INTERSOL

EAI INTERNATIONAL CONFERENCE ON INNOVATIONS AND INTERDISCIPLINARY SOLUTIONS FOR UNDERSERVED AREAS

EAI International Conference on Innovations and Interdisciplinary Solutions for Underserved Areas

Co-located with:

Colloque National sur la Recherche en Informatique et ses Applications (CNRIA)

Hotel Pullman-Teranga

APRIL 11–12, 2017, DAKAR, SENEGAL

INTERNET OF THINGS

SMART CITIES

E-HEALTH

APPLICATIONS FOR FUTURE INTERNET

EAI

RESEARCH MEETS INNOVATION

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CREATE-NET

EAI Endorsed Transactions

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UNIVERSITE ALIOUNE DIOP de BAMBEY
UADB
L'Excellence est ma Constance, l'Ethique ma Vertu

LUX ME A LEX SIGILLUM UNIVERSITATIS DAKARENSIS

WELCOME MESSAGE

Welcome to the first EAI International Conference on Innovations and Interdisciplinary Solutions for Underserved Area, InterSol2017!

Let me start by introducing myself. I am an Associate Professor at the l'Université Cheikh Anta Diop de Dakar (UCAD) and the Director of the "Centre d'Incubation et de Développement d'Entreprises Innovantes" (Innodev). Within UCAD, I am affiliated with the Ecole Superieure Polytechnique (ESP) where I do my teachings and research as a member of the "Centre International de Formation et de Recherche en Energie Solaire (CIFRES)". My teachings goals consists of giving to our future engineers the skills necessary to model, implement, deploy and maintain renewable energy systems of world-class quality. My research activities focus on the components of renewable energy modules (solar and wind) and more precisely their adaptation to tropical environment. For some years now, I have been working, within the center Innodev, on the development of innovation and the valorization and the transfer of research outcomes for the academic world to the socio-economic world. These activities lead me to see the importance of "interdisciplinarity", but also and above all to the need to orient research and development efforts towards disadvantaged areas. The organization of Intersol2017 is a perfect illustration of this.

Coming back to **Interdisciplinary Solutions (InterSol),** it is an international conference dedicated to the advancement of interdisciplinary researches that address needs in underserved areas. It is the fruit of a reflection by researchers committed to tackle the complex and pressing problems in disadvantaged areas. To illustrate our interdisciplinary approach, let us just consider the issue of health in rural areas. Because of the shortage of doctors and medical workers in these areas, a solution to this problem that is widely agreed upon is telemedicine. However, telemedicine in rural areas requires suitable connectivity solutions that can be powered using renewable energy. The solution has also to be economically and socially viable. In fact, any sustainable solution to the problems facing people in underserved areas must involve expertise from different disciplines, hence the relevance and the important of "interdisciplinarity".

With InterSol2017, we are aiming at addressing two important complementary challenges: 1) Build a research community committed to solving issues in disadvantage regions and 2) De-compartmentalize the research and encourage the interdisciplinary approach. InterSol2017 has expectations among the research community, but also benefits for the populations. These include a massive participation from the research community, papers that address issues related to underserved areas and extensive exchanges between researchers, beneficiaries and industrial partners. In view of the numerous papers of very good quality received, Intesol2017 promises to be a meeting place for exchange and fruitful dialogue on interdisciplinary solutions for disadvantaged areas. A major innovation of InterSol2017 will be the organization of a roundtable bringing together researchers and end-users to discuss interdisciplinary solutions for underserved areas.

Welcome to Senegal, the land of Teranga (hospitality). I wish you an excellent interdisciplinary gathering and very convivial moments during the many visits planned during our social events.

Prof. Cheikh M. F. Kebe

General Chair, InterSol2017

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Prof. Mary Teuw Niane

Ministre de l'Enseignement Superieur et de la Recherche

Prof. Lamine Gueye

Recteur UADB

Prof. Ibrahima Thioub

Recteur UCAD

Eric A. Brewer, PhD

Professor, Dept. Electrical Engineering and Computer Sciences
University of California, Berkeley

ABSTRACT Electrification has been a goal for more than a century, yet still there is more to go. Modern uses change the goals and the thus the implementation options. We explore a collection of on- and off-grid electrification projects that have come out of the Tier group in Berkeley. For on-grid, we look at a project in Kenya that exploits the fact that a large fraction of those without actually live near an existing transformer. For off-grid, we look at a series of attempts in rural India that has led to low-cost pre-paid smart meters that work with a variety of generation options.

