Call for Expressions of Interest:

Managing Organization (Hub) for Responsible Artificial Intelligence for an Education Innovation Research Network in Africa

Canada's International Development Research Centre (IDRC) and the Swedish International development Agency (Sida) invite expressions of interest from individual organizations, or consortia of organizations to express interest in hosting the Innovation Research Hub for an African based research network on responsible artificial intelligence innovations that seek to advance education across Africa. The Hub will design, develop, and manage the Artificial intelligence for Education innovation research network as key part of the Artificial intelligence for Development in Africa program (AI4D Africa).

The call is open to individual organizations based in lower and lower-middle income countries (LLMIC) in sub-Saharan Africa (SSA) (see Annex B for list of eligible countries), or consortia of up to three organizations with the lead organization headquartered in an LLMIC in SSA. This call for expressions of interest is not open to individuals or government ministries and agencies.

The general goal of this innovation research network is **to advance education that strengthens teaching, learning, and school administrative functions in Africa through the responsible development and deployment of artificial intelligence innovations**.

This call is part of the four-year Artificial Intelligence for Development in Africa (AI4D Africa) program.

The **AI4D Africa program** is a four-year program dedicated to accelerating the realization of Africa's Artificial Intelligence innovations towards achieving continental, and global development goals. AI4D Africa partners with African AI communities to support the responsible, home-grown development and deployment of AI through investments in innovation, policy research, and capacity. For investments in innovation, AI4D Africa will support four pan-African innovation research networks

focused on climate change, agriculture, education, and gender/inclusion. This call is for a managing organization (heretofore the Hub) for the education innovation research network.

We encourage all applicants to have a look at Annex A, the original [AI4D Program Proposal](#) as well as the [AI4D Africa website.](#)

The selected Hub will design and develop an innovation research network of researchers and innovators applying responsible AI techniques to advance education in Africa. The selected organization will also be responsible for the following non-exhaustive set of activities:

- Supporting the competitive selection of high-quality research projects from African innovators and researchers at the intersection of artificial intelligence and education;
- Providing conceptual and technical support and guidance to the research network members;
- Conducting research reviews and syntheses on AI innovations in education in LMICs in Africa;
- Building synergies and collaborate where appropriate with other innovation networks, such as around issues of scaling, or human rights impact assessments, and
- Contributing to the strategic guidance of the AI4D Africa program.

The deadline for submission of expressions of interest is June 25, 2021 (23:59 EST).

Artificial Intelligence and Education

There are some challenges in Africa's Education systems, for example, inefficiencies in teaching and learning processes, inequalities in access and quality, poor enforcement and implementation of education policies, , non-interactive content, inadequate teacher support systems and poor infrastructure. The international communities have characterized this as a 'learning crisis' ([World Bank, 2018a](#)).

AI innovations have shown some promise in three main areas (1) strengthening teaching and learning, (2) enhancing efficiencies in school administrative functions, and (3) as a tool to help understand the process of learning. In this call, we are interested in innovation research on 1 & 2.

AI for Education has some benefits, but it also faces major challenges such as inadequate utilisation of AI to improve education processes, both in the classroom and at the system level, and providing students relevant skillsets for increasingly automated economies and societies. AI technologies have the potential to help advance the sustainable development goals (SDG 4) and realise a sustainable and inclusive society, however they also may present societal risks, including bias, labour market transitions, data privacy, security, ethical issues, new digital divides and the need for AI capacity building ([G20, n.d.).](#)

AI Innovations are happening at different levels in the education system from public preschool, primary and secondary school systems, to the technical, vocational, and university level. We expect the winning Hub to propose and justify the scope of the proposed research agenda as appropriate. Please provide a suggestion of how and why you would scope this research conducted by the network in this expression of interest.

Approach

The general objective for this innovation research network is to contribute to improved teaching and learning in African contexts through the responsible application of artificial intelligence.

Specific objectives are to:

(1) Deepen understanding of how to develop and scale responsible AI oriented innovations for education in sub-Saharan Africa;
(2) Better our understanding of contextually appropriate AI teaching and learning applications, their impacts on learning and in the society;
(3) Build the capacity of African innovators and researchers to develop, deploy, scale, and research responsible AI applications in education; and
(4) Facilitate the contribution of African research to international AI policy and practice conversations.

