



openAIR
AFRICAN INNOVATION RESEARCH

Regulation for Innovation

Supporting Sustainable
Development Goals

2023–2024 Annual Report

The Open African Innovation Research (Open AIR) network is focused on research, stakeholder engagement, and knowledge mobilisation on pathways to sustainable development through open collaborative innovation. We aim to develop better understanding of African innovation contexts; to foster better laws, policies and regulations; and to support better practice.

In 2023-24, we commenced our **Regulation for Innovation programme**, which is focused on fostering: improved African participation in policy processes influencing regulation of knowledge for innovation; improved African national utilisation of limits and flexibilities provided in existing regulatory instruments; and alternative, openness-oriented models of innovation that can operate outside regulatory constraints. We also continued our **Inclusive Biomedical Innovation project**, which is a sub-project under the broader Regulation for Innovation programme. This project is exploring how intellectual property rights, technology transfer, and gene sequence data access and benefit sharing can be governed and managed in ways that provide more equitable access to health technologies. Additionally, in support of the forward-looking aspects of both initiatives just mentioned, we convened the **Signposting to Future Scenarios workshop**. At the workshop, which took the form of a retreat, nearly two dozen participants examined key trends, challenges, and unforeseen developments that have shaped African innovation and knowledge governance over the past decade, and also sought to identify the main phenomena likely to shape the next decade.

Open AIR's work continues to be aligned to nine themes, comprising five clusters and four lenses:

- Clusters: high technology hubs; informal innovation; traditional knowledge and Indigenous entrepreneurs; innovation metrics; and laws and policies
- Lenses: economic integration, international law, and trade policy; gender equality and empowerment of women and girls; artificial intelligence (AI); and the maker movement

The findings of Open AIR studies are used to develop working papers, policy briefs, research publications (including journal articles, books and book chapters), and improved theoretical models. In addition, several Open AIR network members serve, in their various areas of expertise, as consultants in support of representation of African interests, and have representation in inter-governmental and government fora, as well as in academic circles. Open AIR also has a proactive online presence, through its website (featuring materials published on an open access basis) and active social media channels.

The network builds the capacity of early-career researchers through the activities of its New and Emerging Researchers Group (NERG), which includes provision of Fellowships to Master's and PhD students, and Post-Doctoral fellows, who participate in Open AIR's research, engagement, and knowledge mobilisation activities.

Photographs in this report were supplied by Open AIR network members and affiliates, Ihsaan Haffejee, Farm Design and Go Trolley Films.

Designed and typeset: Elsabe Gelderblom of Farm Design – <https://www.farmdesign.co.za>



This report is licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence. To view a copy of the licence, visit: <https://creativecommons.org/licenses/by/4.0>

Open AIR is carried out with financial support from the International Development Research Centre (IDRC), the Social Sciences and Humanities Research Council of Canada (SSHRC), the Government of Canada's New Frontiers in Research Fund (NFRF), and the Universities Canada Queen Elizabeth Scholars – Advanced Scholars (QES-AS) programme. The views expressed herein do not necessarily represent those of Open AIR's funders. We acknowledge the support of the Government of Canada's New Frontiers in Research Fund (NFRF), [NFRFR-2022-00498].

Contents

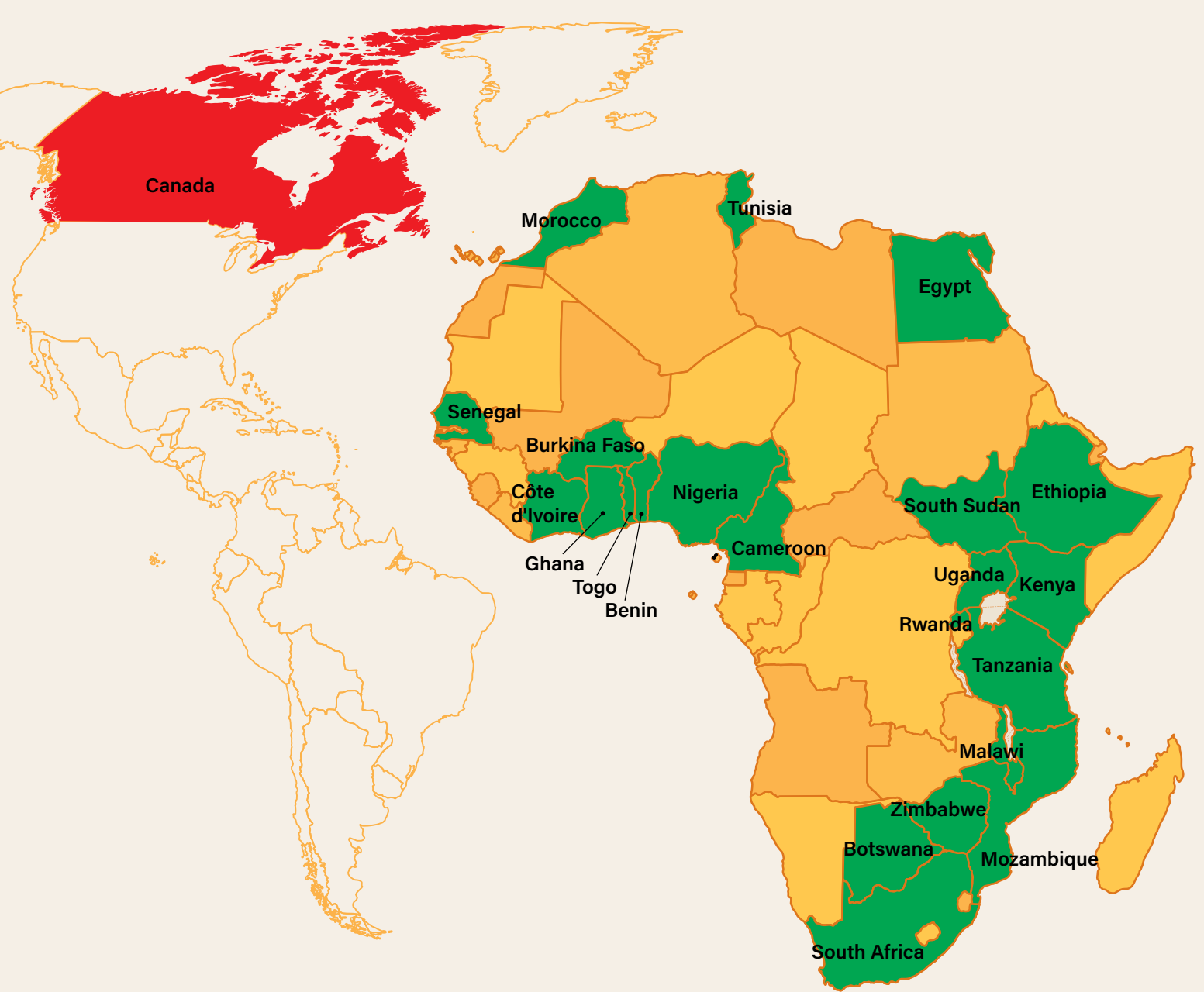
About Open AIR	4
Governance, management and funding	7
Steering Committee and hubs	7
Management	7
Steering Committee members	10
Funding	12
Participating research chairs	14
Awards and recognition	16
Research, engagement, and knowledge mobilisation	18
Themes	18
Research design and methods	20
Core activities, 2023-24	22
Regulation for Innovation programme	23
Inclusive Biomedical Innovation project	26
Core outputs, 2023-24	27
Rapid-response interventions	28
On-the-ground field-building studies	32
Momentum-catalyst events	34
Signposting to Future Scenarios workshop	38
Talent development	40
NERGs	40
NERG achievements	42
Recent NERG alumni: Where are they now?	44
Online presence	46
Website and social media	46
Video channel	47
Selected outputs by theme	48
High technology hubs	48
Informal innovation	50
Traditional knowledge and Indigenous entrepreneurs	52
Innovation metrics	54
Laws and policies	56
Economic integration, international law, and trade policy	58
Gender equality and empowerment of women and girls	60
Artificial intelligence (AI)	62
The maker movement	64
Books and book chapters	66
Books	66
Book chapters	68



About Open AIR

Open African Innovation Research (Open AIR) is a multidisciplinary network of researchers in more than 20 African countries, Canada, and beyond. We research, engage stakeholders on, and mobilise knowledge on, practical and policy-legal-regulatory dimensions of open collaborative innovation, innovation scaling, inclusive innovation, and knowledge governance that supports innovation. Open AIR has six hub institutions—in Cairo, Lagos/Abuja, Nairobi, Cape Town, Johannesburg and Ottawa—and connects roughly 150 experts working across disciplines and continents. The network has a presence in Anglophone, Francophone and Lusophone Africa.

Since our establishment, Open AIR's research and engagement activities have focused on generating insights into the balance between control over, and access to, knowledge. We aim to solve a problem at the heart of intellectual property (IP) and innovation policy: how to reconcile tensions between appropriation and access, between excluding and sharing, and between competing and collaborating. In pursuit of this goal and this aim, we have explored and documented the ways in which African innovators and knowledge-based enterprises are able to capitalise on open collaborative approaches to innovation and knowledge governance.



Our current overarching research and engagement programme, **Regulation for Innovation**, explores how multi-level, networked regulations can foster innovation for more inclusive and sustainable development in lower-income countries.

Open AIR has developed, and is embedded in, a broad, international **community of practice** composed of entities and individuals sharing Open AIR's focus on fostering inclusive knowledge governance, open collaborative innovation, and regulation of innovation in support of development. This community of practice, which is a **network of networks**, allows for mutually beneficial research and policy engagement partnerships, for knowledge co-creation, and for intensive global dissemination of our research findings. Through its community of practice, Open AIR is fostering greater recognition of the innovation and knowledge governance modalities present in African settings, of Africa's role in the global knowledge economy, and of the need for African interests and perspectives to be mainstreamed in forums where norms for innovation regulation are negotiated.



Governance, management and funding

Steering Committee and hubs

Open AIR's governance is provided by its Steering Committee, composed of leading academics at its **six hub institutions**:

- Access to Knowledge for Development Center (A2K4D), School of Business, The American University in Cairo (AUC)
- Nigerian Institute of Advanced Legal Studies (NIALS), Lagos and Abuja
- Centre for Intellectual Property and Information Technology Law (CIPIT), Strathmore University, Nairobi
- Intellectual Property Unit, Faculty of Law, University of Cape Town (UCT)
- Trilateral Research Chair in Transformative Innovation, College of Business and Economics, University of Johannesburg (UJ)
- Centre for Law, Technology and Society (CLTS), Faculty of Law, University of Ottawa (uOttawa)

The Steering Committee provides guidance to project management on expenditure; planning, monitoring, evaluation and learning (PMEL); priorities for research and knowledge mobilisation; alignment of research ethics protocols across the hubs; and appointment of members of the New and Emerging Researchers (NERG) group. The Steering Committee members also conduct research; supervise Master's, PhD and Postdoctoral students in the NERG programme; lead engagement with policy and practical stakeholders; and mobilise knowledge through conference and seminar presentations, blogs, and publications (books, book chapters, journal articles, reports, briefing/working papers, policy briefs).

Management

Project management and administration are led by Dr. **Yvonne Ndelle**, who serves as Open AIR Program Manager and a Research Fellow based at the network's Ottawa hub: the Centre for Law, Technology and Society (CLTS), Faculty of Law, uOttawa. For management and administration of certain research and NERG support monies, responsibility is devolved to other hubs.



Nigerian Institute of Advanced Legal Studies



Strathmore University

Centre for Intellectual Property and Information Technology Law



ipunit
UNIVERSITY OF CAPE TOWN
INTELLECTUAL PROPERTY UNIT

SARCHI
TRANSFORMATIVE
INNOVATION, 4IR
AND SUSTAINABLE
DEVELOPMENT



uOttawa

CENTRE DE RECHERCHE EN
**droit, technologie
et société**
CENTRE FOR
**Law, Technology
and Society**







Steering Committee members

Open AIR's Steering Committee members, based at our institutional hubs, are as follows:



Prof. **Chidi Oguamanam**, of uOttawa's CLTS, holds the University Research Chair in Sustainable Bio-Innovation, Indigenous Knowledge Systems and Global Knowledge Governance—and remains one of the foremost legal authorities in these domains. Oguamanam also leads the Access and Benefit Sharing Canada (ABS Canada) project at uOttawa, and participates as a legal expert in the work of WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC).



Also a member of uOttawa's CLTS, Prof. **Jeremy de Beer**, is a globally recognised authority on intellectual property, technology innovation, and international trade and development. In addition to his influential scholarly outputs, de Beer continues to contribute to non-academic forums—in Canada to the Supreme Court of Canada and Parliamentarians in the Senate and House of Commons, and internationally at UN and other intergovernmental forums.



Prof. **Caroline Ncube** holds the DST/NRF SARChI Research Chair in Intellectual Property, Innovation and Development in the UCT Department of Commercial Law. The work of this Chair is influential in both scholarly and policy circles. Ncube participates in, among other forums, the work of the WIPO Standing Committee on Copyright and Related Rights (SCCR) and AU negotiations on the AfCFTA IP Protocol and its implementation annexes.



Also at UCT, Dr. **Tobias Schonwetter** is Director of the Law Faculty's IP Unit and its iNtaka Centre for Law and Technology. Schonwetter is a prominent participant in African and South African policy engagement processes, including South Africa's protracted Copyright Act amendment process. The IP Unit has a Memorandum of Understanding with the African Regional Intellectual Property Organisation (ARIPO), the Harare-based intergovernmental body with 20 Member States in Anglophone and Lusophone Africa.



At the University of Johannesburg's College of Business and Economics, Prof. **Erika Kraemer-Mbula** holds the DST/NRF SARChI Trilateral Chair in Transformative Innovation, the 4th Industrial Revolution and Sustainable Development. Kraemer-Mbula is an internationally renowned expert on innovation systems, and her Chair's trilateral structure includes the African Centre for Technology Studies (ACTS) in Nairobi and the Science Policy Research Unit (SPRU) at Sussex University. Kraemer-Mbula plays a leadership role in the Globelics and Afrilics scholarly networks



At Open AIR's East Africa hub at Strathmore University in Nairobi, Dr. **Melissa Omino** directs the Centre for Intellectual Property and Information Technology Law (CIPIT). Omino brings specific expertise on IP and access to medicines, as well as on issues of digital copyright, AI, and related information technology matters. Among other things, Omino oversees the work of CIPIT's Data Governance Centre, represents CIPIT in the Digital Trade Alliance, and has done extensive research into the negotiations, ongoing since 2020, towards a US-Kenya free trade agreement.



Prof. **Nagla Rizk** is Founder and Director of the Access to Knowledge for Development Center (A2K4D) in the School of Business at The American University in Cairo (AUC). Rizk is an influential voice on numerous economic and innovation matters at global, Egyptian, and Middle East and North Africa (MENA) levels. A2K4D serves as the MENA Observatory on Responsible AI and MENA hub for the Feminist AI Research Project (f(a+r) Project). Rizk's recent foci have also included innovation metrics, and—through A2K4D's participation in the international Fairwork project—labour standards in the gig economy.

The Steering Committee also has three ex officio members, all of whom are profiled later in this report:

- Dr. **Yvonne Ndelle**, Open AIR Program Manager
- **Caroline Wanjiru Muchiri**, New and Emerging Researchers Group (NERG) Lead
- **Damola Adediji**, NERG Deputy Lead

Funding

Core funding

Open AIR's **core funding partners** in 2023-24 were:

- International Development Research Centre (IDRC)
- Social Sciences and Humanities Research Council of Canada (SSHRC)
- Government of Canada's New Frontiers in Research Fund (NFRF)
- Universities Canada Queen Elizabeth Scholars – Advanced Scholars (QES-AS) programme

The table below provides the timeframe, funder, project/purpose, Canadian Dollar (CAD) amount, and grant number for the contributions by these four core funders.

Year(s)	Primary source Project / Purpose	Amount (CAD)	Grant No.
2024	International Development Research Centre (IDRC): <i>Signposting to Future Scenarios</i>	64,500	109875-002
2023–26	IDRC: <i>Regulation for Innovation Supporting SDGs</i>	1,918,700	IDRC 109930-001
2024	Social Sciences and Humanities Research Council of Canada (SSHRC): Partnership Grant – Stage 1: <i>Canada-Africa Partnership on IP for Climate Action</i>	20,000 (refereed)	895-2024-0072
2023–24	SSHRC: Impact Award	50,000 (refereed)	782-2023-0002
2015–24	SSHRC: Partnership Grant	2,499,999 (refereed)	895-2015-1017
2023–25	New Frontiers in Research Fund (NFRF): <i>Knowledge Governance Strategies for Inclusive and Sustainable African Innovation</i>	500,000 (refereed)	NFRFR-2022-00498
2021–25	Universities Canada Queen Elizabeth Scholars - Advanced Scholars (QES-AS): <i>Canadian Queen Elizabeth II Diamond Jubilee Scholarships – Advanced Scholars – West Africa</i>	293,225.48 (refereed)	N/A

Open AIR Progresses to Stage 2 in SSHRC's 2024 Partnership Grants Competition

Open AIR advanced to Stage 2 of the SSHRC 2024 Partnership Grants competition. Only 25% of applicants successfully advanced past Stage 1, underscoring the strength of Open AIR's proposal, the "Canada–Africa Partnership (CAP) on Intellectual Property for Climate Action". If awarded a Partnership Grant, the CAP on IP for Climate Action would focus on addressing IP barriers in order to help drive inclusive clean technology innovation in support of UN Sustainable Development Goal (SDG) 13: "Take urgent action to combat climate change and its impacts". This initiative would reflect Open AIR's commitment to tackling urgent global challenges through innovative and collaborative approaches.

Through the project, Open AIR would investigate and address IP challenges in three ways: working within regulatory frameworks; developing strategies to work around constraints; and exploring innovative models that operate despite current IP barriers. The research would engage diverse stakeholders, including policymakers, innovators, and academics, to co-create actionable solutions for equitable access to clean technologies.

Regardless of whether or not this funding application is ultimately successful, Open AIR remains committed to pursuing research at the intersections of IP and climate action.