BIO Dr. Brewer focuses on all aspects of Internet-based systems, including technology, strategy, and government. As a researcher, he has led projects on scalable servers, network infrastructure, sensor networks, and security. Dr. Brewer developed the "CAP Theorem" in the late 1990s as a way to push for deeper exploration of distributed data systems. His current focus is (high) technology for developing regions, with projects in India, Indonesia, and the Philippines among others, and including communications, power, and health care. Working with the Aravind Eye Hospital over 100,000 patients have had their vision restored due to diagnosis via long-distance video telemedicine.

In 1996, he co-founded Inktomi Corporation with a Berkeley grad student based on their research prototype, and helped lead it onto the NASDAQ 100. In 2000, working with President Clinton, Dr. Brewer helped to create USA.gov, the official portal of the Federal government.

He was elected to the *National Academy of Engineering* for leading the development of scalable servers (early cloud computing), and also received the ACM Computing Prize and the ACM Mark Weiser Award.

KEYNOTE SPEAKERS

Arame Tall, Ph.D.

GFCS Regional Coordinator for Africa

BIO With over 10 years of work experience on climate services in Africa, Dr.Tall is one of the world experts on climate services for society, operating at the nexus of climate knowledge and societal benefits. She started her career with the Red Cross Federation where she served as regional technical adviser for West and Central Africa for several years, before joining CCAFS where she spearheaded among many more achievements, several programs to scale up climate services for smallholder farmers in Africa and South Asia, and published a best practice synthesis report entitled: Scaling up Climate Services for Farmers > Mission Possible" leveraging the research capability of the CGIAR to achieve better targeted climate services for farmers across the globe. A passionate researcher, practitioner and user of climate services herself, Dr. tall now resides in her home of Dakar Senegal where she leads the GFCS' regional coordination work for Africa, serving all of the countries of Africa to achieve coordinated national frameworks to govern and sustain the delivery of climate services.

Mammo Muchie, PhD

Professor, Faculty of Management Sciences
Tshwane University of Technology, South Africa

ABSTRACT Both existing development theories and innovation system conceptual frames require to be contexualised to address seriously the real African developmental challenges. Africa has the size more than three times of the USA. Africa is rich having abundant raw materials minerals and agriculture. The available resources, if owned and managed well and systematically by Africans, can make every African benefit rather than lose as it is happening now by enabling, empowering, and entitling all to have real access to the available resources to lead a decent existence without hunger, thirst and lacking shelter. Now the world has entered the 4th industrial revolution with exponential and digital technologies, quantum computing, robotics, nano, biotechnology, and all emerging technologies impacting directly now by changing the world economy. The demand to match the raw material context that Africa is in and the new 4th industrial revolution demands that it is time to re-think, re-imagine, re-design and re-engineer a new unified development path. Africa cannot remain trapped in its current raw material value chain with the 4th industrial revolution high - technology driven global value chain being also upon it now. It is not going to be easy to manage this discrepancy of being trapped in the African raw material value chain and at the same time to deal with and respond to at the same time with the global exponentially technology driven value chain. This contradictory demand can be addressed, if the African development path moves along a unified approach

instead of the current 54 states choosing to going through their own divided course of economic development that do not benefit all the people and only benefits those who own the mineral resources of Africa, and African states that were created by the scramble for Africa are continuing still to lose rather than build a strong unified African economy. There is a real need to innovate the current development and innovation approach to address and reverse the current fragmentation to create and promote an African integrated development to make Africa fully free and independent and not remain fractured as Francophone, Anglophone, Luso- phone and Arab-phone. We need Africa-philia and not retaining all the divisive colonial phones. Africa must not be a phone. Only African Unity will remove this divisive and fragmenting phone that emerged when colonial powers scrambled and divided Africa. If the division to promote economic development continues, Africa will remain always under the colonial influence that created its division and not its unity. It will not be easy to remove the external negative exploitative pattern of domination unless African unified economic planning is formed. We need a strategy to un-stage the stages of growth, un-catch up the catch up and leapfrogging and un-coevolution the evolutionary economic development approaches by innovating a new sustainable innovation and development unified system.

