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RESEARCH 2 PRACTICE FORUM 2018

ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

**16th - 18th APRIL, 2018
TLEMEN, ALGERIA**





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RESEARCH 2 PRACTICE FORUM 2018

ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

16th - 18th APRIL, 2018

CONCEPT NOTE



CONCEPT NOTE:

RESEARCH-2-PRACTICE FORUM ON ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

16-18 APRIL 2018

EVENT: RESEARCH-2-PRACTICE FORUM ON RENEWABLE ENERGY, WATER AND CLIMATE CHANGE IN AFRICA
(RES-2-PRAC 2018)

DATE: 16TH TO 18TH APRIL 2018

VENUE: TLEMEN, ALGERIA. (WEST OF ALGERIA. SEE MAP)

AUDIENCE: SCIENTISTS, ENGINEERS, PRACTITIONERS, INNOVATORS, PROFESSIONALS AND POLICY MAKERS, IN THE AREAS OF RENEWABLE ENERGY, WATER, AND CLIMATE CHANGE

ORGANISERS:

- ▶ PAN AFRICAN UNIVERSITY INSTITUTE OF WATER AND ENERGY SCIENCES (INCLUDING CLIMATE CHANGE) (PAUWES)
- ▶ UNITED NATIONS UNIVERSITY INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY (UNU-EHS),
- ▶ CENTER FOR DEVELOPMENT RESEARCH (ZEF) AT THE UNIVERSITY OF BONN
- ▶ INSTITUTE FOR TECHNOLOGY AND RESOURCES MANAGEMENT IN THE TROPICS AND SUBTROPICS (ITT) AT THE COLOGNE UNIVERSITY OF APPLIED SCIENCES (TH KOLN)
- ▶ UNIVERSITY ABU BEKR BELKAID, TLEMEN (UoT)

DEADLINE: EXTENDED ABSTRACT SUBMISSION 8TH JANUARY 2018

CONTACT: RES2PRAC@PAUWES-COP.NET

BACKGROUND

THE GUIDING VISION OF THE AGENDA 2063 OF THE AFRICAN UNION IS "AN INTEGRATED, PROSPEROUS AND PEACEFUL AFRICA, AN AFRICA DRIVEN AND MANAGED BY ITS OWN CITIZENS AND REPRESENTING A DYNAMIC FORCE IN THE INTERNATIONAL ARENA". THE CALL FOR ACTION OF THE AGENDA 2063 WITH REGARDS TO ENERGY REFERS TO "HARNESSING ALL AFRICAN ENERGY RESOURCES TO ENSURE MODERN, EFFICIENT, RELIABLE, COST EFFECTIVE, RENEWABLE AND ENVIRONMENTALLY FRIENDLY ENERGY TO ALL AFRICAN HOUSEHOLDS, BUSINESSES, INDUSTRIES AND INSTITUTIONS, THROUGH BUILDING THE NATIONAL AND REGIONAL ENERGY POOLS AND GRIDS.". THE AFRICA WATER VISION 2025 AND ASPIRATION SEVENTEEN OF THE AGENDA 2063 FOCUS ON THE FACT THAT "AFRICA SHALL HAVE EQUITABLE AND SUSTAINABLE USE AND MANAGEMENT OF WATER RESOURCES FOR SOCIO-ECONOMIC DEVELOPMENT, REGIONAL COOPERATION AND THE ENVIRONMENT". WITH REGARDS TO CLIMATE CHANGE, ASPIRATION SEVENTEEN OF THE AGENDA 2063 REQUIRES THAT "AFRICA SHALL ADDRESS THE GLOBAL CHALLENGE OF CLIMATE CHANGE BY PRIORITIZING ADAPTATION IN ALL OUR ACTIONS, DRAWING UPON SKILLS OF DIVERSE DISCIPLINES AND WITH ADEQUATE SUPPORT (AFFORDABLE TECHNOLOGY DEVELOPMENT AND TRANSFER, CAPACITY BUILDING, FINANCIAL AND TECHNICAL RESOURCES) TO ENSURE IMPLEMENTATION OF ACTIONS FOR THE SURVIVAL OF THE MOST VULNERABLE POPULATIONS, INCLUDING ISLANDS STATES, AND FOR SUSTAINABLE DEVELOPMENT AND SHARED PROSPERITY."

A KEY ROLE OF PAUWES IS SEEN IN PROVIDING SCIENTIFIC AND TECHNOLOGICAL SOLUTIONS TO SUPPORT A SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT IN THE CONTINENT, SCIENCE-BASED ADVICE TO POLICY MAKERS ON A LOCAL, NATIONAL, REGIONAL AND PAN-AFRICAN LEVEL. PAUWES NOT ONLY PROVIDES SCIENTIFIC KNOWLEDGE FOR EXISTING STRATEGIES BUT ALSO ACTS AS A THINK TANK AND THOUGHT LEADER IN SHAPING FUTURE STRATEGIES.

THE AFRICAN UNION SCIENCE, TECHNOLOGY AND INNOVATION STRATEGY FOR AFRICA 2024 (STISA-2024) PLACES SCIENCE, TECHNOLOGY AND INNOVATION AT THE EPICENTRE OF AFRICA'S SOCIO-ECONOMIC DEVELOPMENT AND GROWTH. RESEARCH, PARTICULARLY APPLIED RESEARCH, CAN BE CONSIDERED AS A TOOL AND AN ENABLER FOR ACHIEVING CONTINENTAL SOCIO-ECONOMIC DEVELOPMENT GOALS IN ORDER TO ACCELERATE AFRICA'S TRANSITION TO AN INNOVATION LED, KNOWLEDGE BASED ECONOMY.

THE LACK OF INSTITUTIONAL NETWORKING IS STILL A MAJOR CHALLENGE IN THE AFRICAN RESEARCH AND EDUCATIONAL LANDSCAPE. THE PAU AS A WHOLE AIMS TO CONTRIBUTE TO THE ESTABLISHMENT OF NETWORKS IN AFRICA AND PAUWES AIMS TO BE THE HUB OF A PAN-AFRICAN RESEARCH NETWORK IN THE AREA OF ENERGY, WATER AND CLIMATE CHANGE.

LINKING RESEARCH AND DEVELOPMENT AS CONTRIBUTIONS TO ACHIEVE GOALS OF THE AGENDA 2063 IS A PRIORITY FOR THE PAN AFRICAN UNIVERSITY OF THE AFRICAN UNION. APPLIED RESEARCH, NETWORKING AND COOPERATION WITH STRATEGIC PARTNERS ARE ESSENTIAL PILLARS IN THIS ENDEAVOUR. IN ORDER TO PROMOTE AND SUPPORT APPLIED AND PRACTICE-ORIENTED RESEARCH AND STRATEGIC PARTNERSHIPS ON RENEWABLE ENERGY, WATER AND CLIMATE SECURITY IN AFRICA, THE PAN AFRICAN UNIVERSITY



INSTITUTE FOR WATER AND ENERGY SCIENCES (PAUWES) WITH SUPPORT FROM THE GERMAN GOVERNMENT AND IN COOPERATION WITH A CONSORTIUM OF GERMAN UNIVERSITIES (UNU-EHS, ZEF AND ITT) LED BY UNU-EHS AND THE UNIVERSITY ABOU BEKR BELKAID IN TLEMCCEN ARE JOINTLY ORGANIZING AN INTERNATIONAL FORUM IN TLEMCCEN, ALGERIA FROM 16-18 APRIL 2018.

THE EVENT BUILDS ON THE INTEGRATION OF THE FOLLOWING COMPLEMENTARY COMPONENTS:

- ▶ RESEARCH COMPONENTS IN LINE WITH THE SUPPORT OF THE GERMAN FEDERAL MINISTRY FOR EDUCATION AND RESEARCH TO SUPPORT SYNERGIES WITH INSTITUTIONS DEALING WITH RESEARCH QUESTIONS ADDRESSED BY ONGOING RESEARCH PROJECTS AND PRIORITIES OF THE RESEARCH AGENDA AT PAUWES.
- ▶ STRATEGIC NETWORKING COMPONENTS IN LINE WITH THE SUPPORT OF THE GERMAN TECHNICAL COOPERATION OF THE GERMAN FEDERAL MINISTRY OF ECONOMIC COOPERATION AND DEVELOPMENT THROUGH THE "DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE ZUSAMMENARBEIT (GIZ) GMBH" TO SUPPORT INSTITUTIONAL DEVELOPMENT OF THE INSTITUTE.

Main objectives and outcomes

THE RESEARCH-2-PRACTICE FORUM AIMS TO PROVIDE A PLATFORM FOR EXPERTS/SCIENTISTS, EDUCATION LEADERS, DECISION MAKERS, ENTREPRENEURS, PRIVATE AND PUBLIC SECTOR, POLICY MAKERS, CIVIL SOCIETY ACTORS AND INSTITUTIONS INTERESTED OR ACTIVE IN APPLIED AND PRACTICE-ORIENTED RESEARCH FOR DEVELOPMENT TO DISCUSS STATE OF THE ART, CHALLENGES AND INNOVATIVE SOLUTIONS IN THE AREAS OF RENEWABLE ENERGY, WATER AND CLIMATE SECURITY AND BUILD STRATEGIC PARTNERSHIPS IN AFRICA. THE FORUM IS IN LINE WITH ACTIONS FOR THE IMPLEMENTATION OF THE COOPERATION AND RESEARCH STRATEGY WHICH FURTHER COMPLEMENTS AFRICAN UNION GOALS TO PROMOTE AND SUPPORT KNOWLEDGE SHARING AND COOPERATION TO ADDRESSING DEVELOPMENT CHALLENGES INCLUDING LEVERAGING OPPORTUNITIES FOR INNOVATION.

The goals of the forum are:

- ▶ TO DISCUSS AND EXCHANGE ON THE STATE OF THE ART, CHALLENGES, PRACTICAL AND INNOVATIVE SOLUTIONS WITH REGARDS TO ENERGY, WATER, AND CLIMATE SECURITY IN AFRICA IN THE FRAME OF RESEARCH QUESTIONS ADDRESSED BY ONGOING PROJECTS AND PRIORITIES OF THE RESEARCH AGENDA AT PAUWES
- ▶ TO PROMOTE WORLDWIDE EXCHANGE OF KNOWLEDGE AND COOPERATION BETWEEN RESEARCH AND PRACTICE, BEYOND TRADITIONAL "NORTH-SOUTH" SCHEMES WHEREBY TOPICS FOR JOINT RESEARCH, COLLABORATION INITIATIVES AND PROJECTS CAN BE IDENTIFIED
- ▶ TO ASSESS AND DISCUSS TECHNOLOGY DEVELOPMENT, PRACTITIONERS' APPROACHES AND SOLUTIONS TO CHALLENGES, LESSONS LEARNED, BEST PRACTICES, AND INNOVATIVE MODELS DEVELOPED, ETC. FOR COOPERATION BETWEEN RESEARCH AND THE PRIVATE/PUBLIC SECTORS(UNIVERSITY/RESEARCH AND INDUSTRY, SCIENCE AND POLICY)
- ▶ TO EXPLORE MODALITIES FOR MULTIFACETED COLLABORATION BETWEEN RESEARCHERS, POLICY MAKERS AND BUSINESS BASED ON LEARNINGS FROM NOTABLE CASES, INVENTIVE RESEARCH QUESTIONS THAT HAVE GAINED GROUND AND UNDERSTANDING THE PARTNERSHIP MIXES/MODELS THAT ARE COMPELLING
- ▶ TO STRENGTHEN THE COOPERATION BETWEEN PAUWES, AFRICAN AND INTERNATIONAL RESEARCH INSTITUTIONS, PAN-AFRICAN AND INTERNATIONAL INSTITUTIONS, THE PRIVATE SECTOR AND CIVIL SOCIETY ACTIVE IN PAUWES RELATED TOPICS
- ▶ TO SUPPORT THE INTEGRATION OF PAUWES INTO SCIENTIFIC NETWORKS IN AFRICA AND BEYOND AND SUPPORT THE ESTABLISHMENT OF PAUWES AS A PAN-AFRICAN (AND BEYOND) HUB/PLATFORM FOR THE TOPICS OF WATER, ENERGY, CLIMATE CHANGE AND THEIR NEXUS
- ▶ TO PROVIDE A PLATFORM FOR STUDENTS TO PRESENT SCIENTIFIC INPUTS IN LINE WITH TEACHING AND RESEARCH ACTIVITIES AT PAUWES AND TO EXPAND THEIR NETWORK TO PAN AFRICAN AND INTERNATIONAL EXPERTS, INSTITUTIONS AND COMPANIES ESPECIALLY IN THE FIELDS OF ENERGY, WATER AND CLIMATE CHANGE

RESULTS AND RECOMMENDATIONS FROM THE FORUM WILL BE INTEGRATED INTO ONGOING AND FUTURE ACTIVITIES AT PAUWES SUCH AS THE CONSOLIDATION AND UPSCALING OF RESULTS OF ONGOING RESEARCH PROJECTS, INITIATION OF JOINT PROJECT PROPOSALS FOR THE IMPLEMENTATION OF THE RESEARCH AGENDA AT PAUWES, THE ESTABLISHMENT OF A PAN-AFRICAN NETWORK AND KNOWLEDGE HUB ON THE WATER-ENERGY AND CLIMATE CHANGE NEXUS. FURTHERMORE, THE RESULTS AND RECOMMENDATION WILL BE FOLLOWED UP AND FURTHER DISCUSSED WITH REGIONAL AND PAN-AFRICAN INSTITUTIONS SUCH AS THE AFRICAN UNION, AFRICAN DEVELOPMENT BANK, NEPAD AND REGIONAL COMMISSIONS.

Forum program and costs



THE FORUM IS A THREE-DAY EVENT BRINGING TOGETHER RENOWNED EXPERTS/SCIENTISTS, EDUCATIONAL LEADERS AND POLICY AND DECISION MAKERS, ENTREPRENEURS, REPRESENTATIVES OF PAN AFRICAN AND INTERNATIONAL INSTITUTIONS, ACTORS FROM THE PRIVATE AND PUBLIC SECTOR AND CIVIL SOCIETY. THE FORUM IS STRUCTURED IN THEMATIC SESSIONS, PANEL DISCUSSIONS, POSTER SESSIONS, WORKSHOPS, EXHIBITIONS AND OPEN SPACES DEDICATED TO FACILITATE NETWORKING AND RESEARCH COOPERATION (REFER TO ANNEX 1 FORUM PROGRAM DRAFT). SCIENTIFIC CONTRIBUTIONS OF THE FORUM WILL BE SELECTED THROUGH A CALL FOR EXTENDED ABSTRACTS (REFER TO SECTION CALL FOR EXTENDED ABSTRACT).

UPON ACCEPTANCE OF SUBMITTED ABSTRACTS, FORUM COSTS AND TRAVEL EXPENSES OF PARTICIPANTS WILL BE COVERED BY THE ORGANIZERS.

Contributions

THE CALL FOR EXTENDED ABSTRACTS AIMS TO CREATE VERTICAL AND HORIZONTAL LINKAGES BETWEEN THE RESEARCH AND PRACTICE STAKEHOLDERS IN THE PRIORITY AREAS BELOW. FUNDAMENTALLY, THE FORUM PROVIDES RESEARCHERS AND PRACTITIONERS IN CIVIL SOCIETY, PRIVATE SECTOR AND PUBLIC INSTITUTIONS AN OPPORTUNITY TO FEED INTO EACH OTHER'S VALUE CHAIN WHERE PRACTICE INFORMS NEW KNOWLEDGE AND RESEARCH INFORMS CHANGE AT VARIOUS SOCIETAL AND INSTITUTIONAL LEVELS.

