



COTE D'IVOIRE

Country Report 2021



Summary of RSIF in Côte d'Ivoire

10 Ivorian RSIF
doctoral scholars
enrolled

13 PhD scholars and
faculty trained

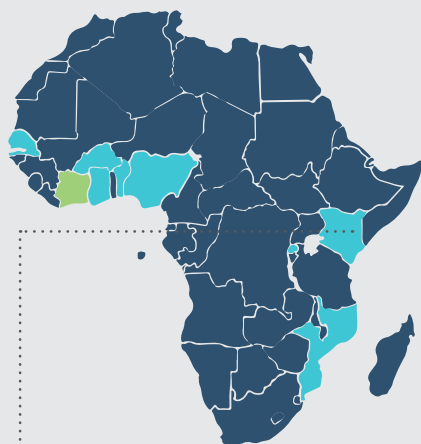
14 training
courses held

The **PASET** Regional Scholarship
and Innovation Fund



PASET
Partnership for Skills
in Applied Sciences,
Engineering & Technology

An Africa-led initiative to bridge the skills gap in Applied Sciences, Engineering, & Technology



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RSIF IS THE FIRST PAN-AFRICAN SCIENCE FUND OF ITS KIND

Contributing countries: Benin, Burkina Faso, Côte d'Ivoire, Ghana, Kenya, Mozambique, Nigeria, Rwanda and Senegal have made or are at the final stages of making contributions to PASET RSIF, in addition to the Government of Korea, the ACP Innovation Fund of the European Union and the World Bank.

RSIF is the first Pan-African Science fund of its kind connecting innovative minds to resources for revolutionary solutions.

It is the flagship product of PASET, an initiative led by African governments aimed at building skills of citizens of sub-Saharan Africa countries in the field of applied sciences, engineering, and technology for national economic growth on the continent. RSIF builds sustainable doctoral training, highly advanced research and innovation ecosystems to develop transformative technologies in Africa for economic growth and development.



At least 40% of the beneficiaries are women and priority is given to young faculty without a PhD.

Côte d'Ivoire's contribution to RSIF

Côte d'Ivoire paid an initial instalment of USD 1,033,496.73 to the International Centre for Insect Physiology and Ecology (*icipe*), the RSIF Regional Coordination Unit on 21 March 2019.

80% of Côte d'Ivoire's contribution directly supports training of Ivorian scholars and is currently committed to enrolled students in the RSIF PhD scholarship programme. The potential of Côte d'Ivoire's innovative expansion due to this investment is multiplied when leveraged by the funds through matching support from various donors, including the Government of Korea, international partner institutions and others. Ivorian institutions are also eligible to compete for grants in the area of Agri-based digital innovations under the ACP Innovation fund for Western Africa that *icipe* is also managing.

By completing its payment to RSIF and becoming a PASET member, Côte d'Ivoire would benefit from joint resource mobilization with other countries and capacity building for PhDs and research and innovation far into the future. PASET aims to mobilise over USD 500 million into the RSIF endowment fund, with an estimated 20% to be allocated to research and innovation projects for the benefit of citizens and institutions of participating countries. Many African countries are interested to be part of this.

RSIF competitively selects and harnesses the brightest minds with:

(i) doctoral scholarships at Host Universities in Africa and 'sandwich' training at selected International Partner Organizations, (ii) research awards, and (iii) innovation awards to faculty of graduated RSIF scholars.

PASET members have prioritized five cutting-edge thematic areas that will drive growth on the continent:



ICTs including big data & artificial intelligence



Minerals, mining & materials engineering



Energy including renewables



Food security & agribusiness



Climate change

BENEFITS TO CONTRIBUTING GOVERNMENTS

As a contributor to RSIF, Côte d'Ivoire benefits in more ways than through the cost-effective training of its doctoral students.

Countries also benefit from efficient centralized administration of the scholarship and other grants, support for the RSIF scholars to ensure that they complete on time, as well as regular monitoring reports on the progress of their students. The pooling of funds, the highly competitive selection of host universities, international partners and students, and the efficient administration of the fund enhances the value and increases the benefits.

Côte d'Ivoire's participation in RSIF will benefit the entire Ivorian higher education, science and innovation ecosystem. All RSIF scholars will undergo high quality doctoral training in competitively selected SSA universities partnered with international universities, with study abroad for part of the time, at a fraction of the cost of sending students abroad for a full time PhD. On successful completion of the PhD, the students will be eligible for research and innovation grants.



