

Maxime Descartes Mbogning Fonkou, PhD

Research & data analyst · Founder, CognosX.

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I turn publication, patent and funding records into evidence people can act on. Ten years of research across Cameroon, France and Canada, from clinical microbiology labs to bibliometrics, patent analytics and data tools. French (native) · English (professional) · Bamileke languages (native).

35 bacterial species described **40** publications **10** years of research in Cameroon, France and Canada

EXPERIENCE

2024–present	Founder and research-intelligence consultant — CognosX Inc., Burnaby, BC Publication, patent and funding analytics; dashboards and data tools; public writing on science data.
2025–2026	Postdoctoral fellow, preprints and peer review — ScholCommLab, Simon Fraser University, Burnaby, BC Global preprint dataset, preprint-server identification framework, open peer review.
2023–2024	Postdoctoral visitor, bibliometrics and data analysis — York University, Department of Mathematics and Statistics, Toronto, ON Phage-therapy patent landscape; dashboards; trained students in bibliometrics and systematic reviews.
2021–2023	Postdoctoral researcher, Clinicobiome programme — Gustave Roussy (INSERM U1015), Villejuif, France Managed a bacterial biobank and microbiome data; co-author in Science (2023) and Cancer Discovery (2022).
2018–2020	Research and development scientist, culture media — Culture Top / Eurobio Scientific (IHU spin-off), Marseille, France Rapid culture media for hard-to-grow pathogens; stability testing for CE marking; patent watch.
2016–2018	PhD researcher, human pathology and infectious diseases — IHU Méditerranée Infection, Aix-Marseille Université, Marseille, France Culturomics and metagenomics of the respiratory microbiota; new-species descriptions.
2014–2015	Field investigator, then supervisor of investigators — National AIDS Control Committee & World Bank, Cameroon Programmatic mapping to inform HIV programme design.
2013–2015	Teaching assistant and lecturer — FMSB Université de Yaoundé I, Université Bengono Touré Geneviève, École des Métiers de la Santé, Université Évangélique du Cameroun, Cameroon Practical microbiology, laboratory techniques and research methodology.

SELECTED WORK

- **Mapping the global patent landscape of phage therapy.** First-author article in Nature Biotechnology (December 2024), with all code public.
- **A harmonised global dataset of preprints, 1990–2025.** 7,905,699 harvested records reduced to 7,332,492 parent records from 109 servers; dataset paper in preparation for Quantitative Science Studies.
- **Open access and research inequalities in Africa.** Manuscript in preparation. Open articles tended to be more cited, and international collaboration drove access.
- **Immune-checkpoint therapy patent intelligence.** CognosX report (February 2024) covering 3,320 patents, 9,309 inventors, 2,090 applicants and 34 countries, plus a public dashboard.
- **COVID-19 research in Africa: output, collaboration and leadership.** First-author article in IJERPH (2021), with the full dataset shared openly.
- **Exploring the human respiratory microbiota.** 35 new bacterial species described, including 5 new genera; PhD defended in November 2018.

SKILLS

Research intelligence: Bibliometrics & scientometrics, Patent analytics, Systematic & scoping reviews, Technology watch

Data & code: Python (pandas, Jupyter), Scholarly APIs (OpenAlex, Crossref, DataCite, Unpaywall), Dashboards (Dash, Plotly, Streamlit), NLP & text mining (LDA, TF-IDF, NER), SQL & PostgreSQL, R & statistics

Life sciences: Microbiology & culturomics, Clinical laboratory testing, Public-health field surveys

Working with people: Teaching & mentoring, Scientific writing, Bilingual communication

TRANSFERABLE EXPERIENCE

Client service under pressure (Pre-board screening officer, GardaWorld, Toronto (2024–2025)); Person-centred care (Personal support worker placement, Reikai Centre – Wellesley Central Place, Toronto (2025)); Safety & infection control (WHMIS, First Aid/CPR C, GPA dementia care; hospital bio-cleaning, Elixir (2018)); Teamwork in fast kitchens (Kitchen team, Grand Hôtel Roi René, Aix-en-Provence (2017–2018)); Explaining technical things by phone (Smart-meter appointment setting, Marseille (2019)); Community health organising (Blood-donation drives, FECADOBES volunteer, Cameroon (2012–2016)).

EDUCATION

2021	Designing and managing data-science projects (intensive programme) — Campus Numérique in the Alps, Grenoble
2020	Master 2, Scientific and Technical Information – Technology Watch & Innovation — Aix-Marseille Université
2018	PhD, Human Pathology – Infectious Diseases — Aix-Marseille Université
2017	CESU Biostatistics & Research Methodology — Aix-Marseille Université
2014	MSc Biomedical Sciences, Medical Bacteriology & Virology (Mention Bien) — Université de Yaoundé I, Faculty of Medicine and Biomedical Sciences
2012	BSc Biomedical Sciences, Clinical Biology (Mention Bien) — Université de Yaoundé I, Faculty of Medicine and Biomedical Sciences

SELECTED PUBLICATIONS

- **Mbogning Fonkou MD** et al. (2024). Leveraging machine learning and big data techniques to map the global patent landscape of phage therapy. *Nature Biotechnology*.
- **Mbogning Fonkou MD** et al. (2024). Phage Therapy: Leveraging Machine Learning and Big Data techniques to Unveil the Evolution, Innovations, and Global Landscape in the Fight Against Antibiotic Resistance. *Research Square*.
- **Mbogning Fonkou MD** et al. (2021). COVID-19 pandemic related research in Africa: bibliometric analysis of scholarly output, collaborations and scientific leadership. *International Journal of Environmental Research and Public Health*.
- Fidelle et al., incl. **Mbogning Fonkou MD** (2023). A microbiota-modulated checkpoint directs immunosuppressive intestinal T cells into cancers. *Science*.
- Han et al., incl. **Mbogning Fonkou MD** (2024). The determinants of COVID-19 case reporting across Africa. *Frontiers in Public Health*.

Full list: descartesmbogning.github.io/publications · LinkedIn · GitHub · Google Scholar · ORCID · CognosX Insights

RECENT CERTIFICATES

Personal Support Worker — PSW DE (National Association of Career Colleges, 2025), Worker Health and Safety Awareness in 4 Steps (Ontario Ministry of Labour, 2025), Standard First Aid & CPR/AED Level C (valid to February 2028) (Canadian Red Cross, through Toronto First Aid, 2025), Generative AI for Data Scientists Specialization (IBM, 2024), Generative AI for Data Analysts Specialization (IBM, 2024), Generative AI Fundamentals Specialization (IBM, 2024).