Professor Romain Lucas GLELE KAKAÏ

TITLE: Full Professor of Biostatistics and Forest modeling
FUNCTIONS: Professor of Biostatistics at the University of Abomey-Calavi (Benin)

- Coordinator of the Master and PhD programme in Biostatistics
- Head of the "Laboratoire de Biomathématiques et d'Estimations Forestières"
- President of the African German network of Excellence in Sciences (AGNES)

CIVIL STATUS: Married, 3 children

PERMANENT ADDRESS: School of Environment management, Faculty of Agronomic Sciences, University of Abomey-Calavi (UAC)
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Website: http://www.labef-uac.org / www. http://fsa-uac.org/

EDUCATION

Full Professor (2015 – till now)
University of Abomey-Calavi

Associate Professor (2011-2015)
University of Abomey-Calavi

Senior lecturer (2009-2011)
University of Abomey-Calavi

Lecturer (2007-2009)
University of Abomey-Calavi

Doctorate in Biometry (The Highest distinction with Congratulations)
Gembloux Agricultural University, Belgium, 2005

MSc in Applied statistics (Ranked First)
Gembloux Agricultural University, Belgium, 2001

Engineer Degree in Agronomy, Major: Forestry (Ranked First)
Faculty of Agronomic Sciences, University of Abomey-Calavi, 2000.

Bachelor Degree in Agronomy (Ranked First)
Faculty of Agronomic Sciences, University of Abomey-Calavi, 1998.

PRIZES AND INTERNATIONAL DISTINCTIONS

- 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.
- Member of the selection committee of **the International Climate Protection Fellowship Programme** of the Alexander von Humboldt Foundation (Germany), since 2017

- President of **AGNES** (African-German Network of Excellence in Science), since 2019.
- Member of the **Global Young Academy of Sciences**, 2012-2018.
- Member of **The Young Affiliate Network of the World Academy of Sciences**, Since 2011.
- Member of **the World Economic Forum** community (Young scientists). Participation in the Annual meeting of the new champions 2012, Tianjin, China.
- Fellow of **the Alexander von Humboldt Foundation** for outstanding achievements in research. Germany, 2007.

PROFESSIONAL EXPERIENCE

Lecturer and Researcher, University of Abomey-Calavi, 2007-
Biometrician (Part time job), Africa Rice (Ex ADRAO), 2006-2008
Biometrician, National Institute of Agricultural Research of Bénin, 2002-2007

PhD STUDENTS CURRENTLY UNDER SUPERVISION

Beaugard T. Taboe (2021-2023). Understanding the dynamics and control of COVID-19 and other emerging infectious diseases in West Africa: a metapopulation modeling approach.

Ariane Houetohossou (2021-2023). Architectural and parametric optimization of pre-trained Deep Convolutional Neural Network (DCNN): Stress detection on tomato plants under climate and infection based simulated environments.

Peace Souand Tahi (2021-2023). Artificial Intelligence based problem-solving in agricultural yield prediction: Optimization of Ensemble Learning techniques performances and ability of base regressors in the prediction of yield of maize cultures under several controlled weather and fertilization patterns.

Arsène Mushagalusa Ciza (2021-2023). Random forest regression for count response data and diseases vectors abundance prediction: application to ticks (*Rhipicephalus appendiculatus*) abundance in grazed permanent pastures.

Yannick Mugumaarhahama (2020-2022). Spatial point process model for analysis of presence-only data: accounting for species characteristics and uncertainties in data.

Armel Bourobou Bourobou (2020-2022). Inhomogeneous Poisson Process and its extensions for species distribution analysis: accounting for sampling bias, non-linear effect and spatial dependence using classical and approximate Bayesian inference.

VISITING PROFESSOR IN BIOSTATISTICS IN OTHER AFRICAN UNIVERSITIES

1. Kwame Nkrumah University of Science and Technology (KNUST), **GHANA**. Contact person: Prof. Wilson Agyei Agyare. Email: wagyare@gmail.com. **Course: Univariate and Multivariate statistical methods** for PhD Students in the Regional Water and Environmental Sanitation Centre, Kumasi (RWESCK). Since 2015.
2. 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 2018.
3. 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 -)

4. 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

5. 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).

6. 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).

7. 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).