BIO Professor Mammo Muchie holds a DPhil in Science, Technology, and Innovation for Development (STI&D) from the University of Sussex. UK. He is currently a DST/NRF rated Research Professor at the Faculty of Management Sciences, Tshwane University of Technology, South Africa. He is a fellow of the South African Academy of Sciences and the African Academy of Sciences. He is also currently adjunct Professor at the Adama Science, Technology University, Arsi University, Addis Ababa University and University of Gondar, Ethiopia. He has been senior research associate at the SPMTDC programme and also has become Senior Research Associate at the TMD Centre of Oxford University. He is collaborating with researchers (DILIC) on the potential research areas of Africa-China industrial high-technology sectors. He has been invited as Associate Faculty professor at Sussex University, UK for the next three years; at the University of Economics in Prague as visiting professor, Jawarahal Nehru University India, Tonji and Shanghai University, China; Honorary Professor Jiaxing University, China, Assistant Professor Amsterdam University, Visiting Professor Carleton College, USA; Principal Lecturer, Middlesex University, Professor, Aalborg University; Part–time Lecturer, Cambridge University; Honorary Professor UNISA. Professor Mammo held various positions globally, including the Director of the Research Programme on Civil Society and African Integration at the then University of Kwa Zulu-Natal; board member at the North Western University, Chengdu, China. He is currently the chairman of the advisory board of African Talent hub of the Community Interest Company (registration no.10461990) to raise funds for making Africa the talent, innovation, entrepreneurship, creativity and knowledge hub of the world. He has been appointed as special distinguished advisor to the Africa Union's Student Council and a mentor for the African Entrepreneurship award. He has initiated the African Unity for Renaissance and Knowledge Exchange series of conferences since the last six years. He is a founding scientific advisor to ´the African Solar network, founding chairman of the Network of Ethiopian scholars. He has lead the SIDA, Sweden funded research on engineering design and on transformative innovation for African integrated development and educate on public media to speed up the creation of innovative and renascent Africa. He is also a co-founding member of the Nano Technology Institute in TUT leading the innovation side of the research.

'A Semantic Web-Based Framework for Information Retrieval in E-Learning Systems'

Sanjay Misra, PhD
Professor of Computer Engineering
Covenant University, Ota, Nigeria

ABSTRACT The advent of the internet, the evolution of the World Wide Web (WWW), coupled with the e-learning paradigm has resulted in the availability of a plethora of learning resources on the Web. However, these resources are not being fully utilized to their greatest potential. Learners, educators and researchers seeking educational content usually spend a great deal of time sorting through resources on the web without satisfactory results. Most times, this is not because the information is not available, but because the techniques being applied by major search engines do not handle the semantics and personalization required in this context. In a bid to proffer a solution to the problem of discovering relevant resources online by different categories of users, this work presents an integrated framework for personalized information retrieval of educational content. The framework exploits semantic web technologies. Further work will include the implementation and testing of the framework.

BIO Sanjay Misra is full Professor of Computer Engineering at Covenant University, Ota, Nigeria. He has 21 years of wide experience in academic administration and researches in various universities in Asia, Europe and Africa. He is Ph.d. in Information and Know. Engg (Software Engineering) from University of Alcala, Spain and M.Tech.(Software Engineering) from Motilal Nehru National Institute of Technology, India. He is a software engineer and previously held academic positions at FUT Minna - Nigeria (as Head Department of Computer Engineering and Cyber security), Atilim University - Turkey, Subharati University and UP Technical University - India. He is also visiting/Collaborative professor at the University of Alcala – Spain(since 2011-), UCV- Valparaiso – Chile(since 2013-), UNICEN, Tandil – Argentina(since 2011-), and Atilim University – Turkey(since 2011-). His current researches cover the areas of software quality, software process improvement, software project management, object oriented technologies, XML, SOA, Web services, cognitive informatics, artificial intelligence, neural network, health Informatics, e-learning, cloud computing and cyber security. Prof Sanjay is coordinating/working/collaborating with several research groups (as visiting/adjunct professor/collaborative researcher) in various universities and industry around the world (Spain, Argentina, Turkey, Singapore, Chili, Brazil, Mexico, Norway, France, South Africa, Malaysia, Nigeria, Myanmar, Vietnam, India). He has author/coauthor in more than 200 papers- (with colleagues from nearly 30 countries) and majority the publications are in ISI Web of Sciences and got several awards for outstanding publications. Recently, Institute of Engineering and Technology (IET), United Kingdom awarded him '2014 IET Software Premium Award' for Best Paper published in last two years.

