



UNIVERSITE
GASTON BERGER
L'excellence au service du développement

ACEPartner - Digital Science and Technology Network - DSTN

DSTN Symposium #1

Digital science and technology for sustainable development in Africa

December 6th to 10th, 2021

Bilingual: English and French

Preliminary agenda



The Digital Science and Technology Network (DSTN) organizes its First Symposium open to the private and socio-economic sectors on the theme of "Digital science and technology for sustainable development in Africa". This symposium brings together the African Centers of Excellence (ACE) in digital sciences and technologies and their partners, with industry, socio-economic actors and international collaborators, to share experience, practices and innovation in digital science and technology for Africa's sustainable development.

We aim to bring together the major players of the current African digital transformation to address how research, innovation, entrepreneurship and technology/knowledge transfer can address major development issues (health, agriculture, digital learning, cybersecurity...).

The expected output of this event is to build long lasting and ethical collaborations between our network of African and international academia with public and private stakeholders on research and development projects addressing major development challenges through digital transformation.

The program of this Symposium is designed to:

- present and promote the activities of the DSTN in collaboration with different actors of the digital development in Africa, through thematic sessions and presentations
- stimulate exchanges between academic, enterprise and socio-economic actors, through round tables and visits
- produce recommendations of the participants on the role of digital science and technology for a sustainable development in Africa (state of the art and perspectives) for policy makers, enterprises and academic institutions.

Pre-Symposium Event - Hackathon Tech4Good & Tech4Society

Saturday 4th December 2021

Sunday 5th December 2021

Symposium agenda

Time slot (UTC)	Day / Session	Mode
Monday 6th December 2021 ACE partner internal seminar day		
08.30 - 09.00	Welcome	
09.00 - 09.15	Session 1 : Opening AAU, AFD, IRD/ACE-Partner, Inria, DSTN	Hybrid
09.15 - 10.30	Session 2: ACE-Partner and DSTN <ul style="list-style-type: none"> • <i>Presentation of the ACE-Partner project</i> • <i>Presentation of the Digital Science and Technology Network (DSTN)</i> • <i>Update on DSTN activities in ACE members</i> <ul style="list-style-type: none"> ○ ACE MITIC (Mathematics, Informatics, and TIC), University of Gaston Berger, Saint-Louis, Senegal ○ ACE SMIA (Mathematical Sciences, Computer Science and Applications), University of Abomey Calavi, Benin ○ ACE ENSEA (Statistique et Economie quantitative), ENSEA, Côte d'Ivoire ○ ACE OAK-Park (OAU ICT-Driven Knowledge Park), Obafemi Awolowo University (OAU), Nigeria ○ CApIC-ACE (Applied Informatics and Communication), Covenant University, Nigeria ○ ACE ACETEL (Technology Enhanced Learning), National Open University of Nigeria (NOUN), Nigeria 	Hybrid
10.30 - 11.00	Coffee break	
11.00 - 13.00	Session 3: Inter-Thematic-Network Collaboration <ul style="list-style-type: none"> • <i>Presentations of the ACE-Partner networks</i> <ul style="list-style-type: none"> ○ <i>West African Network of Infectious Diseases ACEs (WANIDA)</i> ○ <i>Sustainable Water Management (NET-WATER)</i> 	Hybrid

	<ul style="list-style-type: none"> ○ <i>Responsible Mining and Sustainable Development (AMR2D)</i> ● <i>Discussions on potential collaboration between networks</i> 	
13.00 - 14.30	Lunch break	
14.30 - 15.30	Session 4: DSTN Executive Committee <i>DSTN Roadmap progress review, Roadmap 2022 definition</i>	On-site
14.30 - 15.30	Session 5: Short training for DSTN students	On-site
15.30 - 16.00	Coffee break	
16.00 - 17.30	Session 4: DSTN Executive Committee <i>DSTN Roadmap progress review, Roadmap 2022 definition</i>	On-site
16.00 - 17.30	Session 5: Short training for DSTN students	On-site
Tuesday 7th December 2021 Official opening Science & Industry : challenges for a secure digital world		
08.00 - 08.30	Welcome	
08.30 - 10.30	Session 6: Opening Ministers of Research and/or and/or high education and/or Digital, World bank, AFD, AAU, IRD/ACE-Partner, Inria, DSTN	Hybrid
10.30 - 11.00	Coffee break	
11.00 - 12.00	Session 7: Keynote 1 transversal to DSTN topics	Hybrid
12.00 - 13.00	Session 8: Scientific presentations Challenges for secure digital world Invited speakers <ul style="list-style-type: none"> ● CyLab Africa Initiative, Dr Assane Guèye, Carnegie Mellon University, Rwanda 	Hybrid
13.00 - 14.30	Lunch break	
14.30 - 15.30	Session 9: Round table / Discussion panel <i>Topic: Which impact multinationals in Africa have on training and research ?</i> <i>Panelists: industries, institutional representatives, researchers</i>	Hybrid
15.30 - 16.00	Coffee break	
16.00 - 17.30	Session 10: Presentation of the UGB Incubator Jury of the Hackathon : pitches of candidates Welcome drink of UGB Location : UGB Incubator	On-site
Wednesday 8th December 2021 Digital science in Agriculture and Environment		
08.30 - 09.00	Welcome	