Conseil de recherches
en sciences humaines
du Canada

Social Sciences and
Humanities Research
Council of Canada



Government
of Canada Gouvernement
du Canada

Open AIR is supported in part by funding from the
Government of Canada's New Frontiers in Research Fund (NFRF)



Co-funding

Substantial **co-funding** is brought into the project through the Open AIR hubs and through individual researchers and their home institutions. For example, Open AIR's Cape Town hub, the IP Unit in the UCT Faculty of Law, is a consortium member, on behalf of Open AIR, in the **African European Maker Innovation Ecosystem (mAKE) Project**, <https://makeafricaeu.org>, which is funded by EU Horizon 2020. The mAKE Project, which commenced in 2022 and wraps up in 2025, is supporting the work of, and interactions between, African and European hardware-focused Digital Innovation Hubs (DIHs) and makerspaces. Through its involvement in the mAKE project, Open AIR is able to continue to broaden its work, begun in 2016, in exploring the activities of African maker communities (see page 64 for outputs in Open AIR's "the maker movement" thematic area).



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 101016858.

Another co-funding example is the **Digital SkillShare Project**, funded by the Bill and Melinda Gates Foundation (BMGF) and driven by Open AIR institutional collaborator the **LINK Centre, University of the Witwatersrand (Wits), Johannesburg**, <https://www.wits.ac.za/linkcentre>. The project is researching, and advising on, strategic and programmatic challenges, identified by the BMGF, related to African digital transformation. Through the LINK Centre, Open AIR participates in selected research activities of the project.



Such co-funding enlarges the scope of the research in which Open AIR is involved and helps to build the stature of the hubs and institutional collaborators as leading research institutions within their own countries and globally.

Participating research chairs

Five members of the Open AIR team hold prestigious research chairs, thus greatly enhancing the network's institutional capacity.



Open AIR Steering Committee member Prof. **Erika Kraemer-Mbula** holds the DSI/NRF SARCHI Trilateral Research Chair in Transformative Innovation, the 4th Industrial Revolution and Sustainable Development in the College of Business and Economics, University of Johannesburg. <https://bit.ly/41nMtZi>



SOUTH AFRICAN RESEARCH CHAIR:

Intellectual Property, Innovation and Development

Open AIR Steering Committee member Prof. **Caroline Ncube** holds the DST/NRF SARCHI Research Chair in Intellectual Property, Innovation and Development in the Department of Commercial Law, University of Cape Town. <https://law.uct.ac.za/ip-chair>





Open AIR Steering Committee member Prof. **Chidi Oguamanam** holds the University Research Chair in Sustainable Bio-Innovation, Indigenous Knowledge Systems and Global Knowledge Governance in the Faculty of Law, University of Ottawa. <https://bit.ly/3D4UAQC>



Open AIR's Dr. **Florian Martin-Bariteau** holds the University Research Chair in Technology and Society and is Director of the Centre for Law, Technology and Society (Open AIR's Ottawa hub) in the Faculty of Law, University of Ottawa. <https://bit.ly/3DsHsol>



Open AIR researcher Dr. **Teshager Dagne** holds the Ontario Research Chair in Governing Artificial Intelligence in the School of Public Policy and Administration, York University, Toronto. <https://profiles.laps.yorku.ca/profiles/tdagne>



Awards and recognition



In 2023, **Open AIR** won a SSHRC Partnership Award as part of SSHRC's annual Impact Awards programme. <https://bit.ly/3OH0fyF>



In 2023, **'Damola Adediji** was awarded a scholarship from the University of Ottawa Faculty of Law's Katherine Lippel Special Fund for Graduate Studies in Law. <https://bit.ly/41kfpz>

In 2023, **Nagla Rizk** received The American University in Cairo Center for Learning and Teaching (CLT) Award for 20 years of Celebrating Teaching and Learning Excellence and Innovation. <https://bit.ly/3Vo1B5g>





In 2024, **Jeremy de Beer** was elected to the Royal Society of Canada. <https://bit.ly/4ikkW16>



In 2024, **Caroline Ncube** was honoured by the South African Department of Science and Innovation (DSI) as one of the country's Distinguished Women Researchers: Humanities and Social Science. <https://bit.ly/4fVU6e7>
Video: <https://bit.ly/4iiKvj9>



In 2023, **Florian Martin-Bariteau** was awarded the University of Ottawa's Early Career Researcher of the Year Award in the category of Humanities, Social Sciences, Fine Arts and Literature. <https://bit.ly/49B0THR>



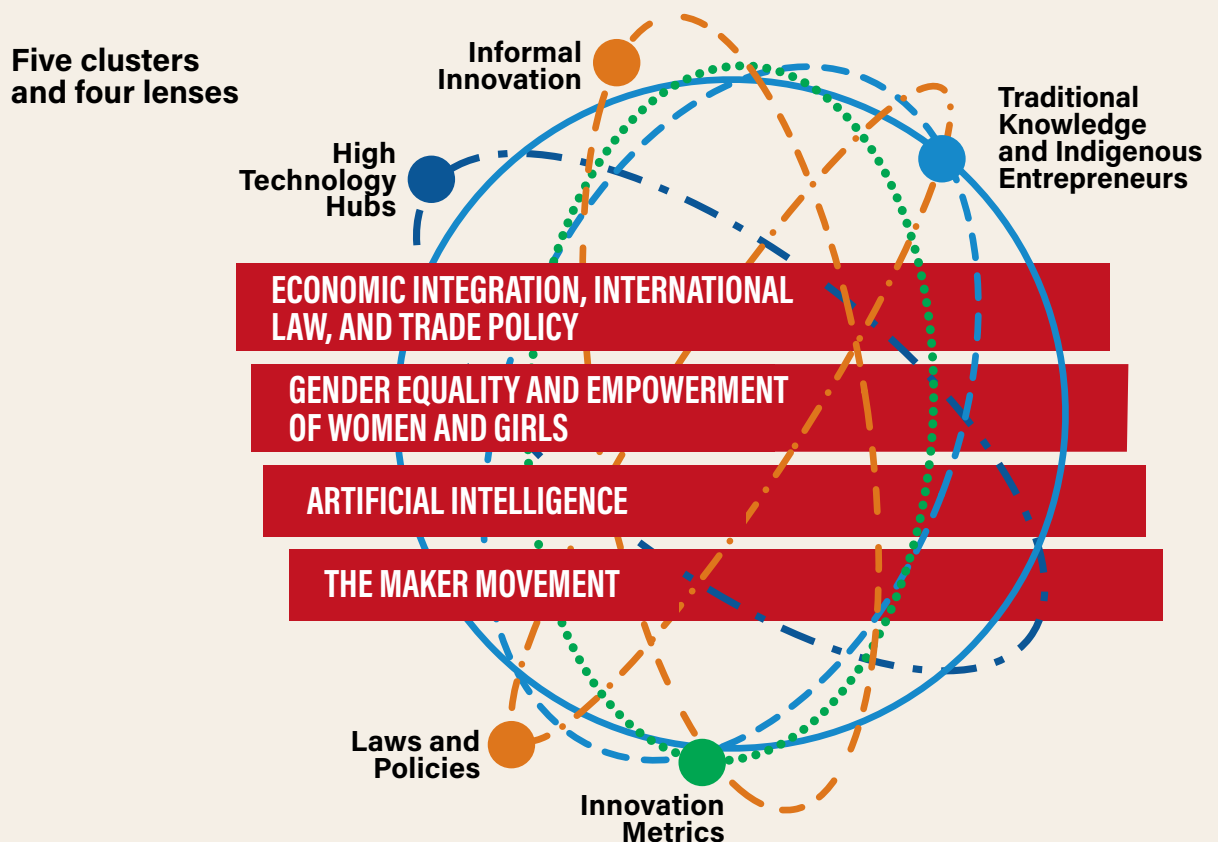
In 2024, **Chijioke Okorie** received the University of Pretoria's Exceptional Young Researcher Award and a certificate in recognition of her South African National Research Foundation (NRF) C2 rating. <https://bit.ly/3Dvelkg>

Research, engagement, and knowledge mobilisation

Themes

Open AIR’s research, stakeholder engagement, and knowledge mobilisation activities have, since the network’s inception, focused on matters of **open collaborative innovation**. In 2013, based on the findings of a two-year foresight research exercise—as published by Open AIR in the volume *Knowledge and Innovation in Africa: Scenarios for the Future*,¹ it was decided to research, engage stakeholders, and mobilise knowledge in **five thematic clusters**:

- high technology hubs
- informal innovation
- traditional knowledge and Indigenous entrepreneurs
- innovation metrics
- laws and policies



1 Open AIR. (2013). *Knowledge and Innovation in Africa: Scenarios for the Future*. <https://bit.ly/3JolHFx>

In 2018, based on the research findings, engagements, and knowledge mobilisations that emerged in these five clusters, and based on the emerging trends in the African and global innovation landscapes, we added **four cross-cutting thematic lenses**, which intersect with the clusters:

- economic integration, international law, and trade policy
- gender equality and empowerment of women and girls
- artificial intelligence (AI)
- the maker movement

These nine themes continued, in 2023-24, to inform Open AIR’s research, stakeholder engagement, and knowledge mobilisation—as becomes apparent in this report’s documentation of “Core outputs, 2023-24” (see page 27), in its nine “Selected outputs by theme” sections (starting on page 48), and in its listing of books and book chapters for which Open AIR researchers served as editors or authors (starting on page 66).



Research design and methods

Open AIR currently deploys three core research designs, all focused on generating qualitative findings:

- **Desktop doctrinal studies:** Research that examines policy, legal and regulatory instruments/regimes, or provides background and contextual elements for the empirical case studies. The outputs from these studies—e.g., briefing papers/notes, draft texts—are published on an open access basis.
- **Empirical case studies:** Research that explores initiatives/activities intersecting with regulation for innovation, with data collected via semi-structured interviews and/or focus group discussions (FGDs) with key informants. Where possible, researchers also make note of the descriptive dimensions of the case study settings. The case study findings are published on an open access basis.
- **Knowledge co-production action-research studies:** Research, incorporating action-research elements, in which researchers from Open AIR and Open AIR’s community of practice collaborate with policy-legal-regulatory stakeholders in knowledge co-production FGDs. These FGDs focus on development of proposed ways forward in response to pressing regulation-for-innovation challenges. In line with action-research principles, these FGDs blur the traditional boundary between researchers and research subjects, with the Open AIR researchers and policy-legal-regulatory stakeholders engaging collaboratively, on an equal footing, in knowledge co-production. The outputs from these knowledge co-production studies are published on an open access basis.

The findings generated by the research designs and methods described above allow Open AIR and our individual researchers to engage in:

- **situational analysis** via interconnected, empirical case studies
- **theory-building**, including grounded theory-building
- **policy design and testing**

Open AIR researchers’ case studies address research questions at the **situational** level, i.e., where the units of analysis are neither micro nor macro, but are instead located at the intersection of actors and forces that shape innovation situations. This approach enables our researchers to engage with numerous methods within the various sub-studies, for example, literature reviews, internet-based data mining, social network analysis, key informant interviews/FGDs, and surveys.





Open AIR’s **theory-building** work takes many forms, with conceptual models developed through:

- scoping reviews (drawing on literature and engagement with experts), such as the review published in 2022 as *Regulation for Innovation: Conceptualising a Development Research Agenda for Inclusive and Sustainable Economies in Lower-Income Countries*;²
- grounded theory-building, in which new conceptual models are based on the network’s on-the-ground research observations, e.g., as published in the 2014 Open AIR book *Innovation and Intellectual Property: Collaborative Dynamics in Africa*;³
- fusions of literature review and grounded theory-building, e.g., the scaling research that resulted in Open AIR’s 2020 *Scaling Innovation* report;⁴ and
- in the case of the research that generated Open AIR’s 2013 *Knowledge and Innovation in Africa: Scenarios for the Future* publication,⁵ a fusion of scoping review, grounded-theory building, and foresight data collection.

The **policy design and testing** have consisted of using empirical case study evidence and theoretical frameworks to inform the development and design of recommendations to different countries’ policymakers and influential stakeholders.

2 de Beer, J., Ncube, C., Oguamanam, C., Rizk, N., & Schonwetter, T. (2022). *Regulation for Innovation: Conceptualising a Development Research Agenda for Inclusive and Sustainable Economies in Lower-Income Countries*. <https://bit.ly/3Ml1Hpp>

3 de Beer, J., Armstrong, C., Oguamanam, C., Schonwetter, T., (Eds.). (2014). *Innovation and Intellectual Property: Collaborative Dynamics in Africa*. UCT Press, with UCT IP Unit and GIZ. <https://bit.ly/3yEtIXK>

4 Open AIR. (2020). *Scaling Innovation: How Open Collaborative Models Help Scale Africa’s Knowledge-Based Enterprises*. <https://bit.ly/ScalingInnovation2020>

5 Open AIR. (2013). *Knowledge and Innovation in Africa: Scenarios for the Future*. <https://bit.ly/3JolHFx>

Core activities, 2023-24

Open AIR's two core initiatives in 2023-24 were as follows:

1. Regulation for Innovation programme

Open AIR commenced delivery of a programme of research, stakeholder engagement and knowledge mobilisation entitled "Regulation for Innovation Supporting Sustainable Development Goals". This programme, funded by the International Development Research Centre (IDRC) through a grant to Open AIR's Cape Town hub at the University of Cape Town, runs through to 2026. The programme is grounded in the findings of a 2021-22 Open AIR scoping study that probed matters of innovation regulation in relation to: health and vaccines; data and technology governance; and trade and the environment. (That scoping study's findings were published in 2022 as *Regulation for Innovation: Conceptualising a Development Research Agenda for Inclusive and Sustainable Economies in Lower-Income Countries*.⁶)



2. Inclusive Biomedical Innovation project

Open AIR continued delivery of this sub-project, under the umbrella of the broader Regulation for Innovation programme, entitled "Open Opportunities for Globally Inclusive Biomedical Innovation". This work is funded by a Government of Canada New Frontiers in Research Fund (NFRF) grant to Open AIR's Ottawa hub at the University Ottawa for an initiative under the theme of Knowledge Governance Strategies for Inclusive and Sustainable African Innovation. The project continues in 2025.



Open AIR is supported in part by funding from the Government of Canada's New Frontiers in Research Fund (NFRF)



6 de Beer, J., Ncube, C. B., Oguamanam, C., Rizk, N., & Schonwetter, T. (2022). *Regulation for Innovation: Conceptualising a Development Research Agenda for Inclusive and Sustainable Economies in Lower-Income Countries*. Open AIR. <https://bit.ly/3MI1Hpp>

Core
activity

1

Regulation for Innovation programme

This programme's overarching research question is: How can multi-level, networked regulations foster innovation for more inclusive and sustainable development in lower-income countries? The programme comprises policy-focused activities focused on encouraging more inclusive and sustainable knowledge governance. Global knowledge governance is the system of legal rules, economic policies, and socio-cultural norms that regulate innovation in the 21st century knowledge economy. Inequities in access to COVID-19 vaccines, partly attributable to international intellectual property laws and policy, are a symptom of deeper problems in the regulatory systems that incentivise or inhibit innovation. Improved regulation of, and for, innovation is needed in order to generate the solutions necessary to achieve several of the UN Sustainable Development Goals (SDGs). These necessary solutions include: improved access to vaccines and essential medicines; development and deployment of clean technologies for climate action and environmental sustainability; digital and data-driven agriculture for food security; and equitable access to research materials for quality education and other development outcomes.

Deliverables

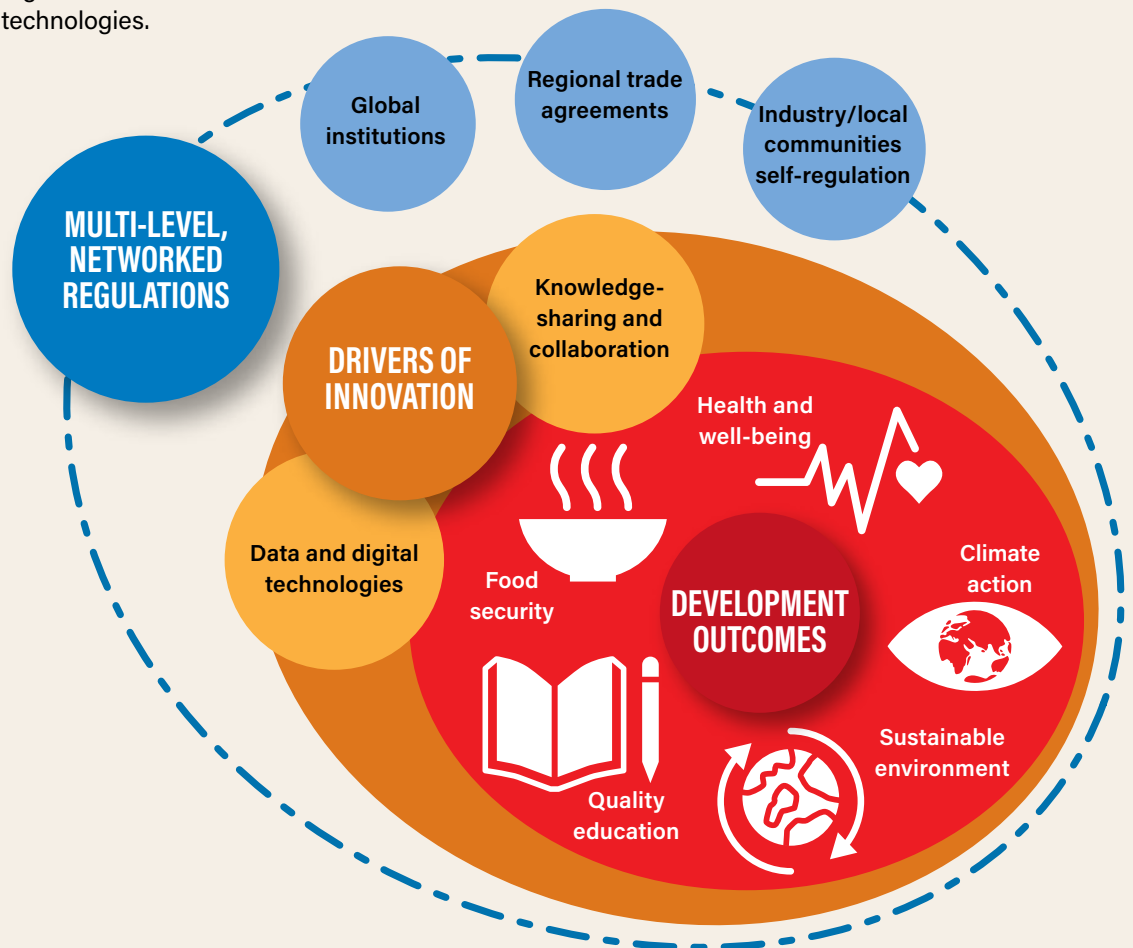
The programme comprises three clusters of deliverables:

- **Rapid-response interventions:** Strategic interventions to impact policy, legal and regulatory norm-setting, including: taking a seat at the table where new rules are being set; embedding experts into negotiations to support teams from low-income countries; producing user-friendly policy briefs and text proposals; hosting side events linked to negotiations; and convening knowledge co-production action-research focus group discussions (FGDs) that bring together Open AIR researchers and policy-legal-regulatory stakeholders.
- **On-the-ground field-building studies:** Empirical case studies to ensure that insights brought "up" to policymakers are relevant and practical.
- **Momentum-catalyst events:** Participation in, and/or co-hosting of, events that bring together Open AIR researchers and policy-legal-regulatory stakeholders to determine opportunities and priorities via, inter alia, knowledge co-production action-research FGDs.