CURRENT COLLABORATIVE RESEARCH PROJECTS

N°	PROJECT	FUNDING AGENCY	AIMS	PERIOD
1	**HRH-SEMCA.** Socio-ecological modelling of COVID-19 in Africa	**BMBF (Germany)**	- Modéliser la dynamique spatiale de la COVID-19 en Afrique et analyser les déterminants - Analyser la saisonalité potentielle de la COVID-19 tenant compte des 5 grandes régions climatiques en Afrique - Modéliser l'effet d'une vaccination avec un vaccin imparfait sur la dynamique de la COVID-19 - Analyser l'eeft des mesures de contrôle sur la dynamique de la COVID-19 en Afrique	**2021-2026**
2	**TEBWA.** Training Epidemiologists and Biostatisticians for enhanced response to disease outbreak and epidemic in West-Africa	**EDCTP**	Former des épidémiologistes et biostatisticiens pour une réponses effica et appropriée aux épidémies	**2021 - 2023**
3	**DAAD** "In-Country/In-Region Scholarship Programme" for Master in Statistics (Major Biostatistics) & Doctorate in Biometrics.	Deutscher Akademischer Austauschdienst German Academic Exchange Service (DAAD)	Former des biostatistiticiens d'Afrique de l'Ouest pour la gestion et l'analyse de données biologiques.	**2019-2022**
4	**ARES-POP.** Morpho-physiological adaptation and genetic diversity of keystone mangrove tree species in response to human disturbance regimes in Benin : implications for mangrove conservation. 2018	**Coopération belge au développement**		**2019**
5	**GREPPAO.** Gestion et résilience des pêcheries de petits pélagiques en Afrique de l'Ouest	**Union Européenne**	L'objectif de l'action GREPPAO est de contribuer à la réalisation de l'objectif global du Programme PESCAO qui est d'améliorer la contribution des ressources halieutiques au développement durable, à la sécurité alimentaire et à la réduction de la pauvreté en Afrique de l'Ouest.	**2019-2021**
6	**TWAS.** Modelling nonlinear trend in multilevel data using	**TWAS** (N°20-346 RG/MATHS/AF/AC_G – FR3240314177).	Construire une démarche d'utilisation efficiente des méthodes paramétriques, semi-parametriques et non paramétriques	**2020-2021**

	flexible distributions: a guideline for selecting the best of parametric and semi-nonparametric approaches		pour la modélisation par distributions flexibles des tendances non linéaires pour les observations multi-niveaux.	
7	**BAOCHAIN.** Scaling up African baobab food products valuation through enhancement of their safety and value chains for food and nutritional security in Benin. **Rôle : Coordonateur scientifique**	CARP+/RUFORUM	- Analyser les chaînes de valeur des feuilles de baobab et de la pulpe de fruits ; - organiser les acteurs des filières de baobab et des chaînes de valeur des pulpes de fruits en une plate-forme et des réseaux pour assurer des connexions durables ; -mettre à niveau les nouvelles technologies à valeur ajoutée au niveau des pays et des produits à base de baobab dans les stratégies de sécurité alimentaire et nutritionnelle, mais aussi comme opportunité agro-industrielle au niveau national.	**2018-2021**
8	**PGD-MANGROVES.** Vers une gestion durable des mangroves au Bénin : dynamique spatio-temporelle, biodiversité, usages et gestion locale, capacité de séquestration de carbone et impacts des changements climatiques. **Rôle : Coordonateur**	Fonds National de la Recherche Scientifique et de l'innovation Technologique	− caractériser la dynamique spatio-temporelle des mangroves du Bénin − estimer la biodiversité des mangroves du Bénin − évaluer les usages des mangroves ainsi que les pratiques locales de gestion des mangroves − évaluer la capacité de séquestration de carbone et l'effet des changements climatiques sur l'étendue des mangroves du Bénin	**2017-2019**
9	Setting up a system of evaluation of the land use dynamics and follow up indicators of the transboundry biosphere reserve of the Mono **Rôle : Coordonateur**	Observation spatiale des forêts d'Afrique Centrale et de l'Ouest (OSFACO/IRD)	Le projet vise donc à développer des méthodes rentables, respectueuses de l'environnement et permettant la production durable de feuilles de baobab pour assurer la sécurité alimentaire des petits producteurs dans les trois zones climatiques en république du Bénin.	**2017-2019**
10	**TREE FOOD.** Enhancing nutritious food availability through promotion of native edible tree/shrub species in Sub-Saharan Africa **Rôle : Membre**	Agropolis Fondation – Fondazione Cariplo and Fondation Daniel et Nina Carasso	The project aims at supporting so-called farmer-led innovation platforms in improving collection, production, processing and marketing of products from edible tree/shrub species, whereas field schools will be established to disseminate technologies.	**2017-2019**
11	Biologie de la Conservation et Ethnopharmacologie des Ligneux médicinaux de la pharmacopée béninoise (BIOCEL) **Rôle : Membre**	Fonds National de la Recherche Scientifique et de l'innovation Technologique	(i) Evaluer la diversité et la disponibilité des principales espèces ligneuses médicinales employées pour le traitement des maladies humaines et animales les plus récurrentes ; (ii) Déterminer les aires prioritaires de conservation des principales espèces ligneuses médicinales; (iii) Evaluer *in vivo* les propriétés médicinales des principales espèces ligneuses utilisées pour le traitement des pathologies animales la plus récurrente.	**2016-2018**
12	Promoting environmentally friendly practices for sustainable baobab leaves production for food and nutritional security in smallholders farming systems in Benin **Rôle : Membre**	RUFORUM	Develop a set of agro-ecological practices to improve the production of the daily used baobab leaves by building capacity of local farmers and NGOs on how to propagate and grow baobab treelets in small garden plots using environmentally friendly practices	**2015-2017**
13	Project SCOPA (Sustainability of Cotton Production in Africa) **Rôle : Coordonnateur**	DANIDA	The overall aim of the project is to increase knowledge about the sustainability of cotton production in SSA,	**2015-2018**

