

Akil AMIRALY

CONTACT INFORMATION

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PERSONAL INFORMATION

Birth: Antananarivo, Madagascar
Nationality: French

RESEARCH AND TEACHING INTEREST

Teaching area: International development and Project management in developing countries (India, East-Africa).

- Management of public utilities and Political economy of basic service provision (water, energy, mobility):
- Micro-entrepreneurship and Low-tech innovation in basic service provision.
- Sociology of consumption practices in basic service provision.
- Field research method: Exploratory research, Socio-anthropology of development.

Research area: Access to basic services in the South and Impacts of innovations on users' consumption patterns.

- Topic 1: Interaction between technologies and human behaviour (diffusion/translation/appropriation/hybridization)
- Topic 2: Coexistence of network-based services and alternative solutions (water, energy, mobility-delivery).
- Topic 3: Micro-entrepreneurship on innovative business models.

Current research: Leapfrogging services in developing cities of India and East-Africa (water, energy, mobility).

- Postdoctoral research: Impacts of the 'payment as per consumption' model on water consumption practices in India.
- Doctoral research: Managerial and societal implications of the diffusion of water-meters in India.

POSITION AND AFFILIATION

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| 2025- | Associate Research Scholar – Center for Urban Sustainable Development (Columbia University), USA. |
| 2018- | Associate Research Scholar – Chair Energy and Prosperity (Institut Louis Bachelier), Paris, France. |
| 2010-23 | Associate Research Scholar – Ecole Polytechnique (Management Research Center), Palaiseau, France. |
| 2018-22 | Associate Research Scientist – Columbia University (Columbia Water Center, Earth Institute) USA. |
| 2011-14 Fall | Visiting Scholar – UC Berkeley (School of Information), 4 Fall semesters, Berkeley, California, USA. |

EDUCATION

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| 2009 Nov. | PhD, Management – Ecole Polytechnique (Management Research Center), Paris, France. |
| 2002 | MPhil, Comparative Study of Development – EHESS, School of Social Sciences, Paris, France. |
| 2001 | Lavoisier Research Fellow – IIMA, Indian Institute of Management, Ahmedabad, India. |
| 2000 | M.S., Management of International Risks – HEC, School of Management, Paris, France. |
| 1999 | M.A., Hindi – INALCO, National Institute of Oriental Languages and Civilizations, Paris, France. |
| 1996 | M.A., Language & Management – University of Cergy-Pontoise, France. |

RESEARCH PROJECTS

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|--------------------------|---|
| 2020-23 | Institute for Sustainable Mobility, Ecole Polytechnique
<i>Sustainability of the activity of electric mobility services in East African cities</i>
[NextGrid 2] (2020-21): Study of the sustainability of electric motorcycle taxi service in Kampala (Uganda)

Field Survey: Kampala (4 months: September 2021-December 2022)
Quantitative Research: Interviews with the riders (n: 200) and the operators of the service.
Funding: Institute for Sustainable Mobility, Chair Energy and Prosperity (field surveys). |
| Oct. 2018 -
July 2019 | Columbia Water Center, Indian Institute of Science, Ecole Polytechnique (Alliance Program Grant)
<i>Sustainability of the Water Kiosks model based on the 'packetization' concept in Indian periurban areas</i>
Study of the suitability of the service: affordability for users and economic sustainability for operators.

Visiting scholarship: Columbia University (3 months, 2018), Indian Institute of Science (4 months, 2019)
Field Survey: Delhi, Bangalore (4 months: January-May 2019)
Qualitative Research: Interviews with the users, the operators and regulators of the water kiosks service. |

[Update: September 2025]

Funding: Alliance Program Grant: Trilateral Initiatives on Emerging Regions (Columbia University).

