Research interests: Linear and non-linear mixed models – Generalized linear models – Nonlinear Dynamical systems – AI and Machine Learning in Health, Agriculture and Environment –Forest estimations

The Faculty of Agronomic Sciences of the University of Abomey-Calavi, through the Laboratory of Biomathematics and Forest Estimations (LABEF), ensures the training of Biostatisticians and at the end of the two years of study, it delivers a Master degree in Statistics, major Biostatistics. The aim of this Master is to train specialists of high level in Biostatistics. They will have strong theoretical basis in Statistical Methods and be able to apply them on life sciences.

Lab Director

Positions

- Professor of Biometry and Forest estimations
- Head of the Laboratoire de Biomathématiques et d'Estimations Forestières
- Coordinator of the Doctoral training in Biostatistics, University of Abomey-Calavi (UAC)
- Malaria modeling group lead, Vaccine Impact Modeling Consortium (VIMC), supported by GAVI, WHO and BMGF
- FAO expert in training and development of National Forest Inventory methodology in West Africa.

Background

- Full Professor of Biometry and Forest modeling, 2015
- PhD in Biometry, University of Liege, Belgium, 2005
- MSc in Applied Statistics, University of Liege, Belgium, 2001
- Engineer Degree in Forestry, Faculty of Agronomic Sciences, University of Abomey-Calavi, 2000
- Bachelor Degree in Agronomy, Faculty of Agronomic Sciences, University of Abomey-Calavi, 1998

International Prizes

- Prize "Heinz and Johannes". Best research paper in Ecology; 2007 edition. The Support Africa International Foundation, Germany, 2007.
- Prize "Jan Tinbergen". Best young statistician from emerging and developing countries. The International Statistical Institute (ISI), Australia, 2005.
- Prize "Biométrie 88". Best young French biometrician in Belgium. National Association of French Belgian biometricians, Belgium, 2002.

International Nominations and Distinctions

- Member of the African Academy of Sciences, 2023 - present.
- Member of the selection committee of the International Climate Protection Fellowship Programme of the Alexander von Humboldt Foundation (Germany), since 2017-2023
- President of AGNES (African-German Network of Excellence in Science), 2019-2023.
- Member of the Global Young Academy of Sciences, 2012-2018.
- Fellow of the Alexander von Humboldt Foundation for outstanding achievements in research. Germany, 2007.
- Member of The World Academy of Sciences (Young affiliate), 2011-2015.

Current research and training projects

- DELTA-AFRICA II SSACAB. Training Biostatisticians in Sub-Saharan Africa. Period: 2023-2027.
- Humboldt Research Hub on COVID-19 modeling. Period: 2021-2026.
- TEBWA (Training Epidemiologists and Biostatisticians for Enhance response to disease outbreak). Period: 2021-2024.
- VIMC (Group lead on Malaria modeling). Period : 2023-2025.
- INSPIRE. Innovation Santé Publique. Period: 2023-2027
- DAAD In-Country/In-Region Scholarship ProgrammePAPBIO-C1-MANGROVES. Period: 2022-2025

Visiting professor in other African universities

- Kwame Nkrumah University of Science and Technology (KNUST), GHANA. Contact person: Prof. Odai. Email: snodai@yahoo.com. Course: Univariate and Multivariate statistical methods for PhD Students in the Regional Waterand Environmental Sanitation Centre, Kumasi (RWESCK). Since 2018.
- Kwame Nkrumah University of Science and Technology (KNUST), GHANA. Contact person: Prof. Agyare. Email: wagyare@yahoo.co.uk. Course: Univariate and Multivariate statistical methods for PhD Students in WASCAL Doctoral Programme Climate Change and Land Use. Since 2015.
- Wascal's GRP-Climate Change and Biodiversity, University Félix Houphouët Boigny (COTE D'IVOIRE). Course: Sampling techniques and experimental designs for PhD students in Natural resources and climate change. Contact Person: Prof. Kone Daouda. Email: daoudakone2013@gmail.com (2014)
- University of Abdou Moumouni; Faculty of Sciences, NIGER. Contact person: Prof. Bakasso Yacoubou. BP 10662 Niamey Niger. E-mail: bakasso@yahoo.com. Phone: +227 90381418. Course: Biostatistics for MSc Students. (2010-2017).
- University of Lome; Faculty of Sciences, TOGO. Contact Person: Prof. Kokou Kouami. Course: Linear mixed effects models for students in WASCAL Master Research Program in Climate Change and Human Security. Email: kokoukouami@hotmail.com. Since 2018
- University of Kara; Faculty of Sciences, TOGO. Contact person: Prof. Baba Gnon. Email: gnonbaba@yahoo.fr. Course: Linear models for BSc students in statistics. (2010-2018).

