

# Participation of African researchers and innovators in COST Action

## – mapping of current activities

November 2021

Report drafted with the contribution of COST Association and SFIC  
Africa Working Group

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## Introduction

This report is a result of the joint work between SFIC Africa Working Group and the COST Association.

SFIC Africa Working Group is a group of the Strategic Forum for International Strategic forum for international scientific and technological cooperation composed by nine European countries<sup>1</sup> and the European Commission that works to enhance the collaborations between Europe and Africa.

COST (European Cooperation in Science and Technology) is a funding organisation for research and innovation networks. These networks, called COST Actions, offer an open space for collaboration among scientists across Europe (and beyond) and thereby give impetus to research advancements and innovation. COST also organises a series of thematic workshops, COST Connect to provide an open space for researchers, policy makers and research and innovation (R&I) stakeholders to network and grow their ideas and strengthen multi-stakeholder partnerships. The first COST Connect, “Connecting continents – First COST Connect on Europe-Africa cooperation” dedicated to global networking activities was organised in March 2021.

COST was invited as a special guest at the SFIC Africa WG meetings in summer 2021, where the idea of joint work to understand the COST networks and their engagement with African partners and activities in Africa was welcomed by both parts. Hence, this joint collaboration.

The report is structured as such:

- Firstly, an overview of the African participation is given under section “African participation in the COST Actions”

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<sup>1</sup> Austria, Belgium, Finland, France, Germany, Italy, Norway, Spain and Portugal.

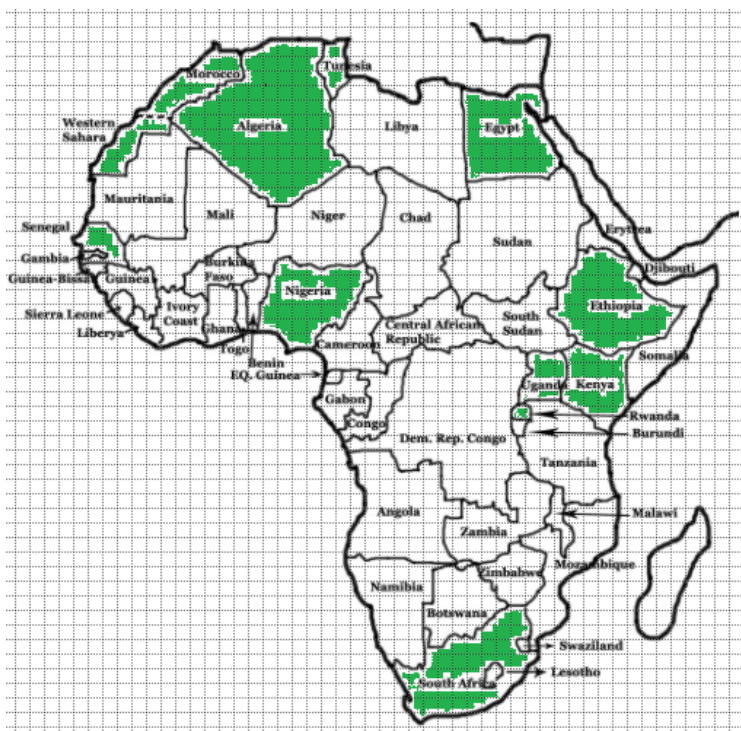
- Secondly, this participation will be mapped and analysed under the perspective of four broad political priorities, under section “[Priorities](#)”
- Thirdly, an overview of the participating stakeholders under section “[Institutions](#)”
- Fourthly, a summary of the use of COST networking tools is presented
- Finally, some conclusions will be brought forward in the last section “[Conclusions](#)”. Detailed information on all the existing and running COST Actions will be given under “[Annexes](#)”.

The document will be presented and discussed with stakeholders in the 30 November event "The Power of Networks on the European - African collaborations in research and innovation".

## African participation in the COST Actions

Such as under the COST database, there are currently 70 COST Actions that involve African stakeholders from 11 countries. Algeria, Egypt, Ethiopia, Kenya, Morocco, Nigeria, Rwanda, Senegal, South Africa, Tunisia and Uganda. This is 24%<sup>2</sup> of the total running COST Actions.