Highly skilled human capital as a driver for the Côte d'Ivoire National Development Plan

The rationale for RSIF is that Africa requires world class scientists in priority thematic disciplines that are relevant to national economic growth across sub-Saharan Africa. Some of these areas include orphaned research areas such as mining, minerals

and materials science, energy and information and communication technology among others. This African led program aims to support the training of African innovators and leaders, with focus on women and faculty, to be able to strengthen the capacity of universities to train at the doctoral level and undertake innovative and impactful research for the future needs of the country.



NURTURING HIGH-IMPACT PARTNERSHIPS

and Strengthening Research and Innovation Capacity at Université Félix Houphouët-Boigny (UFHB)

Photo: Agreement between UFHB, an RSIF African Host University, and *icipe*, the Regional Coordination Unit for RSIF, was signed in Nairobi in presence of the Kenya government chairing the PASET Governing Council, and the Executive Director of PASET Executive Board, on the 7 October 2019. [Read more](#)



In 2018, Université Félix Houphouët-Boigny (UFHB), the Africa Center of Excellence for Climate Change Biodiversity and Sustainable Agriculture (CCBAD), was competitively selected as an RSIF African Host University in the PASET priority thematic area of climate change. The selected PhD programme at UFHB is in Climate Change and Biodiversity.

[UFHB is currently hosting ten RSIF funded doctoral scholars \(of which two Ivorians\).](#)

Twelve more Cohort 3 RSIF PhD students will join in 2021.

As an RSIF African Host University, UFHB benefits from various capacity building and technical support, such as strengthening internationalization and accreditation.

UFHB benefits from linkages with other RSIF AHUs as well as with RSIF international partner institutions for the RSIF's 'sandwich programme' - whereby students spend 6-24 months at an advanced institution conducting collaborative research.

RSIF has supported the establishment of research networks to support UFHB. For example, faculty members participated in a study visit to Mohamed 6 Polytechnic (UM6P), Morocco in September 2019 to identify areas for research collaboration and student sandwich training along with ten other universities.

UFHB is part of the PASET-RSIF network in Climate Change.



Photo: Senior faculty from UFHB participated in RSIF grant writing training at *icipe*, Nairobi, Kenya in January 2020 along with their invited consortium partners from Cabo Verde and Senegal.



UFHB has received video-conferencing equipment and related facilities to enhance e-learning, particularly as a response to the pandemic. RSIF is also providing increased access to a wide range of scientific journal resources to UFHB library and its students.

To help universities respond to COVID-19, *icipe* has provided two training workshops on 'The use of Online Educational Resources in Higher Education' and on 'Online Educational Resources as a Response to the COVID-19 Crisis' co-organized by EPFL (Switzerland) and University Mohammed VI UM6P (Morocco). A training was also done on 'Helping Faculty Deliver their Courses Online during the COVID-19 Crisis' with the Director of Digital Innovation at Arizona State University.

Strengthening university innovation and delivery of personal protective equipments (PPEs) – eight session training were provided by Worcester Polytechnic Institute (WPI), Boston, USA on COVID-19 and 3D printer assembly as well as printing of face masks, face shields and respirator. Universities were able to learn practically how to print various PPEs and supplied these to hospitals and to the public.

RSIF Training Courses Provided:

1. Research Communications and social media
2. Digital Storytelling
3. Reference management & open access
4. Grant writing
5. E-Resources
6. Grievance address mechanisms
7. Sexual harassment
8. Strategies for a successful PhD
9. PhD proposal writing
10. Responsible conduct of research including research ethics
11. Introduction to information literacy
12. Introduction to research methods and statistics, data analysis and management
13. Science presentations
14. Science posters

Training Applied Researchers in Science and Engineering Fields and Building Research

RSIF has awarded scholarships to more than 180 RSIF PhD scholars in total from across sub-Saharan Africa. Ten of these are Ivorians. More scholars will be selected in Cohort 4 in late 2021.

The Ivorian RSIF graduates are equipped with advancing technologies and strategic research skills for innovation solutions. This provides opportunities for building new university departments that respond directly to national priorities, boosting Côte d'Ivoire's capacity to train at the PhD and postdoctoral level. With the ability to undertake high quality research, Côte d'Ivoire will be well positioned to lead improved outputs, ranking and prestige.

Breaking Barriers for Women in Science

Women's participation in research remains low in Africa, with women making up only 30% of the science community.