Research / Scientific Contributions

THE MAIN TOPICS OF THE EXTENDED ABSTRACT SHOULD FIT WITHIN THE FOLLOWING AREAS WHICH ARE IN LINE WITH ONGOING PROJECTS AND PRIORITIES OF THE RESEARCH AGENDA AT PAUWES AS CONTRIBUTION TO THE AGENDA 2063 OF THE AFRICAN UNION:

- ▶ ENERGY
 - ENERGY RESOURCES ASSESSMENT
 - TECHNOLOGICAL DEVELOPMENT: FROM RAW MATERIALS TO SYSTEMS, INCLUDING SMART-GRID AND OFF-GRID
 - ENERGY STAKEHOLDERS AND SOCIETY
 - ENERGY ECONOMICS AND GOVERNANCE
 - CURRENT AND FUTURE URBAN ENERGY SUPPLY SYSTEMS IN AFRICAN CITIES
- ▶ WATER
 - WATER AND FOOD SECURITY (PRODUCTION AND SUSTAINABLE LIVELIHOODS)
 - WATER MANAGEMENT (BASIN WATER MANAGEMENT AND URBAN WATER MANAGEMENT)
 - WATER AND ENVIRONMENT (WATER RELATED HAZARD, HEALTH, ETC.)
 - WATER ECONOMICS AND GOVERNANCE (POLICY, EDUCATION, PLANNING, ECONOMY, CULTURAL, ETC.)
 - TRANSBOUNDARY WATER AND RESOURCES MANAGEMENT (CONFLICT OR COOPERATION, ETC.)
 - CURRENT AND FUTURE URBAN WATER SUPPLY SYSTEMS IN AFRICAN CITIES
- ▶ CLIMATE CHANGE
 - CLIMATE IMPACT MODELLING (DATA AND APPROPRIATED INFRASTRUCTURE, PREDICTION MODELS AND SERVICES)
 - RISK, VULNERABILITY AND IMPACT ASSESSMENT (ENVIRONMENTAL SUSTAINABILITY OF RENEWABLE ENERGY PROJECTS, ETC.)
 - ADAPTATION AND MITIGATION STRATEGIES TO CLIMATE CHANGE SECURITY IN AFRICA
 - RISK ASSESSMENT AND REDUCTION STRATEGIES FOR SUSTAINABLE URBAN RESOURCES SUPPLY IN SUB-SAHARAN AFRICAN CITIES
 - MITIGATION RESEARCH
- ▶ ENERGY, WATER AND CLIMATE CHANGE NEXUS
 - WATER-CLIMATE NEXUS
 - ENERGY-CLIMATE NEXUS
 - WATER-ENERGY NEXUS
 - ENERGY, WATER, FOOD SECURITY AND CLIMATE CHANGE NEXUS

Research-2-Practice Contributions

THE CALL FOR RESEARCH-2-PRACTICE CONTRIBUTIONS AIMS TO SHOWCASE EXISTING COLLABORATION BETWEEN PRACTITIONERS IN PRIVATE SECTOR, POLICY MAKERS, FINANCIAL INSTITUTIONS, CIVIL SOCIETY, TECHNOLOGY DEVELOPERS AND BEYOND WITH ACADEMIC, SCIENTIFIC OR RESEARCH INSTITUTIONS. THE CONTRIBUTIONS SHOULD EXHIBIT RESEARCH INTERACTION WITH PRACTICE GUIDED BY THE FOLLOWING PRIORITY AREAS:

- ▶ TECHNOLOGY DEVELOPMENT
 - RESEARCH AND DEVELOPMENT ON TECHNOLOGIES RESPONDING TO SOCIETAL CHALLENGES IN WATER, ENERGY AND



- CLIMATE CHANGE IN AFRICA AND CREATION OF START-UP/ENTERPRISES
- APPROPRIATED TECHNOLOGIES, DISRUPTIVE TECHNOLOGIES AND FRUGAL INNOVATION IN WATER, ENERGY AND CLIMATE CHANGE IN AFRICA
- LINKING TECHNOLOGY AND INNOVATION SPACES (TECH-HUBS) WITH FORMAL INSTITUTIONS OF RESEARCH IN AFRICA
- TECHNOLOGY TRANSFER (RESEARCH 2 PRIVATE SECTOR, INTERNATIONAL AND REGIONAL, ETC.) IN WATER, ENERGY AND CLIMATE CHANGE IN AFRICA

▶ RESEARCH-2-PRIVATE SECTOR

- CURRENT STATE IN AFRICA, CHALLENGES AND PERSPECTIVES
- LESSONS LEARNED FOR RESEARCH TO PRIVATE SECTOR COOPERATION IN AFRICA
- INNOVATIVE AND SUSTAINABLE FUNDING MODELS FOR RESEARCH TO PRIVATE SECTOR COOPERATION IN AFRICA

▶ RESEARCH-2-POLICY MAKERS

- ROLE/CONTRIBUTION OF AFRICAN RESEARCH CENTRES TO AGENDA 2063
- EXPECTATION OF PAN-AFRICAN ACTORS AND B NEEDS ANALYSIS FOR RESEARCH WITHIN WATER, ENERGY AND CLIMATE CHANGE
- EVIDENCE BASED POLICY MAKING, PLANNING AND INNOVATIVE TOOLS/SOLUTIONS
- GLOBAL AND FINANCE POLICY DIALOGUE, POSSIBILITIES, REALITIES AND CONSEQUENCES FOR RESEARCH IN AFRICA.

▶ RESEARCH-2-NGOs/CIVIL SOCIETY

- RESEARCH AND NGOs/CIVIL SOCIETY PARTNERSHIPS FOR TRANSFORMATION, ACTION AND SUSTAINABLE DEVELOPMENT
- OPEN INNOVATION/ PARTICIPATORY RESEARCH AND ACTION IN ENERGY, WATER AND CLIMATE CHANGE
- APPLIED RESEARCH AND INNOVATION FOR SOCIAL ENTREPRENEURSHIP

Practice and Non-Scientific Contributions

WITHIN THESE BROAD THEMES, FORUM ORGANISERS FURTHER ENCOURAGE NON-ACADEMIC PARTICIPANTS/STAKEHOLDERS INTERESTED OR INVOLVED IN PRACTISE AND APPLIED ORIENTED INITIATIVES TO SEND A SUBMISSION LINKED TO THE AREAS BELOW. THESE PARTICIPANTS MAY BE SEEKING KNOWLEDGE, STRATEGIC PARTNERSHIPS, FUNDING STRATEGIES OR MERELY AN OPPORTUNITY TO SHOWCASE THEIR WORK BASED ON REAL-LIFE SCENARIOS AND PRACTICE WITHIN THE PRIORITY AREAS OF THIS CALL.

KNOWLEDGE

▶ PRIVATE SECTOR CORPORATIONS

- SHOWCASE INITIATED OR SUPPORTED ACTIVITIES OF INTEREST TO THE ORGANISATION IN LINE WITH PRIORITY AREAS OF THIS CALL (THESE INITIATIVES MAY BE REQUIRING ON THE GROUND SUPPORT OR SCIENTIFIC LENSES)
- CONTRIBUTION FROM PRIVATE SECTOR AND NON-FORMAL RESEARCH ENVIRONMENT (AFRI LABS) TO SCIENCES AND INNOVATION IN AFRICA
- CAN BE EXTENDED WITH NEW FOCUS AREA -

▶ NGOs/CIVIL SOCIETY

- CIVIL SOCIETY MOVEMENTS/NGOs INVOLVED WITH GRASSROOTS WORK WHICH MIGHT BE OF POTENTIAL INTEREST TO PRIVATE OR PUBLIC SECTOR FUNDING
- GRASS ROOT WORK NEEDS TO BE WITHIN THE PRIORITY AREAS OF THIS CALL.
- CIVIL SOCIETY MOVEMENTS/NGOs SEEKING KNOWLEDGE PARTNERS TO STUDY THEIR NEW SOCIETAL INITIATIVES OF EXPERIMENTAL OR INNOVATIVE NATURE WHICH MAY BE OF INTEREST TO RESEARCHERS
- SHARE DATA AND STUDIES FROM THE GROUND WITH PRACTICAL REAL CASE PROBLEMS, WHICH MAY FEED INTO ACADEMIC THEORY OR CONTRIBUTE TO RESEARCH. NGOs WOULD THEREBY GAIN KNOWLEDGE OR EVEN GENERATE INTEREST FROM FUNDING INSTITUTIONS.

▶ FUNDING

- PRESENTATION OF RESEARCH GRANTS AVAILABLE FOR RESEARCHERS
- GRANTS NEEDS TO PROMOTE RESEARCH SPECIFICALLY IN THE PRIORITY AREAS OF THIS CALL.
- PRESENTATION OF FUNDING INITIATIVES AVAILABLE FOR SUPPORTING RESEARCH2PRACTICE WORK

THE OPPORTUNITY TO PUBLISH SELECTED HIGH QUALITY PAPERS IN A SPECIAL ISSUE OF A SCIENTIFIC JOURNAL WILL BE INVESTIGATED. ALL FORUM PARTICIPANTS WILL HAVE AN OPPORTUNITY TO VOTE FOR THE BEST CONTRIBUTION AND BEST POSTER (ONLINE VOTING) AND THE WINNER(S) WILL BE ANNOUNCED DURING THE CLOSING SESSION



Best paper award

THE CONTRIBUTING AUTHORS OR ORGANIZATIONS STAND A CHANCE TO WIN AN AWARD WHICH WILL BE PRESENTED DURING THE RESEARCH-2-PRACTICE FORUM. THE SELECTION OF THE BEST PAPER WILL BE DONE BY THE CONFERENCE ORGANIZERS IN COLLABORATION WITH THE COMMITTEE OF EXPERTS.

How to apply and Costs

ACADEMIC ABSTRACTS

EXTENDED ABSTRACTS MUST BE SUBMITTED IN ACCORDANCE WITH THE RELATED FORM (REFER TO "SUBMISSION TEMPLATE") AND WRITTEN IN ENGLISH.

THE DEADLINE FOR THE SUBMISSION OF EXTENDED ABSTRACTS IS 8TH JANUARY 2018.

PROPOSALS MUST BE UPLOADED VIA [HTTPS://EASYCHAIR.ORG/CONFERENCES/?CONF=RES2PRAC](https://easychair.org/conferences/?conf=res2prac)

THE SELECTION PROCESS WILL BE CARRIED OUT BY A SCIENTIFIC COMMITTEE OF INTERNATIONAL EXPERTS PRESENTED BELOW. NOTIFICATION OF ACCEPTANCE WILL BE IN MARCH 2018. FOR MORE INFORMATION ON THE FORUM, VISIT [HTTP://PAUWES-COP.NET/RES2PRAC/](http://PAUWES-COP.NET/RES2PRAC/)

UPON ACCEPTANCE OF SUBMITTED ABSTRACTS, FORUM COSTS AND TRAVEL EXPENSES OF PARTICIPANTS WILL BE COVERED BY THE ORGANIZERS

WE ACTIVELY ENCOURAGE APPLICATIONS BY FEMALE WHO WILL HAVE SPECIAL CONSIDERATION.

Forum Committee

FORUM CHAIR

- ▶ PROF DR ABDELLATIF ZERGA - DIRECTOR, PAN AFRICAN UNIVERSITY INSTITUTE OF WATER AND ENERGY SCIENCES (INCLUDING CLIMATE CHANGE) (PAUWES)
- ▶ PROF DR JAKOB RHYNER - VICE-RECTOR FOR UNU IN EUROPE AND THE DIRECTOR OF THE UNU INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY

EXPERTS COMMITTEE

- ▶ PROF DR ABDELLATIF ZERGA - DIRECTOR, PAN AFRICAN UNIVERSITY INSTITUTE OF WATER AND ENERGY SCIENCES (PAUWES)
- ▶ PROF DR JAKOB RHYNER - VICE-RECTOR FOR UNU IN EUROPE AND THE DIRECTOR OF THE UNU INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY
- ▶ PROF DR CHRISTIAN BORGEMEISTER - DIRECTOR CENTER FOR DEVELOPMENT RESEARCH (ZEF) UNIVERSITY OF BONN
- ▶ PROF DR RAMCHANDRA BHANDHARI - PROFESSOR OF RENEWABLE ENERGY SYSTEMS AND VICE DIRECTOR AT , ITT, COLOGNE UNIVERSITY OF APPLIED SCIENCES
- ▶ PROF. CHRISTOPHER OLUDHE – PROFESSOR, UNIVERSITY OF NAIROBI
- ▶ PROF. CHEWKI DEPUTY DIRECTOR PAUWES
- ▶ PROF DR LATIFA NEGADI - UNIVERSITY OF TLEMCEM
- ▶ PROF. ABDELMALEK BEKKOUCHE - UNIVERSITY OF TLEMCEM
- ▶ PROF. LOTFI BAGHLI - UNIVERSITY OF TLEMCEM
- ▶ PR BOUANANI ADERRAZAK - UNIVERSITY OF TLEMCEM -
- ▶ PROF KHELLAF ABDALLAH – CENTRE FOR RENEWABLE ENERGY, ALGIERS, ALGERIA
- ▶ PROF CHRISTOPHER OLUDHE – SENIOR LECTURER, METEOROLOGY, UNIVERSITY OF NAIROBI
- ▶ PROF DR RABANI ADAMOUM, UNIVERSITY OF NIAMEY, NIGER
- ▶ PROF DR ABDAMANE BA, UNIVERSITY OF SCIENCE, TECHNIQUES AND TECHNOLOGY OF BAMAKO, MALI
- ▶ PROF. DR. THAMEUR CHAIBI, NATIONAL RESEARCH INSTITUTE FOR AGRICULTURAL ENGINEERING, WATER AND FORESTRY
- ▶ PROF. DR. YAO AZOUMAH CEO KYA ENERGY GROUP
- ▶ PROF MARK SWILLING – SUSTAINABLE DEVELOPMENT IN THE SCHOOL OF PUBLIC LEADERSHIP, UNIVERSITY OF STELLENBOSCH
- ▶ PROF. SIDI MOHAMMED CHABANE SARI – WATER COORDINATOR, PAUWES



- ▶ DR BERNHARD TISCHBEIN - SENIOR RESEARCHER, CENTER FOR DEVELOPMENT RESEARCH, UNIVERSITY OF BONN
- ▶ DR ERICK GANKAM TAMBO – RESEARCH COORDINATOR AT PAUWES
- ▶ DR. NAVNEET KUMAR, SENIOR RESEARCHER, CENTER FOR DEVELOPMENT RESEARCH, UNIVERSITY OF BONN
- ▶ DR. BRUNESH KUMAR, ITT, COLOGNE UNIVERSITY OF APPLIED SCIENCES
- ▶ DR. CHAKIB SELADJ - UNIVERSITY OF TLEMCEN
- ▶ DR. EMMANUEL CHEO – ASSOCIATE ACADEMIC OFFICER UNU-EHS
- ▶ DR AMAZIGH DIB PRIVATE SECTOR COORDINATOR AT PAUWES
- ▶ DR. ABDELLAH BENYOUCEF , PAUWES ENERGY PROGRAM COORDINATOR
- ▶ DR. JÉRÔME EBAGNERIN TONDOH - DIRECTOR COMPETENCE CENTER, WASCAL
- ▶ DR. LINUS MOFOR SENIOR ENVIRONMENTAL AFFAIRS OFFICER – ENERGY INFRASTRUCTURE AND CLIMATE
- ▶ DR. PRISCIALLA ACHAPKA WEP – EXECUTIVE DIRECTOR, WOMEN ENVIRONMENTAL PROGRAMME (WEP) & ASHOKA FELLOW
- ▶ MS. MABOTJA KWENA - NEXTGEN DIRECTOR, UNIVERSITY PARTNERSHIPS, SAP AFRICA
- ▶ DR. SOLOMON ASEFA - HEAD OF RESEARCH AFRICA, IBM
- ▶ MS. ANNA EKELEDO EXECUTIVE DIRECTOR AFRILABS
- ▶ MS NOARA KEBIR - MANAGING DIRECTOR, MICROENERGY INTERNATIONAL
- ▶ MS. NEKESA WERE - DIRECTOR OF PLATFORM SERVICES, IHUB
- ▶ NOXOLO MCUBUSE - SAFEE & ENERGY HOUSE ZA
- ▶ LINDA OLAGUNJU - DLO ENERGY RESOURCES
- ▶ VALERIE GEEN - SANEDI & SAEF
- ▶ MR. PHUMLANI NKONTWANA – SUSTAINABILITY INSTITUTE AND STELLENBOSCH UNIVERSITY
- ▶ MR. NIKLAS HAYEK – PROJECT MANAGER, EU ENERGY INITIATIVE PARTNERSHIP DIALOGUE FACILITY

ORGANIZING COMMITTEE

- ▶ DR. ERICK TAMBO, PAUWES
- ▶ PROF. CHEWKI ZIANI, PAUWES
- ▶ MS. MARGARET KOLI, UNU-VIE
- ▶ FAUSTO SALTETTI, UNU-VIE
- ▶ DR. AMAZIGH DIB, PAUWES
- ▶ DR. ABDELLAH BENYOUCEF, PAUWES
- ▶ DR. EMAMNUEL CHEO, UNU-VIE
- ▶ MALEK AMEL, PAUWES
- ▶ MALIK BENDIMERAD, PAUWES
- ▶ KHADIDJA BOUSMAHA, PAUWES
- ▶ LINA OSORIO, GIZ
- ▶ IBTISSEM BOUSR, PAUWES
- ▶ MOHAMED MOHAMED, PAUWES
- ▶ IBRAHIM OWUSU, UNU-VIE
- ▶ DAAN SILLEN, UNU-VIE
- ▶ DR. NAVNEET KUMAR, ZEF
- ▶ MR. PHUMLANI NKONTWANA, STELLENBOSCH UNIVERSITY
- ▶ MR. BHUNESH KUMAR, ITT
- ▶ FATIMA CHAIB, PAUWE
- ▶ SOFIANE RIAHI, PAUWES



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RESEARCH 2 PRACTICE FORUM 2018

ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

16th - 18th APRIL, 2018

PROGRAM



MONDAY, 16 APRIL 2018 - DAY ONE

MASTER OF CEREMONY PROF. THAMEUR CHAIBI

WELCOME AND KEYNOTES, POLICY AND STRATEGIC PARTNERSHIP

MASTER OF CEREMONY PROF. THAMEUR CHAIBI

08:30 – 09:00	REGISTRATION
09:00 – 09:30	<p>WELCOME NOTE AND PAUWES IN CONTEXT OF THE TRI-LATERAL COOPERATION</p> <ul style="list-style-type: none"> ▶ UNIVERSITY OF TLEMCEM UoT RECTORATE UoT (TBD) ▶ AFRICAN UNION COMMISSION HUMAN RESOURCES SCIENCES AND TECHNOLOGY (AUC-HRST) DR. BEATRICE NJENGA, HEAD OF EDUCATION DIVISION AFRICAN UNION COMMISSION HUMAN RESOURCES SCIENCES AND TECHNOLOGIES ▶ ALGERIAN MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH (MERS) REPRESENTATIVE (TBD) ▶ GERMAN FEDERAL MINISTRY OF EDUCATION AND RESEARCH (BMBF) MR. JULIE KLEIN, BMBF REPRESENTATIVE ▶ CHAIRS OF THE FORUM PROF. ABDELLATIF ZERGA, PROF. JAKOB RHYNER
09:30 – 10:30	<p>SETTING THE SCENES</p> <p>STATE OF ART , CHALLENGES AND PERSPECTIVES WITH REGARDS TO RESEARCH TO PRACTICE IN AFRICA</p> <ul style="list-style-type: none"> ▶ EDUCATION, APPLIED RESEARCH AND EVIDENCE BASED POLICY FOR AGENDA 2063- DR. BEATRICE NJENGA, HEAD OF EDUCATION DIVISION AFRICAN UNION COMMISSION HUMAN RESOURCES SCIENCES AND TECHNOLOGIES ▶ TECHNOLOGICAL INNOVATIONS IN AFRICA: TECH-HUB AS DRIVER OF INNOVATION AND CHANGES IN AFRICA ANNA EKELEDO CEO AFRI LABS
10:30 – 11:00	GROUP PICTURE AND COFFEE BREAK
APPLIED RESEARCH AND RESEARCH TO PRACTICE IN AFRICA	
11:00 - 12:45	CHAIR: PROF. CHEWKI ZIANI
15 MIN	MR. ATEF MARZOUK AG. DIRECTOR AFRICAN ENERGY COMMISSION
15 MIN	MR. DAMPHA ALMANI SENIOR POLICY OFFICER IN CHARGE OF FORESTRY AND SUSTAINABLE LAND MANAGEMENT. DIVISION OF ENVIRONMENT, CLIMATE CHANGE, WATER AND LAND MANAGEMENT OF THE DEPARTMENT OF RURAL ECONOMY AND AGRICULTURE - AFRICA UNION COMMISSION.
15 MIN	MURRAY BIEDLER UNESCO DIVISION OF WATER SCIENCES - COORDINATOR NEPAD NETWORKS OF WATER CENTRES OF EXCELLENCE
15 MIN	PETER AKARI EXECUTIVE DIRECTOR, PAKARI ASSOCIATES LIMITED; FORMER CHIEF WATER POLICY OFFICER, AFRICAN DEVELOPMENT BANK
15 MIN	MR. SYLVAIN USHER EXECUTIVE DIRECTOR, AFRICAN WATER ASSOCIATIONS



15 MIN	DISCUSSION		
12:45 – 13:30	LUNCH BREAK AND NETWORKING		
WATER AND ENERGY SECURITY IN AFRICA			
13:30 – 15:30	ENERGY CHAIR: PROF. CHAKIB SELADJI	WATER CHAIR: MURRAY BIEDLER	CLIMATE CHANGE CHAIR: ATEF MARZOUK
20 MIN (15+5)	PAUWES AND UoT ONGOING PROJECTS ON WATER AND ENERGY SECURITY IN AFRICA PROF. RAMCHANDRA BHANDARI & PROF. LOTFI BAGHLI	PAUWES AND UoT ONGOING PROJECTS ON WATER AND ENERGY SECURITY IN AFRICA PROF. ABDERRAZAK BOUANANI & DR. NAVNEET KUMAR	PAUWES AND UoT ONGOING PROJECTS ON WATER AND ENERGY SECURITY IN AFRICA PROF. ABDELMALEK BEKKOUCHE & DR. EMMANUEL CHEO
20 MIN (15+5)	TECHNOLOGY IS CULTURE. BUILDING A TRANSDISCIPLINARY TEAM TO ADDRESS COMMUNITY ENERGY AND URBAN REVITALIZATION CHALLENGES *DR. MARY NJENGA, WORLD AGROFORESTRY CENTRE (ICRAF), KENYA	CLIMATE AND LAND-COVER CHANGE IN DRYLAND-CATCHMENTS, AND THEIR EFFECT ON SPATE-HYDROLOGY OF FARMING COMMUNITY IN THE LOWLANDS OF RAYA-VALLEY, NORTHERN ETHIOPIA EMNET NEGASH (MR), INSTITUTE OF CLIMATE AND SOCIETY, MEKELLE UNIVERSITY, ETHIOPIA	COMBATING CLIMATE CHANGE AND LAND DEGRADATION IN THE WESR AFRICAN SAHEL: A MULTI-COUNTRY STUDY OF MALI, NIGER AND SENEGAD. PROF. SAMUEL IGBATAYO, AFE BABALOLA UNIVERSITY, EKITI STATE, NIGERIA
20 MIN (15+5)	THE GERMAN ENERGY TRANSFORMATION (ENERGIEWENDE): HOW INCUBANTS REACT TO CHANGING BUSINESS ENVIRONMENT FLORIAN WEISS & TIMON ZIMMERMANN, TECHNICAL UNIVERSITY BERLIN & MICROENERGY INTERNATIONAL GMBH	GENDER ACCESS TO RURAL WATER SUPPLY, SANITATION AND HYGIENE IN RURAL COMMUNITIES IN BENUE STATE, NIGERIA. * DR. REUBEN LUBEM IBAISHWA, WOMEN ENVIRONMENTAL PROGRAM (WEP), NIGERIA	WATER SUPPLY AND GENTRIFICATION: A TALE OF TWO CITIES ALONG THE NIGER RIVER DR. JULIE SNOREK, INDEPENDENT RESEARCHER AND CONSULTANT SOCIAL ECOLOGICAL DYNAMICS OF CLIMATE CHANGE, USA
20 MIN (15+5)	GREEN KIOSK *JUSTINE ABUGA (MR) ECOBORA, KENYA	ASSESSING THE POTENTIAL OF MICROFINANCED SOLAR WATER PUMPING TO ENABLE PRODUCTIVE USE OF ENERGY IN RURAL AREAS OF BURKINA FASO. * YUNUS ALOKORE (MR), VIVA ENERGY INTERNATIONAL LTD, UGANDA	SOLAR SACK ANDERS LØCKE, DENMARK



10 MIN (3 MIN * 3)	<p>POSTER PITCH:</p> <p>ASSESSING THE VULNERABILITY OF ELECTRIC POWER NETWORK TO EXTREME WEATHER AND CASCADING IMPLICATION ON ELECTRICITY SUPPLIERS AND USERS IN GHANA PAUL NDUHURA PAUWES –UoT PHD STUDENT</p> <p>DESIGN OF HYBRID POWER PLANT WITH POLICY AND REGULATORY FRAMEWORKS FORMULATION FOR RENEWABLE ENERGY INTERVENTION IN AFRICA, CASE STUDY OF NIGERIA ISMAEL ABOUBAKAR PAUWES –UoT PHD STUDENT</p> <p>ENERGY TRANSITION AND TECHNOLOGICAL AND REGULATORY STRATEGIES FOR THE DEPLOYMENT OF RENEWABLE ENERGIES IN ALGERIA. BEKKOUCHE ISMAIL PAUWES –UoT PHD STUDENT</p> <p>STUDY OF DISTRIBUTED SMART RENEWABLE-ENERGY MICRO-PLANTS HANI TERFA PAUWES –UoT PHD STUDENT</p> <p>THEORETICAL AND NUMERICAL STUDY OF A SOLAR THERMOCHEMICAL REACTOR FOR HYDROGEN PRODUCTION BY THERMOCHEMICAL REACTION DARFILAL DJAMAL</p>	<p>POSTER PITCH:</p> <p>MODELLING THE IMPACTS OF LAND USE/COVER CHANGE AND CLIMATE CHANGE ON WATER BALANCE AND SEDIMENT YIELD. CASE STUDY; UPPER ATBARA-TEKEZE RIVER BASIN, ETHIOPIA SADAMME MOHAMED PAUWES –UoT PHD STUDENT</p> <p>HYDROLOGICAL MODELLING OF THE TAFNA BASIN. HANANE BOUGARE PAUWES –UoT PHD STUDENT</p> <p>TOWARDS AN EFFICIENT CHARACTERIZATION OF THE HYDROLOGICAL BEHAVIOR OF THE WATERSHED OF WADI LOUZA (NW-ALGERIA) USING THE GARDENIA MODEL *DJELLOULI FAYÇAL, BOUANANI ABDERRAZAK AND BABA-HAMED KAMILA, ALGERIA</p>	<p>POSTER PITCH:</p> <p>INTEGRATED WATER RESOURCES MANAGEMENT IMPROVEMENT OF BASIN FUNCTIONALITIES. CASE STUDY MONO RIVER BASIN TOGO/BENIN SAFIA ZENAGUI PAUWES –UoT PHD STUDENT</p> <p>ASSESSMENT AND MAPPING OF FLOOD HAZARD AREAS USING A SPATIAL MODELLING (GIS): APPLICATION IN GABES ZONE, SOUTHEAST TUNISIA. * DHEKRA SOUISSI, LAHCEN ZOUHRI, MOHAMED HAYTHEM MSADDEK, SALMA HAMMAMI, ADEL ZGHIBI AND MAHMOUD DLALA, TUNISIA</p> <p>ASSESSING THE IMPACTS OF CLIMATE CHANGE ON STREAMFLOW IN MALABA RIVER CATCHMENT, UGANDA *CHARITY KANGUME AND DEOGRATIUS MULUNGU, TANZANIA</p>	
	30 MIN	DISCUSSION/ COLLABORATIVE AND INTERACTIVE SESSION	DISCUSSION/ COLLABORATIVE AND INTERACTIVE SESSION	DISCUSSION/ COLLABORATIVE AND INTERACTIVE SESSION
	15:30 – 16:30	POSTER SESSION, COFFEE BREAK AND NETWORKING		
	16:30 – 17:45	PODIUM DISCUSSION		
	17:45 – 18:00	WRAP-UP AND CLOSING SESSION		



TUESDAY, 17 APRIL 2018 – DAY TWO

MASTER OF CEREMONY PROF, THAMEUR CHAIBI

09:00 – 10:30

Funding Opportunities for applied research and research to practice in Africa
CHAIR: SYLVAIN USHER

20 MIN

FUNDING MODELS AND GRANT OPPORTUNITIES OF THE GERMAN FEDERAL MINISTRY OF EDUCATION AND RESEARCH (BMBF-PT-DLR)
DR. ANJA KÖHLER, SENIOR OFFICER PT-DLR

20 MIN

FUNDING MODELS AND GRANT OPPORTUNITIES OF THE ALGERIAN MINISTRY OF HIGHER EDUCATION AND RESEARCH (MERS)
MERS – ALGERIA (T.B.D.)

20 MIN

FUNDING OPPORTUNITIES AT THE ISLAMIC DEVELOPMENT BANK
BAKHODIR MIRZAEV, SENIOR WATER SPECIALIST, ISLAMIC DEVELOPMENT BANK GROUP

20 MIN

VENTURE CAPITAL, EQUITY FUNDS AND BUSINESS ANGELS IN AFRICA
SASKIA REUS, CEO AFRICA FUNDED

10 MIN

PARTICIPATIVE DATABASE FOR GRANT OPPORTUNITIES IN THE FIELD OF WATER, ENERGY AND CLIMATE CHANGE IN AFRICA
DR. ERICK TAMBO, RESEARCH COORDINATOR PAUWES

10:30 – 11:00

COFFEE BREAK AND NETWORKING

PRIORITY OF THE PAUWES RESEARCH AGENDA: ENERGY, WATER AND CLIMATE CHANGE

11:00 – 13:15

ENERGY

CHAIR: PROF. RAMCHANDRA BHANDARI

WATER

CHAIR: MURRAY BIEDLER

CLIMATE CHANGE

CHAIR: PETER AKARI

15 MIN

PAUWES RESEARCH AGENDA: PRIORITIES AND FRAMEWORK FOR ENGAGEMENT AND ACTIONS

PROF. ABDEALLTIF ZERGA
DIRECTOR, PAN AFRICAN UNIVERSITY INSTITUTE OF WATER AND ENERGY SCIENCES (PAUWES)

PAUWES RESEARCH AGENDA: PRIORITIES AND FRAMEWORK FOR ENGAGEMENT AND ACTIONS

DR. BERNARD TISCHBEIN
SENIOR RESEARCHER, CENTER FOR DEVELOPMENT RESEARCH, UNIVERSITY OF BONN, GERMANY

PAUWES RESEARCH AGENDA: PRIORITIES AND FRAMEWORK FOR ENGAGEMENT AND ACTIONS

PROF. DR. JAKOB RHYNER,
DIRECTOR UNITED NATIONS UNIVERSITY INSTITUTE FOR ENVIRONMENT AND HUMAN SECURITY (UNU-EHS), GERMANY

20 MIN
(15 + 5)

SIMULATION AND COMPARISON BETWEEN CONVENTIONAL AND INTERLEAVED BUCK-BOOST CONVERTER FOR GRID-CONNECTED PV SYSTEM
*MOHAMED MERAH, ALGERIA

DROUGHT FORECASTING UNDER CLIMATE CHANGE SCENARIOS USING ARTIFICIAL NEURAL NETWORKS FOR SUSTAINABLE WATER RESOURCES MANAGEMENT IN UPPER TANA RIVER BASIN, KENYA
PROF. BENEDICT MWAVU MUTUA
KIBABII UNIVERSITY, KENYA

PAST AND PROJECTED CHANGES IN RAINFALL AND TEMPERATURE OVER EAST AFRICA.
DR. VICTOR ONGOMA DEPARTMENT OF METEOROLOGY, SOUTH EASTERN KENYA UNIVERSITY, KENYA

20 MIN
(15 + 5)

POTENTIAL TO PRODUCE BIOGAS FROM TANNERY WASTE
DR. MERCY M. MANYUCHI,
MANICALAND STATE UNIVERSITY OF APPLIED SCIENCES, ZIMBABWE

ASSESSING THE IMPACTS OF CLIMATE CHANGE ON STREAMFLOW IN MALABA RIVER CATCHMENT, UGANDA
CHARITY KANGUME
UNIVERSITY OF DAR ES SALAAM, COLLEGE OF ENGINEERING AND TECHNOLOGY, TANZANIA

NON-STATE ACTORS AND CLIMATE CHANGE ADAPTATION PROCESSES: A CASE STUDY FROM TANZANIA
*DR. ROBERT ELIAKIM KATIRO,
COLLEGE OF AGRICULTURAL SCIENCES AND FISHERIES TECHNOLOGY, TANZANIA



<p>20 (15 + 5)</p> <p>Min</p>	<p>EXPERIMENTAL EVALUATION OF THERMAL PERFORMANCE OF SELECTED OILS IN UGANDA FOR INDIRECT SOLAR DOMESTIC COOKING APPLICATIONS.</p> <p>* TABU BENARD , DEPARTMENT OF PHYSICS/ GULU UNIVERSITY, UGANDA</p>	<p>SMALL SCALE PHOTOVOLTAIC-DRIVEN REVERSE OSMOSIS (PV-RO) DESALINATION PLANT FOR PURE WATER PRODUCTION</p> <p>*DJAMILA ZIOUI, HANENE ABURIDEH AND ZAHIA TIGRIN, ALGERIA</p>	<p>BARRIERS TO AND DETERMINANTS OF THE CHOICE OF CROP MANAGEMENT STRATEGIES TO COMBAT CLIMATE CHANGE IN DEJEN DISTRICT, NILE BASIN OF ETHIOPIA</p> <p>*DR. ZERIHUN YOHANNES AMARE PANAFRICAN UNIVERSITY, INSTITUTE OF LIFE AND EARTH SCIENCES(INCLUDING HEALTH AND AGRICULTURE), UNIVERSITY OF IBADAN (PAULES), NIGERIA</p>
<p>20 (15 + 5)</p> <p>Min</p>	<p>ELECTRIFICATION, RENEWABLE ENERGY, PARTNERSHIP INVESTMENT,</p> <p>MARTIN LYAMBAI CEO ZAMBIA GREEN ENERGY GROUP, SECHABA ENERGY CONSULTANT</p>	<p>COMMUNITY MOBILIZATION AND EMPOWERMENT AND COMMUNITY-LED TOTAL SANITATION IN RURAL WATER AND SANITATION PROJECT.</p> <p>* RANITA KOROMA SIERRA LEONE</p>	<p>ETRASH2CASH</p> <p>*MUHAMMAD SALISU ABDULLAHI (MR), eTRASH2CASH (REGISTERED AS "eT2C COMPANY NIGERIA"), NIGERIA</p>
<p>10 Min (3 Min * 3)</p>	<p>POSTER PITCH:</p> <p>IMPROVING THE CAPACITY OF DECISION-MAKERS IMPLEMENTING RENEWABLE ENERGY IN REFUGEE CAMPS.</p> <p>PETER THOMAS, THE UNIVERSITY OF BRISTOL, UK - LOW CARBON ENERGY FOR DEVELOPMENT NETWORK</p> <p>HYDROGEN GENERATION OVER COBALT CONTAINING MICROPOROUS ALUMINOHOSPHATES PHOTO-CATALYST</p> <p>ABDELGHANI BOUCHAMA, AMEL BOUDJEMAA AND HAFIDA HENTITE, ALGERIA</p> <p>MICROGRIDS FOR RURAL ELECTRIFICATION – BRIDGING THE GAPS BETWEEN THE SOCIAL AND THE TECHNICAL</p> <p>HANNAH MOTTRAM, THE UNIVERSITY OF SHEFFIELD, UK LOW CARBON ENERGY FOR DEVELOPMENT NETWORK</p>	<p>POSTER PITCH:</p> <p>CONTRIBUTION OF GIS AND HYDRAULIC MODEL FOR WATER RELATED RISK MANAGEMENT IN THE SAHARAN REGION: CASE OF FLOODING IN THE WADI BECHAR WATERSHED</p> <p>*BEKHIRA ABDELGHANI, HABI MOHAMMED AND MORSLI BOUTKHIL, ALGERIA</p> <p>LOCAL INSTITUTIONS' ROLE IN ENHANCING CLIMATE CHANGE ADAPTATION OF RURAL FARMERS IN SEMI-ARID ECOSYSTEMS IN NORTHERN GHANA USING SOCIAL NETWORK ANALYSIS</p> <p>MAWULOLO YOMO WEST AFRICAN SCIENCE SERVICES CENTRE ON CLIMATE AND ADAPTED LAND USE (WASCAL), TOGO</p> <p>ARTIFICIAL GROUNDWATER RECHARGING ZONES MAPPING USING A GIS-BASED FUZZY LOGIC APPROACH: A CASE STUDY IN BECHAR'S REGION, SOUTHWEST OF ALGERIA.</p> <p>*ABDELJALIL BELKENDIL, MOHAMMED HABI AND BOUTKHIL MORSLI, ALGERIA</p> <p>USE OF THE SATELLITE TECHNOLOGIES FOR THE MONITORING THE QUALITY OF SEA WATER FOR APPLICATION TO THE ALGERIAN MEDITERRANEAN LITORAL</p> <p>CHABI TAHENNI NACIRA</p> <p>EFFECT OF SURFACE CONDITIONS ON THE HYDROPH BEHAVIOUR OF SOILS IN THE TLEMEN REGION CERTIFICATE</p> <p>PROF. BOUGALEM MOSTAFIA</p>	<p>POSTER PITCH:</p> <p>YOUTH EARTH SYSTEM SCIENTISTS COMMUNITY: ENGAGEMENT OF YESS FOR A BETTER FUTURE</p> <p>FATEN ATTIG-BAHAR YOUNG EARTH SYSTEM SCIENTIST' (YESS-COMMUNITY) , EXECUTIVE COMMITTEE MEMBER AFRICAN YOUTH UNION FOR CHANGE (AUY4C) , NORTH AFRICA V PRESIDENT</p> <p>ETHNIC CONSIDERATIONS OF CHOICE OF LIVELIHOOD COPING STRATEGIES TO COMBAT CLIMATE CHANGE AND VARIABILITY: A GENDER PERSPECTIVE</p> <p>MARK MCCARTHY AKROFI; KATHERINE KAUNZA MILLAR; DAVID MILLAR, ALGERIA</p> <p>STUDY OF THE FEASIBILITY OF WATER REUSE FOR AGRICULTURE AS AN ADAPTATION MEASURE TO CLIMATE CHANGE - CASE STUDY OF AIN TEMOUCHENT, ALGERIA</p> <p>* ROKIATOU HAIDARA, CHERIFA ABDELBAKI AND NADIA BADR, ALGERIA</p>