At the present moment<sup>3</sup>, there are 40 COST Actions that are



<sup>2</sup> A total of 70 out of 292 actions running currently – November 2021.

<sup>3</sup> November 2021.

being established, where the participation from African countries is not yet confirmed. In the case of these [new COST Actions](#), there is an expected 6-month period to wait for confirmed data on participation.

Out of the 70 actions, three of them count exclusively with European and African countries only. It is in this case Tunisia. The rest of the actions (67 in total) count with both African and non-African (other international participation) from all over the world. The World Cloud in the left shows these countries.



It is to be noticed that the African countries have different status in the COST Programme:

- The “Near Neighbour Countries” are located on the Northern shore of Africa, and they are: Morocco, Algeria, Libya, Tunisia and Egypt;
- The “Partner Member” is South Africa since April 2019 at the EU-ZA Science Summit.
- “International Partner Countries” are the remaining African nations.

## Priorities<sup>4</sup>

Such as established under the joint work with the SFIC Africa Working Group, the current section outlines the running COST Actions with the [established priorities under four areas of cooperation, defined by the EU-African Union Dialogue and the latest](#)

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<sup>4</sup> The provided data show the situation on 25 October 2021. As COST Actions are closing and starting on a continuous basis, the exact number of African participants as well as the number of countries involved can slightly vary even at two points close in time.













Green transition	20	Algeria (8), Egypt (3) Morocco (10), Nigeria (1), Tunisia (13), South Africa (4)
Innovation and technologies	6	Algeria (1), Morocco (2), South Africa (2), Tunisia (5)
Capacities for science	4	Morocco (2), Nigeria (1), South Africa (2), Tunisia (2)
Other	22	Algeria (4), Egypt (3), Ethiopia (1), Kenya (1), Morocco (7), Rwanda (1), Senegal (1), South Africa (5), Tunisia (6), Uganda (1)

Last but not least, there are 3 COST Actions covering more than one priority with the participation of one or more countries from Africa

- CA16226 public health, innovation and technology, Tunisia
- CA18102 Capacity for science, innovation and technology, Morocco, South Africa
- CA18210 green transition, innovation and technology, Morocco, Tunisia

## Institutions

This section provides an overview by identifying African partners and clustering them per country and institution

The data demonstrate that Tunisia is the most active country having the highest number of institutions engaged with COST (25), followed by Morocco (17), Algeria (14) and South Africa (13).



Morocco	17	public health, green transition, innovation and technologies, capacities for science, other
Nigeria	3	capacities for science
Rwanda	1	other
Senegal	1	other
South Africa	13	public health, green transition, innovation and technologies, capacities for science, other
Tunisia	25	public health, green transition, innovation and technologies, capacities for science, other
Uganda	1	other

Further analysis of the data is provided in table 3. Each priority is matched with the countries and institutions involved in a running COST Action.

**Table 3 List of partners per priority and their institutions**

Priority	List of partners per country <sup>6</sup>
Public health	<p><b>Egypt:</b> National Research Centre, American University of Cairo</p> <p><b>Kenya:</b> University of Nairobi</p> <p><b>Morocco:</b> University Mohammed V in Rabat, Institut Agronomique et Vétérinaire Hassan II, Euro-méditerranéen University of Fes, Institut Pasteur of Morocco</p>

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<sup>6</sup> Names of the institutions provided as participants registered them in the online COST database, e-COST.