- 2013-17 **Institute for Sustainable Mobility, Ecole Polytechnique**
Diffusion of innovative water and energy supply services in Indian cities
[NextVolt 1] (2013-14): Study of solar photovoltaic systems from rural to urban contexts: Selco India.
[NextVolt 2] (2015-17): Study of the impact of information systems on users' consumption practices.
Field Surveys: Bangalore, Ahmedabad, Hubli-Dharwad (5 months).
Qualitative Research: Interviews with the users and the implementers of the systems.
Funding: Institute for Sustainable Mobility (ParisTech, Renault).
- 2011-14 **UC-Berkeley School of Information, Ecole Polytechnique**
Complementarities between the main and the alternative Water supply systems in Indian cities.
Study of the appropriation by the users of the water meters installed by Veolia in Belgaum (Karnataka)
Visiting scholarship: UC-Berkeley (4 Fall semesters: Oct.-December 2011-14).
Field Survey: Belgaum (3 months: August-Sept. 2011, January 2012).
Qualitative Research: Interviews with the users (n: 50) of the public water supply service.
Funding: Ecole Polytechnique (Doctoral School, Chair of multicultural management X-HEC).
- 2005-08 **Veolia Institute, Ecole Polytechnique**
Transposition of Management models and tools between the "North" and the "South".
Study of the installation of the water meter by Veolia Water in Chennai (Tamil Nadu).
Focus on the localization process of an imported managerial tool by local stakeholders.
Field Survey: Delhi, Bangalore, Chennai (5 months: Feb.-July 2006).
Qualitative Research: Interviews with the users (n: 37) of the public water supply service.
Funding: CIFRE Fellowship (French Ministry of Research & Veolia).
- 2001-02 **Indian Institute of Management Ahmedabad**
Complementarities between the main and the alternative Water supply systems in Indian cities
Study of users' water consumption practices of water harvesting cisterns in Ahmedabad (Gujarat).
Field Survey: Ahmedabad (7 months: Nov. 2001-June 2002).
Qualitative Research: Interviews (n: 60) with the users of the cistern and the water supply service.
Funding: Lavoisier Fellowship (French Ministry of Foreign Affairs & Veolia Water).
- 1999-2000 **National Committee of French Foreign Trade Advisors**
Differences of Management in trans-national alliances: the case of Indo-French Joint-ventures.
Study of the management of Franco-Indian joint ventures in different sectors.
Field Survey: Delhi, Mumbai, Bangalore (3 months: Oct.-Dec. 1999).
Qualitative Research: Interviews with French and Indian top managers and directors (n: 22).
Funding: CNCCEF and INALCO Fellowship.

PUBLICATIONS

Articles

- 2025 AMIRALY A., SAWAMURA H., WILLIAMS C., "The hybrid domain for energy in India: A case study exploring the diffusion of off-grid solar power", *Society and Business Review*. DOI:10.1108/SBR-11-2023-0332. [\[hal-05250867v1\]](#)
- 2011 AMIRALY A., « Lorsque le compteur d'eau donne la mesure du monde indien », *Le Journal de l'Ecole de Paris du Management*, n° 91, Septembre-Octobre, pp. 31-36. [\[hal-00667434\]](#)
- 2011 AMIRALY A., KANNIGANTI A., "The impact of a pilot-metering project in an Indian city on users' perception of the public water supply", *Field Actions Science Reports*, Vol. 5. [\[hal-05110278\]](#)

Book Chapters

- 2025 AMIRALY A., "Diffusing water management know-how between a French MNE and an Indian utilities company in Chennai, India: La mayonnaise n'a pas pris", in WILLIAMS C. and

KASPAR M. [eds], *Casebook on foreign direct investment and cities*, Routledge. ISBN: 978-10-3277-481-7. DOI: 10.4324/9781003483410. [\[hal-05250806v1\]](#)

2025 AMIRALY A., “The difficult reappropriation of an ancient technical knowledge: Rainwater harvesting in Ahmedabad (India)”, in KELLER S. [ed] (2025), *Accessing water in the South Asian city*, Primus books, Delhi. ISBN: 978-93-6883-991-0.

2018 AMIRALY A., SAWAMURA H., « La fabrique de l’usager éclairé. Le rôle des consommateurs dans la diffusion de systèmes photovoltaïques à Bangalore, le cas SELCO India », in Brice Laurent, Michael Baker, Valérie Beaudouin & Nathalie Raulet Croset [eds] (2018), *Innovation et participation. Approches critiques*. Paris, Presses des Mines, pp. 221-234. ISBN: 9782356715357. [\[hal-05108384\]](#)

Case studies

2023 PRIME N., AMIRALY A., HASANNIA KOLAE M., KASAIJA P., “Electric moto-taxis innovation in low income countries: A rider’s perspective in Kampala”, William Davidson Institute Publishing, Michigan University (Award: 1st price, Energy innovation in LMIC competition, WDI publishing). [\[WDI publishing\]](#)

Book in preparation

(2025-28) AMIRALY A., *Le compte de l’eau et la mesure du monde indien*. Paris, ENS, Editions de la rue d’Ulm, Collections sciences durables, 70 pages (to be submitted for review in Fall 2027).