'Simulation in Surgical Orthopaedic Training (SISOT) Using a natural support: a Bamboo model'

Professor Mouhamadou Habib Sy

Head of orthopaedic and traumatology surgery department
Medicine Faculty - Cheikh Anta Diop University in Dakar

ABSTRACT The medical scholarship education is based on three keypoints : knowledge, behaviors and skills. The acquisition of the clinical experience and technical skills is no longer simply entrusted to the hospital internship, to the side of a Medical Senior Mentor. During the under and post-graduate medical training, it can also be done in the laboratory of simulation. The learning of the reasoning and clinical approach without forgetting the medical procedures and/or surgical procedures are taught. It forces us to pass by the corpse, the dummy or the animal model for the initiation, the masters and the consolidation of a medical gesture whatever it is: " *Never the first time among the sick* ". The bone of debit cadavric became rare or difficult to obtain. The dry bone or synthetic is little accessible because so expensive in the necessary quantities (overabundant numbers) to the modest budgets of our faculties. Also we are thus condemned to find cheaper support and the physical and mechanical characteristics close to bone's one. The main research I conduct in the experimental and clinical entity called Bambou-Sy-Fix (BSF) and research/ training center called « Seydi Djamil » Orthopaedic Center (SDOC) address this crutial need. The aims and objective are to work on the substitution to the bone of corpse, the dry bone or synthetic (industrial) as training support to the surgical practice orthopaedic and trauma. Research conducted show that the Bamboo, a source of inspiration Medical become an innovative training support-learning and is naturally designated to become our material of choice. The Bamboo remains thus a natural support, green, biodegradable, sustainable, accessible with a mecano-similar properties to the human skeletal bone. It remains an irreplaceable tool in the practical training of orthopedic surgeon in our latitudes. Finnally it represent a good and low cost medical solution for undeserved regions

BIO Mouhamadou SY is a full professor of Orthopedic-Traumatology in the Faculty Medecine of Cheikh Anta Diop University, Senegal and Chief of Orthopedic-Traumatology Surgery Department in General Hospital of Grand Yoff. Prof Sy has an excellent career in his area of research with several good article in peer-reviewed journals. In term of responsibility in medical structures, he is a resident of Dakar Hospitals and an assistant at CHU Henri Mondor at Creteil in France. During his carrier, Prof Sy gets several diploma in Senegal (Orhtopedic surgeon) and abroad Certificate of Rhumatology from ULB/Brusells and Diploma of Knee surgey at Creteil/ Parix XII). Prof Sy is very active in Scientific societies in the area of orthopedy and traumatology. He is current President of The Senegalese Society of Orthopedy and past Present of African Society of Orthopedy. Since 10 year ,Prof Sy has been working on the development of innovation in orthopedy and traumatology with the aim of developing very low cost solutions for underserved areas. Theses solutions include the utilization of local material for clinic and training applications.

ROUND TABLE

Theme:
What forms of collaboration between research and the rural world in the face of new development challenges?