	<p><b>South Africa:</b> University of Stellenbosch, University of Cape Town, University of Pretoria / private veterinary practice</p> <p><b>Tunisia:</b> National Veterinary School of Sidi Thabet, Higher Institute of Applied Sciences and Technology of Sousse, ISAM of Sfax, Faculty of Dental Medicine of Monastir, Institut Pasteur de Tunis, University of Sfax, University of Gafsa</p>
<p>Green transition</p>	<p><b>Algeria:</b> Institut National de Recherche Forestière, Office National de la Météorologie, Research Centre on Analytical Chemistry (CRAPC), University of Tlemcen, Ecole nationale polytechnique de constantine, Research Centre on Analytical Chemistry, SARL MIZRANA FISH of TIGZIRT, Faculty of Natural and Life Sciences - Department of Ecology and Environment - University of Batna 2, University Oran1- Department of Biotechnology</p> <p><b>Egypt:</b> Alexandria University, The Egyptian Meteorological Authority, Cairo University,</p> <p><b>Morocco:</b> Faculté des Sciences, Ministry of Health, Faculty of Sciences and Techniques, University Sultan Moulay Slimane, CHOUAIB DOUKKALI UNIVERSITY, COOPERATIVE AGRICULTURE FEMININE ADDOHA, Université Mohammed V, Ibn Zohr University, Cluster des Textiles Techniques Marocains; École Supérieure des Industries du Textile et de l'Habillement</p> <p><b>Nigeria:</b> Federal University of Agriculture Abeokuta</p> <p><b>Tunisia:</b> University of Sfax, Faculté des sciences humaines et sociales de Tunis, Institut des Regions Arides, Center of Biotechnology of Borj Cedria, Institut Supérieur des Arts et Métiers de Sfax, CERTE, Digital Research Center, Hanana Mohsen, Chaima Bouyahya, Université de la Manouba, INSTM, , Laboratoire de Génie Textile - Université de Monastir, Pôle de Compétitivité Monastir-El Fejja (mfcpole); FSGF</p>

	<p><b>South Africa:</b> Stellenbosch University, University of Kwazulu-Natal, University of Pretoria, University of Cape Town</p>
Innovation and technologies	<p><b>Algeria:</b> Annaba University</p> <p><b>Morocco:</b> National School for forestry engineers, INRH</p> <p><b>South Africa:</b> CSIR, Rhodes University</p> <p><b>Tunisia:</b> ISAM, University of Kairouan, Tunis El Manar University, Université de Tunis El Manar, Higher Institute of Applied Studies in Humanities, ISAM of Sfax in Tunisia</p>
Capacities for science	<p><b>Morocco:</b> EmLyon Casablanca, INRH</p> <p><b>Nigeria:</b> Lead City University, University of Ibadan</p> <p><b>South Africa:</b> University of Pretoria, Gordon Institute of Business Science - University of Pretoria - Sandton-Johannesburg Campus, South African Institute for Aquatic Biodiversity</p> <p><b>Tunisia:</b> Higher Institute of Arts and Crafts of Sfax, University of Sfax</p>
Other	<p><b>Algeria:</b> Semir Bechir Suheil Gaouar, Université Alger 2, Research Center in Applied Economics for Development</p> <p><b>Egypt:</b> Zewail City of Science and Technology, National Research Center, University of Minia, Bibliotheca Alexandrina</p> <p><b>Ethiopia:</b> Jimma University</p> <p><b>Kenya:</b> Kenyatta University</p> <p><b>Morocco:</b> ENSIAS, Ministry of Health - Direction de l'épidémiologie et de la Lutte contre les Maladies, Mohammed V University in Rabat, University Sultan Moulay Slimane, Euromed University of Fes, University Hassan II Casablanca, ENSMR, MINES-RABAT, Ibn Zohr University</p> <p><b>Rwanda:</b> University of Rwanda</p> <p><b>Senegal:</b> Institut Etudes avancées in saint-Louis Sénégal</p>



	<p><b>South Africa:</b> University of the Witwatersrand, South African Astronomical Observatory, CSIR, Rhodes University, University of Witwatersrand Johannesburg, University of Pretoria, Stellenbosch University</p> <p><b>Tunisia:</b> Ecole Nationale de Médecine Vétérinaire de Sidi Thabet, University of Tunis, Gabes University, National Veterinary School of Sidi Thabet, University of Sfax, University of Tunis, University of Tunis el Manar</p> <p><b>Uganda:</b> Uganda Christian University</p>
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## Summary of the use of COST networking tools

This section provides an overview on the use of the networking tools by participants from Africa. It gives an insight into their use from Africa as well as COST networking tools organised in Africa.

The data demonstrate that there were 531 individual participants from 19 African countries using COST networking tools organised in a COST country and 79 networking tool participations that happened at activities organised in 7 countries of Africa. Some of the countries took part in COST networking tools in a more continuous way (Algeria, Egypt, Kenya, Morocco, Nigeria, South Africa, Tunisia), while others had one or two participants throughout the 2011-21 period (Chad, Ethiopia, Ghana, Libya, Madagascar, Mauritius, Mozambique, Namibia, Senegal, Sudan, Tanzania, Uganda). As for organising networking tool activities, it was only South Africa that had activities taking place every year.

