

CURRICULUM VITAE

Pascaline Nyirabuhoro

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FIELDS OF EXPERTISE

Sustainability and Green Technology: Principles of sustainability and developing technologies and practices that reduce environmental impact
Environmental Science and Conservation: Scientific principles behind environmental issues, such as climate change, biodiversity loss, and pollution
Environmental Policy and Law: Policies and laws related to environmental issues at the local, national, and international levels
Environmental Health and Safety: Develop and implement policies and practices that protect public health and safety in areas such as air, soil, and water quality, hazardous waste management, and occupational safety
Environmental Education and Communication: Educating the public about environmental issues and promoting awareness and action

EDUCATION

Doctor of Philosophy in Environmental Sciences, January 2021
University of Chinese Academy of Sciences, Beijing, People's Republic of China
Dissertation title: "Temporal Dynamics and Community Assembly Mechanisms of Rare and Abundant Bacterioplankton in Subtropical Reservoirs"
Advisor: Professor Jun Yang
Committee: Profs. Zongze Shao, Shuji Gao, Jun Yang, Changzhou Yan, Li Cui, Feng Zhao, Nengwang Chen
Master of Science in Geology, May 2015
Annamalai University, Chidambaram, Tamil Nadu, India
Postgraduate Diploma in Public Health, May 2015
Annamalai University, Chidambaram, Tamil Nadu, India
Postgraduate Diploma in Petroleum Exploration, May 2014
Annamalai University, Chidambaram, Tamil Nadu, India
Bachelor of Science in Environmental Health Sciences, February 2011
Kigali Health Institute, Kigali, Rwanda

ACADEMIC AND PROFESSIONAL POSITIONS

September 2023 to Present, **Environmental research specialist**, Save the Rwandan Environment and Biodiversity (SREB), Muhanga, Rwanda
September 2021 to August 2023, **Postdoctoral fellow**, Shenzhen MSU-BIT University, Shenzhen, China
January 2011 to August 2013, **Enumerator**, DelAgua Public Health Program in Eastern Africa, Kigali, Rwanda

LEADERSHIP AND SERVICE HIGHLIGHTS

August 2022, **Founder**, [Rwanda Geoscientists Society](#), a professional organization that brings together individuals who are interested in and work in the field of geoscience in Rwanda. RGS

encompasses a broad range of scientific disciplines, including geology, geophysics, hydrology, meteorology, and environmental science.

June 2018, **Founder**, [Center for Earth and Natural Resource Sciences](#), a comprehensive and multi-disciplinary research center engaged in fundamental and applied research on the environment, understanding earth processes and natural hazards, resource science, and innovative technologies and instruments for the control and remediation of water, soil, air, and solid waste pollution

RESEARCH INTERESTS

Primary interests: Environmental science, Soil and water remediation, Aquatic microbiology

Additional interests: Global change, Climate change, Microbial biogeochemistry, Restoration ecology, Natural and anthropogenic hazards

PUBLICATIONS

Scholarly articles

Ndayishimiye JC[#], **Nyirabuhoro P[#]**, Gao X, Chen H, Wang W, Mazei Y, Yang J. 2024. Community responses of testate amoebae (Arcellinida and Euglyphida) to ecological disturbance explained by contrasting assembly mechanisms in two subtropical reservoirs. **Science of The Total Environment**, 953:176058. DOI:[10.1016/j.scitotenv.2024.176058](https://doi.org/10.1016/j.scitotenv.2024.176058)

Ndayishimiye JC, Mazei Y, Babeshko K, Tsyganov AN, Bobrov A, Mazei N, Smirnov A, Ren K, Abdullah Al M, Chen H, Wang W, Saldaev D, Ivanovskii A, **Nyirabuhoro P**, Yang J. 2022. Stochastic and deterministic processes shaping the testate amoeba communities across different biotopes of urban parks in Moscow and Xiamen cities. **Urban Ecosystems**. 26:617–628. DOI:[10.1007/s11252-022-01306-8](https://doi.org/10.1007/s11252-022-01306-8)

Nyirabuhoro P, Gao XF, Ndayishimiye JC, Xiao P, Mo YY, Ganjidoust H, Yang J. 2021. Responses of abundant and rare bacterioplankton to temporal change in a subtropical urban reservoir. **FEMS Microbiology Ecology**. fiab036. DOI:[10.1093/femsec/fiab036](https://doi.org/10.1093/femsec/fiab036)

Nyirabuhoro P, Liu M, Xiao P, Liu LM, Yu Z, Wang L, Yang J. 2020. Seasonal variability of conditionally rare taxa in the water column bacterioplankton community of subtropical reservoirs in China. **Microbial Ecology**, 80:14–26. DOI: [10.1007/s00248-019-01458-9](https://doi.org/10.1007/s00248-019-01458-9)