Moderated by:

Professor Aliou Sall

Socio - Anthropologist

Participants include researchers, farmers, fishermen, government official, industry

BIO

Dr. Aliou SALL is a socio - anthropologist specialized in research for development. After graduating from the Lycée Maurice Delafosse, he studied undergraduate studies at the University of Toulouse - Mirail, where he obtained his Bachelor 's degree in sociology in 1981. He subsequently attended the University of Geneva from 1981 onwards. 'Where he graduated in 1987 with his postgraduate diploma - equivalent to a doctorate in the French system - as a socio-anthropologist specializing in research for development. In 1989, he created the NGO registered in Senegal and specialized in fishing, CREDETIP, a support structure for fishing communities at sub-regional level. In parallel to the activities carried out within this NGO of which he is the director, he has had to carry out several missions as an expert - consultant in the field of fishing of which: Studies and research on behalf of donors and various development partners: French Development Fund, European Union, Sub-regional Fisheries Commission of 7 States in the sub-region, International Union for Conservation of Nature (IUCN), Foundation International of Ban d'Arguin (FIBA). Supervision of students in the preparation of dissertations (master, thesis) from the universities Gaston Berger, Montpellier, Notre Dame de Namur and ULB / Belgium.

ABSTRACT

Despite the efforts made by research in terms of contributing to socio-economic development, the return of results to rural communities is still only partially assured. Similarly, at the level of the rural world, there is a widespread idea that the primary mission of researchers should be to respond effectively and in real time to the questions posed by the socio - professional categories of the rural world. One of the direct consequences deriving from this twofold observation is the questioning of the utility of research by the overwhelming majority of rural populations, including fishermen and farmers. In addition to this twofold observation, there is a very conservative approach characterizing the scientific / academic world, thus preventing the full recognition and valorization of the endogenous knowledge of the communities concerned, considered vulgar as "secular knowledge". This attitude of the scientific world constitutes a block between conventional research and another way of producing knowledge specific to these same communities. A written contribution will be presented at the round table, followed by a debate in which fishermen and farmers will participate, some of whom are considered to be repositories of solid empirical knowledge on issues that are sensitive to the ecosystems on which they depend.

PROGRAM OVERVIEW

DAY 1 – TUESDAY, 11 APRIL 2017

8:15 – 9:00	WELCOME & REGISTRATION
9:00 – 9:45	OPENING SESSION
9:45 – 10:30	KEYNOTE SPEAKER 1 – ERIC BREWER
10:30 – 10:45	COFFEE BREAK
10:45 – 11:30	SPECIAL TALK – PROF. HABIB SY
11:30 – 12:40	SESSION 1: Science, Energy & Environment SESSION 2: Economic Development
12:40 – 14:00	LUNCH/POSTER SESSION
14:00 – 14:45	KEYNOTE SPEAKER 2 – ARAME TALL
14:45 – 16:00	SESSION 3: EDUCATION
16:00 – 16:30	COFFEE BREAK-Getting Ready for Transportation
16:30 – 19:00	SOCIAL EVENT1: VISIT GOREE ISLAND

DAY 2 – WEDNESDAY, 12 APRIL 2017

08:15 – 08:30	REGISTRATION AND OPENING
08:30 – 10:00	KEYNOTE SPEAKER 3 – MAMMO MUCHIE KEYNOTE SPEAKER 4 – SANJAY MISRA
10:00 – 10:15	COFFEE BREAK
10:15 – 12:05	SESSION 4 – Environment & Energy SESSION 5 – TIC Enabler
12:05 – 13:05	SPECIAL SESSION on INNOVATION
13:05 – 14:15	LUNCH/POSTER SESSION
14:15 – 15:45	SPECIAL TALK & ROUND TABLE
15:45 – 16:00	COFFEE BREAK
16:00 – 16:45	SESSION 6: Healthcare
16:45 – 18:15	SOCIAL EVENT 2 – VISITS MONUMENT & MAMELLE
18:15 – 22:00	SOCIAL EVENT 3: DINNER @ Restau Phare Mamelle + Closing Remarks

PROGRAM IN FULL

DAY 1

8:15 – 9:00 **WELCOME & REGISTRATION**

9:00 – 9:45 **OPENING SESSION**

Prof. Cheikh M. F Kebe, General Chair, InterSol2017
Prof. Lamine Gueye, Recteur UADB
Prof. Ibrahima Thioub, Recteur UCAD
Prof. Mary Teuw Niane, Ministre de l'Enseignement Supérieur et de la Recherche