30 MIN	DISCUSSION/ COLLABORATIVE AND INTERACTIVE SESSION	DISCUSSION/ COLLABORATIVE AND INTERACTIVE SESSION	DISCUSSION/ COLLABORATIVE AND INTERACTIVE SESSION
13:15 – 14:00	LUNCH AND NETWORKING		
PRIORITIES OF THE PAUWES RESEARCH AGENDA: NEXUS WATER, ENERGY AND CLIMATE			
14:00 – 15:30	CHAIR: PROF. RAMCHANDRA BHANDARI		
20 MIN	WATER-CLIMATE NEXUS SCANNING CLIMATE CHANGE IMPACTS ON WATER RESOURCES OF THE LARGEST AFRICAN RIVER BASINS *DR. SHAMSEDDIN AHMED *WATER MANAGEMENT AND IRRIGATION INSTITUTE, UNIVERSITY OF GEZIRA, SUDAN		
20 MIN	ENERGY-CLIMATE NEXUS EXPERIMENTAL STUDY ON PERFORMANCE OF SOLAR THERMAL DRIVEN COOLING SYSTEM VERSUS A HYBRID MECHANICAL COMPRESSION REFRIGERATION-SOLAR THERMAL ASSISTED SYSTEM IN HOT AREAS * PROF. AHMED HAMZA H. ALI * FACULTY OF ENGINEERING, ASSIUT UNIVERSITY, EGYPT		
20 MIN	WATER-ENERGY NEXUS PROSPECT OF WIND ENERGY AS A RESOURCE FOR WATER PUMPING IN NGAOUNDERE *DR. RUBEN M. MOUANGUE * DEPARTMENT OF ENERGY ENGINEERING, UNIVERSITY INSTITUTE OF TECHNOLOGY, UNIVERSITY OF NGAOUNDERE, CAMEROON		
20 MIN	WATER-ENERGY AND FOOD SECURITY NEXUS INTEGRATED APPROACH ON ENERGY MANAGEMENT, TREATMENT AND REUSE OF INDUSTRIAL WASTEWATER FOR SUSTAINABLE AGRICULTURAL DEVELOPMENT – A GREEN FOOD SECURITY CONCEPT. *SINGANAN MALAIRAJAN * PG AND RESEARCH DEPARTMENT OF CHEMISTRY, INDIA		
10 MIN	DISCUSSION		
15:30 – 16:00	COFFEE BREAK AND NETWORKING		
16:00 – 16:15	BRINGING TOGETHER RESEARCHERS, POLICY-MAKERS AND PRACTITIONERS: EXAMPLE FROM THE LOW CARBON ENERGY FOR DEVELOPMENT NETWORK. DR. ED BROWN ,NATIONAL CO-COORDINATOR, UK LOW CARBON ENERGY FOR DEVELOPMENT NETWORK		
16:15 – 16:45	COOPERATION PITCH SESSION (LCEDN, AFRI LABS, AUC, NEPAD/UNESCO, PAUWES, ABAN, AHK, ISB, AFREC, UoT, AfWA, SABER/ABREC, ETC.)		
16:45 – 17:15	PAUWES DOCTORAL INCUBATOR PROGRAM DR. ERICK TAMBO RESEARCH COORDINATOR AT PAUWES		
17:15 – 18:30	WORKING GROUP SESSION FOR COOPERATION IN THE FRAME OF PRIORITIES OF THE RESEARCH AGENDA AT PAUWES		
18:30 – 18:45	WRAP-UP AND CLOSING SESSION		



WEDNESDAY, 18 APRIL 2018 – DAY THREE

MASTER OF CEREMONY PROF. THAMEUR CHAIBI

09:00 – 11:00	FROM PRACTICE TO ENTREPRENEURSHIP AND SUMMARY CHAIR: DR. ED BROWN
20 MIN (15 + 5)	FROM RESEARCH2PRACTICE – THE GERMAN APPROACH DR. WALTER PFLUGER, EXECUTIVE DIRECTOR ALGERIAN - GERMAN CHAMBER OF COMMERCE AND INDUSTRIE (AHK-ALGÉRIE)
20 MIN (15 + 5)	TECHNOLOGIE AND INNOVATION-HUB (TECH-HUB) AS DRIVER OF INNOVATION AND CHANGES IN AFRICA ANNA EKELEDO, CEO AFRICALABS
20 MIN (15 + 5)	INTEGRATION OF TECH-HUB INTO UNIVERSITY AN EXAMPLE AT STRATHMORE UNIVERSITY BERNARD CHIIRA, INCUBATION MANAGER @IBIZAFRICA, STRATHMORE UNIVERSITY
20 MIN (15 + 5)	PAUWES ENTREPRENEURSHIP CENTER DR. AMAZIGH DIB, PRIVATE SECTOR COORDINATOR PAUWES
40 MIN	LESSON LEARNT, DISCUSSION AND REFLEXION ON THE FORUM
11:00 – 11:30	COFFEE BREAK AND NETWORKING
11:30 – 12:00	FAIR – EXHIBITION – MEET UP
12:00 – 13:00	<ul style="list-style-type: none"> ▶ UNIVERSITIES AND RESEARCH CENTER ▶ POLICY INSTITUTIONS ▶ PRIVATE SECTOR ACTORS ▶ NGOs ▶ ETC.
13:00 – 14:00	LUNCH
14:00 – 17:30	CULTURAL EVENT – VISIT OF TLEMCCEN



Res Prac

PAUWES

RESEARCH 2 PRACTICE FORUM 2018

ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

**16th - 18th APRIL, 2018
TLEMEN, ALGERIA**

LIST OF PARTICIPANTS



Researchers / Scientists

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Research 2 practice Experts

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RESEARCH 2 PRACTICE FORUM 2018

ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

16th - 18th APRIL, 2018

BOOK OF ABSTRACTS



MONDAY, 16 APRIL 2018 - DAY ONE

Water and Energy Security in Africa

► Energy Session

Energy Efficiency in West Africa Economies: Implication for Sustainable Energy use

Christian Aboua (Mr.), Economic Policy Analysis Unit of CIRES (CAPEC), Abidjan, Côte d'Ivoire,

Short Abstract

In recent years, energy efficiency figures prominently in energy policies of African countries. This study analyzes the total-factor energy efficiency in West Africa economies over the period 1990-2013 using DEA model. The empirical analysis is carried out in two steps. In the first step, energy efficiency scores are calculated. In the second step, excesses in energy and CO₂ and shortfall in GDP are determined. Average energy efficiency scores over the study period showed that the five most energy-efficient countries are Senegal, Niger, Benin, Burkina Faso, and Ghana, whereas the five least energy-efficient countries are Guinea, Nigeria, Togo, Mali and Liberia. Energy efficiency scores with and without undesirable output are identical for Ghana, showing that she seem to be the best in sustainable energy utilization. Based on DEA scenarios, we found that, all the countries generate excesses in energy use causing shortfall in GDP. The DEA model highlights that if countries reduced excesses in energy use and CO₂ as well as used efficiently capital and labor, they would have increased the GDP. A decrease of energy consumption from traditional biomass and a better exploitation of renewable energy from biomass will adjust energy consumption and improve energy efficiency and environmental quality.

Keywords:

Energy efficiency, Data Envelopment Analysis, Slack Based Model, West Africa

Technology is Culture. Building a transdisciplinary team to address community energy and urban revitalization challenges

*Dr. Mary Njenga, World Agroforestry Centre (ICRAF), Kenya

Short Abstract

Traditional development models assume that countries of the Global South will undergo an economic trajectory roughly equivalent to that of the Global North. The reality of climate change caused by the burning of fossil fuels raises the prospect that a new model, founded on renewable and sustainable energy will have to be designed. At the same time, rural locations in North, face devastating economic consequences of an industrial model that has left them behind. Our international, transdisciplinary research team, working in Eastern and Southern Africa on sustainable biomass energy and in New Kensington, PA on rural small town renewal, seeks to understand the intersection of community preferences, technological innovation, gender relations and environmental sciences to develop socio/technological interventions. We flip the development model, bringing African expertise to bear on US-based problems and US-based insights to understand subculture specific cultural preferences in Kenya. This presentation outlines how we work together, the methods we use to engage in creative problem solving and the unique "kitchen laboratory" used on the Kenyan side to assess cooking energy needs.

Keywords:

Energy, Eastern and Southern Africa, collaborative research, wood fuels, rural development

Green Kiosk

*Justine Abuga Nyaruri (Mr) ECOBORA, Kenya

Short Abstract

Green Kiosk project will use green energy as a catalyst for poverty eradication in Kenya. We are planning to work with women groups where we shall train them to sell green fuels to homes, we shall empower youths by providing them with automated tree nurseries where they shall foster tree planting and thus improving their lives. We will target disadvantaged communities where through our solar panel the families can charge their phones and lamps



to use during the night. We shall work with farmers who burn organic wastes to convert them into pellets to use to cook.

► Water Session

Climate and Land-cover Change in Dryland-Catchments, and their Effect on Spate-hydrology of Farming Community in the Lowlands of Raya-Valley, Northern Ethiopia

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Short Abstract

Spate-irrigation, a system foreseen as a potential means of improving agricultural production in rainfall deficit lowlands, is profoundly threatened by climate and land-cover change upstream. Yet, the actual implications of these changes on spate-hydrology has not been well studied. The objective of this study was thus to analyse the hydrological-response of dryland catchments to changing climate and land-cover in the Raya-valley. Long-term climate data were collected from National Meteorological Agency, and land-cover information extracted from Landsat satellite images. Soil Conservation Systems Curve-Number method was then employed to formulate the likely impacts of climate and land-cover dynamics on spate-hydrology. Average temperature, and evapotranspiration of the study area raised at a Coefficient of 0.13oC yr⁻¹, and 16.43mm yr⁻¹ respectively. Rainfall on the other hand dropped at a coefficient of 5.1mm yr⁻¹. Land-cover change and Normalized Difference Vegetation Index analysis also showed improvement in vegetation-cover, enhancing water retention capacity of the soil upstream. Declining rainfall, coupled with rising temperature and evapotranspiration on the top of increasing water-retention capacity of the soil aggravated moisture stress, thereby threatening spate-hydrology at a coefficient of 0.23x10⁶m³ yr⁻¹. Appropriate policies and strategies would therefore be desirable to address contesting interests on scarce water resources in the face of climate change.

Keywords:

Climate change; Land-cover change; Spate-hydrology; Farming community; Raya valley

Gender Access To Rural Water Supply, Sanitation And Hygiene In Rural Communities In Benue State, Nigeria.

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Short Abstract

Water, sanitation and hygiene (WASH) has become a prevalent issue in Nigeria. Many communities lack WASH facilities in the country. Women in Nigeria are responsible for WASH. To ensure WASH in the family, women depend directly on the availability of WASH facilities in the communities. Despite the important roles women play in ensuring WASH in the house, they face various challenges. These challenges call for research. Therefore, this study examines gender and WASH and adopted a mix methodology. A total of 1,300 participants responded to the household survey questions, 480 participated in the focus group discussion and 60 key informants were interviewed. Purposive sampling technique was used to select participants for household survey, FGD and KII. Questionnaire, interview and direct observation were utilized in collecting data. Findings of the study revealed that cultural practices, education, gender inequalities, poor access to WASH services/facilities, low level of awareness, lack of sustainability of existing WASH facilities and lack of capacity of agencies was responsible for poor gender access to WASH services. The study recommended that more women development programs on WASH should be formulated and implemented rural Nigeria. Also, there is need to build the capacity of CSOs/NGOs to strategically provide WASH services.

Keywords:

Gender, Rural, Water, Sanitation, Hygiene



Assessing the potential of microfinanced solar water pumping to enable productive use of energy in rural areas of Burkina Faso.

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Short Abstract

The population in Burkina Faso (BF) is rapidly adopting irrigation to adapt to negative impacts of climate change (CC) like prolonged drought, rainfall variability and desertification. However, due to high initial cost of solar water pumping systems (SWPS), population mainly uses diesel water pumps (DWPs) which accelerate CC. This study aims at assessing the potential of microfinanced SWPS for irrigation in the rural areas of BF. The main SWPS market-segments were identified. It was found that there are three main SWPS market-segments. For each market-segment, AC and DC SWPS with water storage were sized. Profitability analysis was conducted at 5.3% per year interest rate and 20 years system life span. It was found that water storage contributes enormously to SWPS capital cost. Furthermore, the study revealed that using SWPS with water storage to completely replace DWPs not profitable. It was found that replacing water storage with DWP to be used on cloudy days is profitable for all market-segments. Finally, main loan features for SWPS were determined. At 9.5% interest charged on agricultural equipment loans by microfinance institutions in BF, only SWPS for two market-segments can be fully financed through microloan without risk of long PBP (> 13 years).

Keywords:

Prolonged drought, diesel water pump, climate change adaptation, solar water pump, microfinance

► Climate Change Session

Combating Climate Change and Land Degradation in the Wesr African Sahel: A multi-Country Study of Mali, Niger and Senegad.

Prof. Samuel Igbatayo , AFE Babalola University. , Ekiti State, Nigeria

Short Abstract

The major objective of this paper is to shed light on climate change and land degradation patterns in the West African Sahel. It employs empirical data to analyze the trends, with particular emphasis on Mali, Niger and Senegal. The study reveals considerable threats posed by the twin scourges of climate change and land degradation to food security, environmental sustainability and regional stability. The study further reveals that Mali, Niger and Senegal, amongst other countries in the Sahel are currently engaged in the "Great Green Wall" initiative-planting of trees to reverse impacts of climate change and land degradation in the region- and are also signatories to the 2015 Paris Agreement on the Global Climate Change. The paper presents a comprehensive policy framework underpinned by climate change mitigation and adaptation policies, novel agricultural technologies, developing human capital, conflict management and poverty reduction strategies.

Water supply and gentrification: A tale of two cities along the Niger River

* Julie Snorek (Dr), USA

Short Abstract

Cities in Sub-Saharan Africa are growing at a rapid pace, which has put constraints on current water infrastructure serving the burgeoning city. Concurrently, global inequality has become a leading driver of water risks including scarcity of potable water, due partially to the fact that rural to urban migration has outpaced urban water development. While the Sustainable Development Goals have highlighted water security as a critical component to urban development, it remains to be seen who is being served by new water infrastructure projects and who is left out. This proposed research follows the supply chains of World Bank funded water infrastructure developments in the two capitals. The objective of this research is to understand equity in urban water management practices. What are the water management practices as described by high-income dwellers and



migrant populations in Niamey and Bamako? What are the perceptions held about water rights for the center and the periphery? The research examines the challenges to meeting water needs of multiple users when faced with the complex dynamics of the new urban context. The output of this project will be a qualitative and quantitative risk assessment that highlights the vulnerabilities of migrant populations, explains the role of gentrification in the water management, and defines best practices emerging from spontaneous, local scale adaptations to water insecurities.

Keywords:

Risk assessment, sustainable development goals, water management, Niger, Mali, gentrification, World Bank

Solar Sack

Anders Løcke, Denmark

Short Abstract

SolarSack is a water container that uses the sun to kill bacteria and virus in water, making it safe to drink. SolarSack combines a clever design, with the right material, resulting in a retail price of only 2€. With a Solarsack, you can purify 4 liters of water in 4 hours, and it can be reused over 150 times, providing over 600 liters of water. SolarSack is a good investment, both for the customers and the planet, as it is 10 times cheaper than boiling with charcoal, and 20 times less of a strain on the environment, per liter of purified water.