Ndayishimiye JC[#], **Nyirabuhoro P[#]**, Wang W, Mazei Y, Yang J. 2020. Morphology of testate amoeba *Diffflugia australis* (Playfair, 1918) Gautier-Lièvre et Thomas, 1958 from a subtropical reservoir (southeast China). **Zootaxa**. 4890:097–108. DOI:[10.11646/zootaxa.4890.1.5](https://doi.org/10.11646/zootaxa.4890.1.5)

Ndayishimiye JC, **Nyirabuhoro P**, Lin T, Zhang G, Zhang W, Mazei Y, Ganjidoust H, Yang J. 2020. Decade-scale change in testate amoebae community primarily driven by anthropogenic disturbance than natural change in a large subtropical reservoir. **Science of the Total Environment**. 78:fiab036. DOI:[10.1016/j.scitotenv.2021.147026](https://doi.org/10.1016/j.scitotenv.2021.147026)

Ndayishimiye JC, **Nyirabuhoro P**, Wang Q, Yang X, Yang J. 2020. Effects of natural and anthropogenic changes on testate amoebae communities in an alpine lake over the past 2500 years. **Science of the Total Environment**. 721:137684. DOI: [10.1016/j.scitotenv.2020.137684](https://doi.org/10.1016/j.scitotenv.2020.137684)

Nyirabuhoro P, Mugerwa T, Ndikubwimana JD, Munyangyinka JP, **Ndayishimiye JC**, Uwamungu P. 2015. A study on sediments depositional mechanism at Nayakankuppam coast, TamilNadu, India. [International Journal of Engineering Research and General Science](#), 3: 478–492

Ndayishimiye JC, **Nyirabuhoro P**. 2015. A study on interdependent and asymmetrical behaviours associated with land use and land cover at Ruhande, Huye, Rwanda. [International Journal of Innovative Research and Development](#). 4: 217–222

Conference abstract

- Ndayishimiye JC, Mazei Y, Ren K, Tsyganov AN, Smirnov A, Mazei N, Saldaev D, Ivanovskii A, **Nyirabuhoro P**, Yang J. 2023. Diversity and community assembly of testate amoebae and other microbial eukaryotes in diverse biotopes within urban parks: morphological and metabarcoding perspective. In: Lara (Ed.), E. *10th International Symposium on Testate Amoebae* (pp. 23). Abstract booklet, [Royal Botanical Garden-CSIC](#), Madrid, Spain
- Ndayishimiye JC, Mazei Y, Babeshko K, Tsyganov AN, Bobrov A, Mazei N, Saldaev D, Ivanovskii A, **Nyirabuhoro P**, Ren K, Abdullah Al M, Chen H, Wang W, Yang J. 2021. Multi-habitat testate amoeba in temperate and subtropical urban parks. In: Mitchell EAD. (Ed.), *2021 International Symposium on Testate Amoebae – ISTA 9 ¾* (pp. 24). Program & book of abstracts, [University of Neuchâtel](#), Neuchâtel, Switzerland

DISTINGUISHED LECTURESHIPS

- August 2022, **Guest lecturer**, *An Introduction to Effective Data Analysis Techniques Using Open-Source Tools*, University of Rwanda, Kigali, Rwanda
- July 2021, **Guest lecturer**, *Open-Source GIS Applications and Best Practices*, The Center for Earth and Natural Resource Sciences, Kigali, Rwanda
- December 2020, **Guest lecturer**, *R Programming for Ecological Data Analysis: An Introduction to Statistical Analysis and Visualization*, The Center for Earth and Natural Resource Sciences, Kigali, Rwanda

AWARDS, GRANTS, AND FELLOWSHIPS

- January 2024–December 2025, Co-principal Investigator, **Research grant**, *Spatial Distribution of Soil Biodiversity in Watersheds and Flood Control Reservoirs in Shenzhen City*, Innovative Youth Talent Project of the Provincial Department of Education, Total amount: 100,000 RMB
- January 2023–December 2023, Co-principal investigator, **Research grant**, *Prevalence of Testate Amoebae in the Urban Environment: Do Distinct Ecological Niches Exert Similar Pressure on the Microbial Community?* National Natural Science Foundation of China, Grant number: 32250410317, Total amount: 200,000 RMB
- May 2020, **Yongqing Environmental Protection Award**, a prestigious accolade recognizing excellence and commitment in safeguarding the environment, awarded by the Chinese Academy of Sciences
- September 2015–August 2018, **University of Chinese Academy of Sciences Scholarship**, a fully funded scholarship for a doctorate program awarded by the University of Chinese Academy of Sciences
- September 2012–August 2014, **Rwanda Education Board Scholarship**, a fully funded scholarship for postgraduate studies awarded by the Ministry of Education of Rwanda
- January 2006–November 2010, **Student Financing Agency Scholarship**, a fully funded scholarship for undergraduate studies awarded by the Ministry of Education of Rwanda

PROFESSIONAL ACTIVITIES AND AFFILIATIONS

- January 2024, **Peer reviewer**, Heliyon, Sustainability
- December 2023, **Peer reviewer**, Heliyon
- November 2023, **Peer reviewer**, Sustainability
- October 2023, **Peer reviewer**, Sensors
- August 2023, **Peer reviewer**, Remote Sensing
- July 2023, **Peer reviewer**, Sustainability
- June 2023, **Peer reviewer**, Sustainability, Water
- May 2023, **Peer reviewer**, Sustainability
- April 2023, **Peer reviewer**, Land
- March 2023, **Peer reviewer**, Minerals, Remote Sensing