To achieve these objectives, the proposed approach is to implement an innovation research network, managed by the AI4D Education Hub, which will bring together (~6-10) African innovators and researchers working on, or researching education innovations through an open call. The selected innovators and researchers will receive funding and support for a research project of at least 18 months on their innovation. It is expected that the selected projects will represent linguistic, gender, and geographic diversity across Africa; diversity across relevant areas of application of AI to education; and diversity of relevant involved stakeholders, e.g., ministries of education, private sector players and other relevant agencies, university researchers, and start-ups.

The Hub will play a critical role in establishing, managing, and supporting the innovation research network. The exact nature of the role of the Hub is potentially varied, and the proposing organization(s) should demonstrate how they will add value to the network to ensure that its outputs and outcomes are greater than the simple sum of the individual research projects. It is expected that the Hub has the necessary capacities to work with and support researchers across the various geographies and in at least two languages (English and French), and to facilitate equitable engagement of women in research and leadership roles. The Hub will also ensure that each research project is multi-disciplinary, engaging researchers with different skillsets and expertise working together to advance new innovations (e.g., education, cognitive science, gender studies, artificial intelligence, data science).

The Hub will also play an important role as a key AI4D Africa implementing organization. This includes working with other innovation research Hubs to find potential points of collaboration. For example, we anticipate the need for Hubs to collectively think about critical issues such as approaches to

human rights and equity assessment of and scaling of AI innovations from early on the project cycle.[1] The Hub is expected to participate in AI4D Africa strategic learning, monitoring, and evaluation activities, helping to provide strategic direction to the program and maximize program synergies.

A key element of this process will involve the development of an African-led responsible AI and Education innovation research agenda. By responsible, we are referring to artificial intelligence innovations that are ethical, respect human rights, inclusive, and sustainable.

Indicative Scope of Work for Network Hub

The following are *indicative* activities to be performed by the AI4D Education Hub:

Set up and manage the network

- Develop and run a call for proposals for AI for education innovation research;
- Develop and manage a call review committee, made up of multi-disciplinary experts and ensuring equal engagement of both men and women;
- Sub-grant to successful research teams to become members of the network and implement their innovation research projects (ensuring equity and participation of different researchers in projects);
- Manage sub-grants to winning institutions (henceforth sub-grantees), including sub-grantee monitoring and evaluation; and
- Interim and final technical and financial reporting to IDRC.

Support to network members

- Provide technical and methodological assistance to sub-grantees as required;
- Ensure network members engage in responsible AI practices and approaches – ensuring that interventions contribute to rights, inclusion, ethics and sustainability practices;
- Plan and run network workshops and other network support activities designed to collectively tackle common issues and/or facilitate cross-project collaboration where appropriate;
- Facilitate sub-grantee reporting;
- Connect sub-grantees to other resources (knowledge, financial) as required.

International Collaboration and Engagement

- Coordinate with African KIX Regional Hubs
- Coordinate with International Conference on Artificial Intelligence in Education (AIED) international conferences in Africa and the rest of the world.

Knowledge synthesis, sharing and learning

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[1] See for example the Responsible AI Design Assistant: https://oproma.github.io/rai-trustindex/ as well as Responsible Innovation in Canada and Beyond. See also: Teaching Responsible Data Science: Charting New Pedagogical Territory

- Produce a baseline scanning document of AI for education innovations in Africa;
- Produce a yearly report on the state of AI innovations in education in Africa, highlighting promising innovations, key opportunities and challenges;
- Design a framework for facilitating the synthesis of lessons learned from across the different innovation projects supported by the network;
- Support uptake and scaling of research for policy or practice change;
- Require that all grantees openly release any data sets that are generated by the research project;
- Facilitate the production, communication and marketing of research outputs stemming from the network and ensure research publication in appropriate venues in accordance with IDRC's Open Access Policy.

Contribute to the overall AI4D Africa program strategy

- Participate in the implementation steering committee of AI4D; and
- Participate in the AI4D Africa learning, monitoring, and evaluation activities.

Funding and Duration

AI4D Africa will allocate up to CA$1.2 million (US$X million) to perform the duties of the Hub. The project can be up to **30 months** in duration. For a consortium, IDRC will enter into a funding agreement only with the lead organization.