			where we will particularly focus on organic cotton production.	
14	Improving the resilience of agro-ecosystems to climate change along watersheds by co-developing anti-erosion and fertilizing agroforestry systems in six West African countries **Rôle : membre**	WECARD	This project aims to (i) assess the potential of agroforestry in sustainable land use and land management and (ii) prospect options for intensive but environmental friendly agriculture on watersheds.	**2014-2016**
15	Etat de la biodiversité et perspectives de gestion durable de la forêt classée de Pénéssoulou **Rôle : membre**	Office National du Bois	✓ Inventorier les espèces de flore et de faune de la FCP et connaître leur biodiversité par des indices de biodiversité appropriés ; ✓ Préciser le statut régional de conservation des espèces identifiées sur la liste Rouge de l'IUCN. ✓ Connaître les utilisations faites des ressources biologiques par les populations riveraines et identifier les menaces pesantes sur leur conservation.	
16	Wild palms in Benin: biodiversity, uses, ecology, economic importance, and conservation **Rôle : membre**	University of Abomey-Calavoi	It aims to: (i) assess local knowledge of the rural communities through the analysis of social perceptions and the quantification of their ethnobotanical use value; (ii) evaluate the biodiversity (specific richness and genetic diversity) and the distribution of the wild palm species in Benin; (iii) assess the structure and the dynamics of the wild palm species populations in Benin; (iv) evaluate the economic importance of the wild palm species through the study of the flow markets and the income generated to actors of the market chain; and (v) assess the conservation gap of the species.	**2012-2015**
17	Harmonization of methods of vegetation study in West-Africa **Rôle : Coordonnateur**	PAES/ECOWAS	This research project focuses on assessing the efficiency of the shape and size of inventory plot (relevés) in the floristic analysis and estimation of dendrometric parameters in West-African vegetation.	**2012-2014**
18	Developing techniques for sustainable production and use of Jatropha curcas as biofuel to alleviate poverty in rural areas in West-Africa **Rôle : membre**	African Union	The ultimate goal is to develop the technology for a production and a sustainable use of J. curcas as biofuel.	**2012-2015**

AFFILIATION

AGNES (African-German Network of Excellence in Science), 2015.
Global Young Academy of Sciences, 2012-2018.
Scientific and Technical council for the development of maize crop in Benin, 2012- .
The World Academy of Sciences (Young affiliate), 2011-2015.
Statistical Pan African Society (SPAS), 2009-
International Statistical Institute (ISI, the Netherlands), 2005- .
African Forestry Research Network, 2004.

RESEARCH INTEREST

- Linear and generalized linear mixed effect models;

- Multi-bloc data analysis;
- Artificial Intelligence applied in Agriculture
- E-M Algorithms and its variants in non-linear models under scale mixture of non-symmetric normal distributions;
- Ecology and management of mangroves;
- Spatial distribution modeling;
- Modeling of structure and dynamics of forest species populations in Benin.