Working papers

2017 JONHSON K., AMIRALY A., “Challenges & opportunities of infusing entrepreneurial methods in fundamental science education: Action learning at Ecole Polytechnique”, Institut Interdisciplinaire de l’Innovation, Paris, Working paper n° 17-CRG-02, juillet 2017, 15 p. [\[hal-01574725\]](#)

2002 AMIRALY A., PRIME N., SINGH J.P., “Rainwater harvesting, alternative to the water supply in Indian urban areas: The case of Ahmedabad in Gujarat”, Indian Institute of Management, Ahmedabad, Working paper n° 2004-04-01, 69 p. [\[halshs-00138830\]](#)

Articles in Conference proceedings

2025 AMIRALY A., HASANNIA KOLAE M., Optimized socio-economic model for locating electric motorcycle taxis (e-bodas): Battery swapping stations towards sustainability. Society for the Advancement of Socio-Economics (SASE), Annual Conference, Montréal, 9-12 July 2025.

2024 AMIRALY A., HASANNIA KOLAE M., KLOPP J., COURTRIGHT T., KASAIJA P., *Innovative solutions mobilized by self-employed electric motorcycle taxis to circumvent resource constraints in Kampala*, R&D Management Conference 2024, KTH, Stockholm, 17-19 June 2024.

2023 AMIRALY A., HASANNIA KOLAE M., KASAIJA P., *Challenges and resources of self-employed riders developing the electric motorcycle taxis service in Kampala, Uganda*, R&D Management Conference 2023, Universidad Pablo de Olavide, Sevilla, 19-21 June 2023.

2022 AMIRALY A., SAWAMURA H., *Hybrid domain of energy supply in Bangalore, India: How a social enterprise explores a solar photovoltaic market with its urban customers*, Society for the Advancement of Socio-Economics (SASE), 34th Annual Conference, Amsterdam University, Amsterdam, 9-11 July 2022.

2021 AMIRALY A., *From the tap to the cistern, the difficult reappropriation of an ancient technical knowledge: Rainwater harvesting in Ahmedabad (India)*. Workshop “Accessing the water in the South Asian City”, University of Erfurt, Max-Weber Center, Erfurt, 8-9 July 2021.

2019 AMIRALY A., PRABHAKAR P., *The diffusion of water-metering by a French company in an Indian city: A management situation reconfiguring water consumption practices*, Society for the Advancement of Socio-Economics (SASE), 31st Annual Conference, The New School, New-York City, 27-29 June 2019.