Tables 4 and 5 below provide the introduce the above data in detail.

Table 4. COST networking tools used by participants from Africa 2011-21

Country	Networking tool	Number of participants
<b>Algeria</b>		<b>46</b>
	Meeting	34
	Short term scientific mission	3
	Training school	9
<b>Egypt</b>		<b>77</b>
	Meeting	45
	Short term scientific mission	7
	Training school	25
<b>Ethiopia</b>	Meeting	<b>2</b>
<b>Ghana</b>	Meeting	<b>1</b>
<b>Kenya</b>	Meeting	<b>10</b>
<b>Libya</b>	Meeting	<b>2</b>
<b>Morocco</b>		<b>111</b>
	Meeting	84
	Short term scientific mission	15
	Training school	12
<b>Madagascar</b>	Meeting	<b>1</b>
<b>Mauritius</b>	Meeting	<b>1</b>
<b>Mozambique</b>	Meeting	<b>4</b>
<b>Namibia</b>	Training school	<b>1</b>
<b>Nigeria</b>		<b>6</b>
	Meeting	4
	Training school	2
<b>Sudan</b>	Meeting	<b>1</b>
<b>Senegal</b>	Meeting	<b>1</b>
<b>Chad</b>	Meeting	<b>1</b>
<b>Tunisia</b>		<b>216</b>
	VIRTUAL GRANT	3
	Meeting	119
	Short term scientific mission	60
	Training school	34
<b>Tanzania</b>		<b>3</b>
	Meeting	2
	Training school	1
<b>Uganda</b>	Meeting	<b>4</b>
<b>South Africa</b>		<b>34</b>
	Meeting	26
	Training school	8

Table 5. Participants at COST networking tools organised in Africa 2011-21

Country	Networking tool	Number of participants
<b>Algeria</b>	Short term scientific mission	<b>9</b>
<b>Egypt</b>		<b>5</b>
	Conference grant	3
	Short term scientific mission	2
<b>Morocco</b>		<b>26</b>
	Conference grant	1
	Meeting	17
	Short term scientific mission	3
	Training school	5
<b>Mauritius</b>	Short term scientific mission	<b>1</b>
<b>Mozambique</b>	Meeting	<b>1</b>
<b>Tunisia</b>	Short term scientific mission	<b>5</b>
<b>South Africa</b>		<b>32</b>
	Conference grant	2
	Meeting	7
	Short term scientific mission	23

## Conclusions and Recommendations

This report includes information on the African participation in networks funded by the COST Programme.

In brief, 24% of the running COST Actions count with African participation. This is done mainly in collaboration with other international actors. The priorities established by the EU-African Union Dialogue and the latest Ministerial Conference under four areas of cooperation are well represented in the work of the COST Actions, being 70% of running COST Actions with African partners are engaged in those fields.

The African partners that are from 11 countries and many institutions is considered an opportunity for research and innovation collaboration. Nevertheless, there is a lack of involvement of the rest of the African countries, especially the Sub-Saharan countries. More emphasis on the possibility of participation through COST Actions is needed through dissemination and awareness raising there.

The concept note that founded the collaboration between the COST Association and the SFIC Africa Working Group also describes to identify the networking instruments and mobility patterns followed by the COST Action participants affiliated to the African institutions (universities, research centres, private sector, SMEs, etc.). This step was performed and results added under the Summary of the use of COST networking tools section. The data and patterns introduced are clear indication that COST Actions can serve as a bridge from Europe to Africa and vice versa via participations to COST networking activities.

Due to the budget availability and budgetary rules, the COST Programme can only provide a limited funding to the talents participating from African countries. There is a need to search for more opportunities of provision. The established collaboration between European and African institutions could be built upon different mechanisms,

but for efficacy reasons the multilateralism and the multiplication effects of the already participating institutions and countries can be further exploited.

The enhancement of networks in research and innovation between Europe and Africa is a steppingstone in overall collaboration between the two continents, whilst the European Union and the African Union are preparing their joint Summit where the EU-AU Innovation Agenda will play a key role.