SCIENTIFIC PUBLICATIONS

Books

1. Glèlè Kakaï R. (2010). *Règles de classement et taux d'erreur en analyse discriminante.* Edition Européenne Universitaire, Allemagne, 237p.
2. Glèlè Kakaï R., Sodjinou E., Fonton H. N. (2006). *Conditions d'application des méthodes statistiques paramétriques.* Bibliothèque Nationale, Bénin, 106 p.
3. Glèlè Kakaï R., Palm R., Kokode G. (2005). *L'analyse discriminante décisionnelle : aspects théoriques et applications sur ordinateur.* Bibliothèque Nationale, Bénin, 64 p.
4. Glèlè Kakaï R., Kokode G. (2004). *Techniques statistiques univariées et multivariées : applications sur ordinateurs.* Bibliothèque Nationale, Bénin, 67 p.

Scientific papers (Total=238)

- ResearchGate score = 37.44
- H-Index (Google Scholar) = 33, Number of citations: 3505 (January 10, 2022)
- **4** books
- **238** scientific articles
- Many scientific communications.

Livres

1. **Glele Kakaï R.** (2010). Règles de classement et taux d'erreur en analyse discriminante. E.E.U., Allemagne.
2. **Glele Kakaï R.,** Sodjinou E., Fonton H. N. (2006). Conditions d'application des méthodes statistiques paramétriques. Bibliothèque Nationale, Bénin.
3. **Glele Kakaï R.,** Palm R., Kokode G. (2005). L'analyse discriminante décisionnelle : aspects théoriques et applications sur ordinateur. Bibliothèque Nationale, Bénin.
4. **Glele Kakaï R.,** Kokode G. (2004). Techniques statistiques univariées et multivariées : applications sur ordinateurs. Bibliothèque Nationale, Bénin.

Scientific papers

2022

238. F.J. Chadare, M. Affonfere, E. Sacla Aide, F.K. Fassinou, K.V. Salako, K. Pereko, B. Deme, P. Failler, **R. Glèlè Kakaï**, A.E. Assogbadjo (2022). Current state of nutrition in West Africa and projections to 2030. *Global Food Security* 32 (2022). 100602.

2021

237. G. Hounsou-Dindin, R. Idohou, M. T. Donou Hounsode, A. C. Adomou, A. E. Assogbadjo, Romain Glèlè Kakaï (2021). Effects of seed provenance, pre-treatment and mass on germinability and seedling growth of *Balanites aegyptiaca* (L.) Delile and *Ricinodendron heudelotii* (Bail.) Pierre in Benin (West Africa). *Heliyon*, 7(12), E08540. DOI: https://doi.org/10.1016/j.heliyon.2021.e08540.

236. B. E. J. Assogbadjo, A. Hounkpevi, Y. S. S. Barima, G. C. Akabassi, E. A. Padonou, Y. C. S., A. E. Assogbadjo, **R. Glèlè Kakaï** (2021). Diversité et état de conservation des espèces ligneuses alimentaires à la périphérie de la Forêt Classée de la Lama (Bénin). *Int. J. Biol. Chem. Sci.* 15(6): 2456-2474.

235. G. Hounsou-Dindin, R. C. Gbedomon, K. V. Salako, A. C. Adomou, A. Assogbadjo, **R. Glèlè Kakaï** (2021). Use and socio-economic values of *Ricinodendron heudelotii* (Bail.) Pierre, a wild oil species in Benin. *International Journal of Biodiversity and Conservation*, 14(1), 14-25. DOI: 10.5897/IJBC2021.1526.

234. M. G. S. Zanvo, Y. S. S. Barima, K. V. Salako, K. A. N. Koua, M. A. Kolawole, A. E. Assogbadjo, **R. Glèlè Kakaï** (2021). Mapping spatio-temporal changes in mangroves cover and projection in 2050 of their future state in Benin. Bois et Forts des Tropiques, 350 : 29-42. Doi : https://doi.org/10.19182/bft2021.350.a36828

233. J A Atanasso1, K V Salako, S Mensah, R J Tohoun, B A Djossa, **R Glèlè Kakaï**, A E Assogbadjo (2021). Spatial distribution patterns of *Afzelia africana* (Fabaceae – Detarioideae) in a tropical savanna of Benin: implications for management. *Plant Ecology and Evolution* 154(3): 362–375. https://doi.org/10.5091/plecevo.2021.1713.

232. R M. Aguégué, S A. Assogba, H A. A. Salami1, A D. Koda, N A. Agbodjato, O Amogou1, H Sina, K. V Salako, N R. Ahoyo Adjovi, G Dagbénonbakin, **R Glèlè Kakaï**, A Adjanohoun, L Baba-Moussa (2021). Organic Fertilizer Based on *Rhizophagus intraradices*: Valorization in a Farming Environment for Maize in the South, Center and North of Benin. *Front. Sustain. Food Syst.* 5: 605610. doi: 10.3389/fsufs.2021.605610.