Conceptual model

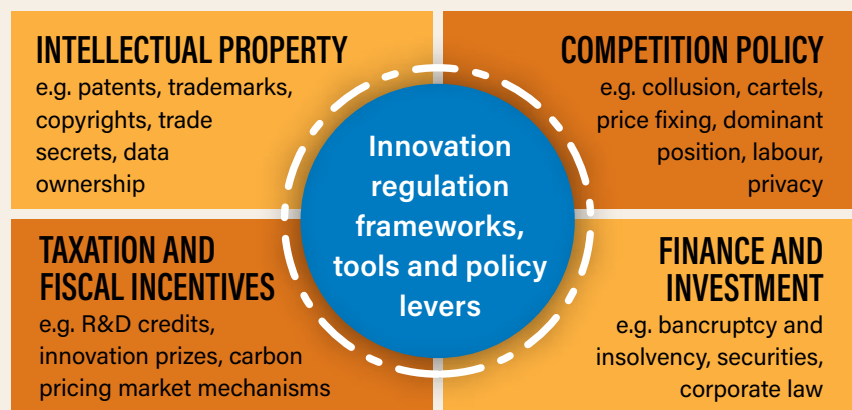
The Regulation for Innovation programme’s conceptual model revolves around “development outcomes”, which are linked to UN Sustainable Development Goals (SDGs). Regulation in support of these outcomes is being formulated at global, regional, and local levels (“multi-level, networked regulations”). Impacting on both the regulations and the development outcomes are “drivers of innovation”, with two of the key drivers being:

- knowledge-sharing and collaboration; and
- data and digital technologies.



Approach to regulation

The Regulation for Innovation initiative focuses on intersections amongst a range of regulatory frameworks, tools, and policy levers that impact innovation, in four quadrants: intellectual property; competition policy; taxation and fiscal incentives; and finance and investment.



Developmental vision

The developmental vision guiding our Regulation for Innovation programme activities is a vision of accelerated progress towards achievement of UN SDGs, in particular the SDGs targeting **health and well-being, food security, quality education, clean energy, and climate action**. Based on this vision, we are engaging with stakeholders and processes at African continental, regional and national levels, at the global multilateral level, and at the Canada-Africa bilateral level.

REGULATION FOR INNOVATION SUPPORTING SUSTAINABLE DEVELOPMENT GOALS



African
continental/
regional/
national levels



Global
multilateral/
Canada-Africa
bilateral levels





Inclusive Biomedical Innovation project

The full name of this project, which is a sub-project of the broader Regulation for Innovation programme discussed above, is **“Open Opportunities for Globally Inclusive Biomedical Innovation”**, and its sub-title is “Intellectual property rights, technology transfer, and gene sequence data access and benefit sharing to promote more equitable access to health technologies”.

Open AIR was awarded the grant for this work by the Government of Canada’s New Frontiers in Research Fund (NFRF) through a special NFRF call for research in support of post-pandemic recovery. The funding allows Open AIR to expand on our field-leading research that seeks to alleviate socio-economic inequalities on the African continent and around the world by challenging inequitable access to knowledge rooted in outmoded governance systems.

In 2013, Open AIR published foresight research⁷ anticipating a future shaped by shocks like a catastrophic global pandemic. During the intervening 12 years, we have posited that open innovation, free from patent roadblocks, can promote equitable access to knowledge-based technologies including vaccines to fight known and new diseases alike.

Open AIR’s insights on innovative solutions in the face of a pandemic were a decade ahead of their time. As the COVID-19 pandemic swept across the globe, models that we had drawn attention to were put into use to vaccinate huge sections of the world’s population. But the African continent still bore the brunt of vaccine inequity during the pandemic. These inequities must be addressed, and publicly funded science partnerships with the private sector and civil society offer hope for mRNA-based vaccines for malaria and even cancer, not to mention new pandemics. While multilateral institutions cannot be revamped overnight, Open AIR seeks to concretely improve key aspects of international intellectual property law and policymaking. Africa is the project’s focal point for transformational change, and the two core objectives are:

- to inject fresh ideas into real-time negotiations
- to boost the strategic capacity of African participants in negotiations

We are seeking to achieve these objectives by translating Open AIR’s body of scholarly research into economic policy proposals and law reform recommendations. We are seeking to drive change through identifying win-win scenarios, preparing briefs, suggesting text, holding side-events, and engaging in knowledge co-production with stakeholders linked to negotiations. We are seeking opportunities for selective interventions at pivotal moments on three levels:

- multilateral institutions, including UN and related agencies
- regional fora for economic integration
- bilateral opportunities between Canada and African countries

As with the overarching Regulation for Innovation programme under which this project falls, our deliverables in this project primarily take the form of: rapid-response interventions; on-the-ground field-building studies; and momentum-catalyst events.

⁷ Open AIR. (2013). *Knowledge and Innovation in Africa: Scenarios for the Future*. <https://bit.ly/3JolHFx>

Core outputs, 2023-24

As stated above, both the Regulation for Innovation programme and its Inclusive Biomedical Innovation sub-project are focused on three main types of deliverables. Examples of those deliverables are featured in the three sub-sections that begin on the next page:

1. Rapid-response interventions

2. On-the-ground field-building studies

3. Momentum-catalyst events

A fourth sub-section features another core Open AIR output in this reporting period:

- 4. The **Signposting to Future Scenarios workshop**, which was convened in support of the forward-looking aspects of both the Regulation for Innovation and Inclusive Biomedical Innovation initiatives.**

Rapid-response interventions

WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge

This treaty was adopted by WIPO Member States in May 2024 at the World Intellectual Property Organisation (WIPO) Diplomatic Conference on Genetic Resources and Associated Traditional Knowledge in Geneva. Open AIR Steering Committee member Prof. **Chidi Oguamanam** played an integral role in this conference and in pre-conference sessions through his participation in the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC). Oguamanam has been active in the work of the IGC, supporting the input of African stakeholders, since its establishment in 2000. Oguamanam's positioning allowed him to make several rapid-response interventions in 2023 and 2024, in the run-up to, during, and after the May 2024 Diplomatic Conference. The listing below sets out some online items, presentations and articles that provide Oguamanam's analyses of the points of intervention that he was part of—on behalf of uOttawa, Open AIR, and the Access and Benefit Sharing Canada (ABS Canada) project.



Oguamanam presents on the Treaty on IP, Genetic Resources and Associated Traditional Knowledge at an event convened by WIPO's Nigeria Office in Abuja.



Chidi Oguamanam (2023, February 22)

The 46th IGC, the 2024 Diplomatic Conference on Genetic Resources: Uncertain Times Ahead

Online at: <https://bit.ly/4dDzhmq>



Chidi Oguamanam (2023, June 8)
WIPO-IGC 47: Resetting IGC after 2024 Diplomatic Conference on Genetic Resources

Online at: <https://bit.ly/4dLIM4b>



Chidi Oguamanam (2023, September 3)
WIPO-IGC - Special Session on Genetic Resources and Preparatory Committee on the Diplomatic Conference on GRs: The Advent of the Political Process

Online at: <https://bit.ly/3AUwAPz>



Chidi Oguamanam (2024, May 24)
The New WIPO Genetic Resources and Associated Traditional Knowledge Treaty: A Symbolic and Modest Step Toward an Inclusive and Just IP System

Online at: <https://bit.ly/3BhuNnJ>



Chidi Oguamanam (2024, August 7)
Intellectual Property, Genetic Resources and Associated Traditional Knowledge - Implications for Africa

Presented to WIPO-WTO Colloquium for Intellectual Property Teachers and Researchers in Africa, University of Cape Town



Chidi Oguamanam (2024, August 14)

The WIPO Treaty on Genetic Resources and Associated Traditional Knowledge: Perspectives, Preparedness and Future

Presented to Roundtable Discussion on the WIPO Treaty on Genetic Resources and Associated Traditional Knowledge, hosted in Abuja by the WIPO Nigeria Office
Online at: <https://bit.ly/4eR1upK>



Chidi Oguamanam (2024, December 2)
WIPO IGC 48 & 49: Resumption of Negotiations After The GR-TK Treaty

Online at: <https://bit.ly/49s1f3h>

WIPO
Nigeria Office

Roundtable Discussion on the WIPO Treaty on Genetic Resources and Associated Traditional Knowledge

Speakers

Wend Wendland
Director, Traditional Knowledge Division, World Intellectual Property Organization (WIPO)

Chidi Oguamanam
Professor of Law & University Research Chair in Sustainable Bio-Innovation, Indigenous Knowledge Systems and Global Knowledge Governance, University of Ottawa, Canada

Date: Wednesday August 14, 2024 | Time: 1:00PM WAT
Join on bit.ly/WNO_Roundtable

African Continental Free Trade Area (AfCFTA) Agreement and its Protocols

Open AIR researchers continue to make rapid-response interventions in relation to AfCFTA Agreement and its Protocols. The listing below sets out some recent interventions.



Caroline B. Ncube, Titilayo Adebola and other panellists, with Chidi Oguamanam (discussant) (2024, February 27)

Toward TK/TCEs and Genetic Resources Subsidiary Protocol for AfCFTA: Positioning TK for Inclusive and Sustainable Innovation in Africa

Panel at Transforming Africa conference, convened by Trilateral Research Chair in Transformative Innovation, University of Johannesburg



Caroline B. Ncube (2024, June 27)

Building African Trade for Development: The Legislative Architecture of the AfCFTA

Presented to 2nd Afronomicslaw Academic Forum Conference



Chidi Oguamanam (2024, October 31)

Protocol on Intellectual Property Rights

Presentation to AfCFTA Brown Bag Webinar Series: Engage with the Future of African Trade
Online at: <https://bit.ly/3ZgEB9o>



WHO Pandemic Accord process

The World Health Organisation's (WHO's) Intergovernmental Negotiating Body (INB) has, since February 2022, been holding meetings aimed at developing the text of a proposed WHO Pandemic Accord. This Accord would aim to ensure equitable, cooperative international responses to future pandemics—including equitable approaches to sharing of intellectual property linked to life-saving innovations in vaccines/treatment, mitigation, and prevention measures. At the 77th World Health Assembly in May-June 2024, the INB's mandate was extended for a year, with its outcome to be submitted (at the latest) to the 78th World Health Assembly in May 2025. The table below sets out some of the Open AIR researchers' rapid-response interventions related to the WHO Pandemic Accord process.



One of the interventions was a desktop and doctrinal study by **Jeremy de Beer** and **Rosa De Koker** of the transition, in global health policymaking, from focus on a World Trade Organisation (WTO) "TRIPS waiver" on COVID-19 treatments and mitigation technologies to the current WHO Pandemic Accord process. The TRIPS waiver vehicle agreed by WTO Member States in 2022 was sub-optimal, thus providing impetus for efforts by the WHO to develop a Pandemic Accord. De Beer and De Koker interrogated this transition from the WTO process to the WHO process through the lens of negotiating positions taken, and statements made, by the Canadian government.



Chidi Oguamanam, Jeremy de Beer, and other presenters (2023, December 8)
Advancing Health Justice in a Turbulent World

Presentations to uOttawa symposium commemorating 75 years of the Universal Declaration of Human Rights and the World Health Organisation
Online at: <https://bit.ly/3BmslML>



Abdelhamid Benhmade, Jeremy de Beer, and co-authors (2023, December 14)
La santé avant la propriété intellectuelle
Online at: <https://bit.ly/4eZl81l>



Charlotte Galvani and Jeremy de Beer (2024, July 25)
2024 Global Health Security Conference Event
Online at: <https://bit.ly/3BiV2Ku>



Jeremy de Beer (2024, September 3)
Open Opportunities for Globally Inclusive Biomedical Innovation
Online at: <https://bit.ly/41ac08g>



Jeremy de Beer and Rosa De Koker (forthcoming)
Negotiation of New International Health Law on Intellectual Property, Technology Transfer, Open Science, and Pathogen Access and Benefit Sharing: A Textual and Contextual Analysis
Online at: <https://doi.org/10.1136/bmjph-2024-001467>



Rosa De Koker

Core outputs **2**

On-the-ground field-building studies

Open science and the Afrigen mRNA vaccine hub, Cape Town

In 2023-24, during the WHO INB processes working towards a Pandemic Accord, Open AIR researchers conducted a scoping exercise (resulting in an Open AIR Briefing Paper), followed by empirical data collection, on the open science approach to vaccine development as illustrated by the work of the Afrigen mRNA vaccine hub in Cape Town.

The key driver of the scoping study and the data collection from the Afrigen mRNA vaccine hub was Dr. **Omowamiwa Kolawole**, who is a Postdoctoral Fellow at the Dalla Lana School of Public Health, University of Toronto, and was previously a Postdoctoral Fellow at the DST/NRF SARCHI Research Chair in Intellectual Property, Innovation and Development in the Department of Commercial Law, University of Cape Town.



Omowamiwa Kolawole, Caroline B. Ncube, and Jeremy de Beer (2024, April)

Open Science, Intellectual Property and the South African mRNA Vaccine Hub

Open AIR Briefing Paper

Online at: <https://bit.ly/3Dbtszn>



Omowamiwa Kolawole



Governing Climate Innovation - Africa (GOCIA) studies

In 2024, Open AIR collaborated with University of Cambridge innovation experts on case studies aimed at identifying knowledge governance solutions suitable for inclusive sharing of benefits from African climate innovation. The project, entitled Governing Climate Innovation - Africa (GOCIA), aims to develop an intellectual property management "toolkit" tailored to African climate adaptation, and to generate evidence to inform African policy and regulatory reform on climate knowledge and innovation. With oversight from Open Steering Committee member Caroline Ncube at UCT, Open AIR's case studies under this initiative were conducted in three countries: in South Africa by Dr. **Desmond Oriakhogba** at the University of the Western Cape; in Uganda by Dr. **Anthony Kakooza** at Makerere University; and in Nigeria by Dr. **Titilayo Adebola** of the University of Aberdeen. The listing below provides details on research presentations by two of Open AIR's GOCIA case study researchers, Kakooza and Oriakhogba, in August 2024.



Desmond Oriakhogba



Anthony Kakooza



Titilayo Adebola



Anthony Kakooza (2024, August 6)

Climate Adaptation Innovation: IP Lessons from Uganda's National Agricultural Research Organization

Presented to WIPO-WTO Colloquium for Intellectual Property Teachers and Researchers in Africa, University of Cape Town



Desmond Oriakhogba (2024, August 9)

Governing Climate Adaptation Innovation in Africa - A South African Case Study

Presented to Second Intellectual Property Scholars Africa (IPSA) Conference, University of Cape Town



Core outputs **3**

Momentum-catalyst events

Transforming Africa conference, University of Johannesburg

Open AIR was among the core partners for the groundbreaking Transforming Africa conference that was convened in February 2024 by Open AIR’s Johannesburg hub: the DSI/NRF Trilateral Research Chair in Transformative Innovation, the 4IR, and Sustainable Development at the University of Johannesburg’s College of Business and Economics. Open AIR researchers from Canada, South Africa, Egypt, Nigeria, Uganda and Kenya participated. Through convening, moderating, and presenting at numerous panel discussions, Open AIR researchers engaged with government, private sector and civil society stakeholders to mobilise the network’s accumulated knowledge on, among other things, regulation of innovation, governance of climate innovation, the right to research, digital transformation, regulation of AI, and governance of Indigenous knowledge. Some of the key sessions that Open AIR was part of are listed below. Other sessions are detailed later in this report in the “Selected outputs by theme, 2023-24” section, which begins on page 48. Also highlighted below is the blog that Open AIR Egyptian researcher Khadiga Hassan wrote about the event.