30% (three of ten) of the Ivorian RSIF PhD scholars in the three first cohorts are female. RSIF assigns attention to not only women, but also, underrepresented groups, seeking to promote family-friendly policies as well as language and accessibility measures.



RESILIENCE OF RSIF SCHOLARS: COVID-19 CHALLENGES AND LESSONS LEARNT

In a [published article](#), three female RSIF PhD scholars on international sandwich placements in Korea and USA, discuss the impact of COVID-19 pandemic on their personal lives and research journeys. Their immense resilience to pursue despite the unprecedented challenges is evidence of the determination and caliber of RSIF scholars. While the COVID-19 pandemic is affecting all scientists in general, women scientists, especially those with young families, are uniquely impacted. RSIF not only ensures that women scientists enter and thrive in PhD programmes, but also, guarantees that all its scholars are able to circumvent the challenges related to the pandemic. *icipe*, RSIF's RCU is already providing support to scholars in various ways, including online training support, and psychosocial support on issues like mental health. In addition, RSIF is working with partner universities and students towards timely progression in research and overall course completion.

<https://www.universityworldnews.com/post.php?story=20201208123315401>

CATALYZING RESEARCH

to Generate Transformative
Technologies for Innovation
and Development

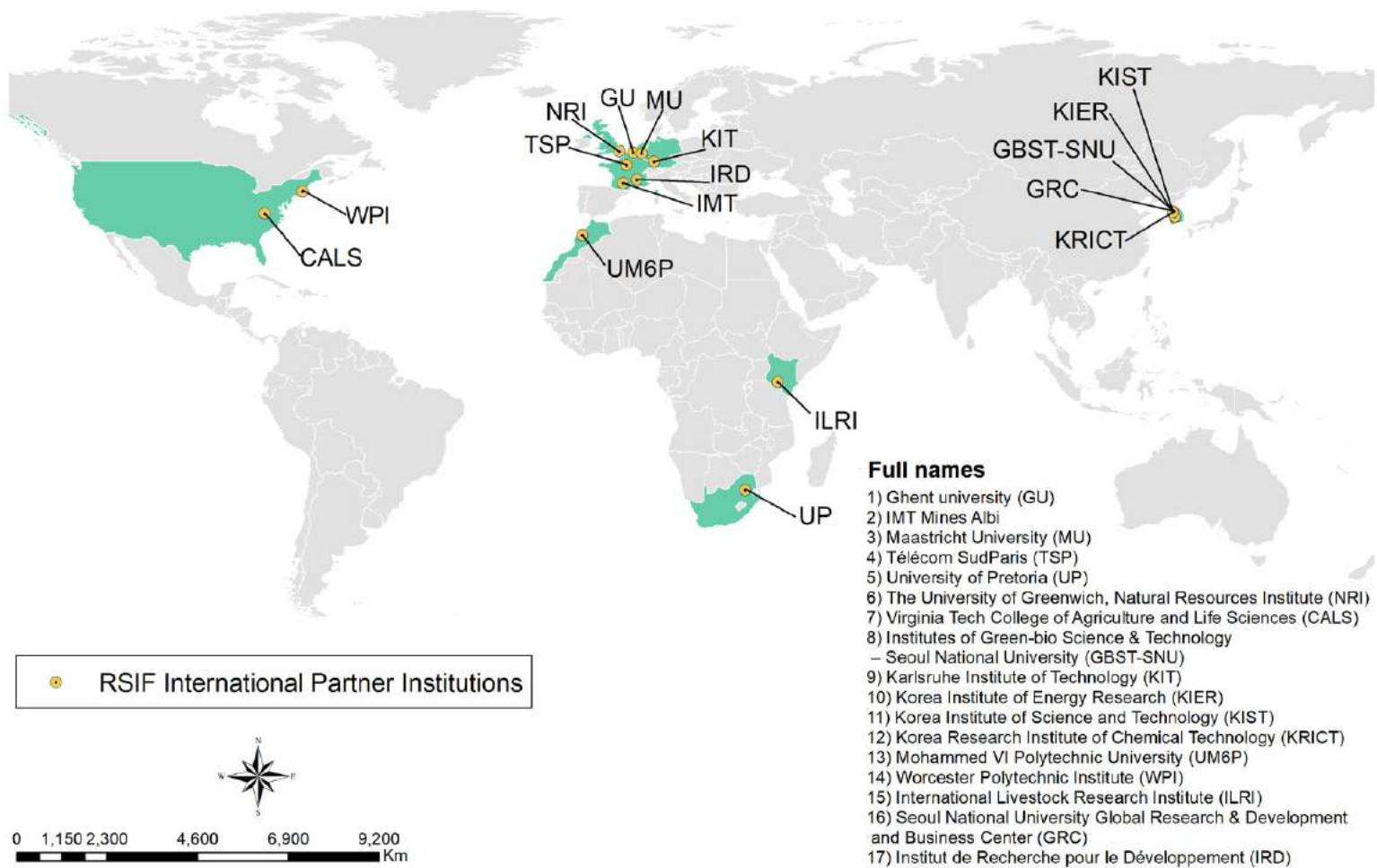
Faculty members and scholars engaged in PhD training at UFHB are eligible to apply for RSIF Research and Innovation Awards. These competitive grants enable faculty members to advance their research and to help their PhD students generate exceptional research results to solve pressing African challenges.