231. Tchandao Magamana E., **Glèlè Kakaï R.**, Qannary E. M. (2021). A general strategy for setting up supervised methods of multiblock data analysis. *Chemometrics and Intelligent Laboratory Systems*. 217(15). 104388. https://doi.org/10.1016/j.chemolab.2021.104388.

230. Odounharo R. G. O., Gnansounou S. C., Salako K. V., Idohou R., Mensah G. A., **Glèlè Kakaï R.**, Assogbadjo A. E. (2021). Medicinal use patterns of *Parkia biglobosa* (Jacq.) Benth. and *Vitellaria paradoxa* (Gaertn. F), two important traditional agroforestry species in Benin, West-Africa. *Advances in Traditional Medicine*. DOI: 10.1007/s13596-021-00583-6.

229. Sinsin Corine B. L., Salako K. V., Fandohan A. B., Zanvo M. G. S., Kouassi K. E., **Glèlè Kakaï R.** (2021). Pattern of seedling emergence and early growth in *Avicennia germinans* and *Rhizophora racemosa* along an experimental salinity gradient. *African Journal of ecology*. DOI: 10.1111/aje.12889.

228. Atanasso J. A., Mensah S., Salako KV, Tohoun R J., **Glèlè Kakaï R.**, Assogbadjo AE (2021). Factors affecting survival of seedling of *Afzelia africana*, a threatened tropical timber species in West Africa. *Tropical Ecology* DOI: 10.1007/s42965-021-00160-7.

227. Kouato O. G., Houndonougbo V. P., Orounladji B. M., Chabi Adjobo M. A., **Glèlè Kakaï R.** (2021). Comparative analysis of quantitative phenotypic parameters of Djallonke and hybrid (Djallonke × Sahelian) goats in Benin. *Journal of Animal & Plant Sciences* 47(2): 8472-8483.

226. Lokonon B.E., Sodoté F E., Simbo D., **Glèlè Kakaï R.** (2021). Use of local knowledge for contributing to the conservation of *Caesalpinia bonduc* (L.) Roxb in southern Benin (West Africa). *Global Ecology and Conservation*, 27, e01551. DOI: 10.1016/j.gecco.2021.e01551.

225. Dayou, E. D., Zokpodo, K. L. B., Atidegla, C. S., Dahou, M. N., Ajav, E. A., Bamgboye, A. I., & **Glèlè Kakaï, R.** (2021**)**. Analysis of the use of tractors in different poles of agricultural development in Benin Republic. *Heliyon*, *7*(2), e06145.

224. Dayou, E.D., Zokpodo, K.L.B., Dahou, N.M., Bamgboye, A.I., Ajav, E.A. & **Glèlè Kakaï, R.** (2021). Overview of the use of pre-harvest equipment and typology of tractor users in benin republic. Annales des sciences agronomiques, Vol 24-2: 109-119,

223. Sabo P., Ouédraogo A., Gbemavo D. S. J. C., Salako K. V., **Glèlè Kakaï R.** (2021). Land use impacts on *Boswellia dalzielii* Hutch., an African frankincense tree in Burkina Faso. Bois et Forêts des Tropiques, 349: 51- 63.

222. Wabi, M.A., Vanhove, W., Idohou, R., Hounkpèvi, H., **Glèlè Kakaï, R.** & Van Damme, P. (2021). Risques agro-météorologiques et production du riz pluvial (Oryza spp.) au Bénin (Afrique de l'Ouest). *Sciences de la vie, de la terre et agronomie*, *9*(2).

221. Aguégué, M.R., Ahoyo Adjovi, N.R., Agbodjato, N.A., Noumavo, P.A., Assogba, S., Salami, H., Salako, V.K., Ramón, R., Baba-Moussa, F., Adjanohoun, A. and **Glele Kakaï, R.** (2021). Efficacy of Native Strains of Arbuscular Mycorrhizal Fungi on Maize Productivity on Ferralitic Soil in Benin. *Agricultural Research*, pp.1-15.