Caroline Ncube (moderator), with panellists (2024)
Regulation for Inclusive Innovation



Lucienne Abrahams, with other panellists (2024)
Policy Frameworks for the Fourth Industrial Revolution: Navigating Digital Transformation in Africa



Dick Kawooya, Anthony Kakooza, Desmond O. Oriakhogba, Titilayo Adebola and Erika Kraemer-Mbula, with Caroline Ncube (chair) (2024)
GOCIA (Governing Climate Innovation - Africa)



Khadiga Hassan (2024)
Reliving the Transforming Africa: Innovating Our Way Towards Sustainability 2024 Conference.
Online at: <https://bit.ly/4cUfzlc>



Melissa Omino and Chidi Oguamanam, with other panellists (2024)
Copyright and the Right to Research for Innovation and Development in the 4IR



Khadiga Hassan



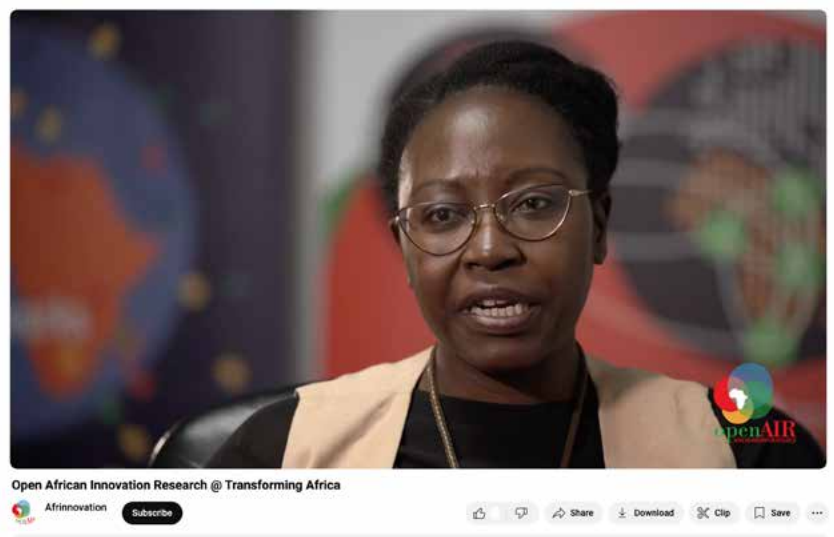
Open AIR's participation in the Transforming Africa conference is also highlighted in these two videos:

Open African Innovation Research @ Transforming Africa

Feature-length video (10:02)
<https://youtu.be/ljM4D0tEBuI>

Open African Innovation Research @ Transforming Africa

Trailer (3:11)
<https://youtu.be/h9MDn0XjVm8>



Transforming Africa: Innovating our way towards sustainability

26 - 29 February 2024
Johannesburg, South Africa

University of Johannesburg
DSI/NRF Trilateral Chair in Transformative Innovation, the 4IR and Sustainable Development.

science & innovation
Department
Science and Innovation
REPUBLIC OF SOUTH AFRICA

National
Research
Foundation

openAIR
AFRICAN INNOVATION RESEARCH

US
UNIVERSITY
OF SUSSEX

ATS
Knowledge the Better South Africa

SARCHI
South African
Research Chair in
Transformational
Innovation, 4IR
and Sustainable
Development

UNIVERSITY
OF JOHANNESBURG

WIPO-WTO Colloquium and IP Scholars Africa (IPSA) Conference, University of Cape Town

In August 2024, Open AIR's hub at the University of Cape Town hosted a four-day event comprising the three-day WIPO-WTO Colloquium for Intellectual Property Teachers and Researchers in Africa and the one-day Second Intellectual Property Scholars Africa (IPSA) Conference. The listings below highlight some of the presentations and panels, at the two events, involving Open AIR researchers.

WIPO-WTO Colloquium for Intellectual Property Teachers and Researchers in Africa



Teshager Dagne (2024)
Evaluating Geographical Indications in Africa: Challenges, Opportunities, and Strategic Implementations in a Tailored Legal Framework



Caroline B. Ncube (moderator), with Chidi Oguamanam, Tobias Schonwetter and other panellists (2024)
Innovation and Technology Adaptation in Africa



Tobias Schonwetter (moderator), with panellists (2024)
Patents: Current Issues and Recent Developments in Africa



Anthony Kakooza (2024)
Climate Adaptation Innovation: IP Lessons from Uganda's National Agricultural Research Organization



Fernando dos Santos (2024)
Challenges in the Development of Patent Systems in Africa



Bassem Awad (2024)
Climate Justice and Access to Environmentally Friendly Technologies in Africa



Teshager Dagne (2024)
Frontier Technologies and Digital Copyright and Related Rights: Issues and Developments in Africa



Caroline B. Ncube (2024)
The Economic, Trade Policy and Social Context for IP in African Countries



Desmond O. Oriakhogba (2024)
Intellectual Property Rights and Competition in the Digital Space in Africa



Caroline Wanjiru Muchiri (2024)
Politics of Knowledge Governance: Re-imagining the Contributions of Traditional Knowledge to Trade in Kenya





SOUTH AFRICAN RESEARCH CHAIR:
Intellectual Property,
Innovation and Development

COLLOQUIUM & CONFERENCE



Second Intellectual Property Scholars Africa (IPSA) Conference



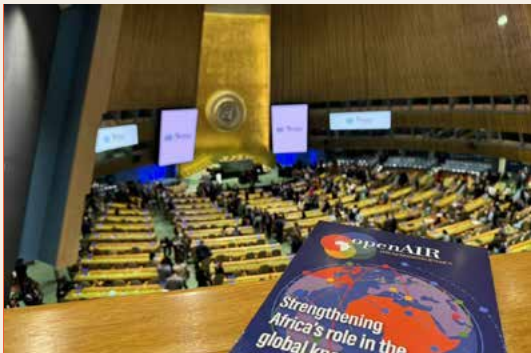
Desmond O. Oriakhogba (2024)
Governing Climate Adaptation Innovation in Africa - A South African Case Study



Chijioke Okorie (moderator), and panellists Chidi Oguamanam, Fernando dos Santos and Teshager Dagne (2024)
Charting the Future of Intellectual Property in Africa: From AI to Access to Medicines and Traditional Knowledge Two-page spread

Signposting to Future Scenarios workshop

This initiative, whose full name was “**Signposting to Future Scenarios: Reflections on Knowledge and Innovation in Africa**”, was conducted in support of the forward-looking elements of the two core 2023-24 Open AIR initiatives: the Regulation for Innovation programme and the Inclusive Biomedical Innovation project.



In September 2024, Open AIR representatives participated in the United Nations **Summit of the Future** in New York. This milestone event brought together world leaders, policymakers, and thought leaders to adopt the **Pact for the Future**, a forward-looking framework designed to reinvigorate multilateral cooperation. Key areas of focus included sustainable development, climate action, and digital cooperation, with significant implications for global governance. Open AIR's participation underscored its commitment to ensuring that African perspectives and priorities are embedded in global dialogues about innovation, technology, and development.

Building on insights gained from the UN Summit, Open AIR hosted the Signposting to Future Scenarios workshop in October 2024. Held at Wakefield Mill near Gatineau Park, Quebec, this three-day retreat convened a select group of nearly two dozen participants, including African and Canadian experts, members of the African diaspora, and other international stakeholders. The workshop revisited the scenarios first developed in Open AIR's 2013 report, *Knowledge and Innovation in Africa: Scenarios for the Future*,⁸ which outlined three plausible futures for Africa's innovation landscape by 2035.

The 2024 workshop offered a critical midpoint reflection on the original scenarios, analysing the drivers of change identified a decade earlier and assessing their relevance in the current context. Participants examined key trends, emerging challenges, and unforeseen developments that have shaped Africa's innovation and knowledge governance environment. The workshop aimed to identify pathways for navigating the next decade and to refine the foresight methodologies used in scenario development, incorporating intentional epistemic reflections into the process.

Discussions were organised around the following core objectives:

- evaluating the impact of the original scenarios
- analysing and validating the drivers of change
- identifying current trajectories and pathways to 2035
- recognising emerging opportunities and challenges
- addressing limits and gaps in the initial scenarios
- contributing to foresight methodology through innovative approaches

The workshop also explored critical areas such as the intersection of artificial intelligence, intellectual property, and sustainable development. Participants highlighted the growing importance of AI governance, data sovereignty, and the need for inclusive innovation systems

⁸ Open AIR. (2013). Knowledge and Innovation in Africa: Scenarios for the Future. <https://bit.ly/3JolHFx>



that address Africa’s unique challenges and opportunities. Specific attention was paid to the potential of open collaborative models to advance sustainable innovation in areas such as health, climate resilience, and digital transformation.

One of the most significant outcomes of the workshop was the reaffirmation of the value of foresight as a tool for shaping policy and strategic decision-making. Participants emphasised the importance of cultivating a “futures mindset”—an adaptive approach to navigating uncertainty and complexity. By using scenarios as a “living mental laboratory”, Open AIR demonstrated the potential of foresight to inform research agendas, bridge diverse stakeholder perspectives, and inspire innovative policy interventions.

The workshop’s findings will be documented in a forthcoming report, which will offer detailed analyses and actionable recommendations for policymakers, researchers, and development practitioners. This report aims to influence ongoing discussions around AI governance, innovation policy, and sustainable development, ensuring that African voices remain central to global dialogues.

Through its engagements at the UN Summit and the Wakefield workshop, Open AIR continues to lead efforts to advance inclusive knowledge governance and foster innovation ecosystems that are equitable, sustainable, and responsive to future challenges. These initiatives exemplify Open AIR’s commitment to bridging local and global perspectives, contributing to transformative change in Africa and beyond.

Talent development

Open AIR continues to attract promising new scholars and mentor them to become future leaders. The **New and Emerging Researchers Group (NERG)**, designed to build the capacity of current and future young researchers in Africa and Canada, is composed of undergraduates, graduate/Master's students, PhD students, postdocs, and research associates.

NERGs

The New and Emerging Researchers Group is a cornerstone of Open AIR's commitment to fostering the next generation of thought leaders in Africa, Canada, and beyond. With a growing community of 185 existing members and alumni, the "NERGs", as they are affectionately known, exemplify collaboration, mentorship, and innovation in action, serving as a dynamic platform where curiosity meets mentorship, and innovation flourishes. The NERG collective fosters a collaborative environment that bridges disciplines, geographies, and perspectives, while contributing to Open AIR's mission of advancing inclusive and impactful research. The NERG programme is structured to empower emerging researchers to ask critical questions, propose impactful solutions, and confidently take on leadership roles in their respective fields.

Through the rotating leadership of the NERG, the group nominates representatives to serve on the Open AIR Steering Committee. This ensures a direct line of communication between NERGS and Open AIR's leadership, fostering a feedback loop that benefits both parties. In 2023-24, **Caroline Wanjiru Muchiri**, a Kenyan intellectual property expert based in Nairobi, continued to serve as the NERG Lead and, accordingly, as an ex officio member of the Steering Committee. The NERG Deputy Lead was **'Damola Adediji** is a Nigerian national based in Ottawa and Toronto. Adediji is also an ex officio member of the Open AIR Steering Committee. (See profiles of Muchiri and Adediji below, under "NERG achievements.")

NERGs are located across the Open AIR network's hubs, and are engaged with research at various levels. NERG Fellows receive training and mentoring to develop their talents and to allow them to build lasting international and interdisciplinary relationships. This, in turn, positions them for immediate jobs and long-term career opportunities upon becoming NERG Alumni. NERGs are encouraged and supported to conduct their own original research, under the direction and mentorship of Steering Committee members and other collaborators, and they receive authorial credits on numerous publications.

Open AIR funding support from the **Universities Canada Queen Elizabeth Scholars - Advanced Scholars (QES-AS) programme**, which commenced in 2016, has supported 29 NERGs. With the QES-AS funding, Open AIR has been able to host NERGs at several Open AIR hubs (and to allow them to move between hubs), thus generating strong collegial bonds between emerging researchers from numerous African countries and Canada. QES-AS Fellows are required to participate in research data collection at a non-academic site as part of their Fellowships, which provides crucial fieldwork experience for NERGs and expands Open AIR's network of networks. During this reporting period, two of the completing QES-AS Postdoctoral Fellows were Dr. **Jane Ezirigwe** and Dr. **Yvonne Ndelle**. (See their profiles below, under "Recent NERG alumni: Where are they now?")



In 2024, Open AIR welcomed Dr. **Dennis Agelebe** as a new QES-AS Postdoctoral Fellow. Agelebe's research is focused on the legal and regulatory frameworks shaping the green energy transition and digital innovation within the Economic Community of West African States (ECOWAS). Agelebe leads a project called Digitalizing Energy Transition: Balancing Exclusivity with Inclusivity for Sustainability.

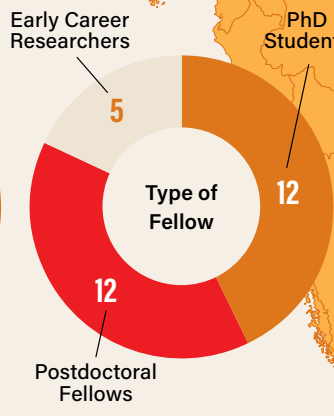
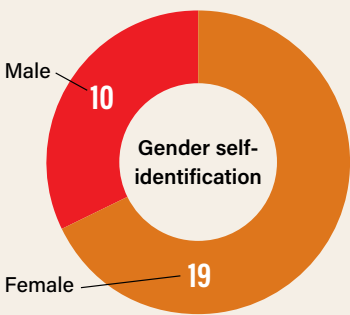
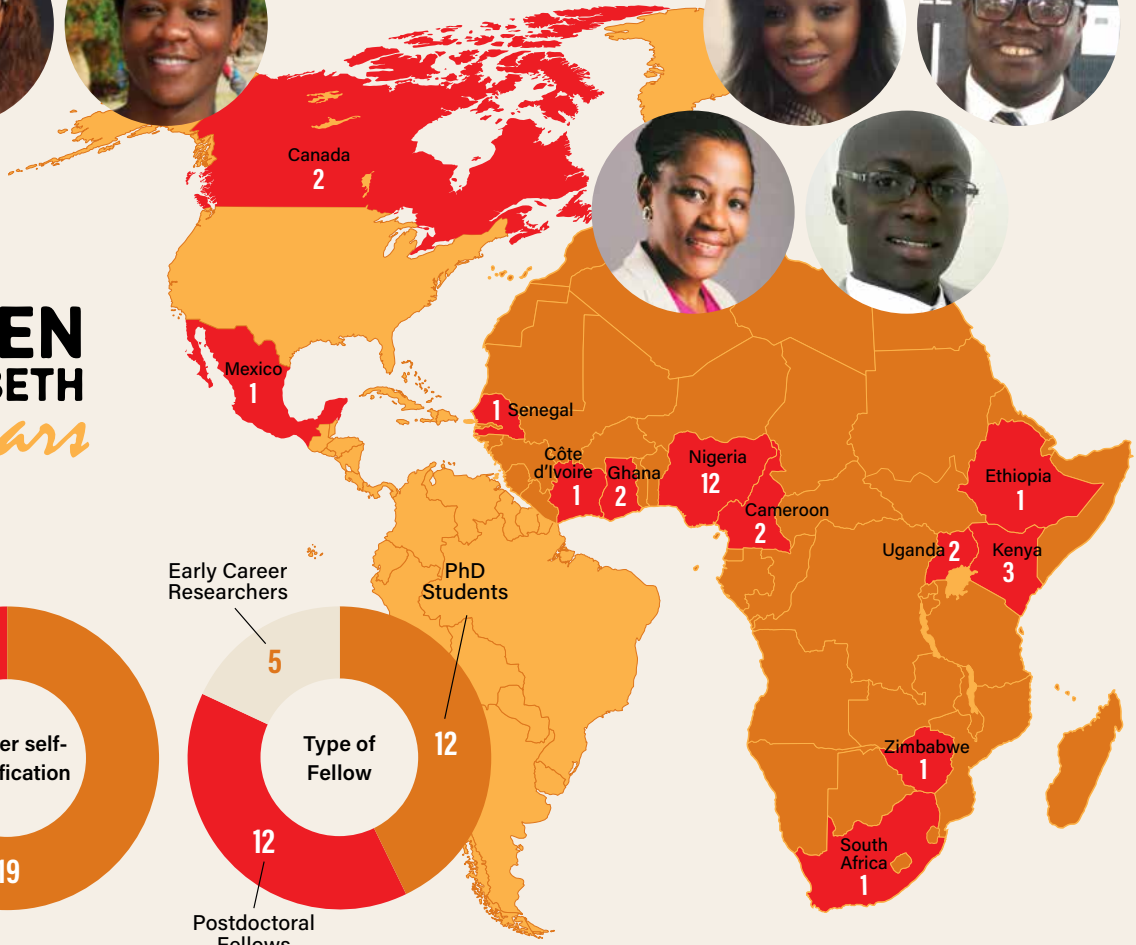


Dennis Agelebe

QES-AS Fellows since 2016



QUEEN ELIZABETH
Scholars



NERG achievements

The period 2023-24 saw many achievements by NERGs:



NERG Lead **Caroline Wanjiru Muchiri** continued her doctoral studies at the University of Pretoria School of Law, with research focused on the intersections of intellectual property, Indigenous knowledge, agriculture, and the law. In 2023, Muchiri participated in the Open AIR Strategic Retreat and the AI + Society International Conference on Shaping AI for Just Futures, which brought together scholars from around the globe in Ottawa. In 2024, Muchiri presented a research paper, "Politics of Knowledge Governance: Re-imagining the Contributions of Traditional Knowledge to Trade in Kenya", at the WIPO-WTO Colloquium for Intellectual Property Teachers and Researchers in Cape Town, and also participated in an Open AIR panel on innovation metrics at the Transforming Africa conference in Johannesburg.



NERG Deputy Lead **Damola Adediji** progressed towards completion of his PhD in Law at the University of Ottawa, and continued serving as a Visiting Scholar at York University's Osgoode Hall Law School in Toronto. In 2023, Adediji presented his research at the the Future of the Global IP System conference at the Peter A. Allard School of Law, University of British Columbia (UBC), Vancouver. In 2024, Adediji delivered a guest lecture, "TWAIL Reflections on Competition Law in Africa", at the University of Pretoria Faculty of Law; participated as a panellist in a SSHRC-funded symposium in Ottawa on the future of Canadian competition law; presented his ongoing doctoral research at Harvard Law School; and served as guest faculty at the Faculty of Law, University of Alberta, where he taught Consumer Protection and Advertising Law in Canada.



NERG **Ngonidzaishe Gatora**, who is a Research Assistant at the Research Chair in Intellectual Property, Innovation and Development in the University of Cape Town Faculty of Law, co-authored an article, "One (innovation) Flew Over the Law's Head: The Intersection of Artificial Intelligence and Copyright", in the *South African Intellectual Property Journal* in 2023. In 2024, Gatora presented his research at several conferences in Africa and Asia, and published an article, "Unmasking Deception: Deepfake Regulation in the Context of South African Law, Could a Rethinking of Performers' Protection Rights Be the Answer?" in the *International Journal of Law and Information Technology*.