- Higher National Agronomy and biotechnology Institute (GABON). Lecture in Experimental designs for engineer degree students in agronomy. Contact person: Prof. Kumulungui Brice Serge. Email: kumulungui@yahoo.fr (2013-2014).

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ResearchGate Page: https://www.researchgate.net/profile/Romain_Lucas_GLELE_KAKI

Google Scholar's Page: http://scholar.google.com/citationsuser=FwpDoXMAAAAJ&hl=fr

LinkedIn Page: https://www.linkedin.com/in/romain-gl%C3%A8l%C3%A8-kaka%C3%AF-972963330/

Total number of publications

- Peer reviewed articles: 362
- Books and book chapters: 04

Key publications

- Adéoti, O. M., Diop, A., & Glèlè Kakaï, R. (2025). Bayesian inference and impact of parameter prior specification in flexible multilevel nonlinear models in the context of infectious disease modeling. Mathematical biosciences and engineering: MBE, 22(4), 897-919. 10.3934/mbe.2025032
- Anteneh, L. M., Hounkonnou, M. N., & Glèlè Kakaï, R. (2025). A Stochastic Continuous-Time Markov Chain Approach for Modeling the Dynamics of Cholera Transmission: Exploring the Probability of Disease Persistence or Extinction. Mathematics (2227-7390), 13(6). https://doi.org/10.3390/math13061018
- Tahi, S. P., Salako, K. V., Houndji, V. R., & Glèlè Kakaï R. (2025). Effects of weather scenarios and fertilizer on maize growth and yield: Insights from a greenhouse experiment. PloS one, 20(3), e0318121. https://doi.org/10.1371/journal.pone.0318121
- Montcho, Yvette, Koomi Toussaint Amoussouvi, Mintodê Nicodème Atchadé, Kolawole Valère Salako, Mahouton Norbert Hounkonnou, Martin Wolkewitz, and Romain Glèlè Kakaï (2025). Assessing the potential seasonality of COVID-19 dynamic in Africa: a mathematical modeling study. Modeling Earth Systems and Environment 11, 2:114. https://doi.org/10.1007/s40808-024-02236-4
- Dete, Clarisse Houénafa, Bruno Enagnon Lokonon, Kossi Essona Gneyou, Marcel Senou, and Romain Glèlè Kakaï (2025). Relative Performance of Model Selection Criteria for Cox Proportional Hazards Regression Based on Kullback's Symmetric Divergence. Journal of Probability and Statistics 2025, 1: 3808705. https://doi.org/10.1155/jpas/3808705
- Kochoni, B. I., Salako, K. V., Danquah, J. A., Sinsin, C. B. L., Mensah, S., & Glèlè Kakaï, R. (2025). Contribution of the Ramsar convention to the conservation of West-African mangroves: a case study in Benin. Wetlands Ecology and Management, 33(1), 1-21.

- Tahi, S. P., Salako, K. V., Houndji, V. R., & Glèlè Kakaï R. (2025). Effects of weather scenarios and fertilizer on maize growth and yield: Insights from a greenhouse experiment. PloS one, 20(3), e0318121.
- Agounde, G., Salako, K.V., Idohou, R.A., Sode, A.I., Mensah, S., Dimobe, K., Assogbadjo, A.E. and Glèlè Kakaï R. (2025). Climate change may shift diet of the African savanna elephant: Preliminary results for 14 food tree and shrub species in the WAPOK transboundary ecosystem, West-Africa. Global Ecology and Conservation, 58, p.e03468.
- Montcho, Yvette, Koomi Toussaint Amoussouvi, Mintodê Nicodème Atchadé, Kolawole Valère Salako, Mahouton Norbert Hounkonnou, Martin Wolkewitz, and Romain Glèlè Kakaï (2025). Assessing the potential seasonality of COVID-19 dynamic in Africa: a mathematical modeling study. Modeling Earth Systems and Environment 11, 2:114.
- Dogbo, Sèdoami Flora, Kolawolé Valère Salako, Gafarou Agoundé, Kangbéni Dimobe, Adjo Estelle Geneviève Adiko, Jens Gebauer, Constant Yves Adou Yao,
- and Romain Glèlè Kakaï (2025). Potential impacts of future climate on twelve key multipurpose tree species in Benin: Insights from species distribution modeling for biodiversity conservation. Trees, Forests and People 19: 100744. romain.glelekakai@fsa.uac.bj