Website

www.solarsack.com

► **Poster Pitch**

Assessing The Vulnerability Of Electric Power Network To Extreme Weather And Cascading Implication On Electricity Suppliers And Users In Ghana

Paul NduhuuraPauwes –UotPhd Student

Design Of Hybrid Power Plant With Policy And Regulatory Frameworks Formulation For Renewable Energy Intervention In Africa, Case Study Of Nigeria

Ismael Aboubakar Pauwes –UotPhd Student

Energy Transition And Technological And Regulatory Strategies For The Deployment Of Renewable Energies In Algeria.

Bekkouche Ismail Pauwes –UotPhd Student

Study Of Distributed Smart Renewable-Energy Micro-Plants

Hani TerfaPauwes –UotPhd Student

Theoretical And Numerical Study Of A Solar Thermochemical Reactor For Hydrogen Production By Thermochemical Reaction

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Modelling The Impacts Of Land Use/Cover Change And Climate Change On Water Balance And Sediment Yield. Case Study; Upper Atbara-Tekeze River Basin, Ethiopia

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Hydrological Modelling Of The Tafna Basin.

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Towards an efficient characterization of the hydrological behavior of the watershed of wadiLouza (NW-Algeria) using the GARDÉNIA model

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Short Abstract

The GARDENIA model is one of the strategies that could play a constructive role in improving the performance of the rainfall- runoff conceptual models. The main objective of this article is to identify and characterize the hydrological behavior of the wadiLouza watershed. The model simulates the main mechanisms of the water cycle in a watershed through simplified physical laws. These correspond to a flow through a succession of tanks. Data from 1987 / 1988-2007 / 2008 are used with some wet and other dry periods. The results show that in the calibration phase the model has a robustness to produce reliable simulation of flows in the monthly time step. Its application over different periods (dry and wet) has shown a certain efficiency for all periods. During the validation phase, the model was able to generate the series of flows for most periods. In terms of hydrological balance, the model was able to quantify the different components (real evapotranspiration, runoff, infiltration, recharge) and to separate the different components of the flow. The assessment of recharge during the dry period and the wet period, has shown us the effects of climate variability on water resources.

Keywords:

Gardenia model; Conceptual models; Louzawadi; Hydrological balance.

Integrated Water Resources Management improvement Of Basin Functionalities. Case Study Mono River Basin Togo/Benin

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Assessment and mapping of flood hazard areas using a spatial modelling (GIS): Application in Gabes zone, Southeast Tunisia.

* DhekraSouissi, LahcenZouhri, Mohamed HaythemMsaddek, Salma Hammami, Adel Zghibi and Mahmoud Dlala, Tunisia

Short Abstract

Flood is considered to be the most common natural disaster worldwide during the last decades. Flood risk potential mapping is required for assessment of inundation. In the study, a multi-criteria decision making model was developed to identify the flood hazard vulnerable in Gabes. The methodology adopted, is based on the coupling of GIS and AHP, eight factors were used. The impact of each factor contributing in the Flood risk was examined by weights and the calculation of the normalized ranks of the classes of each factor was made by pair-wise comparison using the AHP. Moreover, a sensitivity analysis on the factors values, is applied to examine the sensitivity of the parameter's to the modification of weights, thus which allows for better understanding the importance of each criterion in flood hazard. The application of the Flooding prototype in Gabes city revealed that about 75% of the total urban area is susceptible to inundations with a very High to moderate potential for flood risk. The results showed that the AHP technique is promising of making accurate and reliable prediction for flood extent.

Keywords:

MCDM; SIG; AHP

Assessing the Impacts of Climate Change on Streamflow in Malaba River Catchment, Uganda

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Short Abstract

Malaba River in Uganda a focal area to the Lake Kyoga basin is prone to climate change because of its heavy reliance on rainfall as its major flow contributor. The impacts of climate change on streamflow in Malaba River



were assessed using LARS-WG downscaling model and Soil and Water Assessment Tool (SWAT) model. This was achieved by downscaling the future (2020-2050) precipitation and temperature variables for A1B and A2 scenarios and simulating the projected climate with calibrated LARS-WG and SWAT models for the two scenarios. The SWAT calibration (1992 - 1999) and validation (2000 - 2004) NSE results were respectively 0.55 and 0.35. Results indicated that the projected areal rainfall will increase by 0.34 mm per year for A1B which is averagely 1% less than the baseline period. Areal rainfall for A2 scenario will increase by 0.41 mm per year which is averagely 9% more than the baseline period. The Flow Duration Curve analyses indicated that the A2 scenario displayed higher flows for all the percentiles as compared to the baseline flows while A1B scenario has lower flows for percentiles less than 50, and equal or slightly higher flows for percentiles greater than 50 as compared to the baseline flows.

Keywords:

climate change, LARS-WG downscaling model, Malaba River, SWAT

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How well do regional climate models simulate rainfall variability of northern Algeria

**Sabrina Taibi, Mohamed Meddi and Gil Mahé, Algeria*

Short Abstract

This work aims to evaluate regional climate models of Ensemble project to reproduce the seasonal rainfall variability of Northern Algeria (south side of Mediterranean basin). Models are firstly validated over the reference period 1961-1990 and then future seasonal rainfall variability is analyzed over two projection periods: 2021-2050 and 2070-2099. Simulated data have been extracted from 12 regional models and compared to the observed data using the "bias method". Generally, it appears that models underestimate the wet seasons and overestimate the dry season over the control period 1961-1990. Only four models have been validated to be used in projection. All models simulate a significant decrease of future rainfall in winter and spring seasons over the two projected periods. In autumn and summer, some models simulate an increase in rainfall and others simulate the reduction in rainfall in future.

Keywords:

Algeria, rainfall, regional climate models

TUESDAY, 17APRIL 2018 – DAY TWO

PRIORITY OF THE PAUWES RESEARCH AGENDA: ENERGY, WATER AND CLIMATE CHANGE

► Energy Session

Simulation and comparison between conventional and interleaved Buck-boost converter for grid-connected PV system

**Mohamed Merah, Algeria*

Short Abstract

This paper presents a mathematical modelling of buck boost converter used for grid-connected PV systems. It is related to the optimization of the first input stage of a grid tie inverter PV system. The interleaved buck-boost DC-DC converter is proposed to increase the performance of the entire system. The input current is shared between the inductors. As a result, the current ripples are reduced and a good reliability in power electronic systems is gained. The interleaved buck-boost converter is presented and compared in simulation.

Keywords:

DC-DC converter, buck-boost converter, interleaved, PV system



Potential to Produce Biogas from Tannery Waste

Dr. Mercy M. Manyuchi, Manicaland State University of Applied Sciences, Zimbabwe

Short Abstract

The demand for fuel has been rising exponentially as the population is increasing. This calls for a need for alternate sources of energy and clean technology to address global warming problems. Large scale production of tannery waste is associated with land pollution, air pollution and water pollution. Biogas and bio-fertilizer can be co-generated by bio-catalyzed anaerobic digestion of tannery waste and leather by-products. This relieves pressure on the use of electricity, natural petroleum fuels and the environment itself. The key aim of this project is to utilize and make use of tannery waste dumped by leather industries through an anaerobic digestion process to yield the highest biogas yield as possible. The main statement of the problem focuses on the unsuitable carbon-nitrogen ratio in the tannery biomass which cause frequent ammonia production which greatly inhibit the anaerobic digestion process. Therefore the solution of this problem can be achieved through mixing the tannery waste with a different organic biomass such as cow dung in order to provide the desired C/N ratio suitable for anaerobic digestion. This blending of two or more substrates is called anaerobic co-digestion and in this case its aim is to reduce the nitrogen proportion with respect to carbon in the substrate in order to reduce inhibition of biogas production. The major equipment to be designed for the process are the hydrolytic reactor to hydrolyze the organic matter into smaller units, the bio digester for fermentation and the distillation column for biogas purification.

Experimental evaluation of thermal performance of selected oils in Uganda for indirect solar domestic cooking applications.

* Tabu Benard, Department of Physics/ Gulu University, Uganda

Short Abstract

This study experimentally evaluated the thermal performance of selected oils in Uganda for indirect solar domestic cooking applications. The oil samples used were refined sunflower oil, refined palm oil and thermia B; these oils are locally available in Uganda. Thermal stratification, energy and exergy analysis were performed for each oil to determine their suitability for TES using a thermosiphon principle. The results showed that thermal stratification of refined sunflower oil was higher as compared to refined palm oil and thermia B during the first one hour. The stored energy and exergy for refined sunflower oil was generally higher than that of refined palm oil and thermia B. The thermal performance of refined sunflower oil was comparative to refined palm oil which was better than that of thermia B.

Keywords:

Thermosiphon, thermal stratification, energy, exergy

Electrification, Renewable Energy, Investment, Partnership

* Martin Lyambai (Mr) PAUWES, Kenya

Short Abstract

Zambia has abundant renewable energy resources which could provide basic energy services to over 16 million Zambian citizens. Despite that only 25% of the population in Zambia have access to electricity and clean cooking facilities. This has led to a continued large scale usage of wood energy causing a strain on forestry stock. Further the country's largest renewable energy generation potential exists through solar and hydro power. Although, Government efforts to invest in the solar and hydro energy sector has been slow, so far less than 30% of the available (6000MW) hydro potential has been harnessed and solar PV has been installed only on about 400 households, several schools and Chief's Palaces in various parts of the country. Zambia aims to reach an electrification rate of 90% in urban and 51% in rural areas through its vision 2030. This will technically require policies and regulatory that build capacity for both public and private sector partnership with specific regard to



promoting renewables energies. Therefore this paper seeks to address energy issue of access in Zambia and highlight the policy issues to harmonize the partnership of public and private sector investments in solving energy concern. This is done through an overview of the energy sector, review of the energy policies and private sector investments.

Keywords:

Electrification, Renewable energy, Investment, Partnership

► Water Session

Drought forecasting under climate change scenarios using artificial neural networks for sustainable water resources management in upper Tana River basin, Kenya

Prof. Benedict MwavuMutuaKibabii University, Kenya

Short Abstract

Climate change has continued to impact negatively on water resources globally. For instance, extreme weather conditions especially the drought phenomena have become frequent in Africa. This has prompted water engineers and hydrologists to formulate mitigation and adaptation measures to address these challenges. The frequency of drought event of a defined severity for a defined return period is fundamental in planning, designing, operating and managing water resources systems within a basin. This paper presents an analysis of the hydrological drought frequency for the upper Tana River basin in Kenya using the absolute Stream flow Drought Index (SDI) and modified Gumbel technique. The study used a 41-year (1970-2010) stream flow data and forecasted hydrological droughts for 2, 5, 10, 20, 50, 100, 200, 500 and 1000-year return periods in relation to the selected stream flows. The results provide an overview of drought trends within the river basin and therefore would be very useful in applying drought adaptation policies by water resource managers.

Keywords:

Upper Tana River basin, Hydrological drought, Return period, Gumbel technique, Drought frequency

Assessing the Impacts of Climate Change on Streamflow in Malaba River Catchment, Uganda

**Charity Kangume and DeogratiusMulunga,Tanzania*

Short Abstract

Malaba River in Uganda a focal area to the Lake Kyoga basin is prone to climate change because of its heavy reliance on rainfall as its major flow contributor. The impacts of climate change on streamflow in Malaba River were assessed using LARS-WG downscaling model and Soil and Water Assessment Tool (SWAT) model. This was achieved by downscaling the future (2020-2050) precipitation and temperature variables for A1B and A2 scenarios and simulating the projected climate with calibrated LARS-WG and SWAT models for the two scenarios. The SWAT calibration (1992 - 1999) and validation (2000 - 2004) NSE results were respectively 0.55 and 0.35. Results indicated that the projected areal rainfall will increase by 0.34 mm per year for A1B which is averagely 1% less than the baseline period. Areal rainfall for A2 scenario will increase by 0.41 mm per year which is averagely 9% more than the baseline period. The Flow Duration Curve analyses indicated that the A2 scenario displayed higher flows for all the percentiles as compared to the baseline flows while A1B scenario has lower flows for percentiles less than 50, and equal or slightly higher flows for percentiles greater than 50 as compared to the baseline flows.

Keywords:

climate change, LARS-WG downscaling model, Malaba River, SWAT



Small Scale Photovoltaic-Driven Reverse Osmosis (PV-RO) Desalination Plant for Pure Water Production

*DjamilaZioui, HaneneAburideh and ZahiaTigrin, Algeria

Short Abstract

Currently, renewable energies can provide a sustainable and alternative solution for generating reverse osmosis systems operating at high pressure. The production of fresh and potable water by solar water desalination remains a sustainable strategy and economic option to fill the water deficit in areas that do not have access to safe drinking water and electricity. For this, this principle is developed industrially for the desalination of the sea waters and the purification of the water.

The main objective of the present work is the study of a small capacity (100 l/h) reverse osmosis plant intended for desalination and water treatment operation. We have especially worked on the effect of pressure and salinity on the production and quality of the water produced. The performed work is purely experimental and is part within the framework of improving the profitability of an RO device. Initiation of coupling of the reverse osmosis pilot to solar energy in order to reduce energy consumption (4 KW/1m³) is being investigated. During this period of experimentation a physicochemical and bacteriological analysis of the water before and after treatment were carried out.

Keywords:

Desalination process; reverse osmosis (RO) ; membrane; pure water; solar energy

Community Mobilization and Empowerment and Community-Led Total Sanitation in Rural Water and Sanitation project.

* RanitaKoroma, Sierra leone

Short Abstract

This paper will present on the activities of Community Mobilization and Empowerment (CME) and Community Led Total Sanitation (CLTS) under the capacity building component of the Rural Water Supply and Sanitation Project (RWSSP) in Sierra Leone. The objectives are to increase sustainable access to safe water and basic sanitation, and to develop a comprehensive national framework for RWSS investments. The objective of the CME and CLTS is to empower communities to improve their hygiene and sanitation practices and to sustainably manage their Water facilities. The activities will take into account the relevance of gender and climate change issues.

► Climate Change Session

Past and Projected changes in Rainfall and Temperature over East Africa.

Dr. Victor Ongoma Department Of Meteorology, South Eastern Kenya University, Kenya

Short Abstract

This study presents the past and future variations in mean rainfall and temperature over East Africa (EA) based on reanalyzed datasets, and Coupled Model Intercomparison Project Phase 5 (CMIP5). Past climate is limited to 1951-2010 while climate simulations for a baseline period (1961-1990) and projection period (2071-2100), are compared. There is an overall reduction in rainfall, while temperature trend is positive over EA. CMIP5 models overestimate and underestimate seasonal rainfall of October-December (OND) and March-May (MAM), respectively. Rainfall is projected to increase under the RCP4.5 and 8.5 scenarios. Larger increases in rainfall will occur in OND than in MAM. During the last half of the 21st century, EA is likely to warm by 1.7-2.8 and 2.2- 5.4 °C under the RCP4.5 and RCP8.5 scenarios, respectively, relative to the baseline period. The central parts of Kenya and the Lake Victoria Basin will witness the highest increases in seasonal rainfall. Understanding the future climate variability in EA is important for planning purposes especially for sectors like agriculture that are mainly



weather dependent. However, these results are based on relatively coarse resolution models prone to bias and therefore should be used with caution.

Keywords:

Climate projection; Rainfall; Temperature; CMIP5; East Africa

Non-state actors and climate change adaptation processes: A case study from Tanzania

**Dr. Robert Eliakim Katikiro, College of Agricultural Sciences and Fisheries Technology, Tanzania*

Short Abstract

Climate change is now considered as one of the most serious global threat to sustainable development. Currently, knowledge is plentiful on how to adapt to climate change and build resilience to its impacts, but putting that expertise into practice remains a problem around the world, especially in the least developed countries. This study seeks to contribute to empirical evidence on the barriers that constrain non-state actors in developing countries to facilitate and promote actions for adaptation to climate change. The aim is to identify practical examples to support international initiatives under the Paris Agreement that would support adaptation in developing countries with appropriate actions. The study used in-depth semi structured interviews to 40 experts specialized in climate science and environmental change from Tanzania, to investigate the country's barriers and how has the government attempted to overcome them. The results indicate absence of rightful solutions and their relevance to the local situation that support and explicitly recognize the role of non-state actors to sustainable development solutions. The experts argued that current mechanisms that could increase active involvement and representation of non-state actors lack clear specification. These findings have implications on how to better integrate non-state actors into local climate adaptation initiatives.

Keywords:

climate adaptation, barriers, non-state actors, experts, Tanzania

Barriers to and Determinants of the Choice of Crop Management Strategies to Combat Climate Change in Dejen District, Nile Basin of Ethiopia

**Dr. Zerihun Yohannes Amare Panafrican University, Institute Of Life And Earth Sciences(Including Health And Agriculture), University Of Ibadan (PAULESI), Nigeria*

Short Abstract

Climate change without adaptation is projected to impact strongly the livelihoods of the rural communities. Adaptation to climate change is crucial for developing country like Ethiopia due to high population and dependency on agriculture. Hence, this study was initiated to examine the barriers to and determinants of the choice of crop management strategies to combat climate change. The Intergovernmental Panel on Climate change (IPCC) concepts of climate change adaptation provided the framework. Stratified and snowball sampling techniques were employed to select a sample of 398 households. The household survey was employed to collect data on current adaptation strategies. Logistic regression was used to analyse the determinants of choice of adaptation strategies. Logistic regression analyses were carried out at $p \leq 0.05$. Small farmland size, agro-ecology, farmland location, financial constraints, and lack of skills were the major barriers to adoption of crop management strategies. Age, farming experience, income, family size, government experts' extension services, agro-ecology, and crop failure history of households were significantly related to the choice of most of the crop management strategies. Socio-economic and institutional factors determined rural communities' ability and willingness to choose effective adaptation strategies. Policy priority should be given based on agro-ecology and households demand of policy intervention such as providing extension services and subsidizing the least adopted strategies due to financial constraints.