*The report was drafted with the contribution of  
Katalin Alföldi, Elwin Reimink of the COST Association and  
Armela Dino of the SFIC Africa Working Group*

## Annex

List of running COST Actions<sup>7</sup> with at least one African partners per priority.

Priority areas	COST Action number	COST Action title	Participating countries from Africa
Capacities for science	<a href="#">CA16206</a>	Empowering the next generation of social enterprise scholars	South Africa, Morocco
Capacities for science	<a href="#">CA19131</a>	Europe Through Textiles: Network for an integrated and interdisciplinary Humanities	Tunisia
Capacities for science	<a href="#">CA19112</a>	Women on the Move	Nigeria, Tunisia
Capacities for science, innovation and technology	<a href="#">CA18102</a>	The European Aquatic Animal Tracking Network	Morocco, South Africa
Green transition	<a href="#">CA16212</a>	Impact of Nuclear Domains on Gene Expression and Plant Traits	Tunisia
Green transition	<a href="#">CA16208</a>	Knowledge conversion for enhancing management of European riparian ecosystems and services	Algeria, Morocco, Tunisia

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<sup>7</sup> Every COST Action number has a hyperlink leading to the webpage of the Action.



Green transition	<a href="#">CA16202</a>	International Network to Encourage the Use of Monitoring and Forecasting Dust Products	Tunisia, Egypt, Algeria, Morocco
Green transition	<a href="#">CA17107</a>	European Network to connect research and innovation efforts on advanced Smart Textiles	Tunisia, Morocco
Green transition	<a href="#">CA17111</a>	Data integration to maximise the power of omics for grapevine improvement	Morocco, South Africa, Tunisia
Green transition	<a href="#">CA17128</a>	Establishment of a Pan-European Network on the Sustainable Valorisation of Lignin	South Africa, Algeria
Green transition	<a href="#">CA17133</a>	Implementing nature based solutions for creating a resourceful circular city	Tunisia
Green transition	<a href="#">CA17134</a>	Optical synergies for spatiotemporal sensing of scalable ecophysiological traits	Tunisia
Green transition	<a href="#">CA18101</a>	SOURDOugh biotechnology network towards novel, healthier	Egypt, Nigeria, Morocco, South Africa,

		and sustainable food and bloproCesseS	
Green transition	<a href="#">CA18111</a>	Genome editing in plants - a technology with transformative potential	Tunisia, South Africa
Green transition	<a href="#">CA18134</a>	Genomic Biodiversity Knowledge for Resilient Ecosystems	Tunisia, Algeria
Green transition	<a href="#">CA18219</a>	Research network for including geothermal technologies into decarbonized heating and cooling grids	Algeria,
Green transition	<a href="#">CA18220</a>	European network of FURan based chemicals and materials FOR a Sustainable development	Tunisia
Green transition	<a href="#">CA18224</a>	Green Chemical Engineering Network towards upscaling sustainable processes	Algeria
Green transition	<a href="#">CA18229</a>	Non-conventional yeasts for the production of bioproducts	Tunisia
Green transition	<a href="#">CA18238</a>	European transdisciplinary networking platform for marine biotechnology	Algeria, Tunisia, South Africa

Green transition	<a href="#">CA19128</a>	Pan-European Network for Climate Adaptive Forest Restoration and Reforestation	Algeria
Green transition	<a href="#">CA19125</a>	EPIgenetic mechanisms of Crop Adaptation To Climate cHange	Algeria, Tunisia
Green transition	<a href="#">CA19120</a>	WATER isotopeS in the critical zONE: from groundwater recharge to plant transpiration	Morocco
Green transition, innovation and technology	<a href="#">CA18210</a>	Oxygen sensing a novel mean for biology and technology of fruit quality	Morocco, Tunisia
Innovation and technologies	<a href="#">CA19124</a>	Rethinking packaging for circular and sustainable food supply chains of the future	Tunisia, South Africa
Innovation and technologies	<a href="#">CA19121</a>	Network on Privacy-Aware Audio- and Video-Based Applications for Active and Assisted Living	Tunisia
Innovation and technologies	<a href="#">CA19118</a>	High-performance Carbon-based composites with Smart properties for Advanced Sensing Applications	Tunisia, Morocco