- 2018 AMIRALY A., SAWAMURA H., *The diffusion of solar photovoltaic system in Bangalore: The concomitant actions of a company and its early adopters in bringing its rural developed solution into an urban context*, R&D Management Conference 2018, “The Innovation Challenge: Bridging Research, Industry and Society”, HEC / Ecole polytechnique, Paris, 17-21 June 2018.
- 2018 AMIRALY A., SAWAMURA H., *The role of corporate entrepreneurs in designing off-grid energy service with its users: A case study of SELCO in Bangalore*. Technologies for Development (Tech4Dev), 5th Conference, EPFL EcoDev, Ecole polytechnique fédérale de Lausanne, Lausanne, 27-29 June 2018.
- 2017 JOHNSON K., AMIRALY A., *Bringing entrepreneurial methods into the scientific classroom: A case study of Action learning at École polytechnique*, Association Internationale de Management Stratégique (AIMS), 8^{èmes} journées du Groupe Thématique Innovation de l’AIMS: “Innovations, Espaces, Territoires”, École polytechnique, Palaiseau, 14-15 September 2017.
- 2016 AMIRALY A., PRABHAKAR P., *The water meter, a management tool reconfiguring the sociotechnical context of water consumption practices in an Indian city: the case of Belgaum*, Atelier de recherche « Aborder les problèmes d’environnement comme des situations de gestion », ENGEES, Strasbourg, 12-13 décembre 2016.
- 2016 AMIRALY A., SAWAMURA H., *The central role of the customers in the diffusion of alternative electricity supply solutions in Bangalore: A case study of SELCO bridging its rural developed solution to urban actors*, European Group for Organizational Studies (EGOS), 32nd Colloquium, University of Naples Federico II, Napoli, 7-9 July 2016.
- 2015 JOHNSON K., AMIRALY A., *Challenges & opportunities of infusing entrepreneurial methods in fundamental science education: Action learning at École polytechnique*, Proceedings of the 10th European Colloquium on Innovation and Entrepreneurship, University of Genoa, Genoa, 17-18 September 2015.
- 2015 SAWAMURA H., AMIRALY A., *Diffusion of alternative electricity supply solution in Bangalore : the emergence of a market for middle-income customers with new aspirations. Case studies of SELCO and BCIL promoting photovoltaic systems*, Proceedings of the 3rd International Conference « Micro Perspectives for Decentralized Energy Supply », Universitätsverlag der TU Berlin, Bangalore, 23-25 April 2015.
- 2014 AMIRALY A., PRABHAKAR P., *The impacts of the installation of the water meter in Indian cities*, Society for the Advancement of Socio-Economics (SASE), 26th Annual Meeting, Northwestern University and the University of Chicago, Chicago, 10-12 July 2014.
- 2013 AMIRALY A., *The indigenization of the water meter in India, a counterproductive outcome in a water scarce context*, Society for the Study of Social Sciences (4S), 38th Annual Meeting, San-Diego, 8-11 October 2013.
- 2012 AMIRALY A., *The Socio-Economical Impacts of the Implementation of Water Metering in Indian Cities*, Society for the Advancement of Socio-Economics (SASE), 24th Annual Meeting, Massachusetts Institute of Technology, Sloan School of Management, Cambridge, 28-30 June 2012.
- 2010 AMIRALY A., *The confrontation of the logics of action of public and private stakeholders after the introduction of the water meter*, International Federation of the Scholarly Associations in Management (IFSAM), 10th Conference, Conservatoire National des Arts et Métiers, Paris, 8-10 July 2010.
- 2010 AMIRALY A., *The societal impacts of the transposition of the water meter in India*, European Academy of Management (EURAM), 10th Conference, Tor Vergata University, Rome, 19-22 May 2010.
- 2010 AMIRALY A., *The "glocalization" of the water-meter in India*, European Group for Organizational Studies (EGOS), 26th Colloquium, Universidade Nova de Lisboa, Lisbon, 28 June-3 July 2010.
- 2008 AMIRALY A., *The localization process of the French water meter in India*, European Academy of Management (EURAM), 8th Conference, Ljubljana University of Economics, Ljubljana, 14-17 May 2008.

- 2007 AMIRALY A., *The dance of trust and distrust between French and Indian stakeholders in a case of technology transfer: Installation of water meters in Chennai*, 4th EIASM Workshop on Trust within and between organizations, Vrije Universiteit, Amsterdam, 24-27 October 2007.
- 2007 AMIRALY A., *The impacts of the introduction of the water meter on trust between French and Indian stakeholders of different organizational cultures in an Indian urban context*, European Group for Organizational Studies (EGOS), 23rd Colloquium, Wirtschafts Universität, Vienna, 5-7 July 2007.

Poster in Conference proceedings

- 2016 AMIRALY A., SAWAMURA H., *The role of the customers in the diffusion of alternative electricity supply solution in Bangalore: A case study of SELCO bringing its rural solution to an urban niche market*, Proceedings of the 7th Annual Symposium on Computing for Development (ACM DEV), Nairobi, 18-20 November 2016.

PhD. Thesis

- 2009 AMIRALY A., *Transposition and appropriation of a management tool in the context of globalization: The water meter in India*, PhD. Dissertation, November 2009, Ecole Polytechnique, Paris, 351 pp.