February 2023, **Peer reviewer**, Sustainability
January 2023, **Peer reviewer**, Life
December 2022, **Peer reviewer**, Sustainability
November 2022, **Peer reviewer**, Remote Sensing
October 2022, **Peer reviewer**, Sustainability
October 2022, **Organizing and Scientific Committee**, Second Joint Workshop, Urban microbiome: structure, function, management
September 2022, **Peer reviewer**, Minerals
September 2022, **Peer reviewer**, Sustainability
August 2022–Present, **Member**, Rwanda Geoscientists Society
May 2019–Present, **Member**, Organization for Women in Science for the Developing World

TEACHING AND MENTORING

September 2022–Present, **Thesis advisor**, *Temporal Dynamics and Assembly Mechanisms of Microbial Communities in Subtropical Ponds*, Postgraduate student Geng Zihan from Shenzhen MSU-BIT University and Lomonosov Moscow State University
September 2022–December 2023, **Course instructor**, *Aquatic Microbiology*, Postgraduate students from Shenzhen MSU-BIT University
September 2021–June 2023, **Thesis advisor**, *Determinants of Bacterial Community Composition in a Subtropical Endorheic Urban Pond*, Postgraduate student Cao Lixi from Shenzhen MSU-BIT University and Lomonosov Moscow State University
December 2022, **Invited speaker**, *My UCAS-IUE Experience Before and After Graduation*, Institute of Urban Environment, Chinese Academy of Sciences
January 2022–July 2022, **Course instructor**, *Aquatic Microbiology*, Postgraduate students from Shenzhen MSU-BIT University

PRACTICAL AND TECHNICAL SKILLS

Practical scientific procedures and techniques

Strong interpersonal skills, capable of conducting fieldwork independently or collaboratively in a team. Proficient in a variety of experimental techniques, including sampling and the identification of microorganisms using microscopy, culture, and molecular approaches

Programming languages and mathematical packages

Languages for statistical computing and graphics (R), C ++

Computer-aided design (CAD) and graphics

AutoCAD, Adobe Illustrator, Photoshop, Image J, Photo Instrument

Others

QGIS, DIVA-GIS, IBM SPSS, OriginLab, PAST, PRIMER, CANOCO, Ecosim Professional, Gephi

LANGUAGES

English: native proficiency

French: native proficiency

Kinyarwanda: native

Mandarin Chinese: Basic level

VOLUNTEER EXPERIENCE

January 2004–Present, **Economic development initiatives**, Active participant in the *Umuganda Community Service Initiative* in Rwanda, contributing to the improvement of the community through monthly clean-up activities, infrastructure development projects, and other community initiatives. Demonstrated strong teamwork, communication, and leadership skills in coordinating with fellow community members to complete projects

January 2012–July 2012, **Fundraising activities**, Active participant in fundraising activities for the *Agaciro Development Fund*, contributing to the economic development of Rwanda by

supporting initiatives aimed at improving the lives of citizens. Utilized excellent communication and fundraising skills to engage potential donors and drive contributions to the fund

September 2016, **Rescue and environmental restoration initiatives**, volunteered in cleaning Xiamen, China, after the devastation of super typhoon Meranti, providing assistance with debris removal, relief goods distribution, and support for affected families. Collaborated with a team of volunteers to help restore infrastructure and clear public areas, demonstrating a strong commitment to community service and leadership skills

December 2021, **Fundraising activities**, Volunteered for a corporate social responsibility campaign by the Development Bank of Rwanda aimed at contributing to the Government of Rwanda's goal of connecting all households to electricity by 2024. Assisted in the organization of fundraising events to support the project. Collaborated with other volunteers to develop and implement strategies to achieve project goals

REFERENCES

Yuri A Mazei, Ph.D., Vice-rector for international affairs and professor

Department of General Ecology and Hydrobiology, M V. Lomonosov Moscow State University
Leninskie Gory 1, 119991, Moscow, Russia, E-mail: yurimazei@mail.ru

Jun Yang, Ph.D., Professor

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Xiamen 361021, China, Phone: +86-592-6190775, E-mail: jyang@iue.ac.cn

David M Wilkinson, Professor

School of Life Sciences, College of Science, University of Lincoln
Brayford Pool, Lincoln LN6 7TS-UK, E-mail: dwilkinson@lincoln.ac.uk

Jean Claude Ndayishimiye, Senior Lecturer

Faculty of Biology, Shenzhen MSU-BIT University, Shenzhen 518172, Phone: +86-159-60235991, E-mail: 6420210004@smbu.edu.cn

DECLARATION

I **Pascaline Nyirabuhoro**, declare that these data correctly describe me, my qualifications and experience.

Shenzhen–China.



September 25th 2024