09.00 - 09.45	Session 11: Keynote 2 Impact of digital technology on agriculture and environment	
09.45 - 10.30	Session 12: Scientific presentations Cybersecurity and AI challenges for IoT Presentation of DSTN Research-Teams: <ul style="list-style-type: none"> • Deep learning for environmental monitoring: illegal landfills (Deep4EnvMonitoring), MITIC (Senegal) and SMIA (Benin) • IoT Smart Data Classifier (IoT-SDC), MITIC (Senegal) and SMIA (Benin) • AI-based Early Warning System for Rift Valley Fever detection (AIRFARE-EWS), MITIC (Senegal) and CApIC (Nigeria) 	Hybrid
10.30 - 11.00	Coffee break	
11.00 - 13.00	Session 13: Scientific presentations Statistical learning and predictive models for environnement Presentation DSTN Research-Teams: <ul style="list-style-type: none"> • Genetic and Environmental COntributions to Malaria prevalence in SEnegal Côte d'Ivoire (GECOMSECI), MITIC (Senegal) and ENSEA (Ivory Cost) • Extreme value modeling and Stochastic Analysis on Riemannian manifolds (EVSAR), MITIC (Senegal) and SMIA (Benin) • Geometric methods and Wavelet transform for driving information in Atmospheric Sciences (GWAS), SMIA (Benin) and MITIC (Senegal) • + 1 invited speaker 	Hybrid
13.00 - 14.30	Lunch break	
14.30 - 15.30	Session 14: Discussion panel - opened to the society Digital Sciences in Agriculture and Environment <i>Agriculture and Environment stakeholders</i>	On-site
15.30 - 16.00	Coffee break	
16.00 - 17.30	Session 15: Parallel working groups for output recommendations	On-site
Thursday 9th December 2021 Secure management of sensitive data in Health and Education		
08.30 - 09.00	Welcome	
09.00 - 09.45	Session 16: Keynote 3 Secure management of sensitive data	Hybrid
09.45 - 10.30	Session 17: Scientific presentations Digital development for Health Presentation DSTN Research-Teams:	

	<ul style="list-style-type: none"> AI-based analytical framework for the prevention and monitoring of cardio-vascular diseases in African countries (AI4CARDIO), MITIC (Senegal) and SMIA (Benin) Development of a Secure Federated Cloud Architecture Towards Precision Medicine in Africa (SEC-FEDGEN), CapIC (Nigeria) and MITIC (Senegal) Invited speaker: WHO COVID-19 platform for West and Central Africa (WCA), Dr Mamadou Diallo, IRD 	
10.30 - 11.00	Coffee break	
11.00 - 13.00	<p style="text-align: center;">Session 18: Scientific presentations Online teaching and cybercampus</p> <p>Presentation DSTN Research-Teams:</p> <ul style="list-style-type: none"> Promoting Digital Transformation in West Africa: Mitigating Security Risks Associated with increased Participation in the Digital Learning Space in a Post-COVID World (ACETSMIP), ACETEL (Nigeria) and SMIA (Benin) Development of Cloud and Mobile Health Education Apps for FEDGEN Platform (FEDGEN_HealthEduApp), CApIC (Nigeria) and MITIC (Senegal) Development of an adaptive bio-optimisation based intrusion detection model for Supervisory Control and Data Acquisition (SCADA) Systems (CyberScada), OAK-PARK (Nigeria) and SMIA (Benin) + 1 invited speaker 	Hybrid
13.00 - 14.30	Lunch break	
14.30 - 15.30	<p style="text-align: center;">Session 19: Discussion panel - Opened to the society <i>Social network impact ?</i> <i>How to deal with personal data and privacy?</i> <i>Invited projects</i></p>	Hybrid
15.30 - 16.00	Coffee break	
16.00 - 17.30	Session 20: Parallel working groups for output recommendations	On-site
Gala dinner Hackathon results announcement		
20.00 - 23.00		On-site
Friday 10th December 2021 Innovation and Entrepreneurship in Africa		
08.30 - 09.00	Welcome	
09.00 - 09.45	<p style="text-align: center;">Session 21: Keynote 4 <i>Entrepreneurship and insertion in Africa</i></p>	Hybrid
09.45 - 10.30	<p style="text-align: center;">Session 22: Innovation and Entrepreneurship <i>ACE Incubators, KEDGE</i></p>	Hybrid

10.30 - 11.00	Coffee break	
11.00 - 12.00	Session 23: Conclusions of the symposium Presentation of recommendations and further actions	Hybrid
12.00 - 13.00	Session 24: Closing WB, AFD, AAU, IRD/ACE-Partner, Inria, DSTN	Hybrid
13.00 - 14.30	Lunch break	
14.30 - 15.30	Session 25: Visits on others sites	On-site
15.30 - 16.00	Coffee break	
16.00 - 18.00	Session 26: City tour	On-site

About the Digital Science and Technologie Network (DSTN)

DSTN brings together ACEs working in digital science and technology (informatics and mathematics) to address the challenges posed by the digital transformation of science, the economy and society as a whole. Five scientific priority areas have been identified namely **Big Data and Trusted Artificial Intelligence, IoT systems and Software Defined Network in poorly connected areas, Cybersecurity, High-Performance Computing, and Data Science**, applied to Health, Agriculture, Environment, Education, and Smart Cities.

The network aims at supporting collaborations between African Centers of Excellence. Its support consists to provide and co-finance PhD scholarships, mobility grants, scientific events and expertise in these scientific priority areas with the following objectives:

- **Strengthening research capacities** and research collaboration between ACEs and with international research institutions, through thematic workshops, joint research teams and PhD co-supervision.
- **Strengthening higher education training capacities** through joint training programs, exchange of teachers, students and internships.
- **Strengthening innovation capacities and ties with the non-academic sector** through the involvement of relevant socio-economic actors in training and research activities.
- **Ensuring the network's sustainability** through application for competitive funding and private funding.

More info:

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