Zhang, J. C. Ndayishimiye, F. Nkinahamira, **Kayiranga, A**,

E. Cyubahiro, A. Rehman, C. Yan, and X. Zhang. 2022. Evaluation and optimization of the influence of silver cluster ions on the MALDI-TOF-MS analysis of polystyrene nanoplastic polymers. Anal Methods 14:763-772. doi:10.1039/d1ay02219a

- Simbi, C. H., F. Yao, J. Zhang, D. Tenaw, J. Sugira Murekezi, M. T. Magati, H. Hirwa, A. S. Al-Sakkaf, **Kayiranga, A**, and J. Peng. 2024. Balancing growth and preservation: Unravelling Africa's carbon-economic nexus through the environmental kuznets curve. Heliyon 10:e39269. https://doi.org/10.1016/j.heliyon.2024.e39269.

Papers under review

- **Alexis Kayiranga**, Bin Wang, An Xie, Justin Louis Kafana Coulibaly, Jean Claude Ndayishimiye, Faith Ka Shun Chand, Stefan Scheu, Xin Sun. Urban flooding disrupts soil fauna communities in urban greenspaces resulting in shifts in body size distribution particularly in exotic plant communities. Submitted manuscript (under review).
- **Alexis Kayiranga**, Denis Mburu Njoroge, Justin Louis Kafana Coulibaly, Bin

Wang, An Xie, Hua-Yuan Shangguan, Jean Claude Ndayishimiye, Peter Rwibasira, Xin Sun. The Impact of Flooding on Terrestrial Invertebrate Communities: A Global Meta-Analysis Across Different Land Use Types and Taxa. Submitted manuscript (under review).

- Gasana Zachee; **Alexis Kayiranga**; Jean Claude Nizeyimana; Shaohua Tian; Justin Rugema; Lelan You; Jian-Qiang Su. Removal of antibiotics and antibiotic resistance genes using microalgae-based wastewater treatment system: a bibliometric review and mechanism analysis. Submitted manuscript (under review).
- Justin Louis Kafana Coulibaly, Xin Gong, **Alexis Kayiranga**, Huayuan Shangguan, Yanbo Chen, Xiuling Yu, Saichao Zhang, An Xie, Taha Ahmed Mohamed, Nico Eisenhauer, Xin Sun. Nematode diversity loss and community change in urban green spaces explained by alterations in soil pore structure and chemical properties

REFERENCES

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I do declare that the above given information is sincere and accurate.

ALEXIS KAYIRANGA