NERG **Ghati Nyehita** is a Postdoctoral Research Fellow at the Research Chair in Intellectual Property, Innovation and Development in the University of Cape Town Faculty of Law. Nyehita's research focuses on the intersection of gender and IP law. The research examines the role of IP in shaping the landscape of social innovation and labour market integration for refugee women in South Africa. Among the research foci are the extent to which IP can support non-conventional creativity and innovation, and the potential for IP protection to help integrate refugee women into the innovation ecosystem.



NERG **Kow Abekah-Wonkyi** is a PhD student in Law at the University of Ottawa. Abekah-Wonkyi's doctoral research is entitled "The Collective Management of Online Musical Works in Ghana: Legal Framework, Opportunities, and Extra-Jurisdictional Lessons". In 2024, Abekah-Wonkyi participated in the Intellectual Property in Africa workshop at Harvard Law School, and in Open AIR's Signposting to Future Scenarios workshop. He co-authored a blog on that scenario-building retreat, "Reflections on Open AIR's Future Scenarios Building Workshop", with fellow NERG Alex Addisalem.



NERG **Alemshet (Alex) Addisalem** is pursuing a PhD in Law at the University of Ottawa. Addisalem's doctoral research examines the intersection of big data governance, privacy rights, and law in Africa, with a particular focus on the African Union. In 2024, Addisalem authored an Open AIR blog entitled "The State of AI-Driven Humanitarian Big Data Governance and Law in Africa", and co-authored another blog, "Reflections on Open AIR's Future Scenarios Building Workshop", with fellow NERG Kow Abekah-Wonkyi.



NERG **Clarence Lakpini** is a PhD candidate at the University of Ottawa. Lakpini's research focuses on the impact of patent law on Nigeria's solar energy sector, with an emphasis on applying distributive justice principles to promote equitable access to solar technology for sustainable development. In 2024, Lakpini presented his research at the Intellectual Property in Africa workshop at Harvard Law School.



Recent NERG alumni: Where are they now?



QES-AS NERG Alumnus Dr. **Yvonne Ndelle** is the Open AIR Program Manager and a Research Associate, based at the University of Ottawa hub. Ndelle's postdoctoral research examined the international governance of digital sequence information (DSI) for plant genetic resources and food, and the co-creation of value from DSI among stakeholders in the agri-food supply chain. In 2023, Ndelle presented findings from her research at the International Society for the History and Theory of Intellectual Property (ISHTIP) conference, held at the Buchmann Faculty of Law, Tel Aviv University. In 2024, Ndelle co-authored an Open AIR blog with Jeremy de Beer entitled "Strengthening Canada-Africa Relations: What Way Forward?"



QES-AS NERG Alumnus Dr. **Jane Ezirigwe** is an Associate Professor at the Nigerian Institute of Advanced Legal Studies (NIALS), which is Open AIR's West Africa hub. Ezirigwe is also a Postdoctoral Fellow at the Human Rights Research and Education Centre, University of Ottawa. Ezirigwe's postdoctoral research examined governance of agri-food data. In 2023, she participated in a panel entitled "Power Contestations in the Use of Agri-Food Data: Towards a Sustainability Governance Approach", at the Research Data Alliance's Improving Global Agricultural Data (IGAD) meeting hosted by the UN Food and Agriculture Organisation. In 2024, Ezirigwe co-authored a publication on the same topic with Jeremy de Beer and Chidi Oguamanam.



QES-AS NERG Alumnus Dr. **Chijioko Okorie** is currently an Assistant Professor at the University of Pretoria, where she founded, and leads, the Data Science Law Lab. The Lab produces research evidence and policy advice in support of growth in African data science research, development and application. In 2024, Okorie received the Exceptional Young Researcher Award from the University of Pretoria, in recognition of her achievements in research aimed at the advancement of science (See "Awards and recognition" on pages 16–17). Okorie also received a C2 rating from South Africa's National Research Foundation (NRF). C2-rated researchers are recognised as established experts with a proven record of achievements in their field.



QES-AS NERG Alumnus Dr. **Thomas Hervé Mboa Nkoudou** is currently a Researcher in Residence at the Centre d'Expertise International de Montréal en Intelligence Artificielle (CEIMIA). In 2024, Mboa Nkoudou contributed to the State of AI in Africa project at CEIMIA; participated as a panelist in the Bioinformatics Open Source Conference (BOSC) in Montreal; and co-authored a journal article, "Developing the OpenFlexure Microscope Towards Medical Use: Technical and Social Challenges of Developing Globally Accessible Hardware for Healthcare", which was published in *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*.



NERG and QES-AS Alumnus Dr. **Uchenna Felicia Ugwu** is currently working as a Policy Researcher at the Schwartz Reisman Institute for Technology and Society at the University of Toronto. Ugwu has also done work as a policy consultant for the UN Economic Commission for Africa (UNECA) Regional Integration and Trade Division (RITD).



QES-AS NERG Alumnus **Jake Okechukwu Effoduh** is currently an Assistant Professor at the Lincoln Alexander School of Law, Toronto Metropolitan University. In 2024, Okechukwu Effoduh published two journal articles: "Colonial Judicial Legacy as a Latent Challenge for the Adoption of Algorithmic Sentencing in African Courts", published in *Opinio Juris*; and "Africa's Energy Poverty in an Artificial Intelligence (AI) World: Struggle for Sustainable Development Goal 7", published in the *Journal of Sustainable Development, Law and Policy*.



QES-AS NERG Alumnus Dr. **Abdelhamid Benhmade** is currently a Part-time Assistant Professor in the School of International Development and Global Studies at the University of Ottawa. In 2023, Benhmade co-authored an op-ed with Jeremy de Beer and others, entitled "La santé avant la propriété intellectuelle", which was published by *La Presse* in Montreal. In 2024, Benhmade co-presented "Écosystèmes entrepreneuriaux des villes globales: Cas de Casablanca" to the 4eme Colloque International sur l'Écosystème Entrepreneurial, which was hosted by L'Institut supérieur de commerce et d'administration des entreprises (ISCAE) in Casablanca with l'Université de Sherbrooke and l'Association Marocaine de Gestion (AMG).



QES-AS NERG Alumnus Dr. **Desmond Oriakhogba** is an Associate Professor at the University of the Western Cape in Cape Town, specialising in IP Law, Competition Law, Law and Technology, Regional Trade Law, and Human Rights Law. In 2023-24, Oriakhogba had numerous publications, many of which are featured elsewhere in this report. In 2023, Oriakhogba authored a book, *The Right to Research in Africa: Exploring the Copyright and Human Rights Interface*, and co-authored another volume, with Ifeoluwa Olubiyi, entitled *Intellectual Property Law in Nigeria: Emerging Trends, Theories and Practice*.



QES-AS NERG Alumnus Dr. **Esther Ekong** is an Intellectual Property Examiner for Innovation, Science and Economic Development Canada, specifically at the Canadian Intellectual Property Office (CIPO). At CIPO, Ekong's work is focussed on examination of trademark applications. In February 2024, Ekong participated in the Transforming Africa conference convened by Open AIR's Johannesburg hub, the Trilateral Research Chair in Transformative Information at the University of Johannesburg.

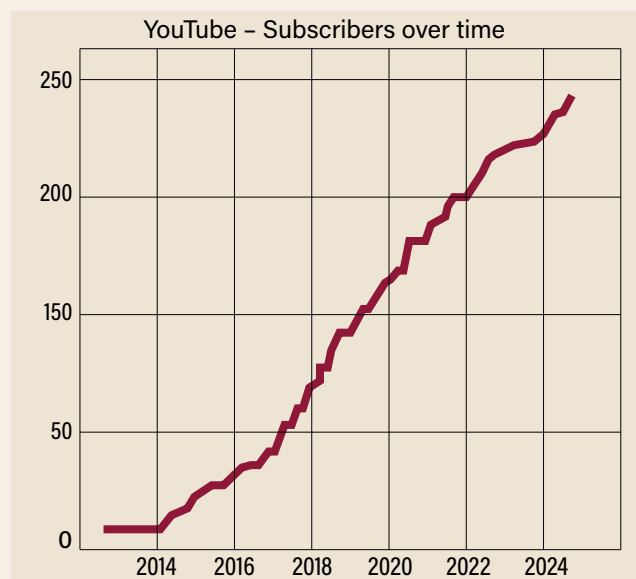
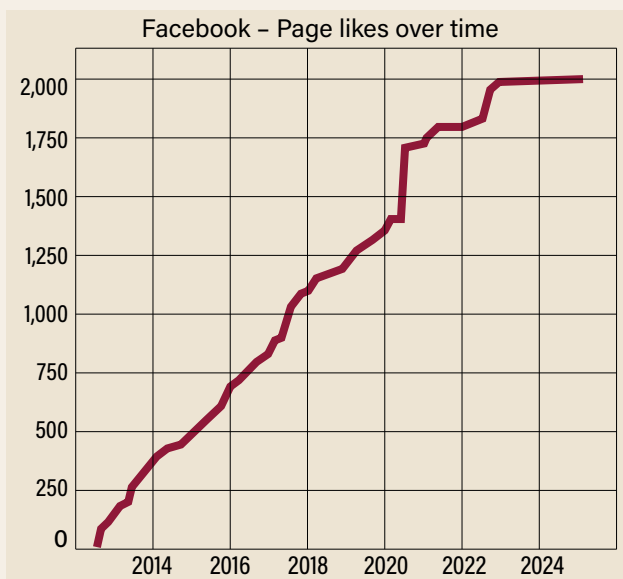
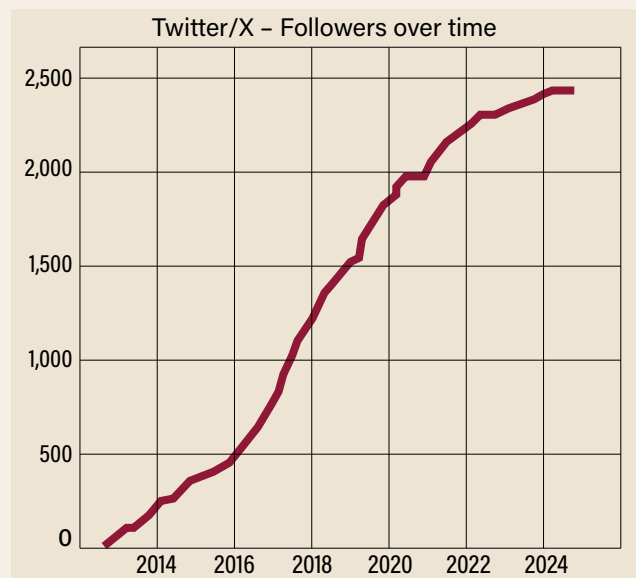
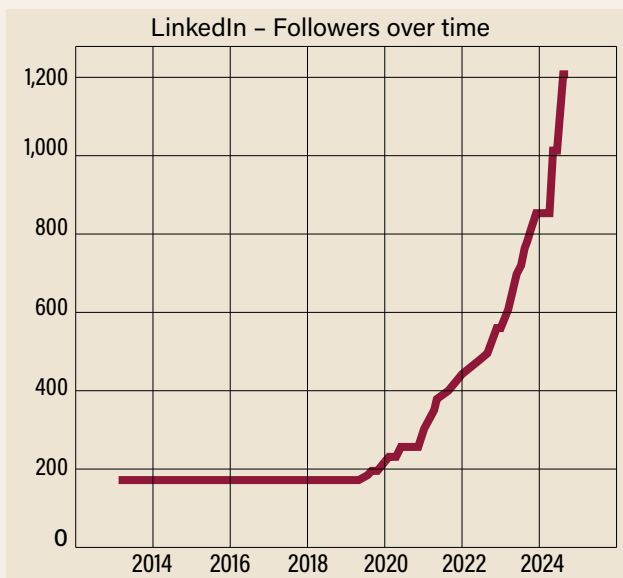


QES-AS NERG Alumnus Dr. **Sileshi Bedasie Hirko** is currently a Postdoctoral Fellow in the Faculty of Liberal Arts and Professional Studies at York University in Toronto, where his research focuses on intellectual property law, competition law, and their roles in sustainable human development. In addition to this postdoctoral work, Hirko serves as an Adjunct Professor at York's Osgoode Hall Law School and also holds a part-time teaching position at Queen's University in Kingston, Ontario.

Online presence

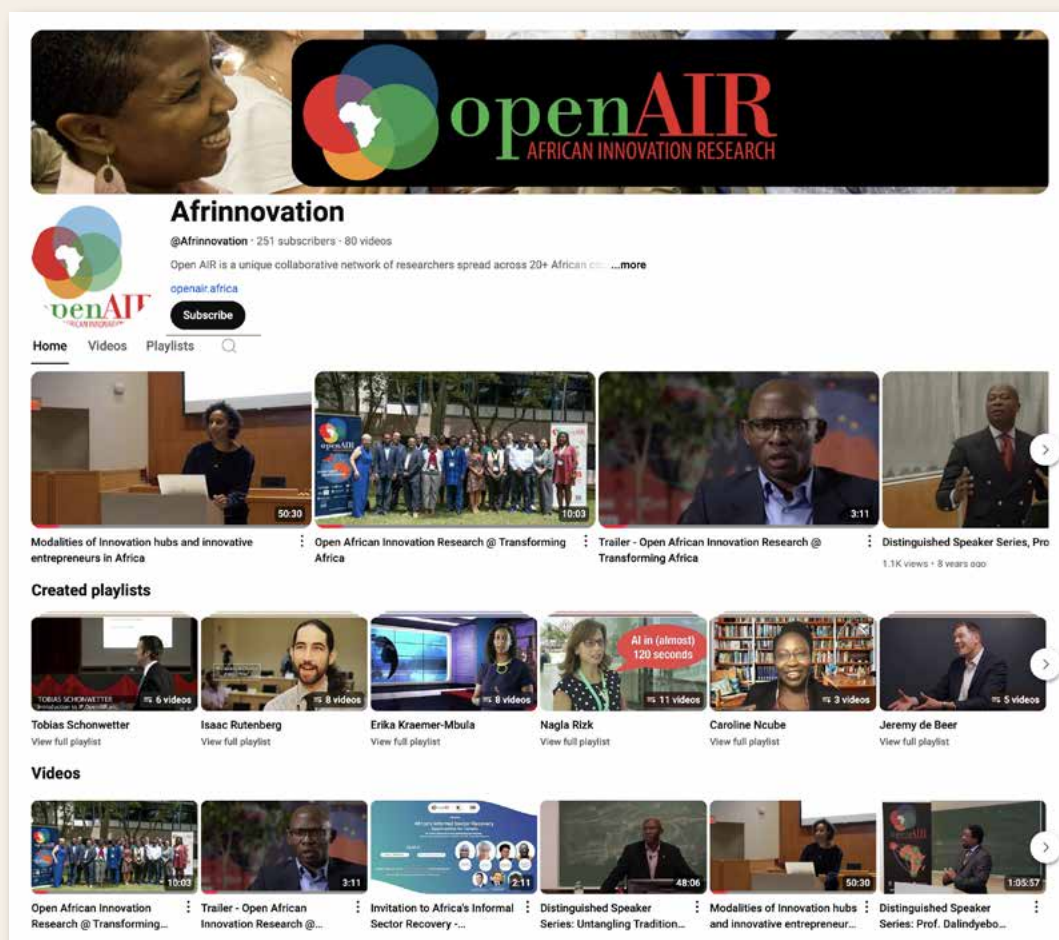
Website and social media

Open AIR's online presence continues to experience significant growth across various platforms. Our network's website receives approximately 60,000 monthly "impressions", due to an increase in impressions of over 60% between October 2022 and October 2023 and an increase of an additional 14% from 2023 to 2024. Our LinkedIn and Twitter/X feeds have also shown notable growth in followers, and our Facebook and YouTube audiences have expanded steadily. Our content on all platforms is optimised for easy accessibility across various devices.



Video channel

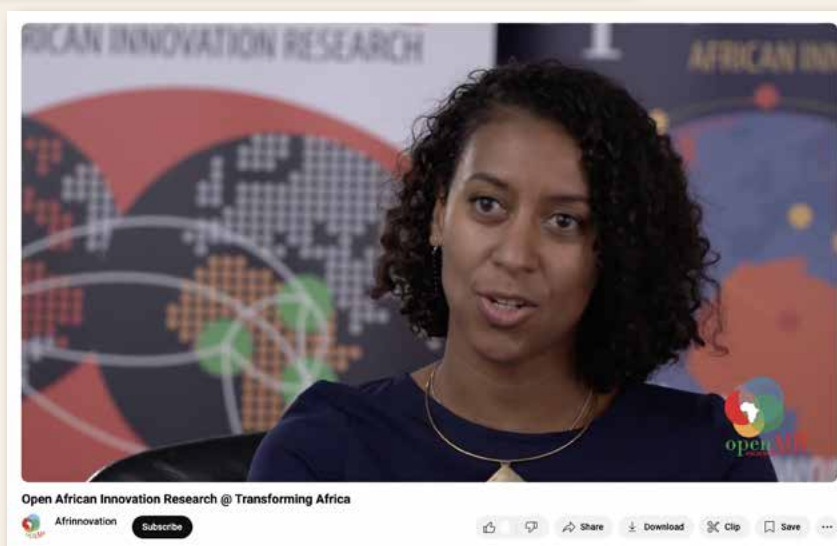
Open AIR's Afrinnovation YouTube channel, <https://www.youtube.com/@Afrinnovation>, currently hosts 80 videos that have collectively been viewed more than 27,000 times.



In 2024, Open AIR published a feature-length video (and trailer), entitled "Open African Innovation Research @ Transforming Africa", highlighting the network's current Regulation for Innovation research programme through a focus on Open AIR activities at the Transforming Africa conference in Johannesburg.

