

# Full Scholarship PhD Position in Digital Health Innovation Ecosystems in Sub-Saharan Africa

Company:

**Ecole Polytechnique, Chaire Technology for Change**

Location:

**France / Paris**

Discipline:

**Digital Health Innovation Ecosystems in Sub-Saharan Africa**

Employment Type:

**PhD Position**

Posted:

**2022-07-26**

Contact Person:

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## **PhD Full Scholarship: Fostering FAIR digital health innovation ecosystems in Sub-Saharan Africa (École Polytechnique / Chair Technology for Change)**

### **Description of the Position**

The **Chair “Technology for Change”** of the **Institut Polytechnique de Paris (IP Paris)**

– France’s leading STEM/Engineering University, combining the strength of five most reputed HE institutions: École Polytechnique (“I’X”), ENSAE, ENSTA, TelecomParis, TelecomSudParis – is opening a full scholarship PhD position in the area of Digital Health Innovation Ecosystems in Sub-Saharan Africa.

The scholarship corresponds to a 3-year fixed-term full-time employment. Gross Salary is €21,000 [p.a.](#) The PhD student will be enrolled at École Polytechnique (Paris) and be a part of Doctoral School of Institut Polytechnique de Paris. In addition to being a part of the team of the Chair Technology for Change, the PhD Student will be a member of the CNRS Innovation Interdisciplinary Institute (i3, UMR CNRS 9217).

This scholarship is available to EU citizens, UK nationals, and other applicants. Those in possession of their own funding ([e.g.](#) via a non-EU government scholarship) are also welcome to apply for a place of study.

This position does not entail teaching or administrative duties (besides administrative duties related to the PhD programme itself). However, there are teaching opportunities at both undergraduate and postgraduate level for PhD students willing to develop their teaching experience.

As a team member of the Chair Technology for Change, the PhD student will take part in the research and dissemination activities of the Chair, and is expected to provide help and assistance in the organisation and running of these activities.

The Chair Technology for Change has strong ties with other international higher education institutions (in Germany – RWTH Aachen, TUM; Denmark – SDU, CBS; the Netherlands – Leiden University, TU Eindhoven; Switzerland – EPFL), and research visiting opportunities during the PhD can be offered.

## PhD Topic

The potential for digital health technologies to be a force for change probably is nowhere as significant as it is in the context of the health systems of Sub-Saharan Africa (SSA). As these health systems are highly under-resourced in terms of both human and capital resources, and as healthcare access remains an issue for many, digital health innovations offer the promise of relatively low-cost, scalable solutions to mitigate some of these challenges.<sup>[i]</sup> However, a major barrier has been to build the data infrastructures to support and fuel these types of innovations. Like in health systems everywhere compatibility and integration of information systems across facilities, services, and devices is a major issue. Another issue that is more specific to the SSA context is the lack of local ownership and control over data (infrastructures).

Over recent years there have been efforts by various stakeholders in the health systems of SSA to claim local ownership over health data. One of these initiatives is the VODAN-Africa collaboration network ([VODAN](#)), which comprises of universities based in Uganda, Kenya, Tanzania, Ethiopia, Somalia, Nigeria, Liberia, and Tunisia, as well as 88 health facilities in the region. This network has developed a shared data infrastructure, consisting of standards and technologies used to curate and provide access to data assets. This infrastructure has been deployed in a proof-of-concept study.<sup>[ii]</sup> Key to the further rollout and adoption of this infrastructure will be the development of services that use these data. Companies that develop services using VODAN-Africa data will be critical in creating actual value from the data infrastructure that are being implemented in SSA.

This PhD project will examine the challenges of attracting companies to an open healthcare data infrastructure such as the VODAN-Africa platform, and how to create the conditions for vibrant local innovation ecosystem to form around the platform. To shed a light on this, the student will zoom in on three specific issues:

**Business model design** - The PhD student will develop frameworks that outline the trade-offs firms face in developing business models that live off open health data platforms where data appropriation is restricted.

**Data platform design** - The student will examine the platform design trade-offs that networks such as VODAN-Africa face in opening up a platform to firms and cultivating the emergence of digital innovation ecosystems around it.

**The development of use cases** - The student will conduct one or two case studies of the implementation of company services that build on the VODAN-Africa data infrastructure.

Beside contributions to theory and to the field of Business and Management, in general, this aim of this PhD thesis is to deliver practical contributions to practice that can be leveraged by the companies and institutions providing the research field.

## Prerequisites and Skills

### Required:

- Be holder of a Masters 2 degree (or equivalent) in a field relevant to the project ([e.g.](#) Innovation/Technology management, Healthcare management and policy, Public Policy, Information management for business – other fields can be considered).
- Ability to analyse and synthesise research outputs (in various scientific fields), reports,

minutes, and other artefacts.

- Fluency in the English language (both spoken and written). C1 is a minimal requirement.
- A strong interest in the research topics of the Chair Technology for Change.