220. Sinsin, C.B.L., Salako, K.V., Fandohan, A.B., Kouassi E.K., Sinsin B.A., **Glèlè Kakaï, R.** (2021). Potential climate change induced modifications in mangrove ecosystems: a case study in Benin, West Africa. *Environ Dev Sustain* (2021). https://doi.org/10.1007/s10668-021-01639-y

219. Amogou, O., P. Noumavo, A., A. Agbodjato, N., Sina, H., Dagbénonbakin, G., Y. Adoko, M., K. Salako, V., **Glèlè Kakaï, R**., Adjanohoun, A., and Baba-Moussa, L. (2021). Rhizobacterial inoculation in combination with mineral fertilizer improves maize growth and yield in poor ferruginous soil in center of Benin. *BioTechnologia*, 102(2),

218. Lokossou R.S., Akouèhou G.S., Akponikpè I.P.B., Davakan R., **Glèlè Kakaï R.**, Ganglo J. (2021). Integrated Soil Fertility Management to Address Food Security and Enhance Forest Ecosystems Sustainability in "Trois Rivières" Forest Reserves (Benin, West Africa). In: Ksibi M. et al. (eds) Recent Advances in Environmental Science from the Euro-Mediterranean and Surrounding Regions (2nd Edition). EMCEI 2019. *Environmental Science and Engineering*. Springer, Cham. https://doi.org/10.1007/978-3-030-51210-1_189.

217. Gnansounou, C.S., Toyi, M., Salako, K.V., Ahossou, D.O., Akpona T.J., Gbedomon, R.C., and **Glèlè Kakaï, R.** (2021). Local uses of mangrove and perceived impacts of their degradation in Grand-Popo Municipality, a hotspot of mangrove in Benin, West Africa." *Trees, Forests and People*, 4: 100080. DOI: **10.1016/j.tfp.2021.100080.**

216. Zanvo, M.S., Salako, K.V., Gnanglè, C., Mensah, S., Assogbadjo, A.E. and **Glèlè Kakaï, R.** (2021). Impacts of harvesting intensity on tree taxonomic diversity, structural diversity, population structure, and stability in a West African mangrove forest. *Wetlands Ecology and Management* 29: 433–450.

215. Tovissodé, C. F., Diop, A., & Glèlè Kakaï, R. (2021). Inference in skew generalized t-link models for clustered binary outcome via a parameter-expanded EM algorithm. *Plos one*, *16*(4), e0249604.

214. Tovissodé C.F., Doumatè J.T., **Glèlè Kakaï R.** (2021). A Hybrid Modeling Technique of Epidemic Outbreaks with Application to COVID-19 Dynamics in West Africa. *Biology*, *10*, 365. https://doi.org/10.3390/biology10050365.

213. Lokonon, B. E., Sodoté, F. E., Simbo, D., & **Glèlè Kakaï, R.** (2021). Use of local knowledge for contributing to the conservation of *Caesalpinia bonduc* (L.) Roxb in southern Benin (West Africa). *Global Ecology and Conservation*, e01551.

212. Gnanvi J., Salako V. K., Kotanmi B., **Glèlè Kakaï R.** (2021). On the reliability of predictions on Covid-19 dynamics: a systematic and critical review of modelling techniques. *Infectious disease modeling*, 6: 258-272.

211. Tovissodé, C.F., Honfo, S.H. and Doumatè, J.T., **Glèlè Kakaï, R.** (2021). On the Discretization of Continuous Probability Distributions Using a Probabilistic Rounding Mechanism. *Mathematics*, 555 (9). https://doi.org/10.3390/math9050555.

210. Dayou ED, Zokpodo KLB, Montcho M., **Glèlè Kakaï R.** (2021). Design, fabrication and assessment of direct seeder in Benin Republic. *AgricEngInt: CIGR Journal* 23(1): 138:137.

209. Dayou, E. D., Zokpodo, B. K. L., Dahou, N. M., Atidegla, C. S., Ajav, E. A., Bamgboye, I. A., & **Glèlè Kakaï, R.** (2021). Current status of agricultural cooperatives among the various users of agricultural machinery in Benin Republic. *Bulletin de la Recherche Agronomique du Bénin* (BRAB), 30(1).

2020

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COMPUTER SKILL

Word Processing: Microsoft office (Word, Excel, PowerPoint, FrontPage, Access).
Statistical Software: R, SAS, Minitab, SPSS, STATISTICA, GENSTAT.
Statistical Language: R, SAS, MATLAB, MINITAB.

LANGUAGE SKILLS

Language	Writing	Speaking	Listening
English	2	2	2
French	4	4	4

1 = Fairly good; 2 = Good; 3 = Very good; 4 = Excellent.

Professor Romain Glèlè Kakaï