The feature-length video is at: <https://www.youtube.com/watch?v=ljM4D0tEBul>

The trailer is at: <https://youtu.be/h9MDn0XjVm8>



Selected outputs by theme

In addition to the outputs highlighted above (see “Core outputs, 2023-24”, starting on page 27), there were numerous other outputs by Open AIR researchers in the 2023-24 period, and the next nine sub-sections provide selected examples—organised in terms of the network’s nine themes (five thematic clusters and four thematic lenses, as outlined earlier in the “Research, engagement, and knowledge mobilisation” section on page 18–19).

High technology hubs

African tech hubs, including makerspaces (see “The maker movement” on page 64), are critical players in local and national innovation ecosystems across the African continent. Since our network’s establishment, Open AIR has conducted numerous studies on tech hubs, which provide opportunities for local entrepreneurship, innovation, social change, and economic growth. The hubs also provide entrepreneurs with the opportunity for partnerships with external partners. By providing capacity-building services, access to networks, and access to financing, hubs are innovation enablers that respond to gaps between innovators and the market, frequently leading to the scaling of innovations. In 2023-24, Open AIR outputs in this thematic area included examinations of networked entrepreneurship, frontier technology adoption, digital research infrastructure, the role of Casablanca as an African hub city, and the open science approach adopted by South Africa’s WHO-supported mRNA vaccine hub.



Erika Kraemer-Mbula, Jeremy de Beer, Caroline Ncube, Chidi Oguamanam, Nagla Rizk, Isaac Rutenberg and Tobias Schonwetter (2023)

Collaborative Innovation and Networked Entrepreneurship in Africa

In O. Adesida, G. Karuri-Sebina, J. Resende-Santos and M. Muchie (Eds.), *Innovation Ecosystems in Africa: Solving the Problems That We Have*

Online at: <https://bit.ly/4ifGOdR>



Edward Lorenz and Erika Kraemer-Mbula (2023)

Measuring Frontier Technology Adoption in Developing Countries

In F. Gault., A. Arundel and E. Kraemer-Mbula (Eds.), *Handbook of Innovation Indicators and Measurement (2nd ed.)*

Online at: <https://bit.ly/3CNA4ng>





Abdelhamid Benhmade and Philippe Régnier (2023)
Casablanca: les fonctions d'une ville globale qui connecte le monde à l'Afrique

Presented to Congrès de l'Association internationale de géographie francophone (AIGF), l'Institut national d'Aménagement et d'Urbanisme de Rabat



Abdelhamid Benhmade



Lucienne Abrahams and Mark Burke (2023)
Working Paper on Digital Research Infrastructure (DRI)

Online at: <https://bit.ly/417XH43>



Lucienne Abrahams



Omowamiwa Kolawole, Caroline B. Ncube and Jeremy de Beer (2024)
Open Science, Intellectual Property and the South African mRNA Vaccine Hub

Open AIR Briefing Paper

Online at: <https://bit.ly/3Dbtszn>



Jeremy de Beer



Abdelhamid Benhmade and Philippe Régnier (2024)
Écosystèmes entrepreneuriaux des villes globales: Cas de Casablanca

Presented to 4eme Colloque International sur l'Écosystème Entrepreneurial, hosted by l'Institut supérieur de commerce et d'administration des entreprises (ISCAE), Casablanca, with l'Université de Sherbrooke and l'Association Marocaine de Gestion (AMG)



Informal innovation

Open AIR’s work on informal innovation matters is driven by Open AIR’s Johannesburg hub, the Trilateral Research Chair in Transformative Innovation at the University of Johannesburg (UJ), which is held by Open AIR Steering Committee member Erika Kraemer-Mbula. The UJ Trilateral Chair receives strong collaboration, on matters of innovation measurement (see “Innovation metrics” section on page 54) from our North Africa hub team at the Access to Knowledge for Development Center (A2K4D) of The American University in Cairo. A key output by the UJ Trilateral Chair in this thematic area in 2023 was the release of findings from an extensive study of informal innovation in South Africa.



Erika Kraemer-Mbula, with other speakers (2023)

Making the Invisible Visible: Informal Innovation in South Africa

Webinar convened by UNDP Accelerator Labs
Online at: <https://bit.ly/4eVxrgw>



Erika Kraemer-Mbula and Larry Onyango, with co-authors (2023)
Making the Invisible Visible: Informal Innovation in South Africa

Online at: <https://bit.ly/4iafn5g>



Erika Kraemer-Mbula, Rebecca Hanlin, Rob Byrne, Chux Daniels and Ann Kingiri (Eds.) (2023)
Transformative Innovation in Times of Change: Lessons for Africa from the 2020 Global Pandemic

Online at: <https://doi.org/10.2307/jj.20367921>



Access to Knowledge for Development Center (A2K4D) (2024)

Women in Work in Egypt’s Informal Digital Economy: Way Forward

Focus group discussion, at The American University in Cairo, with women informal entrepreneurs



Access to Knowledge for Development Center (A2K4D) (2024)

Women’s Informal Entrepreneurship in Egypt’s Digital Economy: Way Forward

Focus group discussion, at The American University in Cairo, with capacity-building platform developers/owners, policymakers, civil society representatives, other stakeholders



Larry Onyango and Erika Kraemer-Mbula, with Jeremy de Beer (discussant) (2024)

Capturing Innovation in “Unseen Places”

Panel discussion at Transforming Africa conference, convened by Trilateral Research Chair in Transformative Innovation, University of Johannesburg



Erika Kraemer-Mbula (2023)

Measuring Innovation in the Informal Economy: Current Knowledge and Open Issues

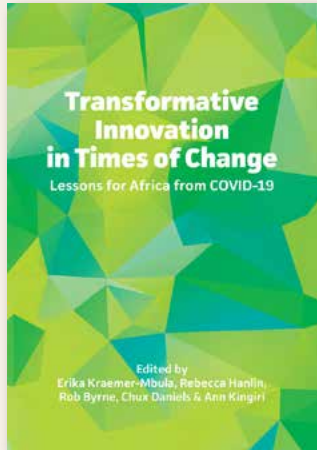
In F. Gault, A. Arundel and E. Kraemer-Mbula (Eds.), *Handbook of Innovation Indicators and Measurement (2nd ed.)*
Online at: <https://bit.ly/3CNA4ng>



Nagla Rizk, Caroline Wanjiru Muchiri, Islam Hassouna and Erika Kraemer-Mbula (2024)

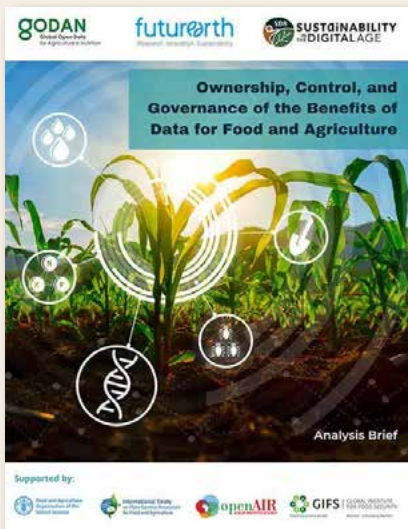
Measuring Informal Innovation Activity in Africa’s Formal SMEs: Examples from Egypt, Kenya and South Africa

Panel at Transforming Africa conference, convened by Trilateral Research Chair in Transformative Innovation, University of Johannesburg



Traditional knowledge and Indigenous entrepreneurs

This thematic area gained particular urgency in the run-up to, and during, the May 2024 WIPO Diplomatic Conference on Genetic Resources and Associated Traditional Knowledge in Geneva. It was at this conference that WIPO Member States adopted the landmark Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge (see page 28). Open AIR Steering Committee member Chidi Oguamanam, who holds the University Research Chair in Sustainable Bio-Innovation, Indigenous Knowledge Systems and Global Knowledge Governance at Open AIR's Canada hub institution the University of Ottawa, played an integral role in this conference and in pre-conference sessions. Oguamanam's participation was via his long-standing work, in support of African stakeholders, on the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC). Oguamanam is a globally recognised expert on traditional and Indigenous knowledge matters.



Chidi Oguamanam (2023)
A Critical Examination of the African Legal Framework for Indigenous Knowledge
Online at: <https://doi.org/10.1017/S0021855323000049>



Jane Ezirigwe (2023)
Power Contestations in the Use of Agri-Food Data: Towards a Sustainability Governance Approach
Online at: <https://bit.ly/3AKSJzl>



Jeremy de Beer, Chidi Oguamanam, and Éliane Ubalijoro (2023)
Ownership, Control, and Governance of the Benefits of Data for Food and Agriculture: Analysis Brief
Online at: <https://bit.ly/4dCBtkH>



Chidi Oguamanam (2023)
Why Canada Must Implement the Nagoya Protocol Now: MAPC and ABS Canada
 Online at: <https://bit.ly/47amrcV>



Chidi Oguamanam (2024)
What Is the Future for Protecting Traditional Knowledge and Cultural Expressions?
 Presented to Indigenous Knowledge Forum (IKF), Sydney



Jane Ezirigwe, Jeremy de Beer and Chidi Oguamanam (2024)
Power Contestations in the Use of Agri-food Data: Towards a Sustainability Governance Approach
 Online at: <https://doi.org/10.5204/lthj.3357>



Caroline B. Ncube and Chidi Oguamanam (2024)
Protection of Intellectual Property Rights Concerning Indigenous and Local Knowledge
 Presented to South African International Maritime Institute (SAIMI) Workshop on Intellectual Property and Ethics in Maritime and Indigenous and Local Knowledge (MILK)



Desmond O. Oriakhogba, Chijioke Okorie and Livhuwani Sosanah Lavhengwa (2024)
South African Daggga: Piping on the Related Intellectual Property Rights and Indigenous Knowledge Systems
 Online at: <https://doi.org/10.1504/IJIPM.2024.141543>



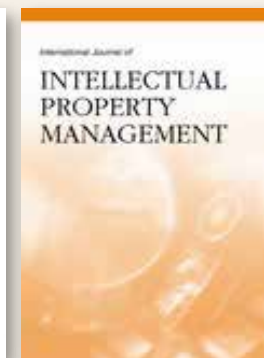
Desmond O. Oriakhogba and co-authors (2024)
Constitutional and International Legal Framework for the Protection of Genetic Resources and Associated Traditional Knowledge: A South African Perspective
 Online at: <https://bit.ly/4ie7mw7>



Jane Ezirigwe



Desmond Oriakhogba



Innovation metrics

Open AIR's work on innovation metrics is driven by our North Africa hub, the Access to Knowledge for Development Center (A2K4D) at The American University in Cairo, where Open AIR Steering Committee member Nagla Rizk is the Director. The overarching objective of the theme is to develop a sharper lens for understanding and gauging the realities of innovation activities in both formal and informal contexts across Africa. A more accurate depiction of African innovation can better inform policymakers in the fields of innovation and entrepreneurship, and the larger realm of development planning and inclusion. The ACA2K team has developed an Innovation Activity Index (IAI) that seeks to capture informal innovation modalities that are not reflected in the prevailing international innovation metrics.

In 2023, ACA2K collaborated with Open AIR's East African hub, the Centre for Intellectual Property and Information Technology Law (CIPIT) at Strathmore University in Nairobi, and Open AIR's Johannesburg hub, the Trilateral Research Chair in Transformative Innovation at the University of Johannesburg, to collect data on informal innovation activities in formal SMEs in the manufacturing sector in Egypt, Kenya and South Africa. The Johannesburg hub also participated in development of the second edition of the *Handbook of Innovation Indicators and Measurement*.



Nagla Rizk, Caroline Wanjiru Muchiri, Islam Hassouna and Erika Kraemer-Mbula (2024)

Measuring Informal Innovation Activity in Africa's Formal SMEs: Examples from Egypt, Kenya and South Africa

Panel at Transforming Africa conference, convened by Trilateral Research Chair in Transformative Innovation, University of Johannesburg





Fred Gault, Anthony Arundel and Erika Kraemer-Mbula (Eds.) (2023)

Handbook of Innovation Indicators and Measurement (2nd ed.)

Online at: <https://bit.ly/3CNA4ng>



Erika Kraemer-Mbula (2023)

Measuring Innovation in the Informal Economy: Current Knowledge and Open Issues

In F. Gault, A. Arundel and E. Kraemer-Mbula (Eds.), *Handbook of Innovation Indicators and Measurement (2nd ed.)*

Online at: <https://bit.ly/3CNA4ng>



Edward Lorenz and Erika Kraemer-Mbula (2023)

Measuring Frontier Technology Adoption in Developing Countries

In F. Gault, A. Arundel and E. Kraemer-Mbula (Eds.), *Handbook of Innovation Indicators and Measurement (2nd ed.)*

Online at: <https://bit.ly/3CNA4ng>



Erika Kraemer-Mbula and Larry Onyango, with co-authors (2023)

Making the Invisible Visible: Informal Innovation in South Africa

Online at: <https://bit.ly/4iafn5g>



Larry Onyango



Laws and policies

Open AIR researchers continue to provide analysis of legal and policy instruments at national, regional, African continental and global levels. The analyses range across a wide range of legal domains, including intellectual property (patents, copyrights, geographical indications), Indigenous knowledge, human rights, disability rights, information access, data protection, data science, labour, environment and health.



Omowamiwa Kolawole



Ngonidzaishe Gotora



Caroline B. Ncube (2023)
Moving from Mirages to Miracles: Intellectual Property, Human Rights and the Global Partnership for Sustainable Development
Online at: <https://doi.org/10.1093/grurint/ikad051>



Ngonidzaishe Gotora (2024)
Unmasking Deception: Deepfake Regulation in the Context of South African Law, Could a Rethinking of Performers' Protection Rights be the Answer?
Online at: <https://doi.org/10.1093/ijlit/eaee026>



Chijioko Okorie (2023)
Realising a 'Right' to Research in Nigeria and South Africa: The Role of the Executive Arm of Government
Online at: <https://doi.org/10.47348/JCLA/v10/i2a5>



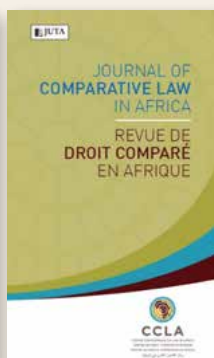
Caroline B. Ncube and Sanya Samtani (2023)
Copyright, Disability Rights, and the Constitution: Blind SA v Minister for Trade, Industry and Competition
Online at: <https://doi.org/10.2989/CCR.2023.0016>



Chebet Koros, with Joshua Kitili, Cynthia Nzuki and Natasha Karanja (2023) (with editing by A. Wairegi and M. Omino)
Right to Research and Copyright Law in Kenya: Text and Data Mining
Online at: <https://bit.ly/3VjH55>



Kean Birch and 'Damola Adediji (2023)
Rethinking Canada's Competition Policy in the Digital Economy
Online at: <https://bit.ly/3Mj0S0b>





Caroline Ncube



Chijioke Okorie



Desmond Oriakhogba



Tobias Schonwetter



Caroline B. Ncube, Chijioke Okorie, Desmond O. Oriakhogba and Tobias Schonwetter, with additional co-authors (2023)
Third Joint Academic Opinion on the South African Copyright Amendment Bill [B13D-2017]
 Online at: <https://bit.ly/4gcacRe>



Omowamiwa Kolawole and Caroline B. Ncube (2024)
Rethinking Ownership, Power and Policy in Drug Patents: The Case for an Ubuntu-Infused Approach
 Online at: <https://doi.org/10.1017/S0021855324000263>



Chijioke Okorie (2023)
Intellectual Property and the Constitutional Court of South Africa: Lessons from the Deployment of Adjudicative Strategies
 Online at: <https://doi.org/10.1007/s40319-023-01397-6>



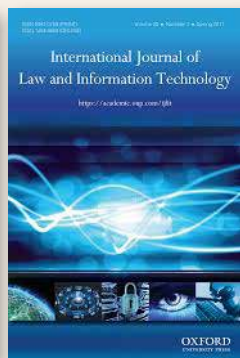
Omowamiwa Kolawole (2024)
Non-compliant Health Record-keeping in South Africa: Judicial Responses, and Progress Towards a Digital Remedy
 Online at: <https://doi.org/10.23962/ajic.i33.18892>



Desmond O. Oriakhogba (2023)
State and Intergovernmental Organisations: Copyright, Public Domain, and the Public Interest in Africa
 Online at: <http://dx.doi.org/10.17159/2077-4907/2023/ldd.v27.20>



Jane Ezirigwe (2023)
From Subsistence to Commercialisation: Legal Implications of 'Ecowas Regulations on Transhumance' on Livestock Investment Options
 Online at: <https://doi.org/10.47348/JCLA/v10/i1a4>



Economic integration, international law, and trade policy

A core focus of Open AIR's work in this thematic area is the AU's African Continental Free Trade Area (AfCFTA) and the AfCFTA Agreement's Protocols. Also closely tracked under this theme are the work of African regional economic communities (e.g., ECOWAS, SADC, the EAC) and the regional intellectual property entities (ARIPO, OAPI). Additionally, Open AIR researchers probe national trade policies in African countries and Canada, and the work of the global bodies such as the WTO, WIPO, and the WHO.

One of the key drivers of Open AIR's work in this thematic area is our hub at the University of Cape Town (UCT) Faculty of Law, where Open AIR Steering Committee member Caroline Ncube holds the South African Research Chair in Intellectual Property, Innovation and Development and Steering Committee member Tobias Schonwetter directs the Faculty's Intellectual Property Unit and iTaka Centre for Law and Technology. Ncube serves on the AU Scientific Technical Research Commission (ASRIC) Taskforce on IP Protection in Joint Research and Collaboration During Outbreaks, and is a member of the AfCFTA Trade and Industrial Development Advisory Council. This Advisory Council also includes Jane Ezirigwe of Open AIR's West Africa hub, the Nigerian Institute of Advanced Legal Studies (NIALS).

Strong thought leadership in this thematic area is also provided by Open AIR's Canada hub at the uOttawa Centre for Law, Technology and Society (CLTS), where Steering Committee members Jeremy de Beer and Chidi Oguamanan are both globally recognised voices on the intersections between intellectual property and trade.