#### Desirable:

Command of the French language is desirable as it will allow the student to benefit most of the local scholarly environment. Meetings/seminars organised by the Chair Technology for Change are mostly conducted in English, but many other research seminars/meetings at École Polytechnique are in French.

- Knowledge and experience of qualitative methods (e.g. interviews, coding, case study writing, action research), or a keen interest in those methods.
- Knowledge and experience of qualitative coding software such as NVivo, RQDA (R).

### **Application Process**

Please send the following with your application:

- A CV, support statement, Masters/postgraduate studies transcripts/records (when available) – Bachelor or undergraduate studies transcript/records can also be supplied.
- When available, a sample of writing and research output (e.g. Masters dissertation/thesis, undergraduate report)
- Names and details of two academic referees (recommendation letter are not required at this stage, but may be supplied if available)

Applications should be sent by email at [technology-for-change@ip-paris.fr](mailto:technology-for-change@ip-paris.fr) (please indicate “PhD Application / Digital health for SSA” as the subject of your email).

Applications will be examined continuously starting 10 August 2022, and the position will be filled as soon as a suitable candidate is identified, so we encourage potential applicants to send their application at the earliest opportunity.

Interviews (on campus or through videoconferencing) will be offered to a selection of applicants, based on the degree of fitness of their application to the requirements for this PhD project.

Please contact Professor Simcha Jong ([simcha.jong@polytechnique.edu](mailto:simcha.jong@polytechnique.edu)) with any questions about this project or the vacancy.

### **About the Institut Polytechnique and the Chair Technology for Change**

The **Institut Polytechnique de Paris** is a public University/higher education and research institution comprising five prestigious French STEM and engineering Higher Education institutions: **École Polytechnique, ENSTA Paris, ENSAE Paris, Télécom Paris and Télécom SudParis**. Under the aegis of the Institute, they bring together two centuries of expertise to pursue two major goals: to develop world-class training programmes and cutting-edge research. Building on the strength of its five founding institutions, the Institut Polytechnique de Paris has established itself as a leading education and research institution in France and internationally. École Polytechnique, ENSTA Paris, ENSAE Paris, Télécom Paris and Télécom SudParis have contributed to major industrial and technological breakthroughs over the last two centuries. Their alumni include Nobel prize winners and prominent figures in the worlds of politics, business and research.

The **Institut Polytechnique** is ranked 49 in the world (2<sup>nd</sup> in France) according to the latest QS University Ranking. The Institute is ranked 12 in the World (1<sup>st</sup> in France) in the QS Graduate Employability Rankings 2022. École Polytechnique, and Télécom Paris, two of its founding members, have been consistently ranked respectively 2<sup>nd</sup> (after CalTech) and 7<sup>th</sup> in the THE Best Small

Universities Ranking. The Institut Polytechnique is ranked 6<sup>th</sup> in the THE Top 10 Best Young Universities.

**The Chair Technology for Change** is the first Chair of the Institut Polytechnique de Paris and one of the largest funded chairs in the areas of Human and Social Sciences. Funded through an ambitious 5-year partnership between the Institut Polytechnique and Accenture, the Chair aims to strengthen the links between science & technology, and the environmental and social Grand Challenges currently faced by humankind, in order to help foster virtuous and inclusive technological developments. Led by Prof. Thierry Rayna (of École Polytechnique), the Chair's team comprises at this stage eight academics, five PhD students, three postdocs, and a support team consisting of three people. An additional 10 more people (including four PhD students and three postdocs) are currently being recruited. The Chair's offices are located in the Drahi-X Novation Center, on the Institut Polytechnique Campus (Greater Paris), that is host to the X-UP startup incubator, the X-Tech space tech accelerator, the prototyping and fabrication space X-F4B, as well as to innovation teams of large companies (Cisco, Fujitsu, Valeo...).

The **Innovation Interdisciplinary Institute** (i<sup>3</sup>) is a CNRS joint research unit (UMR 9217) bringing together research centres from École Polytechnique (CRG), Télécom Paris (SES), and Mines ParisTech (CERNA, CGS and CSI). The institute develops high-level research combining academic excellence and relevance for practitioners. A large part of i<sup>3</sup>'s research is carried out as part of research contracts (€3.9 million in 2021) with businesses, associations/NGOs, and government/public administrations. The Institute currently has 8 industry-funded academic chairs. Through its research and training activities, i<sup>3</sup> contributes to addressing the major challenges of our time: diffusion of information technologies, health, innovation, energy and sustainable development.

[i] Holst, Christine et al. Sub-Saharan Africa—the new breeding ground for global digital health

The Lancet Digital Health, 2020, Volume 2, Issue 4, e160 - e162

[ii] Van Reisen M et al. Design of a FAIR digital data health infrastructure in Africa for COVID-19 reporting and research. Adv Genet (Hoboken). 2021 Jun;2(2):e10050. doi: 10.1002/ggn2.10050. Epub 2021 Jun 11. PMID: 34514430; PMCID: PMC8420285.

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