Keywords:

Climate change; adaptation; crop management; Blue Nile of Ethiopia



Etrash2cash

*Muhammad SalisuAbdullahi (Mr), eTrash2Cash (registered as "eT2C Company Nigeria"), Nigeria

Short Abstract

eTrash2Cash is a social enterprise that helps low income people in Nigeria exchange all their wastes for cash incentives, through that, it raises grassroot awareness on environmental sustainability and climate change. All wastes collected are reprocessed and recycled into reusable materials, that are environmentally-friendly and sustainable. For instance, food wastes are recycled into an organic compost for use by smallholder farmers, and the recycling of plastic wastes into plastic lumber, which reduces deforestation, and mitigates the effects of greenhouse gasses, which causes climate change.

Website:

www.etrash2cash.com

► Poster Pitch

Improving The Capacity Of Decision-Makers Implementing Renewable Energy In Refugee Camps.

Peter Thomas, The University Of Bristol, Uk - Low Carbon Energy For Development Network

Short Abstract

Sustainable Development Goal 7 commits the global to community to ensuring "access to affordable, reliable, sustainable and modern energy for all" by 2030. While progress is being made in a number of areas, Lahn and Grafham (2015) have established that within humanitarian relief, energy delivery remains "largely uncoordinated and unaccounted for". This means that the energy needs of approximately 8 million people living in refugee camps are currently being met inadequately or not at all. Two reasons for this is that: i) lessons have not be learnt from existing interventions whether these have failed or succeed and ii) limited evaluations of the factors influencing decision-making have been undertaken. This research project bridges the gap between social sciences and engineering by improving the decision-making capacity of programme implementers. A mixed-methods approach combing project evaluations in addition to primary data collection, focused on camps in Rwanda is planned. This applied research project, a collaboration between Bristol University, Practical Action and UNHCR, seeks to inform humanitarian practice and improve energy access provision in refugee camps by providing the tools and information practitioners need to enable the effective implementation of energy interventions.

Hydrogen generation over cobalt containing microporous aluminohosphates photo-catalyst

*AbdelghaniBouchama, AmelBoudjema and HafidaHentite, Algeria

Short Abstract

Novel photo-catalytic materials based on cobalt type aluminophosphate molecular sieves have been elaborated in AEL and AFI structure by hydrothermal method. The photo-catalytic activity of $\text{CoAlPO}_4\text{-5}$ and $\text{CoAlPO}_4\text{-11}$ were evaluated for hydrogen production via water reduction under visible irradiation. The synthesized materials were characterized thoroughly with respect to elemental analysis, X-Ray diffraction (XRD), scanning electron microscopy(SEM), fourier transform infrared spectroscopy (FTIR), diffuse reflectance spectroscopy (DR), N_2 adsorption (BET) and NH_3 desorption measurement. Electrical conductivity, electrochemical and photo-electrochemical measurements such as cyclic voltammetry, currents-potential, Mott-schottky and Nyquist were also studied. Since AlPO_4 materials possess a unique chemical composition as well as structural and micro-



morphological characteristics. The photo-catalysts have shown a more negative flat band potential ($V_{fb} = 0.31$ eV) and a remarkable surface area 183 and 258 $m^2 g^{-1}$ which lead to a better acceleration of the charge (e^-/h^+) transfer by increasing the number of surface reaction sites. In this approach, hydrogen was produced at atmospheric pressure and a temperature of 50 °C. Under visible light, the photo-catalysts exhibited a good photo-catalytic activity for hydrogen production with a yield of 64 and 1260 $mol g^{-1} min^{-1}$ for $CoAlPO_4-5$ and $CoAlPO_4-11$, respectively.

Keywords:

CoAlPO₄-5, CoAlPO₄-11, nano-cobalt oxide, photo-electrochemical, photo-catalysis, hydrogen evolution.

Off-grid rural electrification – bridging the gaps between the social and the technical

**Hannah Mottram, The University Of Sheffield, UK*

Short Abstract

In Sub-Saharan Africa, around 80% of people in rural areas do not have access to electricity [1]. For those with access, there is uncertainty around the quality of their electricity access, and what it can deliver. Current research focusses on techno-economic solutions, and there is a research gap into how social aspects of communities would affect optimum solutions [2]–[4]. Projects are being funded that are not sustainable, and often missing the enabling of wider developmental benefits of electrification. A lack of understanding of local social and economic conditions has been identified as a key reason electrification projects fail. [5], [6]

Providing access to electricity has the potential to deliver wider development benefits [7]–[9]. There is potential for communities to improve their livelihoods through income generating activities, or productive uses of energy. However, project evaluations focus on technical sustainability, or predetermined sustainability criteria. [10]–[12]

This poster will present the current state of both technical and social research. I propose using participatory action research and ethnographic methods to investigate how communities interact with rural microgrids. This research will be used to evaluate the social, economic, technical and environmental aspects of microgrid systems, including the planning tools used to design them.

Res2Prac

Contribution of GIS and hydraulic model for water related risk management in the Saharan region: case of flooding in the WadiBechar watershed

**Bekhira Abdelghani, Habi Mohammed and Morsli Boutkhil, Algeria*

Short Abstract

The city of Bechar in Algeria, recorded some extreme events. Among these, the flood of 2008 which marked an exceptional flood of 830 m^3/s of flow, and also that of 2012 and 2014. The problem underlined is that most of the city of Bechar has a sprawl urban prolonged on the banks of the watercourse of Oued Bechar which causes a major risk on the life of the inhabitants. The objective of our work is to estimate the risk of flooding by the mapping of the flood, the latter consists in determining the flows of the return periods of 25ans, 50ans and 100ans for this, it is necessary the adjustment of the flows by Gumbel law, using a computer support HEC-RAS, HEC-GeoRAS and ArcGIS for the mapping of the event. Finally, this work allowed us to determine the zones at risk of flooding and to classify them according to the height of flood waters.

Keywords:

Arid zones, Flood, GIS, Cartography, watershed Oued Bechar.



Local Institutions'enhancing Climate Change Adaptation Of Rural Farmers In Semi-Arid Ecosystems In Northernghana Using Social Networkanalysis

*MawuloloYomo, West African Science services Centre on Climate and Adapted Land use (WASCAL). Togo

Short Abstract

This paper investigates how local institutions enable farm households to respond and adapt to climate change impacts on their livelihood. A case study of adapting to drought events associated with crop failure in northern Ghana is used to discuss the role of local institutions in enabling adaptation among local farmers. A total of 49 semi-structured interviews with key representatives of various local institutions from different sectors (e.g., agriculture, disaster management, banking, forestry and community development) were conducted to bring out adaptation options provided while about 120 farm households were randomly interviewed to assess their perceptions about their livelihood outcomes and local institutions accessibility. We assessed the local institutions' accessibility and support using social network analysis (SNA) and descriptive analysis, respectively. The results revealed that local institutions play a key role in farm households' adaptation by reducing their vulnerability and by building their capacity to respond to climate change impacts on their livelihood. Besides, the classification of local institutions based on their relevance in adaptation has shown a variety of roles among these institutions. While some act as the core of adaptation, others represent either mediators or brokers or resources flow controllers. Knowing the role of local institutions in farm households' adaptation process and their relevance based classes is a step forward in building their capacity in areas not yet addressed, in ensuring effective resources allocation, but also in avoiding maladaptation, essential for farm households' adaptation to future change in the climate.

Keywords:

Adaptation option, climate change, social network analysis, vulnerability

Artificial groundwater recharging zones mapping using a GIS-based fuzzy logic approach: a case study in Bechar's region, Southwest of Algeria.

*Abdeljalil Belkendil, Mohammed Habi and Boutkhil Morsli, Algeria

Youth Earth System Scientists Community: Engagement of YESS for a better future

FatenAttig-Bahar

Young Earth System Scientist' (YESS-community) , Executive Committee member
African Youth Union for Change (AUY4C) , North Africa V President

Short Abstract

The Young Earth System Scientists (YESS) community is a group of early career researchers (including students) coming from a range of scientific backgrounds, spanning both natural and social sciences. YESS unifies young researchers in an influential network to give them a collective voice and leverage within the geosciences community, while supporting career development. The YESS community has used its powerful network to provide a unified perspective on the future of Earth system science (Rauser et al. 2017), to be involved in the organization of international conferences, and to engage with existing international structures that coordinate science. Since its founding in Germany in 2010, the YESScommunity has grown extensively across the globe, at present with over 1000 members from over 110 countries, and has become truly interdisciplinary. From 2016 onwards, the organization carried out yearly elections for Regional Representatives and the Executive Committee as part of its self-sustained governance structure. Moreover, in order to ensure a good communication channels with its partnersand governance structure, YESS opened the YESS office in Argentina in 2017. YESS is officially endorsed by the World Climate Research Programme (WCRP) and works closely with the World Weather Research Program (WWRP) and Global Atmosphere Watch (GAW) of the World Meteorological Organization (WMO). YESS is poised to continue pioneering efforts in crucial areas of research that can provide solutions to benefit society for the long-term advancement of Earth system science.



Ethnic Considerations of choice of Livelihood Coping Strategies to Combat Climate Change and Variability: A Gender Perspective

*Mark McCarthy Akrofi (Mr) PAUWES, Algeria

Short Abstract

Humans by nature make efforts to cope with climate variability and change, however, adaptation to climate change manifest in varied ways and forms. From an ethnic and gender perspective, this study examined the choice of livelihood coping strategies in the face of climate variability in the Kasena-Nankana Municipality and the Bongo District in the Upper East Region of Ghana. The concurrent mixed method approach was used. A sample size of 312 rural farmers (194 males and 118 females; age range of 18-73 years), were involved in the study. Two Focus Group Discussions (between 8 to 12 members each) were conducted in each community. Quantitative data was analysed using Statistical Package for Social Sciences. An application of the Chi-square test revealed that, the adoption of most coping strategies was significantly influenced by ethnicity, with P Values of less than .001 ($P < .001$). Gender however, didn't have a significant influence on the coping strategies adopted as P-Values for all coping strategies except collecting and storing of grasses during the rainy season ($\chi^2=4.41$, $p=0.04$) were greater than the significance level of 0.05. It was further revealed that Women have limited capacities to cope with climate change than men. Mainstreaming gender and ethnic considerations into adaptation projects by the responsible institutions is recommended.

Keywords:

Renewable Energy; Biogas; Waste; Second Cycle Schools; Ghana

Study of the feasibility of water reuse for agriculture as an adaptation measure to climate change - Case study of Ain Temouchent, Algeria

* RokiatouHaidara, CherifaAbdelbaki and Nadia Badr, Algeria

Short Abstract

This work seeks to study the feasibility of reusing the treated wastewater (domestic wastewater) from a treatment plant, for agricultural purposes as an adaptation measure to climate change in Ain Temouchent, an arid region located in north western Algeria. To achieve this, the specific objectives will be: to analyse the physico-chemical and biological parameters of the water produced from the treatment plant, to make the comparison with the required standards of water reuse for irrigation and to see the possibility of the implementation of an irrigation project in the region. A study will be carried out in the wastewater treatment plant of the region, in order to be aware about the eventual problems encountered in such kind of project. From the obtained results, some recommendations will be done for a better progress of the project, leading to a better integrated water resources management of the region in the context of climate change.

Keywords:

Water reuse, agriculture, adaptation, climate change

PRIORITIES OF THE PAUWES RESEARCH AGENDA: NEXUS WATER, ENERGY AND CLIMATE

► Water-Climate nexus

Scanning Climate Change Impacts on Water Resources of the Largest African River Basins

*Dr. Shamseddin Ahmed

*Water Management and Irrigation Institute, University of Gezira, Sudan

Short Abstract

The objective were to ensemble and analyse the projected signals of climate change recently published in peer



reviewed outlets with respect to the five African river basins, viz. Nile, Senegal & Volta, Niger, Congo, and Zambezi & Limpopo. Result of 55 papers were assessed (distributed as 30,25,16,13, and 16%, respectively). Findings stated the dominant tendency for using unmitigated emission pathways (A2 for the Nile and RCP8.5 for the remaining basins), with fewer applications to hypothetical scenarios. Compared to the individual member, the majority of the papers followed the ensemble GCMs approach to obtain robust results compared mostly (40-50%) to the 1960-1990 baseline. Nevertheless, all models agreed in the increasing trend of temperature compared to the dominant uncertain trends in rainfall. The studies applied 19 hydrological models (especially SWAT, HBV and CLiRuN) coupled with limited land use considerations. In contrast to uncertain trends in future rivers' flow, all basins showed decreasing trends in runoff. This discrepancy in climate change projection delayed the adoption of adaptation plans. Technically, runoff, stream flows and evapotranspiration terms were largely misused. The north-south cooperation is direly needed in building observational datasets, a priori input for characterizing the regional uncertainty and better climate change projections.

Keywords:

Climate change; predictions; uncertainty; largest river basins; Africa

► **Energy-Climate nexus**

Experimental Study on Performance of Solar Thermal Driven Cooling System Versus a Hybrid Mechanical Compression Refrigeration-Solar Thermal Assisted System in Hot Areas

* Prof. Ahmed Hamza H. Ali

* Faculty of Engineering, Assiut University, Egypt

Short Abstract

Refrigeration and air conditioning systems are essential requirements for human needs, and, this followed by an increasing demand for electric energy. The recent trend in research and development find such systems to be driven entirely or partiality by renewable energy. One goal of this study is to minimize the grid-based electrical power needed by the residential scale air conditioning system through either using full, driven or partiality solar thermal energy. The study main aim is to present the reduction in the electrical power consumption by the mechanical compression refrigeration system through integrating an intermediate solar thermal to raise the pressure of the refrigerant after the compressor and before the condenser and to compare this system performance with an entirely driven solar thermal cooling system under hot, arid areas. This is being done through design, constructing and operation of both systems and carrying out the performance measurements under Assiut city environmental conditions.

Keywords:

Residential scale solar cooling systems; solar thermal air-conditioning; Global warming assessments and Cost Competitiveness

► **Water-Energy nexus**

Prospect Of Wind Energy as a Resource For Water Pumping In Ngaoundere

*Dr. Ruben M. Mouangue

* Department of Energy Engineering, University Institute of Technology, University of Ngaoundere, Cameroon

Short Abstract

The modelling of wind energy conversion systems is of great importance if one intends to develop water pumping applications for a sustainable development. This study presents a technical assessment based on the measured wind data in which we investigate the possibility of coupling piston pump, roto-dynamic pump and electric pump with wind rotors for water pumping applications. Weibull distribution was used to model the monthly mean wind



speed for a location in a rural area of Ngaoundere. It has been found that the Weibull distribution can be used to provide accurate estimation of the mean wind speed. The mean electric power and energy was computed based on the Vestas V25 and V100 power curves. Taking into account the wind regime characteristics of our site, we have provided the amount of water which can be expected from each type of wind pumps. From the results, it is clear that electric pump offers better performances than piston and rotodynamic pumps. Furthermore, if storage devices like batteries are combined to the system, water could be pumped at any time of the day independently of the wind availability. These systems could be very useful for people living in rural areas far from urban cities.

Keywords:

Weibull distribution, wind power, water pumping, Ngaoundere

► **Water-Energy and Food Security nexus**

Integrated approach on energy management, treatment and reuse of industrial wastewater for sustainable agricultural development – A green food security concept.

*SingananMalairajan

* PG And Research Department Of Chemistry, India

Short Abstract

Water is a critical component in the functioning of the earth and of all living forms of life. Raising human population and industrialization have increased tremendous pressures on global freshwater resources and resulting in water scarcity and misuse of fresh water pose serious threats to sustainable economic development, food security and protection of the environment in combination with the climate change. At the same time, it releases a large volume of wastewater into the environment and causes ecosystem damages. In the concept of environmental and economic sustainability, a proper wastewater management and water reuse system can help to a greater extent in the development of national economy. In this context, as a model trial, a textile industry wastewater containing total dissolved solids of 4000 mg/L was introduced in the reactor system, after the equilibrium time of 3hrs; the concentration of TDS in outlet water was 420mg/L. The color of the textile industrial wastewater was reduced to 97.5% with optimum biocarbon dose of 2.5g/100mL. In addition, a pilot scale farming practice was carried out in 12 x 12 sq.ft field for the growth of Fodder grass, Satariaclauca and Sorghum. The productivity results show faster growth of the species and 4.5kg of biomass/sq.ft.

Keywords:

Energy management, wastewater treatment, biocarbon, agricultural development, green concept

WEDNESDAY, 18 APRIL 2018 – DAY THREE

FROM PRACTICE TO ENTREPRENEURSHIP AND SUMMARY

From Research2practice – The German Approach

Dr. Walter Pfluger,

Executive Director Algerian - German Chamber Of Commerce And Industrie (Ahk-Algérie)

Short Abstract

This title has been chosen to provide some general insight in the way the process from research to application of modern technology takes in Germany. This does not mean that the German way is the only way. However, German industry provides an example of research for development that leads to application in world class products and technology. The first part is dedicated to provide some insight in the specific characteristics of the German industrial culture and technical wit & intelligence (Erfindergeist). The second part will be dedicated to briefly give some information on Best Practice in Water related technologies. The third part will be dedicated to briefly give



some information on Best Practice in Energy related technologies.