Photo: Study trip visit to Keio
University, Japan, September 2019

RSIF's establishment of international networks provides UFHB with a global pool of like-minded innovators. For example, study visits were supported to Japanese universities to learn about university-industry linkages.

RSIF is encouraging partnership with international partners and private firms to leverage some of the brightest minds on the continent. This will contribute to enhanced partnership in higher education, science and innovation ecosystem and collaboration in training, research and innovation.



Through PASET RSIF the cost of PhD training is significantly **lowered**, while also reducing inbreeding in Ivorian universities since PhD training will be done in other African universities and international partner institutions.

By working closely with academic institutions, relevant investors and governments, and other stakeholders within sub-Saharan Africa; specialized knowledge will be integrated in the region and transferred to the future generation.



RSIF INNOVATION PROJECT:

Reducing Post-Harvest Losses and Opening European Markets for Ivorian Yam Producers

Project Title: [Sustainable and innovative production of yams in Côte d'Ivoire by post-harvest pest control](#)

Project leader: [Dr. Brahima CAMARA, UFHB](#)

Collaborating partner: SODIPEX SARL, Côte d'Ivoire

Sub-Saharan Africa supplies 95% of the world's production of yams, while West Africa contributes 89% of this.

Consumers are increasingly concerned about the quality of their food and the impact of production methods on their health and the environment thus the urgent need to shift to biopesticides which have minimal health and environmental hazards.

The innovation involves the testing and production of four biopesticides of plant origin, formulated from local aromatic and medicinal plant extracts and two bacteria isolated from yam.

RSIF awards competitive research and innovation grants that complements the PhD training at African universities by supporting research that promotes scientific excellence and use of knowledge for development impact.

These biopesticides are mainly made up of phenolic compounds that are very active against many parasites. This innovation has been tested in Côte d'Ivoire in industrial plantations for dessert bananas where it has proven to be effective against black Sigatoka disease .

The project will highlight the effectiveness of the biopesticides in the control of post-harvest yam parasites, train yam producers on the use of the biopesticides and popularize its use in the yam sector thus reducing post-harvest losses of yams ultimately increasing food security and income levels of farmers.



“The project seeks to test the effectiveness of biopesticides as an alternative to chemical post-harvest control for yam fungi.”

Dr Camara

SPOTLIGHT ON AFRICA'S FUTURE LEADERS

in Science, Engineering
and Technology



RSIF PhD Scholar: Traore
ABDOULAYE – Université
Felix Houphouët – Boigny

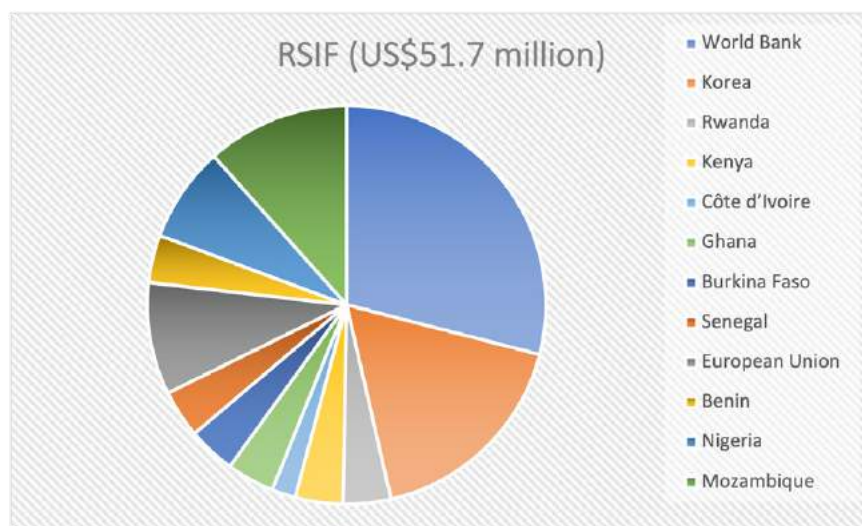
"I specialized in agronomic science specifically biology and plant protection because of the opportunities it offered, and also due to awareness of the vulnerability of rural communities especially to malnutrition, leading me to focus on food and nutrition security."