9:45 – 10:30 **KEYNOTE SPEAKER 1 – ERIC BREWER**

Rethinking Electrification
Prof. Eric Brewer, UC Berkeley, Google VP of Infrastructures

10:30 – 10:45 **COFFEE BREAK**

10:45 – 11:30 **SPECIAL TALK**

Simulation in Surgical Orthopaedic Training (SISOT) Using a natural support: a Bamboo model'
Professor Mouhamadou Habib Sy, Head of orthopaedic and traumatology surgery department
Medicine Faculty - Cheikh Anta Diop University in Dakar

11:30 – 12:10 **SESSION 1: SCIENCE, ENERGY & ENVIRONMENT**

A multivariate regression model for the assessment of solar radiation in the Senegalese territories
O. Wane, A. A. Navarro, L. Ramirez, R. X. Valenzuela, J. M. Vindel, F. Ferrera, C. M. F. Kébé, L. F. Zarzalejo

Modeling the crystal violet kinetics removal by electrocoagulation process for wastewater treatment
Cheikhou Kane, Maryam Khadim Mbacke, Ndeye Oury Diallo, Mamadou Balde, Codou Mar Diop

12:10 – 12:40 **SESSION 2: ECONOMIC DEVELOPMENT**

Impact of the Utilization of the Biodigester in the Populations of Bambey and Perspectives for Mass Adoption and Valorization
I. Diallo, A. Gueye, O. Sene, P. I. Ndiaye, M. Kare, P. Diouf, M. Diouf, A. Dieng, I. P. Thiao

How to increase intuition for entrepreneurship spirit in innovation process?
Henri, SAMIER; Emmanuel, CHENE; Herve, CHRISTOFOL; Simon, RICHIR

12:40 – 14:00 **POSTER SESSION / LUNCH**

14:00 – 14:45 KEYNOTE SPEAKER

Dr. Arame Tall, GFCS Regional Coordinator for Africa

14:45 – 16:00 SESSION 3: EDUCATION

New dynamics of innovation in a knowledge powered economy... the challenge of cross-fertilization between academia and industrial sector!
Emmanuel, CHENE; Hebatalla, KAOUD; Jean-Charles, CADIOU; Henri, SAMIER

Strengthening partnerships between universities and SMEs within the open innovation framework
CADIOU, Jean-Charles; BOLDRINI, Jean-Claude

Forming groups of mobile learners that promote collaborative learning supported by mobile devices
Marie Helene Wassa Mballo1, Alassane Diop, Richard Hotte, Ibrahima Niang

Virtual Classroom Solution with WebRTC in a Collaborative Context in Mathematics Learning Situation
Pape Mamadou Djidiack Faye, Amadou Dahirou Gueye, Claude Lishou

16:00 – 16:30 COFFEE BREAK

16:30 – 19:00 SOCIAL EVENT1: VISIT GOREE ISLAND

PROGRAM IN FULL

DAY 2

08:15 – 08:30 **WELCOME & REGISTRATION**

08:30 – 09:15 **KEYNOTE SPEAKER 3 – MAMMO MUCHIE**

Innovating the Innovation System Approach for the African Integrated Development
Mammo Muchie, PhD, Professor, Faculty of Management Sciences, Tshwane University of Technology, South Africa

09:45 – 10:00 **KEYNOTE SPEAKER 4 – SANJAY MISRA**

A Semantic Web-Based Framework for Information Retrieval in E-Learning Systems
Sanjay Misra, PhD, Professor of Computer Engineering, Covenant University, Ota, Nigeria

10:00 – 10:15 **COFFEE BREAK**

10:15 – 10:55 **SESSION 4 – ENVIRONMENT AND ENERGY**

Correlation study between the dust density accumulated on the surface of PV modules and the degradation of their performance characteristics
A. Ndiaye, C. M. F. Kébé, B. O. Bilal, A. Charki, V. Sambou, P. A. Ndiaye

A Study of the Wind Potential in the Three Climatic Zones of Chad
Z. Pabame, O. B. Boudy, C. M. F. Kebe, A. Gueye, A. Ndiaye, P. A. Ndiaye