Technologie and Innovation-Hub (Tech-Hub) As Driver Of Innovation And Changes In Africa

Anna Ekeledo

CEO AfriLabs

Short Abstract

Innovation hubs across Africa while a relatively new concept 10 years ago have now proliferated the continent, with new innovation hubs being set up in rapid succession by individuals, corporates, government, investors and universities. These innovation hubs are centres which serve as a nexus for students, entrepreneurs, start-ups, developers, corporates and investors to meet, develop and invest in innovative technology solutions and businesses. They serve a very important role in Africa's development by raising successful entrepreneurs who will create jobs and develop innovative solutions to Africa's unique problems, leapfrogging our development lag globally and lack of infrastructure. However, some of the major challenges faced by entrepreneurs within these hubs and in Africa include the lack of research data and talent. On the flip side, student researchers from universities lack access to the right tools, models or business support systems to commercialise their research. This presentation seeks to address certain issues such as understanding the importance of innovation hubs across Africa, the challenges they face and how best academic institutions can collaborate with innovation hubs to provide both research data and a pipeline of talent for innovation and business development.



Res Prac

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RESEARCH 2 PRACTICE FORUM 2018

ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

16th - 18th APRIL, 2018

BOOK OF BIOGRAPHIES



Mr. Atef Marzouk
Ag. Director African Energy Commission

Biography

Mr. Marzouk is a holder a Master degree in New and Renewable Energy Faculty of Engineering, Cairo University. Over 20 years, Mr. Marzouk has served in the electrical energy production from renewable energy especially from wind turbine, energy strategies and policies, international cooperation, he has held various posts among which: Manager of the Zafaran, wind farm the biggest wind farm in the Middle East and North Africa, in the New and Renewable Energy Authority (NREA), Egyptian Ministry of Electricity and Renewable Energy, Senior Engineer at the Hargahada demonstration wind farm. In August 2007 he was appointed as Senior Policy Office in charge of Renewable Energy Department of Infrastructure & Energy, in the African Union Commission. In November 2015 he was reappointed as an Acting Head of Energy Division.



Murray Biedler
UNESCO Division of Water Sciences - Coordinator NEPAD Networks of
Water Centres of Excellence

Murray Biedler holds a BSc in Geography (Victoria Canada), an MSc in Geohydrology (Rhodes South Africa) & an MA in International Politics (Paris XI France) and 25+ years of experience in Development and Humanitarian Assistance in the Water, Sanitation and Environmental Health with NGOs & donors covering ACP, Asia and Central America. He has done research & lectured in Hydrology, Groundwater, Resource Policy and WASH in Emergencies, and contributed to the Master's curricula for PAUWES. He has worked 6 years for DG EuropeAid (DEVCO) in the MEDA Water Program and the ACP-EU Water Facility. Consultancies include evaluating the Water Sector in the Republic of South Sudan and the response to the West African Ebola Outbreak for MSF. Publications include the WASH Chapter for the UN PDNA Guidelines, an MSc course on Groundwater Studies for Southern Africa, case study contribution to the World Bank publication: The Future of Water in African Cities. As editor: the NEPAD Centres of Excellence and EC- Joint Training Courses for Southern and Western Africa and the EC Water Project Toolkit. As principle researcher (FP7): A Comparative Analysis of Climate Change Policies in the Mediterranean. Mr Biedler presently works with UNESCO Water Division on Human Capacity Development with the NEPAD Water Centres of Excellence.



Peter Akari

Executive Director, Pakari Associates Limited; former Chief Water Policy Officer, African Development Bank

Biography

Peter Akari is an accomplished Water and Sanitation professional with 28 years' work experience in the conception, development, operation and management of water and environmental sanitation schemes. His key competencies include water policy and strategy development, institutional development, project development and management. He is also well versed in water and sewerage utility management. Peter's working life has taken him from national (Ghana Water Company) to international (World Bank and African Development Bank) organizations where he has occupied senior positions and assumed lead responsibility for a variety of innovative water and sanitation endeavors, some of which have resulted in paradigm shifts in the sector. His experience has provided him with knowledge and appreciation of the complex social and economic cross-pressures associated with the pursuit of sustainable development activities, especially activities directed at the poor and the vulnerable.



Mr. Sylvain Usher,

Executive director, African Water Associations



Water and Energy Security in Africa

► Energy Session



Prof. Dr. Ramchandra Bhandari,

Institute for Tropics and Subtropics at Technical University Cologne
PAUWES AND UoT Ongoing Projects on Water and Energy Security in Africa

Biography

Prof. Dr. Ramchandra Bhandari has been working as a professor for Renewable Energy Systems at ITT, TH Köln (University of Applied Sciences) in Cologne, Germany since March 2013. Since May 2014, he is serving as a vice director for Cologne Institute for Renewable Energy at the TH Köln. Dr. Bhandari, born in 1979 in Nepal, obtained his Bachelor's degree in Mechanical Engineering from Tribhuvan University, Nepal in 2002 and he further received his Master's degree in Renewable Energy Management from ITT, Germany. Dr. Bhandari wrote his dissertation at the University of Kassel in the field of renewable energy in 2010. Since then he worked at the Centre for Renewable Energy of the University of Freiburg and Institute for Energy and Climate Research of the Research Centre Jülich before he came to TH Köln in 2013. He already holds a decade long experiences in renewable energy sector and has published articles in peer-reviewed journals. He is also a reviewer in a few renowned





journals such as Applied Energy, Progress in Photovoltaics, etc. He led the development of MOOC module in the field of energy and agriculture in cooperation with GIZ and USAID under the umbrella project Powering Agriculture (May 2015-Sept. 2016). Prof. Bhandari currently leads different research projects (e.g. Higher Education Cooperation Project with Pan African University– PAUWES, Water and Energy Security for Africa - WESA-ITT, Partnerships for Sustainable Solutions in Sub Sahara Africa - RARSUS from ITT, TH Köln side.

Prof. LotfiBaghli,
University of Lorraine

PAUWES AND UoT Ongoing Projects on Water and Energy Security in Africa

Biography

Prof. Dr. Ing. Lotfi BAGHLI, is the head of the Laboratoire d'Automatique de Tlemcen, at University of Tlemcen, he is an IEEE Senior Member. His main research topics are motor control, renewable energy systems and IoT.



Christian Aboua (Mr.),
Economic Policy Analysis Unit of CIRES (CAPEC), Abidjan, Côte d'Ivoire,
Energy Efficiency in West Africa Economies: Implication for Sustainable Energy use

Biography

Christian Aboua is PhD student in Industrial Economics at the University Félix Houphouët-Boigny of Cocody (Côte d'Ivoire). He is at the final stage of completing his PhD thesis on the topic "Economic Efficiency in Aquaculture in SSA". He is also associate researcher at the Economic Policy Analysis Unit of CIRES (CAPEC), Côte d'Ivoire. He recently completed a PhD internship at the United Nations University-Institute for Natural Resource in Africa (UNU-INRA). His other research includes energy efficiency in West Africa economies and the impact of climate change on crop diversification. He is member as researcher at the Africa Economic Research Consortium (AERC) and the African Association of Agricultural Economists (AAAE).



Dr. Mary Njenga,
World Agroforestry Centre (ICRAF), Kenya

Technology is Culture. Building a transdisciplinary team to address community energy and urban revitalization challenges

Biography

Dr. Mary Njenga is a post-doctoral fellow in bio-energy at World Agroforestry Centre (ICRAF) Nairobi, Kenya. She earned a PhD in Management of Agroecosystems and Environment from the University of Nairobi, Kenya where she studied fuel briquette technologies and their implications on greenhouse gases and livelihoods in Kenya. Dr. Njenga's doctoral work was also affiliated with World Agroforestry Centre (ICRAF), Swedish University of Agricultural Sciences (SLU) and Michigan State University (MSU). Her PhD was supported by the Borlaug LEAP fellowship, African Women in Agricultural Research and Development (AWARD), Agropolis fellowship-IDRC, and



ICRAF. Njenga used her Borlaug LEAP fellowship to evaluate fuel briquette technologies for environmental, social-economic and food security implications in Kenya. She worked with her US mentor, Dr. John Kerr, Michigan State University on the economic cost-benefit analysis of the technology. Her CGIAR mentor Dr. RamniJamnadas, ICRAF, provided guidance on the bio-energy aspects of the project. For close to a decade now Dr. Mary Njenga has been working with community groups in developing charcoal fuel briquettes, a local innovation that provides a less expensive, cleaner source of cooking energy.



Justine AbugaNyaruri (Mr)
ECOBORA, Kenya
Green Kiosk

Biography

My name is Justine Abuga, 24 years old living in Kenya. Am the co-founder of ECO-BORA company which produces biomass pellets that are used in households for cooking and powering boiler industries. Am passionate in the green energy space and through my design thinking and strategic business development skills am working to change lives of people in my community by providing them with these green energy pellets. I want to change the story, I want to write a new African story, a story of hope and success.

► Water Session

Prof. Abderrazak Bouanani
University of Tlemcen

PAUWES AND UoT Ongoing Projects on Water and Energy Security in Africa



Dr. Navneet Kumar
Center for Development Research (ZEF)

PAUWES AND UoT Ongoing Projects on Water and Energy Security in Africa

Biography

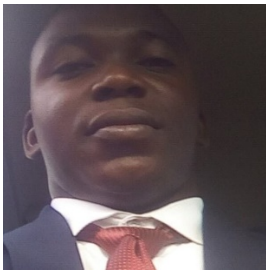
Dr. Navneet Kumar is a Senior Researcher at the Center for Development Research in Bonn, Germany. His main research theme is water resources management. Particular topics include Hydrological modelling, climate change, impact assessment and remote sensing and GIS applications. He has conducted research in India, Africa and Uzbekistan. He holds a PhD in water resource management from the University of Bonn, Germany and masters in Geo-informatics from faculty of Geo-Information Science and Earth Observation (ITC), Enschede, Netherlands. He has presented his work in multiple international conferences and peer-reviewed journals.



Mr. Emnet Negash,
Institute of Climate and Society, Mekelle University,
Climate and Land-cover Change in Dryland-Catchments, and their Effect on Spate-hydrology of Farming Community in the Lowlands of Raya-Valley, Northern Ethiopia

Biography

Emnet Negash is a young Ethiopian Researcher and Lecturer at Mekelle University - Institute of Climate and Society, Ethiopia. He has previously served Tigray Bureau of Agriculture and Natural Resources at a capacity of Land-use Planning and Evaluation officer, and GIS & Remote Sensing Officer since 2012. Academically, he has received his Bachelor degree in Geography and Environmental Studies from Aksum University, Ethiopia; MSc. in Climate and Society from Mekelle University, Ethiopia; and PG Diploma in Environmental Engineering, Monitoring and Management from The Copperbelt University, Zambia. He did his Master's thesis on "The Current and Future Impacts of Climate and Landcover Dynamics on Spate-irrigated Agriculture in Semiarid Lowlands of Northern Ethiopia", out of which two papers are submitted for publication. Mr. Emnet is now looking for PhD opportunities in the area of Water Resource Management, Environmental Science, and Climate Change and Sustainable Development.



Dr. Reuben Lubembaishwa,
Women Environmental Program (WEP), Nigeria
Gender Access To Rural Water Supply, Sanitation And Hygiene In Rural Communities In Benue State, Nigeria.

Biography

Dr. Reuben Lubembaishwa is a clinical psychologist by profession. Dr. Ibaishwa was born in Katsina Ala, Nigeria on 3 June 1983. He graduated from Benue State University Makurdi Nigeria in 2007 with a Bachelor of Science in Psychology. He did his 1 year compulsory national service in 2008. He returned to Benue State University Makurdi for a Master of Science Degree in Clinical Psychology in 2009. Dr. Ibaishwa completed his Master in 2011 and remained at the University to complete his Doctor of Philosophy Degree in Clinical Psychology in April 2016. After receiving his education, Dr. Ibaishwa was employed by Neem Foundation, a local Non Governmental Organisation where he provided psychotherapy to boko haram wives and children as well as using psychological principles in the deradicalization of the wives and children. He also headed the counseling on wheel program in Neem foundation. He resumed work with the Nigerian Defence Academy as a lecturer in March 2017. However, due to his passion for field and practical work, he resigned from Nigerian Defence Academy and joined Street Child of Nigeria where he is involved in child protection as well as providing quality mental health services to children. He also worked with the Women Environmental Program (WEP) where he headed the research and documentation department. Dr. Ibaishwa is a psychologist and researcher who is interested in conducting practical researches on current issues.



YunusAlokore (Mr),
Viva Energy International Ltd, Uganda

Assessing the potential of microfinanced solar water pumping to enable productive use of energy in rural areas of Burkina Faso.

Biography

YunusAlokore graduated with MSc. Energy Engineering from PAUWES, Algeria in 2017 and BSc. Biosystems Engineering from Gulu University, Uganda in 2012. Currently, he is a Project Expert at GIZ-Promotion of Renewable Energy and Energy Efficiency program (GIZ-PREEEP) in Uganda. At GIZ-PREEEP, he participates in developing, implementing and monitoring of strategies for promoting energy efficiency in industries, service sector and households. Yunus also co-founded Viva Energy International (VEI), Uganda. At VEI, he contributes as a Business Strategist developing models for promoting solar PV and nature conservation through energy efficiency and alternative cooking energies in rural areas. He has participated in a number of multinational projects in the areas of energy, climate change and construction in Uganda, Democratic Congo, South Sudan, Burkina Faso and Germany. As such, Yunus has clear understanding of project conception, implementation and monitoring from perspective of contracting authority, consultancy and contractor. He has co-authored some journal articles in area of renewable energy. Yunus' areas of interest are projects and programs on renewable energy, energy efficiency and climate change. He intends to become a prominent contributor to SDG1, SDG7, SDG12 and AU Agenda 2063 through entrepreneurship and effective energy project management.

Res  Prac

► Climate Change Session



Prof. Abdelmalek Bekkouche,
University of Tlemcen

PAUWES AND UoT Ongoing Projects on Water and Energy Security in Africa

He is Responsible of doctorate program in "Water resources management". It's an African program « Pan African university on water and energy » - University of Tlemcen and PAUWES – WESA program



Dr. AmbeEmmanuel Cheo,
United Nations University (UNU) | UNUInstitute for Environment and
Human Security (UNU-EHS)

PAUWES AND UoT Ongoing Projects on Water and Energy Security in Africa

Biography

Ambe Emmanuel Cheo holds a PhD degree in Environmental and Resource Management from the Brandenburg University of Technology (BTU) Cottbus-Senftenberg, Germany. At the department of Environmental geology (BTU Cottbus-Senftenberg) he researched on the Topic: Integrated Water Resources Management (IWRM): case



study of the Far-North region, Cameroon. Thereby, he specialized to estimate water balance using GROWA Model and completed fieldwork focused on identifying and evaluating water resources management challenges. He has a broad interest in water management and hydrogeology.

Working Area at UNU

Emmanuel is working as Associate Academic Officer in the Environmental Vulnerability & Ecosystem Services section (EVES) and the Pan African Cooperation and Educational Technologies (PACET) programme, where he is contributing in research activities, capacity building and outreach activities in the frame of PAUWES but also within the UNU-EHS/University of Bonn joint MSc Program.



Prof. Samuel Igbatayo,

AFE Babalola University. , Ekiti State, Nigeria

Combating Climate Change and Land Degradation in the West African Sahel: A multi-Country Study of Mali, Niger and Senegal

Biography

I am passionate about the emergence of the knowledge-based economy and the global competition that this development has created, particularly for emerging and developing economies. Therefore, I remain committed to conducting research and articulating policies, which will enhance the competitiveness of developing economies to foster inclusive growth and eradicate absolute poverty.



Dr. Julie Snorek,
USA

Water supply and gentrification: A tale of two cities along the Niger River

Biography

Julie Snorek is a practitioner and researcher of social ecological systems transitions in the Sahel and Sahara. She has led research for multiple transdisciplinary programs on behalf of the United Nations University: Institute for Environment and Human Security (UNU-EHS), Foundation for Environmental Security and Sustainability, and University College London (UCL) and received a doctorate in Environmental Science and Technology from the Institute for Environmental Science and Technology at the Autonomous University of Barcelona (UAB). Her written work takes a political ecological approach to address linkages between social vulnerability, uneven development, ecological change and conflict and cooperation in the context of climate change.



Anders Løcke,
Denmark

Solar Sack

Biography

Anders Alexander Venning Løcke is from Denmark and graduated as a master in Industrial Design Engineering



from Aalborg University in June 2018. At Aalborg University, the philosophy at the university is problem-based learning. This entails working with real-life problems and focus on user understanding. At his master thesis, Alexander chose to challenge himself and traveled to East Africa with the objective of understanding a new user category. Through the trip to East Africa was the initial concept for SolarSack developed. At the exam, the first prototype was presented and afterward, continuous development has been conducted, focusing on preparation for production, sales, and distribution. Anders is currently working full-time as the founder of SolarSack IVS. The company is still in its start-up phase with the first produced prototypes in the pipeline with the next step testing in Africa made in collaboration with relevant collaborators

► Poster Pitch

Paul Nduhuura

PAUWES –UoT PhD Student

Assessing the vulnerability of electric power network to extreme weather and cascading implication on electricity suppliers and users in Ghana

Ismael Aboubakar

PAUWES –UoT PhD Student

Design of Hybrid Power Plant with Policy and Regulatory Frameworks Formulation for Renewable Energy Intervention in Africa, Case Study of Nigeria

Bekkouche Ismail

PAUWES –UoT PhD Student

Energy transition and technological and regulatory strategies for the deployment of renewable energies in Algeria.