Caroline B. Ncube and Jeremy de Beer (2024)
Trade Rules as Regulatory Tools for Inclusive Innovation: Connecting Digital Trade and Clean Technology to Achieve Sustainable Development Goals
 Online at: <https://bit.ly/47c8mfmd>



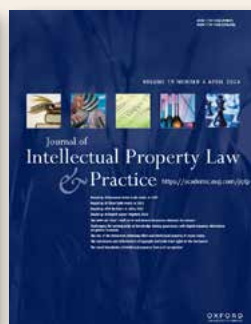
Hanani Hlomani and Caroline B. Ncube (2023)
Data Regulation in Africa: Free Flow of Data, Open Data Regimes and Cybersecurity
 In B. Ndemo, N. Ndung'u, S. Odhiambo and A. Shimeles (Eds.), *Data Governance and Policy in Africa*
 Online at: https://doi.org/10.1007/978-3-031-24498-8_5



Nagla Rizk and Tobias Schonwetter (2024)
Governance of Data and Data-driven Technology
 Online at: <https://bit.ly/41rzSoa>



Jane Ezirigwe (2023)
Ecowas Rules to Protect Pastoralists Discourage Investments in Modern Livestock Farming





Hanani Hlomani and Caroline B. Ncube (2023)
Réglementation des Données en Afrique: Libre Circulation des Données, Régimes des Données Ouvertes et Cyber Sécurité
 Online at: <https://bit.ly/4cPbQW3>



Jeremy de Beer and Yvonne Ndelle (2024)
Strengthening Canada-Africa Relations: What Way Forward?
 Online at: <https://bit.ly/4fVYGZN>



Centre for Intellectual Property and Information Technology Law (CIPIT) (2024)
Cross-Border Data Flows in Africa: Exploring Legal Frameworks and Regional Importance
 Online at: <https://bit.ly/4gcOdZW>



Tobias Schonwetter (2024)
Protection Against Unfair Competition - African Regional Intellectual Property Organization Member States and South Africa
 Online at: <https://doi.org/10.1093/jiplp/jpae001>



Caroline B. Ncube (2024)
Intellectual Property Norms in the Polycrisis - (Still) Omnipresent, Distracting, Irrelevant?
 Online at: <https://doi.org/10.1093/jiplp/jpae054>



Chidi Oguamanam and Omowamiwa Kolawole, with other panellists (2024)
Decolonizing Global Health Governance and Practices: A Case for an Inclusive and Equity Model
 Panel at Purdy Crawford Workshop on International Business Law: Rethinking the Dimensions of International Economic Law, Schulich School of Law, Dalhousie University, Halifax, Canada
 Online at: <https://bit.ly/3ZgjHHk>



Alexandra Mogyoros (2023)
Improving Eco-labels: Are Green Certification Marks Up to the Task?
 Online at: <https://doi.org/10.1093/jiplp/jpad029>



Thomas Hervé Mboa Nkoudou and Stephanie King (2023)
Trustworthy Data Institutional Framework: A Practical Tool to Improve Trustworthiness in Data Ecosystems
 Online at: <https://bit.ly/4fSyjju>



Lucienne Abrahams, Mark Burke and Trudi Hartzenberg (2023)
Digital Customs Transformation for Effective Trade Facilitation and Revenue Collection
 Online at: <https://bit.ly/3Zgaj6J>



Kean Birch & 'Damola Adediji (2023)
Safeguarding Personal Data Should Be Key to Competition Reform
 Online at: <https://bit.ly/3X20wjp>



Yvonne Ndelle



Alexandra Mogyoros



Hanani Hlomani

Gender equality and empowerment of women and girls

This research theme continues to yield groundbreaking Open AIR outputs. Our North Africa hub, the Access to Knowledge for Development Center (A2K4D) at The American University in Cairo, is a prominent voice on intersections between gendered realities and AI, serving as the Middle East and North Africa (MENA) hub for *f&a+i>r* (the Feminist AI Research Network). Our East Africa hub, the Centre for Intellectual Property and Information Technology Law (CIPIT) at Strathmore University in Nairobi, is also generating compelling outputs on gender and AI, through its work as a Policy Centre in the AI for Development in Africa (AI4D) initiative. At Open AIR's West Africa hub, the Nigerian Institute of Advanced Legal Studies (NIALS), Jane Ezirigwe has published outputs on an array of matters linked to gender and innovation in African settings.



Nagla Rizk, with Nadine Weheba (2023)
Women and Work in Egypt's Informal Digital Economy: Policy Brief
Online at: <https://bit.ly/3Vfwj00>



Jane Ezirigwe, with co-authors (2023)
Gender Equality and the Environment in Digital Economies
Online at: <https://bit.ly/3MIY02U>



Nagla Rizk (moderator), Manal Jalloul and Nadine Weheba (2023)
Algorithmic Decision Making (ADM), Feminism and Inclusion in MENA: Unpacking Concepts and Call for Proposals
Webinar hosted by Access to Knowledge for Development Center (A2K4D), The American University in Cairo
Online at: <https://bit.ly/3BbhMfo>



Lilian Olivia (2023)
The Gender Equality Mirage: From Human Bias to AI Bias in Digital ID Systems in Africa
Online at: <https://bit.ly/3WSsMFi>



Angeline Wairegi (2023)
Women's Work, Technology Access, and Skills in the Digital Era: An African Perspective
In S. Dewan and K. Sanyal (Eds.), *Empowerment or Exploitation: Global Perspectives on Women's Work in the Platform Economy*
Online at: <https://bit.ly/3MjJwAl>



Nadine Weheba



Lilian Olivia



Angeline Wairegi



Phionah Achieng Uhuru (2023)
Automated Gender Recognition Systems in Africa: Uncovering Bias and Discrimination
 Online at: <https://bit.ly/3T4taj3>



Phionah Achieng Uhuru



Laura A. Foster (2023)
A Technoscience Approach to Law as Technology and the Gendering of Artificial Intelligence Policy in South Africa
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>



Laura Foster



Jane Ezirigwe (2024)
Advancing New Governance Models for Gender Data in Climate Resilience Funding
 Online at: <https://doi.org/10.1515/ldr-2024-0110>



Jane Ezirigwe



Nagham ElHoussamy, with co-authors (2024)
Deliberate, Inclusive AI Policies to Empower Women in Africa
 Online at: <https://bit.ly/3D3EwOM>



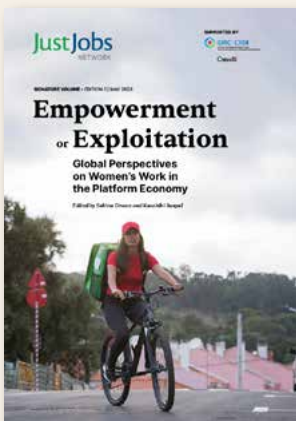
Nagham ElHoussamy



Laura A. Foster, Katie Szilagy, Angeline Wairegi, Chidi Oguamanam and Jeremy de Beer (2023)
Smart Farming and Artificial Intelligence in East Africa: Addressing Indigeneity, Plants, and Gender
 Online at: <https://doi.org/10.1016/j.atech.2022.100132>



Nagla Rizk, with co-authors (forthcoming)
Thinking With and Beyond Labor and Tech: An Empirical Investigation of How the Ghost Variables of Race, Caste, Gender, Citizenship, and Class Shape Gig Work



Artificial intelligence (AI)

Open AIR’s work on African AI matters expanded significantly in 2023-24. Among the key drivers of Open AIR’s outputs in this thematic area is Open AIR’s North Africa hub: the Access to Knowledge for Development Center (A2K4D) at The American University of Cairo. The A2K4D team is leading the Middle East and North Africa (MENA) Observatory on Responsible AI, serves as the MENA hub for *f&a+i>r* (the Feminist AI Research Network), and has done groundbreaking research, for the Fairwork project, on the labour conditions in the AI-enabled platform economy. Also central to Open AIR’s work on AI matters is our East Africa hub, the Centre for Intellectual Property and Information Technology Law (CIPIT) at Strathmore University in Nairobi, under the direction of Open AIR Steering Committee member Melissa Omino. CIPIT is a Policy Centre in the AI for Development in Africa (AI4D) initiative. In Canada, Open AIR’s work on AI is being taken forward strongly by Teshager Dagne, who holds the Ontario Research Chair in Governing Artificial Intelligence at York University in Toronto.



Nagla Rizk (moderator), with presenters (2024)
Multi-Stakeholder Collaboration for Responsible AI Development in Africa

Webinar moderation on behalf of MENA Observatory on Responsible AI, A2K4D, The American University in Cairo



Nagla Rizk, with other panellists (2024)

Labor, AI, and Digital Technologies

Panel at Political Economy of AI Global Learning and Strategic Convening, convened by Global Fund for a New Economy, Mexico City



Centre for Intellectual Property and Information Technology Law (CIPIT) (2023)

The State of AI in Africa Report 2023

Online at: <https://bit.ly/4fiAIH0>



Caroline B. Ncube, Desmond O. Oriakhogba, Isaac Rutenberg and Tobias Schonwetter (Eds.) (2023)

Artificial Intelligence and the Law in Africa

Online at: <https://bit.ly/3TcAR6A>



Naghm ElHoussamy (moderator), with panellists (2024)

Empowering African Women through AI

Panel at OECD-African Union AI Governance Dialogue, Paris

Online at: <https://bit.ly/49eqar6>





Access to Knowledge for Development Center (A2K4D), with Fairwork partners (2023)

Fairwork Egypt Ratings 2022/23: Platform Workers Amidst Egypt's Economic Crisis

Online at: <https://bit.ly/4cDWluM>



Nagla Rizk, with other panellists (2023)
Report Launch: Fairwork Egypt Ratings 2022 at RiseUp Summit

Online at: <https://bit.ly/3OyhMcA>



Laura A. Foster, Katie Szilagyi, Angeline Wairegi, Chidi Oguamanam and Jeremy de Beer (2023)

Smart Farming and Artificial Intelligence in East Africa: Addressing Indigeneity, Plants, and Gender

Online at: <https://doi.org/10.1016/j.atech.2022.100132>



Thomas Hervé Mboa Nkoudou (2023)
We Need a Decolonized Appropriation of AI in Africa

Online at: <https://doi.org/10.1038/s41562-023-01741-3>



Razeen Khan and Ngonidzaishe Gotora (2023)

One (Innovation) Flew over the Law's Head: The Intersection of Artificial Intelligence and Copyright

Online at: <https://bit.ly/3BGeZLg>



Melissa Omino, with other panellists (2024)
AI: Digital Public Goods for Inclusive Development

Panel at Network of African Data Protection Authorities (NADPA/RAPDP) AGM and Conference, Nairobi



Thomas Hervé Mboa Nkoudou (2024)
State of AI in Agriculture in Sub-Saharan Africa

Online at: <https://doi.org/10.5281/zenodo.13144813>



Jake Okechukwu Effoduh (2024)
Crossed Perspectives: EU, Canada, Nigeria

Presentation to 2nd International Summer School on Responsible AI and Human Rights, hosted by Mila and Université de Montréal

Online at: <https://bit.ly/3MwhaCY>



Nagla Rizk and Khadiga Hassan, with other panellists (2024)

Implementing Africa's AI Vision: Insights and Engagement with Industry, Academia and Civil Society

Panel at OECD-AU AI Global Dialogue 2.0, Cairo



Khadiga Hassan (2024)
Advancing Responsible AI in Africa: Highlights from the OECD-African Union AI Dialogue 2.0 in Cairo

Online at: <https://bit.ly/3ZNQO70>



Nagla Rizk, with other panellists (2024)
Establishing an Inclusive Euro-Med Foundation for AI Access

Panel at Anna Lindh Foundation (ALF) Policy Debate: Enhancing Diversity, Equity, and Inclusion in AI for a Sustainable Euro-Mediterranean Ecosystem, at Université Mohammed Premier, Oujda, Morocco

Online at: <https://bit.ly/41vnhjU>

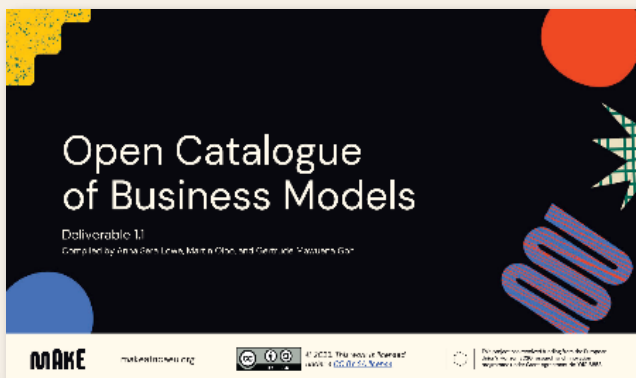


The maker movement

Open AIR sees the maker movement as a key engine for open collaborative innovation and enterprise development in Africa. Our work in this area includes elements of knowledge co-creation action research, through which we engage with maker communities not as mere research subjects, but also as collaborators who help guide the direction and content of the research findings. Open AIR's focus on the maker movement also overlaps with our work on understanding the dynamics at play in the work of high technology hubs (see page 48).

In 2023-24, Open AIR's University of Cape Town hub continued its work as a consortium member, on behalf of Open AIR, in the EU Horizon 2020-funded African European Maker Innovation Ecosystem (mAKE) Project, which runs until February 2025. Through participation in the mAKE consortium, Open AIR has forged strong collaborative relationships with the other consortium members in Africa and Europe, which include: Association pour la promotion de la science ouverte en Haïti et en Afrique (APSOHA); Centre for Social Innovation (ZSI); Global Innovation Gathering (GIG); GreenTec Capital Africa Foundation (GCAF); Internet of Production Alliance (IoP Alliance); Fab City Foundation; and Fab Lab Barcelona.

The mAKE Project has published several outputs in support of makers in Africa and Europe, including an Open Catalogue of Business Models (OCBM), a set of Recommendations for Policy Makers, and a Venture Building Handbook. In addition, the Innovative Manufacturing in Africa (IMA) project, which is affiliated to mAKE and driven by mAKE consortium member the IoP Alliance, took forward several mAKE objectives with a group of nine makerspaces (three per country) in Ghana, Kenya and South Africa.





Chris Armstrong (2023)
Makerspace Sustainability: mAKE Project Launches Open Catalogue of Business Models (OCBM)
 Online at: <https://bit.ly/3Zg0Ufj>



Chris Armstrong (2024)
Policy Support for Makerspaces in Africa and Europe: mAKE Project Publishes Recommendations
 Online at: <https://bit.ly/3ZdA4V9>



African European Maker Innovation Ecosystem (mAKE) Project (2023)
Open Catalogue of Business Models (OCBM)
 Compiled by Anna Sera Lowe, Martin Oloo and Gertrude Mawuena Goh
 Online at: <https://bit.ly/4eWMMHx>



African European Maker Innovation Ecosystem (mAKE) Project (2024)
Shaping the Future of Makerspaces in Africa and Europe: Recommendations for Policy Makers
 Compiled by Freda Yamorti Gbande, Joseph Agyina, Andrew Lamb, Geraldine de Bastion, Fadia Elgharib, Anna Lowe and Vasilis Niaros
 Online at: <https://bit.ly/4flzpCh>



Erika Kraemer-Mbula, Jeremy de Beer, Caroline B. Ncube, Chidi Oguamanam, Nagla Rizk, Isaac Rutenberg and Tobias Schonwetter (2023)
Collaborative Innovation and Networked Entrepreneurship in Africa
 In O. Adesida, G. Karuri-Sebina, J. Resende-Santos and M. Muchie (Eds.), *Innovation Ecosystems in Africa: Solving the Problems That We Have*
 Online at: <https://bit.ly/4ifGOdR>



African European Maker Innovation Ecosystem (mAKE) Project (2024)
Venture Building Handbook
 Prepared by GreenTec Capital Africa Foundation
 Online at: <https://bit.ly/4gfAlxF>



Internet of Production Alliance (IoP Alliance) (2023)
Innovative Manufacturing in Africa Project Showcase
 Online at: <https://bit.ly/3Ba0sau>



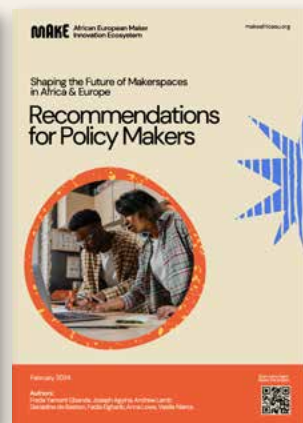
African European Maker Innovation Ecosystem (mAKE) Project (2024)
From Local to Global: The Power of the Map of Machinery
 Online at: <https://bit.ly/3OAdAJ4>



Thomas Hervé Mboa Nkoudou, with co-authors (2024)
Developing the OpenFlexure Microscope Towards Medical Use: Technical and Social Challenges of Developing Globally Accessible Hardware for Healthcare
 Online at: <https://doi.org/10.1098/rsta.2023.0257>



Ghati Nyehita (2024)
Harnessing Maker Culture for Inclusion of Women in the Innovation Paradigm

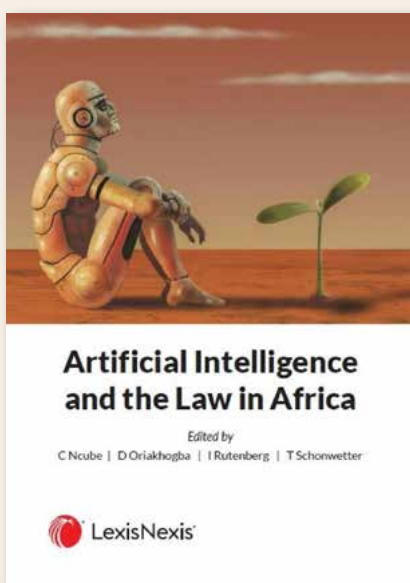


Ghati Nyehita

Books and book chapters

Open AIR researchers authored, co-authored, edited, and co-edited several books in 2023-24, and they also wrote numerous book chapters.