10:55 – 12:05 **SESSION 5 – TIC ENABLER**

Development of Prepaid Electricity Payment System for a University Community Using the LUHN Algorithm
Sanjay Misra, Jonathan. Oluranti, Ambrose Azeta

Leveraging GPS and SMS-Based Bus Tracking Architecture for an Efficient Transportation
Bassirou Kasse, Moussa Diallo, Bamba Gueye

Quantify the Maturity of Internet Banking Security Measures in WAEMU(West African Economic and Monetary Union) Banks
Marie NDAW, Gervais MENDY, Samuel OUYA, Diaraf SECK

An Opportunistic Connectivity Network for Rural Areas in Senegal
A. Gueye, C. Mahmoudi, O. I. Elmimouni, M. L. Gueye, S. O. Ndiaye

PROGRAM IN FULL

DAY 2

12:05 – 13:20 **SPECIAL SESSION ON INNOVATION**

The African Technology-Innovation Quest: Alternative To Appropriate Technology
Martin Donani

Entrepreneurship, Education and Youth Employment in Africa: Reframing Higher Education
Kabore Pazisnewende François

Mechanisms for Strengthening Evidence-Based Policy and Practice: A Review
Rose Omari

Capacity Development for Agricultural Innovation Systems in Burkina Faso What's New with CDAIS Project?
Eveline M.F.W. Compaoré Sawadogo, Natewinde Sawadogo

Ways to get Innovation Down to the End Users Approaches to Innovation Diffusion in Agricultural Sector in Burkina Faso Lessons and Way Forward
Eveline M.F.W. Compaoré Sawadogo

13:20 – 14:15 **POSTER SESSION / LUNCH**

14:15 – 15:45 **SPECIAL TALK & ROUND TABLE**

15:45 – 16:00 **SESSION 6: HEALTHCARE**

Evaluation of a Cloud Based Health Information System
Priscilla Ajayi, Sanjay Misra, Nicholas Omoregbe, Davies Adeloye

A Naïve Bayesian Implementation of a Mobile Pediatric Diagnosis System
Precious Iheme, Nicholas Omoregbe, Sanjay Misra, Davies Adeloye, Foluso Ayeni, Foluso Ayeni

Using Indoor Positioning and Doctor-Patient Communicating System to Improve Efficiency and Quality of Emergency Service
Yi-De Wang, Wen-Chi Huang, Feipei Lai

16:00 – 16:45 **COFFEE BREAK**

16:45 – 18:15 **SOCIAL EVENT 2 - VISITS MONUMENT & MAMELLE**

18:15 – 22:00 **SOCIAL EVENT 3 - DINNER @ Restau Phare Mamelle & Closing Remarks**

CNRIA WORKSHOP

The CNRIA conference is a highly interactive conference that enables an effective interchange of results and ideas among researchers, industry, and product developers. The past 5th Edition organized by ASCII Organization to bring together a wide range of views from Senegalese Universities, industry, research institutions and stakeholders in the fields of ICT and socio economic development.

The 6th CNRIA Workshop to be held during the EAI International Conference on Innovations and Interdisciplinary Solutions for Underserved Area (April 11-12, 2017 in Dakar Senegal). The 6th CNRIA conference calls for academic papers presenting research that cover a broad range topics across computer science and innovative ICT applications :

- Big Data
- Business Intelligence
- Cloud Computing, Computer Networks, SDN
- Cloud Network
- Data Mining
- Data Storage
- Distributed Systems
- ICT4D (e-Health, e-Agriculture, e-Education, e-Government, m-Learning, e-Business …)
- Image Analysis
- Internet of Things
- Radio Communication
- Signal Processing
- Security and Cryptography
- Software Engineering
- Wireless Communications

PROGRAM OVERVIEW

CNRIA Workshop

DAY 1 – TUESDAY, 11 APRIL 2017

8:15 – 9:00	WELCOME & REGISTRATION
9:00 – 9:45	OPENING SESSION
09:45 – 10:30	INVITED SPEAKER 1
10:30 – 10:45	COFFEE BREAK
10:45 – 12:40	SESSION 1: Software Engineering
12:40 – 14:00	LUNCH/POSTER SESSION
14:00 – 16:00	SESSION 2: Data Management
16:00 – 16:30	COFFEE BREAK-Getting Ready for Transportation
16:30 – 19:00	SESSION 3: Network Architecture and Security