Innovation and technologies	<a href="#">CA19107</a>	Unifying Approaches to Marine Connectivity for improved Resource Management for the Seas	Algeria, Tunisia, Morocco
Innovation and technologies	<a href="#">CA19102</a>	Language In The Human-Machine Era	Tunisia
Innovation and technologies	<a href="#">CA19136</a>	International Interdisciplinary Network on Smart Healthy Age-friendly Environments	Tunisia
Public health	CA16231	European Network of Vaccine Adjuvants	Tunisia
Public health	CA16227	Investigation and Mathematical Analysis of Avant-garde Disease Control via Mosquito Nano-Tech-Repellents	South Africa
Public health	CA16207	European Network for Problematic Usage of the Internet	South Africa, Morocco
Public health	CA16225	Realising the therapeutic potential of novel cardioprotective therapies	South Africa
Public health	CA17104	New diagnostic and therapeutic tools against multidrug resistant tumors	Tunisia

Public health	CA17108	Aedes Invasive Mosquitoes	Tunisia, Morocco
Public health	CA17118	Identifying Biomarkers Through Translational Research for Prevention and Stratification of Colorectal Cancer	Tunisia
Public health	CA17129	Catalysing transcriptomics research in cardiovascular disease	South Africa
Public health	CA18105	Risk-based meat inspection and integrated meat safety assurance	Tunisia
Public health	CA18110	Underground Built Heritage as catalyser for Community Valorisation	Tunisia
Public health	CA18130	European Network for Chemical Elemental Analysis by Total Reflection X-Ray Fluorescence	Kenya, Egypt
Public health	CA18140	People in Motion: Entangled Histories of Displacement across the Mediterranean (1492-1923)	Morocco, Egypt, South Africa
Public health	CA18206	Glioma MR Imaging 2.0	Morocco

Public health	CA18217	European Network for Optimization of Veterinary Antimicrobial Treatment	Tunisia, Morocco, South Africa,
Public health	CA18218	European Burden of Disease Network	Tunisia
Public health	CA18227	The Core Outcome Measures for Food Allergy	South Africa
Public health	CA19144	European Venom Network	Morocco, Tunisia
Public health, innovation and technology	CA16226	Indoor living space improvement: Smart Habitat for the Elderly.	Tunisia
Other	CA16230	Combatting anthelmintic resistance in ruminants	Tunisia, Algeria
Other	CA16228	European Network for Game Theory	Morocco
Other	CA16216	Network on the Coordination and Harmonisation of European Occupational Cohorts	Morocco
Other	CA16214	The multi-messenger physics and astrophysics of neutron stars	Egypt
Other	CA16201	Unraveling new physics at the LHC through the precision frontier	Morocco



Other	CA17114	Transdisciplinary solutions to cross sectoral disadvantage in youth	Morocco
Other	CA17120	Chemobrionics	Tunisia
Other	CA17125	Public Value Capture of Increasing Property Values	South Africa
Other	CA17131	The Soil Science & Archaeo-Geophysics Alliance: going beyond prospection	Tunisia
Other	CA18104	Revealing the Milky Way with Gaia	South Africa
Other	CA18113	Understanding and exploiting the impacts of low pH on micro-organisms	Tunisia
Other	CA18125	Advanced Engineering and Research of aeroGels for Environment and Life Sciences	Morocco, South Africa
Other	CA18127	International Nucleome Consortium	Egypt
Other	CA18129	Islamic Legacy: Narratives East, West, South, North of the Mediterranean (1350-1750)	Morocco, Egypt, Tunisia, Algeria
Other	CA18205	Worlds of Related Coercions in Work	South Africa, Senegal

Other	CA18212	Molecular Dynamics in the GAS phase	Tunisia
Other	CA18213	Rural NEET Youth Network: Modeling the risks underlying rural NEETs social exclusion	Algeria
Other	CA18228	Global Atrocity Justice Constellations	Ethiopia, Kenya, Uganda, Rwanda
Other	CA18232	Mathematical models for interacting dynamics on networks	South Africa, Morocco
Other	CA19145	European Network for assuring food integrity using non-destructive spectral sensors	South Africa
Other	CA19116	Trace metal metabolism in plants	Algeria