Ivorian RSIF scholars and research topics

Name	Research Topic	African Host University
Traore Abdoulaye	Interaction of sweet potato and the processed products with the human gut microbiota	Université Felix-Houphouët Boigny – Centre d'Excellence Africain sur le Changement Climatique, la Biodiversité et l'Agriculture Durable (CEA-CCBAD)
Yéfounnigui Souleymane Yeo	Diversity, distribution, and management of Botryosphaeriaceae species associated mango diseases in Côte d'Ivoire, in the context of climate change	
Adjata Kamara	Study of the diversity of fungi responsible for post-harvest rots of yams in Côte d'Ivoire in the context of climate change and research into control methods using biopesticides	
Kouadio Brou Akouassi Henriette	Management strategies for parasitic nematodes in vegetable crops in Côte d'Ivoire by alternative methods to chemical nematicides	
N'Dri Amenan Laetitia Felicie	Biological diversity of insects vectors of viral pathologies in sugar cane plantations and development of control strategies in Côte d'Ivoire	
Nahangnon Arsène Soro	Epidemiological studies of diseases in the three diffused genotypes Anacardier (Anacardium occidentale L.) and integrated control in genotypes existing in Côte d'Ivoire	Sokoine University of Agriculture (SUA), Tanzania
Charlie Frank Arthur N'guessan Amoia	Use of the LaSota backbone for the development of a recombinant vaccine whose genotype matches to African countries	
Jean-Yves Ekra	Genetic potential of local cattle - Genetic studies of trypanosomes, trypanotolerance and olfactory profile of cattle in tsetse infested environments of Côte d'Ivoire	Africa Centre of Excellence for Infectious Diseases of Humans & Animals in Southern & Eastern Africa (SACIDS)
Kicoun Jean-Yves N'Zi Touré	Valuation of coffee beds: Elaboration and characterization of composites of particulate panels	Kenyatta University, Kenya
Kpangni Alex Jérémie KOUA	Contribution of multidimensional analysis in the assessment of the physicochemical and microbiological quality of public water supply in Côte d'Ivoire.	University of Gaston Berger, Senegal

See repository of RSIF Scholar Research [here](#)

THE FIRST PAN- AFRICAN SCIENCE FUND INTUITIVELY DESIGNED FOR GROWTH



RSIF is designed for sustainability and has two components: (i) the General Fund and (ii) the Permanent or Endowment Fund, with proceeds to capitalize the general fund.

Country contributions have been earmarked to scholarships, and in some cases to support research and innovation projects, aligned with national needs. So far, most countries have focused on doctoral training.

More importantly, RSIF aims to create a permanent vehicle for supporting science, technology and innovation capacity building through an endowment fund that is being established by the governments.

Côte d'Ivoire is encouraged to continue its leading role in PASET through continued contribution to RSIF and investment in the RSIF endowment fund for lasting returns.

Côte d'Ivoire is a country gaining immense traction that can be used to explore innovative ways of raising more funds for RSIF. By providing tax incentives for private sector companies investing in RSIF, by recommending RSIF to its development partners and by making a fixed annual budgetary allocation to RSIF, Côte d'Ivoire will be in alignment with its commitment to PASET's vision.



African governments make good their pledges for advanced training in applied sciences and technology, as continental demand soars.

RSIF provides full doctoral scholarships and grants for research and innovation, to boost technical and scientific capacity for the advancement and use of transformative technologies to tackle Africa's most pressing challenges.

[Read more](#)

[Sign up to RSIF newsletter](#)

Connect with us

Please contact the RSIF-RCU at *icipe* for further details.

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Regional Coordination Unit



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