DAY 2 – WEDNESDAY, 12 APRIL 2017

08:15 – 08:30	REGISTRATION AND OPENING
08:30 – 10:00	INVITED SPEAKER 2
10:00 – 10:15	COFFEE BREAK
10:15 – 13:05	SESSION 4: Telecommunication
13:05 – 14:15	LUNCH/POSTER SESSION
14:15 – 15:45	SESSION 5: Signal Processing
15:45 – 16:00	COFFEE BREAK
16:00 – 16:45	CLOSING REMARKS
16:45 – 18:15	SOCIAL EVENT 2 – VISITS MONUMENT & MAMELLE
18:15 – 22:00	SOCIAL EVENT 3: DINNER @ Restau Phare Mamelle + Closing Remarks

CNRIA WORKSHOP

OGRANIZATION

Direction Recherche, ESP
Département Génie Informatique, ESP

PROGRAM COMMITTEE

Dr. Gaoussa Camara, Université Alioune Diop de Bambey
Dr. Bamba Gueye, Université Cheikh Anta Diop
Prof. Moussa Lo, Université Virtuelle du Sénégal
Dr. Maïssa Mbaye, Université Gaston Berger
DR. Omar Niang, Ecole Polytechnique de Thies

GUEST SPEAKERS

Professor Mamadou Mboup

SysCom Group, UFR Sciences Exactes et Naturelles
Universite de Reims, France

Dr Mamadou Moustapha Kanté

Associate Professor, Mathematics and Computer Sciences Dept.
Universite Blaise Pascal, Clermont-Ferrand, France

Title: On the enumeration of minimal transversals in hypergraphs

CONFERENCE COMMITTEES

STEERING COMMITTEE

Imrich Chlamtac, Create-Net and University of Trento, ITALY
Cheikh M. F. Kebe, Université Cheikh Anta Diop, Dakar/ Ecole Supérieure Polytechnique, Senegal
Assane Gueye, Univerity of Maryland College Park-USA/Universite Alioune Diop, Bambey-Senegal

ORGANISING COMMITTEE

General Chair

Cheikh M. F. Kebe, Université Cheikh Anta Diop, Dakar/ Ecole Supérieure Polytechnique, Senegal

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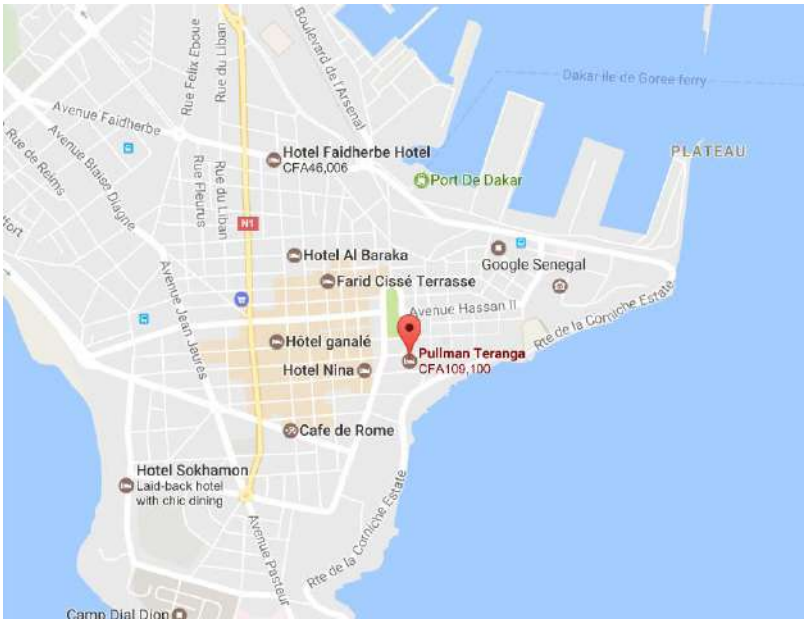

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