## Full list of African institutions involved in running COST Actions per country

<b>Algeria</b>	<p>Semir Bechir Suheil Gaouar</p> <p>Institut National de Recherche Forestière</p> <p>Office National de la Météorologie</p> <p>Research Centre on Analytical Chemistry (CRAPC)</p> <p>Universite Alger 2</p> <p>University of Tlemcen</p> <p>Research Center in Applied Economics for Development</p> <p>Ecole nationale polytechnique de Constantine</p> <p>Research Centre on Analytical Chemistry</p> <p>SARL MIZRANA FISH of TIGZIRT</p> <p>Faculty of Natural and Life Sciences, Department of Ecology and Environment, University of Batna 2</p> <p>University Oran1-Department of Biotechnology</p> <p>Dr. Hoceme DEGAÏCHIA</p> <p>Annaba University</p>
<b>Egypt</b>	<p>Zewail City of Science and Technology</p> <p>Alexandria University</p> <p>The Egyptian Meteorological Authority</p> <p>Cairo University</p> <p>National Research Centere</p> <p>University of Minia</p> <p>Bibliotheca Alexandrina</p> <p>National Research Center</p> <p>American University of Cairo</p>
<b>Ethiopia</b>	<p>Jimma University</p>
<b>Kenya</b>	<p>University of Nairobi</p> <p>Kenyatta University</p>

<b>Morocco</b>	<p>ENSIAS</p> <p>Ministry of Health</p> <p>Mohammed V University in Rabat</p> <p>EmLyon Casablanca</p> <p>École Supérieure des Industries du Textile et de l'Habillement</p> <p>Cluster des Textiles Techniques Marocains</p> <p>Institut Agronomique et Vétérinaire Hassan II</p> <p>University Sultan Moulay Slimane</p> <p>CHOUAIB DOUKKALI UNIVERSITY</p> <p>COOPERATIVE AGRICULTURE FEMININE ADDOHA</p> <p>INRH</p> <p>Euromed University of Fes</p> <p>University Hassan II Casablanca</p> <p>ENSMR, MINES-RABAT</p> <p>Ibn Zohr University</p> <p>Institut Pasteur of Morocco</p> <p>National School for forestry engineers</p>
<b>Nigeria</b>	<p>Federal University of Agriculture Abeokuta</p> <p>Lead City University</p> <p>University of Ibadan</p>
<b>Rwanda</b>	<p>University of Rwanda</p>
<b>Senegal</b>	<p>Institut Edtudes avancées in saint-Louis Sénégal</p>

<p><b>South Africa</b></p>	<p>University of Stellenbosch  University of Cape Town  Medical Research Council  Department of Paediatrics and Child Health, University of Cape Town  University of Pretoria  Gordon Institute of Business Science, University of Pretoria, Sandton-Johannesburg Campus  University of the Witwatersrand  University of Kwazulu-Natal  South African Institute for Aquatic Biodiversity  South African Astronomical Observatory  CSIR  Rhodes University  University of Pretoria / private veterinary practice</p>
<p><b>Tunisia</b></p>	<p>National Veterinary School of Sidi Thabet/ Ecole Nationale de Médecine Vétérinaire de Sidi Thabet  Higher Institute of Applied Sciences and Technology of Sousse  Institut Supérieur des Arts et Métiers (ISAM) de Sfax  University of Sfax  Faculté des sciences humaines et sociales de Tunis  Institut des Regions Arides  Faculty of Dental Medicine of Monastir  Laboratoire de Génie Textile - Université de Monastir  Pôle de Compétitivité Monastir-El Fejja (mfcpole)  Institut Pasteur de Tunis  Center of Biotechnology of Borj Cedria  University of Tunis  Gabes University  CERTE</p>

	<p>Digital Research Center</p> <p>Hanana Mohsen</p> <p>University of Tunis el Manar</p> <p>Faculty of Medicine Sousse</p> <p>Chaima Bouyahya</p> <p>Université de la Manouba</p> <p>INSTM</p> <p>FSGF</p> <p>University of Gafsa</p> <p>Higher Institute of Arts and Crafts of Sfax</p> <p>University of Kairouan</p>
<b>Uganda</b>	Uganda Christian University