Eligibility

This call for expressions of interest is open to individual organizations or groups of organizations that:

- Have their headquarters based in Sub-Saharan Africa with preference given for organizations in low- and medium-income countries (see annex B below).
- Have a proven record of working in Africa and supporting the design, development, and scaling of education and AI innovations in these contexts.
- Internal expertise in AI and education technologies.
- Ability to work in both English and French at a minimum. Other languages a plus.

Transdisciplinary consortia are encouraged to apply. Consortia may consist of up to three (3) organizations. In case of a consortium, the expression of interest needs to provide a rationale explaining why the consortium has come together to implement this innovation research network and describe the role and added value provided by each member organization. Consortia must describe the governance and coordination arrangements they will use to produce high quality work and support fair and equitable partnerships.

NB: *This call for expressions of interest is not open to individuals or government ministries and agencies, but it is open to public research institutes and public university centers, labs and departments. It is also open to private sector actors.*

In case of a consortium application, individual members can be based in different countries and the non-leading members may be based in countries other than the list of Annex II. However, the leading member can only be based in an eligible country (see Annex II). IDRC will get into contractual agreement with the lead member only. The other members will be considered as subcontractors.

Expression of Interest Requirements

The applicant organization (or, in the case of consortium, the lead organization) should submit an expression of interest of no more than 4,000 words that clearly addresses the following:

- The organization's (or consortium's) interest in becoming the Hub and how this role aligns with their organizational mandate.
- The organization's (or consortium's) experience running innovation and/or research networks.
- The key areas where leveraging Machine Learning (ML) in support of AI innovations in education in Africa can bring the biggest benefit, and the challenges to achieving those benefits.
- The scope of AI innovations research to be conducted by the network (e.g., public pre-school, primary school, secondary school, technical, vocational, and/or public universities systems). It is expected that the winning Hub will determine and develop the exact scope of the proposed research agenda. Provide a suggestion of how you would scope this call for expression with justification.
- How the organization engages in the education space and/or artificial intelligence/ data science for development.
- How the organization would build an innovation research network that (1) secures diverse participation across Africa, (2) supports responsible innovation, and (3) provides innovation and research support.
- How the organization will ensure inclusion and equity of both genders and other vulnerable groups in research design, implementation, and outcomes.
- Experience with research synthesis and knowledge mobilization.
- The team composition and resources deemed necessary to successfully implement the network, including its evaluation and governance processes (in the case of consortium, outline the roles each member would play, which organization would lead, how partners would coordinate equitable and effective partnerships).
- What major challenges the organization (or consortium) foresees in implementing the network and what actions it will take to address them.
- Indicative budget. We expect that a minimum 55% of the total budget goes towards network research projects.

In addition, please include:

- Contact information of the lead applicant and members of the consortium if applicable;
- [Institutional Profile Questionnaire](#) (IPQ) to be completed by the lead applicant; and
- Abridged CVs of the lead applicant with relevant experience and key contact individuals from other organizations in the case of the consortium (CVs should be no longer than two pages).

Evaluation Criteria of Expression of Interest

Knowledge and expertise on Education, ML innovations, and research (20%)

- Demonstrated experience engaging in education research and/or AI innovations in Africa.
- Experience and learning about scaling pathways in ML innovations for education innovations within Africa.
- Connections with research and policy communities relating to education and/or AI.

Knowledge and expertise in supporting research and/or innovations networks (20%)

- Demonstrated experience running collaborative research activities and/or networks.
- Proven ability to support and guide researchers and technologists
- Ability to facilitate knowledge exchange through participatory mechanisms both virtually and face-to-face.
- Experience managing calls for proposals processes.

Innovation Research Network Plan (20%)

- Logical network plan that funds and supports responsible education innovations
- Approach ensures inclusion and equity of both genders and other vulnerable groups
- High impact knowledge synthesis and sharing activities
- Reasonable and feasible budget

Expertise in synthesis, learning facilitation, and knowledge mobilization (15%)

- Ability to facilitate cross-grantee learning and synthesis.
- Experience in designing and developing products that support knowledge sharing and use: high quality practitioner-oriented outputs, toolkits, rapid knowledge syntheses, supporting resources, and policy briefs.
- Experience in knowledge mobilization for policy and practice improvement.

Organizational performance (20%)

Evidence that the organization has the basic systems, resources, and management capacities to succeed in setting up and running a Pan African research network. Capacity to work in English and French (other languages would be an asset).