Communications and Invited talks

- 2025 AMIRALY A., *(Mis)translating corporate norms and practices from headquarter to the field. Reflections on the implementation of water supply infrastructure by a French utility in Indian cities*, Foreign Direct Investment and Cities Forum, ESSCA School of Management, Paris, 7th February 2025.
- 2024 AMIRALY A., *L'accès à l'eau dans les villes indiennes : le cas des métropoles*, Conférence « Les enjeux écologiques de l'urbanisation. Un regard croisé entre Bordeaux et Hyderabad », Sciences Po Bordeaux, Bordeaux, 2 Avril 2024.
- 2023 AMIRALY A., *Du robinet à la citerne, la difficile réappropriation d'un savoir technique ancien : la récupération d'eau de pluie à Ahmedabad*, Journée d'étude « Patrimoines hydrauliques. Invention, valorisation ou invisibilisation », Maison des Sciences de l'Homme Paris-Nord, Paris, 14 Décembre 2023.
- 2022 AMIRALY A., *Le water kiosk, une solution durable pour l'accès à l'eau dans les villes indiennes ?* Inaugural conference of the Chair Technology for Change, Institut polytechnique de Paris, Paris, 4th April 2022.
- 2015 AMIRALY A., *La transposition du compteur d'eau par Veolia Water en Inde : L'outil de gestion dans son contexte institutionnel, sociotechnique et économique*. AgroParitech, Montpellier, (date?).
- 2011 AMIRALY A., *The impacts of the installation of the water meter in Indian cities*, Indian Institute of Management Ahmedabad, IIMA Research Seminar Series, Ahmedabad, 21st of Sept. 2011.
- 2011 AMIRALY A., *Lorsque le compteur d'eau donne la mesure du monde indien*, Seminar « Management et cultures d'entreprises », Ecole de Paris du Management, in partnership with the Fondation Maison des Sciences de l'Homme and the Polytechnique-HEC Chair « Multicultural Management and Company Performance », Paris, 20th of March 2011.
- 2005 AMIRALY A., *La réhabilitation des systèmes alternatifs d'approvisionnement en eau dans la vieille ville d'A Ahmedabad au Gujarat : les citernes de récupération d'eau de pluie*, Séminaire « Inde médiévale et moderne : textes et contextes », Ecole Pratique des Hautes Etudes, Sorbonne, Paris, 14th of December 2005.

Press Articles

- 2010 AMIRALY A., « Lorsque le compteur d'eau donne la mesure du monde indien », *Livre blanc de l'Observatoire des directions internationales*, Bearing Point-SciencesPo-Les Echos, Dec.2010.
- 2008 AMIRALY A., GODELIER E., « L'innovation, moteur de la croissance. Une question d'organisation objective et rationnelle », *La Tribune*, Série 'Le meilleur de la stratégie et du management', 26th of March 2008, pp. 22-23.
- 2000 AMIRALY A., « Le secret des joint-ventures heureuses », *CCE International*, March 2000.

TEACHING

- 2025, Spring **Ecole Polytechnique, Bachelor prog. “Introduction to sustainability: history, concepts, methods”**
Lecturer – Graduate: “Emergence of electric mobility in developing cities: The case of Kampala”.
- 2024, Fall **Ecole Polytechnique, Master 2 “Economics for Smart Cities and Climate Policy”**
Lecturer – Postgraduate: “Case Study: The development of electric mobility in East-Africa”.
- 2024, Fall **Institut Polytechnique Paris, E4C Fall School “Interdisciplinary approach for future smartgrid”**
Lecturer – Postgraduate: “Humanities and Smart grids: Cases, methodologies and technologies”.
- 2024, Spring **Ecole Polytechnique, Master 2 “Economics for Smart Cities and Climate Policy”**
Lecturer – Postgraduate: “Case Study: The development of electric mobility in East-Africa”.
- 2024, Spring **Agro ParisTech, Paris, Graduate prog.2nd year “Economics and management of water utilities”**
Lecturer - Graduate: “The governance of water supply utilities in India”.
- 2022, Spring **Ecole Polytechnique, Applied Laboratory Module “Modal”**
Lecturer - Postgraduate: “Initiation to research through a case study: Water Kiosks in India”.
- 2021, Spring **Agro ParisTech, Paris.**
Lecturer - Graduate: “The governance of water supply utilities in India: The case of Chennai”.
- 2016, Winter **French Institute of Renewable Energies, Rueil-Malmaison, Master in Corporate Responsibility**
2012, Spring Lecturer - Postgraduate: “The management of public utilities in Indian cities: water supply”.
- 2013, Spring **Ecole Polytechnique, Palaiseau. Applied Laboratory Module “Modal”**
2012, Spring Lecturer - Postgraduate: “Initiation to research through a case study: Water meters’ users in India”
- 2010, Fall **Ecole Polytechnique & HEC, Paris, Chair in Multicultural Management**
Lecturer - Postgraduate: “Methodology of the field survey in the Indian context”.
- 2008, Spring **Sorbonne University, Paris I, Master in Organizations’ Management**
Teaching Assistant - Postgraduate: “Organisational behaviour and managerial change”.
- 2008, Fall **ESCP Europe, Paris, Specialized Master in International Projects Management**
2007, Fall Teaching Assistant - Postgraduate: “Management of public utilities in developing countries”.