Books



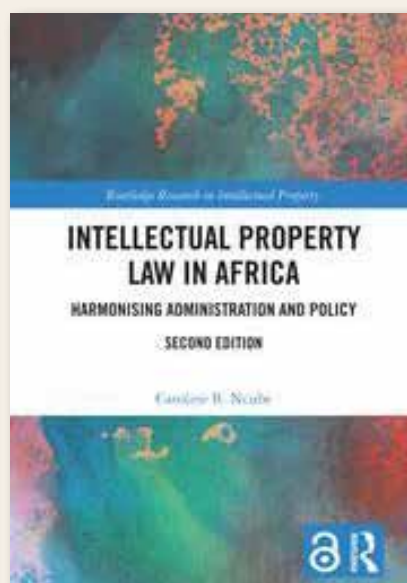
Caroline B. Ncube, Desmond O. Oriakhogba, Isaac Rutenberg and Tobias Schonwetter (Eds.) (2023) ***Artificial Intelligence and the Law in Africa***

Online at: <https://bit.ly/3TcAR6A>



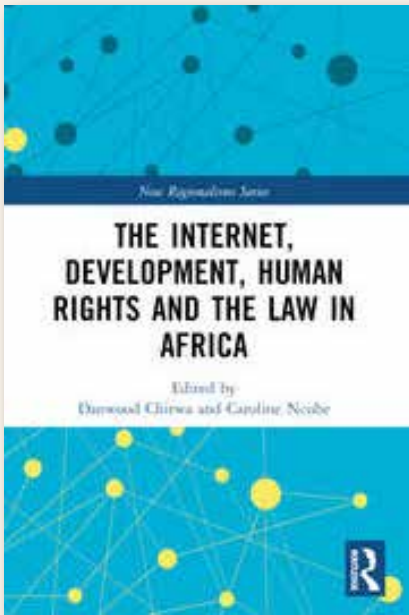
Erika Kraemer-Mbula, Rebecca Hanlin, Rob Byrne, Chux Daniels and Ann Kingiri (Eds.) (2023) ***Transformative Innovation in Times of Change: Lessons for Africa from the 2020 Global Pandemic***

Online at: <https://doi.org/10.2307/jj.20367921>



Caroline B. Ncube (2023) ***Intellectual Property Law in Africa: Harmonising Administration and Policy (2nd ed.)***

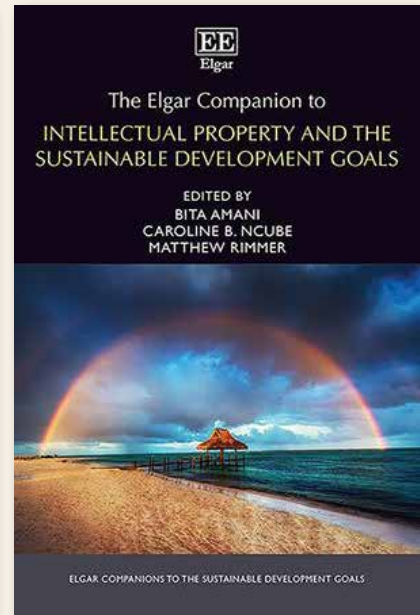
Online at: <https://doi.org/10.4324/9781003310198>



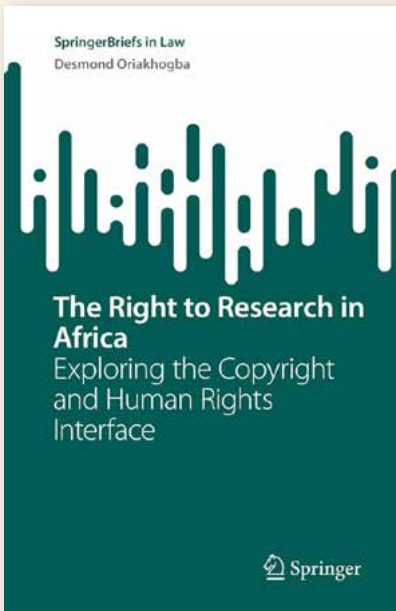
Danwood M. Chirwa and Caroline B. Ncube (Eds.) (2023)
The Internet, Development, Human Rights and the Law in Africa
 Online at: <https://doi.org/10.4324/9781003308157>



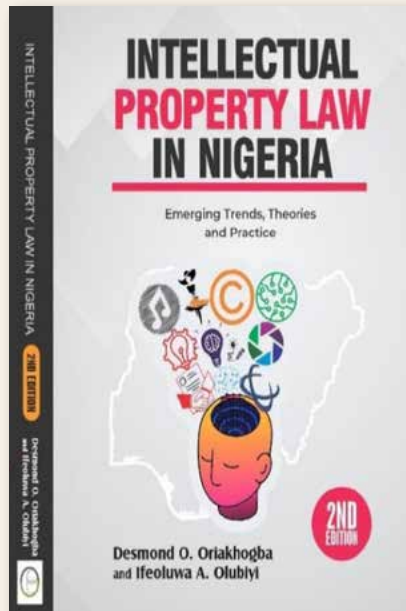
Fred Gault, Anthony Arundel and Erika Kraemer-Mbula (Eds.) (2023)
Handbook of Innovation Indicators and Measurement (2nd ed.)
 Online at: <https://bit.ly/3CNA4ng>



Bitá Amani, Caroline B Ncube and Matthew Rimmer (Eds.) (2024)
The Elgar Companion to Intellectual Property and the Sustainable Development Goals
 Online at: <https://bit.ly/3Z6O1G4>



Desmond O. Oriakhogba (2023)
The Right to Research in Africa: Exploring the Copyright and Human Rights Interface
 Online at: <https://doi.org/10.1007/978-3-031-33282-1>

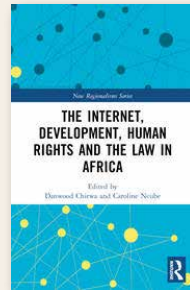


Desmond O. Oriakhogba and Ifeoluwa A. Olubiyl (2023)
Intellectual Property Law in Nigeria: Emerging Trends, Theories and Practice
 Online at: <https://bit.ly/3FBVCSH>

Book chapters



Hanani Hlomani and Caroline B. Ncube (2023)
Data Regulation in Africa: Free Flow of Data, Open Data Regimes and Cybersecurity
In B. Ndemo, N. Ndung'u, S. Odhiambo and A. Shimeles (Eds.), *Data Governance and Policy in Africa*
Online at: https://doi.org/10.1007/978-3-031-24498-8_5



Danwood M. Chirwa and Desmond O. Oriakhogba (2023)
Access to the Internet as a Human Right
In D.M. Chirwa and C.B. Ncube (Eds.), *The Internet, Development, Human Rights and the Law in Africa*
Online at: <https://doi.org/10.4324/9781003308157>



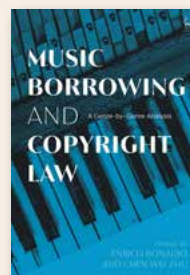
Caroline B. Ncube and Thabiso R. Phiri (2023)
Afro-centric Law and Technology Discourse
In B. Brožek, O. Kanevskaia and P. Pałka (Eds.), *Research Handbook on Law and Technology*
Online at: <https://doi.org/10.4337/9781803921327.00026>

Caroline B. Ncube (2023)
The Internet, Freedom of Expression and Intellectual Property
In D.M. Chirwa and C.B. Ncube (Eds.), *The Internet, Development, Human Rights and the Law in Africa*
Online at: <https://doi.org/10.4324/9781003308157>

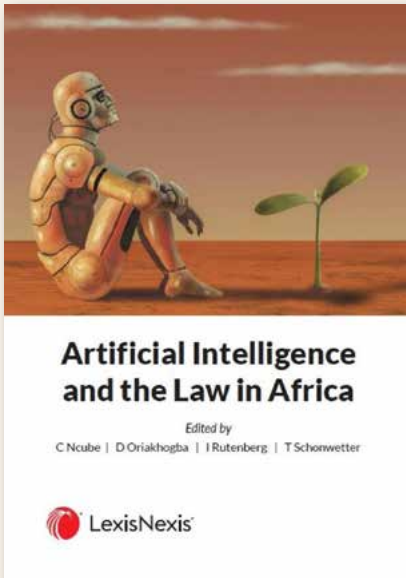


Erika Kraemer-Mbula, Jeremy de Beer, Caroline Ncube, Chidi Oguamanam, Nagla Rizk, Isaac Rutenberg and Tobias Schonwetter (2023)
Collaborative Innovation and Networked Entrepreneurship in Africa
In O. Adesida, G. Karuri-Sebina, J. Resende-Santos and M. Muchie (Eds.), *Innovation Ecosystems in Africa: Solving the Problems That We Have*
Online at: <https://bit.ly/4ifGODR>

Caroline B. Ncube and Danwood M. Chirwa (2023)
The Internet, Development and Human Rights in Africa: Reflections and Insights
In D.M. Chirwa and C.B. Ncube (Eds.), *The Internet, Development, Human Rights and the Law in Africa*
Online at: <https://doi.org/10.4324/9781003308157>



Tobias Schonwetter and Bram Van Wiele (2023)
The Many Facets of Borrowing and Creativity in South African Music
In E. Bonadio and C.W. Zhu (Eds.), *Music Borrowing and Copyright Law: A Genre-by-Genre Analysis*
Online at: <https://doi.org/10.5040/9781509949410>



Chijioke Okorie (2023)
Beyond Intellectual Property Protection: Other Artificial Intelligence Intellectual Property Strategies for the African Context
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>

Hanani Hlomani (2023)
De-regulate and Re-regulate: Artificial Intelligence and Data Governance in Africa
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>

Omowamiwa Kolawole (2023)
The Challenges and Potential of Artificial Intelligence Interventions in Weak Public-Health Systems in Africa
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>

Angeline Wairegi and Melissa Omino (2023)
Just Because You Can, Doesn't Mean You Should: The Case for and Against Utilisation of Artificial Intelligence for Indigenous-knowledge Curation and Preservation in Kenya
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>

Titilayo Adebola and Ebuka Ibeke (2023)
Agriculture in Africa: The Emerging Role of Artificial Intelligence
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>

Laura A. Foster (2023)
A Technoscience Approach to Law as Technology and the Gendering of Artificial Intelligence Policy in South Africa
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>

Jake Okechukwu Effoduh (2023)
Artificial Intelligence and Human Rights in Africa
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>

Caroline B. Ncube, Desmond O. Oriakhogba, Isaac Rutenberg and Tobias Schonwetter (2023)
Policy and Legal Recommendations to Tackling the Challenges and Seizing the Opportunities of Artificial Intelligence in Africa
 In C.B. Ncube, D.O. Oriakhogba, I. Rutenberg and T. Schonwetter (Eds.), *Artificial Intelligence and the Law in Africa*
 Online at: <https://bit.ly/3TcAR6A>



Edward Lorenz and Erika Kraemer-Mbula (2023)

Measuring Frontier Technology Adoption in Developing Countries

In F. Gault, A. Arundel and E. Kraemer-Mbula (Eds.), *Handbook of Innovation Indicators and Measurement (2nd ed.)*

Online at: <https://bit.ly/3CNA4ng>

Erika Kraemer-Mbula (2023)
Measuring Innovation in the Informal Economy: Current Knowledge and Open Issues

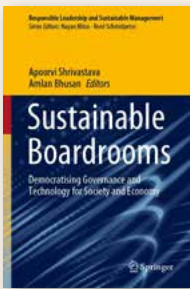
In F. Gault, A. Arundel and E. Kraemer-Mbula (Eds.), *Handbook of Innovation Indicators and Measurement (2nd ed.)*

Online at: <https://bit.ly/3CNA4ng>

Anthony Arundel, Erika Kraemer-Mbula and Fred Gault (2023)
Where are Innovation Indicators and Measurement Going?

In F. Gault, A. Arundel and E. Kraemer-Mbula (Eds.), *Handbook of Innovation Indicators and Measurement (2nd ed.)*

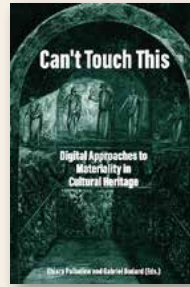
Online at: <https://bit.ly/3CNA4ng>



Anmol Patel (2023)
Traditional Knowledge, Sustainability, and International Intellectual Property Law: Biopiracy in Patent-Intensive Industries

In A. Shrivastava and A. Bhushan and (Eds.), *Sustainable Boardrooms: Democratizing Governance and Technology for Society and Economy*

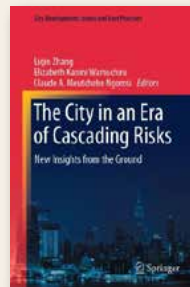
Online at: https://doi.org/10.1007/978-981-99-4837-6_7



Chijioko Okorie (2023)
Digital Treatment of African Cultural Heritage: Shifting Landmarks and Implications for Copyright Exceptions for Archives in Nigeria

In C. Palladino and G. Bodard (Eds.), *Can't Touch This: Digital Approaches to Materiality in Cultural Heritage*

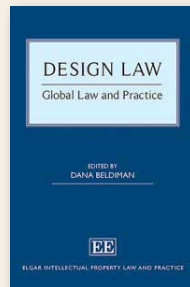
Online at: <https://doi.org/10.5334/bcv.l>



Abdelhamid Benhmade, Philippe Régnier and Martine Spence (2023)
Global Cities and Business Internationalization: Towards a New Interdisciplinary Research Agenda

In L. Zhang, E. Kanini Wamuchiru and C.A. Meutchehe Ngomsi (Eds.), *The City in an Era of Cascading Risks: New Insights from the Ground*

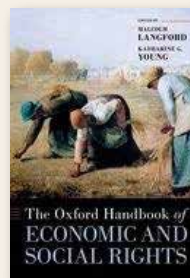
Online at: https://doi.org/10.1007/978-981-99-2050-1_15



Chijioko Okorie (2024)
The Functioning of the African Regional Intellectual Property Organisation (ARIPO) for Industrial Design Registration: Realities and Possibilities

In D. Beldiman (Ed.), *Design Law: Global Law and Practice*

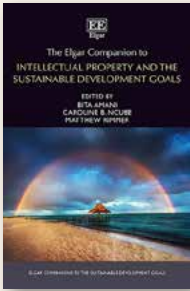
Online at: <https://doi.org/10.4337/9781800886520.00025>



Danwood Chirwa and Desmond O. Oriakhogba (2024)
Regional Mechanisms and Economic and Social Rights

In M. Langford & K.G. Young (Eds.), *The Oxford Handbook of Economic and Social Rights*

<https://doi.org/10.1093/oxfordhb/9780197550021.013.54>



Desmond O. Oriakhogba and Lonias Ndlovu (2024)

Copyright, Access to Knowledge, and SDG 4 In Southern Africa

In B. Amani, C.B. Ncube and M. Rimmer (Eds.), *The Elgar Companion to Intellectual Property and the Sustainable Development Goals*

Online at: <https://doi.org/10.4337/9781803925233.00013>

Titilayo Adebola (2024)

Branding as a Tool to Promote Geographical Indication Exports and Sustainable Development in Africa

In B. Amani, C.B. Ncube and M. Rimmer (Eds.), *The Elgar Companion to Intellectual Property and the Sustainable Development Goals*

Online at: <https://doi.org/10.4337/9781803925233.00029>

Caroline B. Ncube (2024)

Access to Science, Technology, and Innovation: Intellectual Property, Human Rights, and Sustainable Development

In B. Amani, C.B. Ncube and M. Rimmer (Eds.), *The Elgar Companion to Intellectual Property and the Sustainable Development Goals*

Online at: <https://doi.org/10.4337/9781803925233.00030>

Bitita Amani, Caroline B. Ncube and Matthew Rimmer (2024)

Conclusion: 'Blueprints for a Better World': The Future of Intellectual Property and Sustainable Development

In B. Amani, C.B. Ncube and M. Rimmer (Eds.), *The Elgar Companion to Intellectual Property and the Sustainable Development Goals*

Online at: <https://doi.org/10.4337/9781803925233.00033>

Bitita Amani, Caroline B. Ncube and Matthew Rimmer (2024)

Coda: Blue Sky Solutions: A Transformative Vision for the 2030 Agenda

In B. Amani, C.B. Ncube and M. Rimmer (Eds.), *The Elgar Companion to Intellectual Property and the Sustainable Development Goals*

Online at: <https://doi.org/10.4337/9781803925233.00034>

Network Hubs

North Africa

Access to Knowledge for
Development Center (A2K4D)
The American University
in Cairo
Cairo, Egypt
cairo@openair.africa



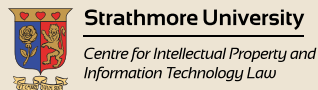
West Africa

Nigerian Institute of Advanced
Legal Studies (NIALS)
Lagos and Abuja, Nigeria
lagos@openair.africa



East Africa

Centre for Intellectual
Property and Information
Technology Law (CIPIT)
Strathmore University
Nairobi, Kenya
nairobi@openair.africa



Southern Africa

Intellectual Property Unit
Faculty of Law
University of Cape Town
Cape Town, South Africa
capetown@openair.africa



Trilateral Research Chair in
Transformative Innovation
College of Business and
Economics
University of Johannesburg
Johannesburg, South Africa
gauteng@openair.africa

SARCHI
TRANSFORMATIVE
INNOVATION, AIR
AND SUSTAINABLE
DEVELOPMENT



Canada

Centre for Law, Technology
and Society (CLTS)
Faculty of Law,
University of Ottawa
Ottawa, Canada
ottawa@openair.africa



Core Supporters



Conseil de recherches
en sciences humaines
du Canada

Social Sciences and
Humanities Research
Council of Canada

Canada



Government
of Canada

Gouvernement
du Canada

Open AIR is supported in part by funding from the
Government of Canada's New Frontiers in Research Fund (NFRF)



New Frontiers in Research Fund
Fonds Nouvelles frontières en recherche

QUEEN ELIZABETH Scholars



Afrinnovation



@Afrinnovation



africaninnovation



Open African Innovation Research

For more information about Open AIR,
visit our website or contact our Program
Manager: ottawa@openair.africa



<https://openair.africa>