Organizational motivation (5%)

Evidence that the organization's programmatic strategy, institutional mandate, and previous experience align with and are relevant to the role of the Hub.

Submission and Review Process

The expression of interest and all requested supporting materials must be consolidated into one PDF/Word document and sent by email to AI4DAfrica@idrc.ca, with a timestamp no later than June 20, 2021, before 23:59 EST. Please use the follow subject when submitting your EOI: Name of the lead institution –Education innovation research network.

The review process will consist of the following steps:

(1) Verification of eligibility requirements and expression of interest completeness: IDRC will review all submitted expressions of interest to ensure they meet eligibility requirements and all necessary materials. Incomplete expressions of interest or those that do not meet the requirements will not be considered further.
(2) Review and ranking of expressions of interest: members of IDRC and AI and education will review eligible expressions of interest using the evaluation criteria. Each expression of interest will be reviewed by at least two reviewers. Expressions of interest will be ranked based on scoring and subsequent IDRC discussion.
(3) Shortlisting expressions of interest: On the basis of scoring and internal discussion, IDRC will shortlist high-quality expressions of interest and will invite at most 5 applicants to submit a full proposal. The full proposals will be assessed by an external expert review panel, who will recommend a shortlist to IDRC and Sida.
(4) Proposal feedback will only be provided to those that are requested to submit a full proposal.

Call Timeline

Activity	Date
Expression of interest release date	May 25
Deadline for submission of questions	June 9
Answers to questions posted	June 11
Submission deadline	June 25
Selected EoIs invited to submit proposals	July 9

Submission of full proposals	August 13
External review of proposals	Aug 15 – Sept 1
Recommendation to IDRC and Sida's executive committee and final discussions	September 3
Negotiations and contract development with the selected applicant begin	September 6

Inquiries

If you have any questions about this call for expressions of interest, please contact IDRC at AI4DAfrica@idrc.ca.

Any inquiries that affect all applicants will be posted anonymously online on an FAQ site. Applicants are strongly encouraged to monitor this website for any updates regarding the call.

Annex A: AI4D Africa background

Artificial intelligence (AI) applications are profoundly impacting our world. AI is a set of technologies upon which applications are being built and applied in almost every domain of social and economic life. Fuelled by the increasing availability of computational power, improved connectivity, and data, AI offers innovative ways to promote human development by spurring new start-ups, improving food systems, enabling higher quality education systems, and tackling pressing health and climate challenges for many low- and middle-income countries in Africa. The resulting impact stands to be massive, if not revolutionary.

Across the continent, Africa has a burgeoning community of data scientists, AI specialists, and researchers who are exploring how AI can contribute to tackling local challenges. For instance, Agrix Tech, a Cameroon start-up rolling out in 2020, aims to help African farmers detect plant diseases and offer both chemical and physical treatments as well as prevention measures. And M-Shule in Kenya uses AI and SMS to deliver personalized, accessible education to primary school students across Africa. The enthusiasm and breadth of applications are witnessed in the highly popular Deep Learning Indaba and Data Science Africa events that bring together hundreds of practitioners from across the continent to learn and share.

To address these challenges, the AI4D Africa program has a responsible AI innovation stream which will consist of four innovation research networks in the areas of climate action, education, agriculture, and gender and inclusion. This call responds to the innovation research network focused on innovations in education.

We encourage all applicants to read the original AI4D Program Proposal.

Annex B: Eligible Countries

The lead organization must be headquartered in a low and lower-middle income countries in sub-Saharan Africa, as per the country classification of the World Bank. Eligible countries include the following:

Benin	Malawi
Burkina Faso	Mali
Burundi	Mauritania
Cameroon	Mozambique
Central African Republic	Niger
Chad	Nigeria
Comoros	Rwanda
Congo, Rep	Senegal
Côte d'Ivoire	Sierra Leone
Democratic Republic of the Congo	Somalia
Djibouti	South Sudan
Eritrea	Sudan
Eswatini	Swaziland
Ethiopia	Tanzania
Ghana	The Gambia
Guinea	Togo
Kenya	Uganda
Lesotho	Zambia
Liberia	Zimbabwe
Madagascar	

The following SSA countries **are not** eligible for this call:

Botswana
Equatorial Guinea
South Africa
Seychelles