STUDENTS’ MENTORING

PhD Student

- 2022, Fall HASANNIA KOLAEI Mansoureh (Amirkabir University, Tehran), Research Intern at Ecole Polytechnique. Article writing: *Assessing the sustainability of electric motorcycle business in East Africa : A case study of electric motorcycle taxis in Kampala (Uganda).*
- 2016-2017 SAWAMURA Haruki (Ecole Polytechnique, France), Doctoral student at Ecole Polytechnique. PhD topic: *The potential development of electric mobility system in Indian cities in the next ten years.*

Master Students

- 2015, Spring SAWAMURA Haruki (University of Tokyo), Research Intern at Ecole Polytechnique. Article writing: *Niche market cultivation of alternative electricity supply in Bangalore for middle-income customers with new aspirations: Case studies of SELCO and BCIL.*
- 2014, Spring JOHNSON Karen (MIT, Urban Planning), Research Intern at Ecole Polytechnique. Article writing: *Challenges & opportunities of infusing entrepreneurial methods in fundamental science education: Action learning at École polytechnique.*
- 2013, Spring PRABHAKAR Prarthana (IIT Kanpur, Economics), Research Intern at Ecole Polytechnique. Article writing: *The water meter, an object embodying the transfer of the management model of a French water company in India.*

VISITING SCHOLARSHIPS

2019 Spring	Indian Institute of Sciences, Bangalore – Indo-French Water Cell (IRD, IISc.)
2018-2019	Columbia University, New-York – Columbia Water Center, Earth Institute.
2011-2015	University of California, Berkeley – Berkeley Water Center and Berkeley School of Information.

FELLOWSHIPS, GRANTS, AWARDS

2023-2024	William Davidson Institute (1 st price, Energy innovation in LMIC competition) – Michigan University
2020-2023	Alliance Program Grant (Bilateral Grant) – Columbia University.
2017-2019	Alliance Program Grant (Trilateral Initiatives on Emerging Regions) – Columbia University.
2012-2017	Research Fellowship – Paris-Tech & Institute for Sustainable Mobility, France.
2010-2011	Postdoctoral Scholarship – Ecole Polytechnique, France.
2005-2008	CIFRE Doctoral Scholarship – French Ministry of Higher Education and Research & Veolia.
2001-2002	EHESS M.Phil Scholarship – French Ministry of Higher Education and Research
2002	Bilateral Scholarship – French Ministry of Foreign Affairs & Indian Council for Cultural Relations.
2001	Vallet Scholarship – Fondation de France.
2000	Lavoisier Research Fellowship – French Ministry of Foreign Affairs & Veolia Water.
1999	INALCO Scholarship – National Institute of Oriental Languages and Civilizations, France.

LANGUAGE SKILLS

French	Fluent
English	Good oral and written skills
Spanish	Good oral and written skills
Hindi	Good oral and written skills
Gujarati	Native

REFERENCES

Professor **Hervé Dumez** [hervé.dumez@normalesup.org]

Director of Research at CNRS-Ecole Polytechnique.

Ecole Polytechnique, Palaiseau, France.

Professor **Jacqueline Klopp** [jk2002@columbia.edu]

Director of the Center for Urban Sustainable Development.

Columbia University, New-York, United States of America.

Professor **Nathalie Prime** [prime@escp.eu]

Professeur en Management international. Directrice scientifique, Chaire « Innovation responsable en Afrique.

ESCP Paris, France.

Professor **Christopher Williams** [chris.williams@essca.fr]

Professor in Strategy and International Business.

ESSCA Business School, Boulogne-Billancourt, France.