Hani Terfa

PAUWES –UoT PhD Student

Study of distributed smart renewable-energy micro-plants

DarfilalDjamal

Theoretical And Numerical Study Of A Solar Thermochemical Reactor For Hydrogen Production By Thermochemical Reaction

Sadamme Mohamed

PAUWES –UoT PhD Student

Modelling the Impacts of Land Use/Cover Change and Climate Change on Water Balance and Sediment Yield. Case study; Upper Atbara-Tekeze river basin, Ethiopia

HananeBougare

PAUWES –UoT PhD Student

Hydrological modelling of the Tafna basin.



DjellouliFayçal, BouananiAbderrazak and Baba-Hamed Kamila
Algeria

Towards an efficient characterization of the hydrological behavior of the watershed of wadi Louza (NW-Algeria) using the GARDÉNIA model

Safia Zenagui

PAUWES –UoT PhD Student

Integrated water resources managementimprovement of basin functionalities. Case study Mono River basin Togo/Benin



DhikraSouissi, LahcenZouhri, Mohamed HaythemMsaddek, Salma Hammami, Adel Zghibi and Mahmoud Dlala,
Tunisia

Assessment and mapping of flood hazard areas using a spatial modelling (GIS): Application in Gabes zone, Southeast Tunisia.

Biography

I'm PhD research, Treasurer and Founding member of the Tunisian Association of Hydrogeology and Water Resources in Faculty of Sciences of Tunis, University of Tunis El Manar. My research focuses on the identification and mapping of the hazardous areas in the arid zones. This includes a detailed assessment of geological, hydrological, seismic and environmental hazards, based on the coupling of the spatial (GIS, Remote sensing, SRTM) and statistical modeling (MCDM, AHP), geotechnical methods and DRASTIC + GALDIT models. Therefore, the results obtained allows giving authorities, planners, engineers, hydrologists, and the decision-makers a valuable tool for identifying hazardous zones, assessing risk index and facilitate the decision-making . This decision-making technique is an effective method that can be used in all regions and in other fields of geology.

TUESDAY, 17APRIL 2018 – DAY TWO

PRIORITY OF THE PAUWES RESEARCH AGENDA: ENERGY, WATER AND CLIMATE CHANGE

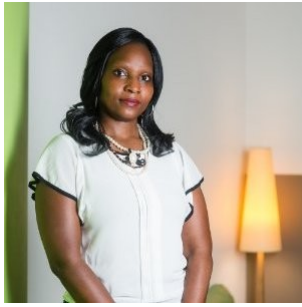
► Energy Session

Mohamed Merah,
Algeria

Simulation and comparison between conventional and interleaved Buck-boost converter for grid-connected PV system

Mohamed MERAH was born in 1991 in Chlef. He is a PhD candidate. His research focus on the realization of a Grid-tie solar inverter. This thesis subject which is supervised by Pr. Lotfi BAGHLI and Pr. Abdelmadjid BOUMEDIENE, goes in the direction of prospecting and control of electricity production from renewable energy started in Algeria whose government has set the target of 40% of the production fleet on the horizon 2030.

He holds a master's degree in electrical engineering from the university of Tlemcenbefore undertaking doctoral studies in 2015.



Dr. Manyuchi Musaida Mercy,
Manicaland State University of Applied Sciences, Zimbabwe

Potential to Produce Biogas from Tannery Waste

Biography

Dr. Mercy Manyuchi is a professional Chemical Engineer by training and holds a Doctor of Technology, a Master of Science and a Bachelor of Engineering Honours in Chemical Engineering. Dr. Manyuchi's research interest lies in Waste to Energy Technologies and the Value Addition of Waste to Bio Products and BioEnergy. Dr. Manyuchi's work in green initiatives has won several awards including the prestigious German based Green Talents, the Africa Award for AgriTech Innovators and the Japanese International Award for Young Researchers. Dr. Manyuchi is also an alumni for the World Energy Council Future Energy Leaders and currently participates in the World Energy Council's Energy Access Taskforce Team.



Tabu Benard,
Department of Physics/Gulu University, Uganda

Experimental evaluation of thermal performance of selected oils in Uganda for indirect solar domestic cooking applications.

Biography

I am Benard Tabu, 31 years old from Uganda. I was born in Gulu district, northern Uganda. I attended my primary and secondary education at Awach P.7 School and St. Joseph's College Layibi respectively, in Gulu district. I hold Master of Science in Physics degree (2015-2017) specializing in solar energy from Makerere University, Bachelor of Science Education (Physical), (2007-2010) majoring in physics from Gulu University. I have been teaching physics for the last nine years; four years at advanced level of secondary education, five years at the university. I have mentored, guided students both at secondary schools and university to define their careers, majority of who are now successful. I have attended several workshops, conferences and trainings in solar energy, pedagogy and other renewable energies from different parts of the globe. Currently I am teaching and carrying out research in the areas of solar energy and other renewable energies at Gulu University. My interest is in solar thermal energy storage system, solar fuel, and organic solar cells. I am a highly motivated young scientist of positive focus and believe in adoption of solar energy as the means of increasing energy access especially in developing countries, mitigating climate change and its impacts.



Martin Lyambai (Mr)

CEO Zambia Green Energy Group, Sechaba Energy Consultants

Electrification, Renewable energy, Investment, Partnership

Biography

Martin Lyambai is renewable energy consultant and founder of Sechaba Energy in Zambia. He is Involved in consultancies for national and international R&D agencies, various organizations and industries. His specialist in energy (technology, policy, economics), forestry, as well as in innovative business development and value chain analysis. He is also an editorial assistant for the Journal of Renewable Energy Sources - Technology, Business and Policy. He currently holds an MSc in Energy Policy from Pan African University Institute of Energy and Water sciences including climate change, and BSc in Forestry from the Copperbelt University.

▶ Water Session



Prof. Benedict MwavuMutua

Kibabii University, Kenya - Deputy Vice-Chancellor (Planning, Partnerships, Research and Innovation)

Drought forecasting under climate change scenarios using artificial neural networks for sustainable water resources management in upper Tana River basin, Kenya

Biography

Prof. Dr.-Ing. Benedict Mwavu Mutua is a Professor of Water Resources, Hydraulics and Environmental Engineering. He is currently the Deputy Vice-Chancellor (Planning, Partnerships, Research and Innovation) at Kibabii University, Kenya. He obtained his PhD in Water Resources and Environmental Engineering from the Universität für Bodenkultur (BOKU) Vienna, Austria. He has a MEng. Sc. in Civil and Environmental Engineering from the University of Melbourne, Australia, where he specialised in Hydraulics Engineering. He has also a BSc. in Agricultural Engineering from Egerton University, Kenya. In addition, Prof. Dr. Ing-Benedict M. Mutua has done a number of Post doctoral research work in Austria, Germany, Israel, Spain, Switzerland, Japan, Italy and The Netherlands. He has a wealth of experience in teaching, research and supervision of both undergraduate and postgraduate students locally and internationally. He has published books, book chapters and several scientific articles in refereed International Journals and has presented his research findings in many international conferences. He is a member of several International, Regional and National Professional bodies. He serves in a number of Editorial Boards of International Journals in the area of Water Resources, Hydraulics and Environmental Engineering. He is also a member of several International Scientific Conference Committees. He is an External Examiner for several Universities. He has a wealth of experience in University administration and management. He has received several recognitions as a Professor, Researcher, Trainer, Consultant and Leader.



Charity Kangume and Deogratius Mulungu, Tanzania

Assessing the Impacts of Climate Change on Streamflow in Malaba River Catchment, Uganda

Biography

Charity Kangume is a Ugandan female Water Resources Management Professional with five years experience in the water sector. She has a Master's degree in Integrated Water Resources Management from the University of Dar Es Salaam in Tanzania and a Bachelor of Engineering in Environmental Engineering and Management from Kyambogo University in Uganda. She is currently working with one of Africa's leading water Utilities, National Water and Sewerage Corporation as a Water Engineer where she has served in several departments. She has experience in project management and supervision of Water Sanitation and Hygiene (WASH) and water infrastructure works (laying water pipe lines i.e. transmission and distribution mains). She also has experience in water resources management through the use of water resources models (SWAT and WEAP) and climate change models (LARS-WG), conducting trainings on IWRM principles and practices and developing catchment management plans. She has a keen interest in implementing knowledge sharing and advocacy awareness about water resources including their governance and sustainable management and hopes to further her career in that path. She prides herself in being flexible, result oriented and completing assigned tasks to the best of her ability.

DjamilaZioui, HaneneAburideh and ZahiaTigrin, Algeria

Small Scale Photovoltaic-Driven Reverse Osmosis (PV-RO) Desalination Plant for Pure Water Production



Ranita Koroma, Sierra Leone

Community Mobilization and Empowerment and Community-Led Total Sanitation in Rural Water and Sanitation project.

Biography

Ranita is an experienced Environmental scientist and Gender specialist. She has been involved in a wide range of environmental consultancies and management. She has particular strengths in assisting communities to develop entrepreneurial skills. Ranita has a strong grounding in the Health, Water, Sanitation and Hygiene sectors. Ranita has a BSc Hon and Masters in Environmental Sciences and Development and become a specialist in gender and natural resource development issues. Currently, she is a lecture at the Institute of Marine Biology and Oceanography at the Fourah Bay College, University of Sierra Leone. She is a CEO Planning Green Futures consultancy in Sierra Leone. Ranita is a core member of the Women's Network for Environmental Sustainability (WoNES) in Sierra Leone. She is currently forming the "Women and Climate Change Sierra Leone Chapter"

Key areas of strong experience

- Rural Water Supply and Sanitation management
- Gender, Climate Change and natural resources management
- And Community Development and Mobilization



► Climate Change Session



Dr. Victor Ongoma
Department Of Meteorology, South Eastern Kenya University, Kenya
Past and Projected changes in Rainfall and Temperature over East Africa.

Biography

Dr. Victor Ongoma is a lecturer in the Department of Meteorology at South Eastern Kenya University. He holds PhD in Meteorology from Nanjing University of Information Science and Technology, China, attained in 2017. His areas of interest are climatology, and climate change. His current research is on variability of extreme climate events over East Africa. He has taken part in a number of research activities, through which he has managed to publish about 50 peer reviewed research articles, with almost half of them featuring in SCI indexed journals. He is a peer reviewer of 10 scientific journals in profession. He is a member of the Young Earth System Scientists, The GLOBE International Scientist Network, International Association of Urban Climate, and Kenya Meteorological Society. He was recently elected to serve as an Executive Member of the Kenya Meteorological Society. His career objective is to be a competent and a life driven researcher who is conscious and responsive to dynamic challenges of the world. He is thus interested and open to multi-disciplinary collaborations geared towards attaining his career objective.



Dr. Robert Eliakim Katikiro,
College of Agricultural Sciences and Fisheries Technology, Tanzania

Non-state actors and climate change adaptation processes: A case study from Tanzania

Biography

Born in Tanzania, Robert Katikiro is a marine ecologist by training and has been a researcher and conservation practitioner since 2005, maintaining a strong passion for conservation of marine biodiversity. Robert has a broad experience in tropical marine ecology and has been involved in marine impact assessment and monitoring in protected areas, restoration of marine habitats and he has been heavily involved in implementation of measures which aim at reducing mortality of critically endangered marine species to enhance the health of ocean ecosystems. He is currently the conservation manager at the Mnazi Bay-Ruvuma Estuary Marine Park in southern Tanzania where is responsible for public awareness programme on marine protected areas including developing locally based methods of handling sea turtles for fishermen.



Dr. Zerihun Yohannes Amare

Panafrican University, Institute Of Life And Earth Sciences(Including Health And Agriculture), University Of Ibadan (PAULESI), Nigeria

Barriers to and Determinants of the Choice of Crop Management Strategies to Combat Climate Change in Dejen District, Nile Basin of Ethiopia

Biography

Dr. Zerihun Yohannes AMARE holds his Ph.D. degree in Environmental Management specialization in Climate change and Development from Pan African University (PAULESI), University of Ibadan, Nigeria. He has Master’s degree in Urban Management specialization in Urban Environmental Planning and Management, BA degree in Management and advanced diploma in Natural resources. His Ph.D. thesis was titled “perception, vulnerability and adaptation strategies of rural communities to climate change in Dejen District, Amhara Regional State, Ethiopia. His Master’s thesis was titled the “Socio-economic and Environmental Benefits of interventions in Biogas Energy Production and Use”. He scored excellent grade for both his Ph.D. and MSc thesis. He received continental awards for outstanding performance at the Pan African University, University of Ibadan, Nigeria(22Feb2018). He has five years of work experience working directly in the community of both urban and rural settings. He is member of IAIA (International Association for Impact Assessment) since 2014, USA, YALI-Young African leaders’ initiative, and Ethiopian Red Cross society.



Muhammad Salisu Abdullahi (Mr),

eTrash2Cash (registered as “eT2C Company Nigeria”), Nigeria

Etrash2cash

Biography

Alh. Salisu is a passionate social entrepreneur and a Co-Founder of a modern waste management company, eTrash2Cash, www.etrash2cash.com in Kano, Nigeria. In 3 years from inception, this social venture has collected and recycled thousands of metric tons of wastes into various reusable materials, creating wealth from trash for the low income, helping to reduce pollution and climate change in many angles. Salisu holds a bachelor’s degree in Biochemistry from Ahmadu Bello University, Zaria and a postgraduate certificate in Business & Entrepreneurship from Rutgers Business School, New Jersey, United States. Salisu is a 2016 Mandela Washington Fellow, a Microsoft’s WINsiders4good Fellow and an Associate Fellow of the Nigeria Leadership Initiative. Salisu aspires to expand and make eTrash2Cash a pan-African social venture that helps low income communities earn extra income from every kind of wastes, creating zero-wastes & sustainable societies.



▶ Poster Pitch



Peter Thomas

The University of Bristol, UK - Low Carbon Energy for Development Network

Improving the capacity of decision-makers implementing renewable energy in refugee camps.

Biography

Peter Thomas is a PhD student at Bristol University, UK. His research focuses on how to improve the decision-making capacity of humanitarian practitioners when implementing renewable energy projects in refugee camps.

**AmelBoudjemaa, AbdelghaniBouchama, and HafidaHentite,
Algeria**

Hydrogen generation over cobalt containing microporous aluminohosphates photo-catalyst



Hannah Mottram,

The University of Sheffield, UK

Low Carbon Energy for Development Network Hannah Mottram,

Biography

Hannah's research will look at off-grid energy systems in developing countries, and how communities are engaged with their development and implementation. She is also interested in the wider development impacts of delivering energy access, such as improved livelihoods, education and healthcare. Hannah is based in the Energy 2050 group, part of mechanical engineering. Her work will encompass both the technical and social challenges of off-grid energy systems. Hannah graduated from the University of Cambridge with an MSci in Geological Sciences in 2010, and from the University of Manchester with a PGCE in Secondary Physics. After teaching, Hannah worked on energy and climate in the civil service, including an interdepartmental project on climate services for development. Her PhD topic stems from her time working at the Catholic Agency for Overseas Development, where she was an energy policy analyst looking at the role of civil society in energy policy. Hannah has worked with civil society globally as coordinator of the ACCESS Coalition, as well as institutions such as Sustainable Energy for All, the African Development Bank and the Africa-EU Energy Partnership. Follow her on Twitter @miss_mottram



Bekhira Abdelghani, Habi Mohammed and Morsli Boutkhal,

Algeria

Contribution of GIS and hydraulic model for water related risk management in the Saharan region: case of flooding in the Wadi Bechar watershed

Biography

Mr Bekhira Abdelghani born on 06/06/1981 in Bechar of Algiers, married, currently works at study office and at the same time teach and temporary supervisor at the University of Bechar since the year 2014, he worked 03 years in the National Agency of Hydraulic Resources (ANRH) and also he worked 01 year at the National Organization of Technical Control of the Hydraulic Construction (CTH). Bachelor year 2002, engineer of state in hydraulics year 2007, magister 2014 option hydraulic installation and environment, and currently enrolled in the 4th year for the preparation of the doctoral degree in the hydraulic discipline at the University of Tlemcen, he masters the programming language and simulation: SIG, ArchiCAD, AutoCAD, EPANET, HEC RAS, ARCGIS, He knows the Arabic, French and English languages.

Mawulolo Yomo,

West African Science services Centre on Climate and Adapted Land use (WASCAL). Togo

Biography

Mawulolo YOMO is currently a masters student in water sciences (policy/governance option) since 2016 at the Pan African University Institute of Water and Energy Sciences (PAUWES). Before, she served as a trainee on Disaster Risk Reduction/Climate change adaptation project of the Togolese Red Cross Society. She holds a master's degree in Geography (climate change and human security, West African Sciences Service Center on Climate Change and Adapted Land Use). Mawulolo has interest in climate variability and change, climate risks assessment, water resource and its interaction with climate variability and change, and climate change adaptation.



Faten Attig-Bahar

Young Earth System Scientist' (YESS-community), Executive Committee member

African Youth Union for Change (AUY4C), North Africa V President

Youth Earth System Scientists Community: Engagement of YESS for a better future

Biography

Faten Attig Bahar is PhD candidate at the University of Carthage, Polytechnic School of Tunisia and Research fellow at the University of Oldenburg, ForWind Research Center, Oldenburg, Germany. She is also holding an Energy engineering degree from the National Engineering School of Monastir Tunisia. Her Research focuses on Renewable Energy technologies, Energy efficiency and green transition in Africa. Faten is also Author of several published children's books (13 published books since 2007) and she is very engaged socially in various international NGOs:



-She is an Executive Committee member at Young Earth System Scientists YESS-community.
-She is a Steering Committee members for Future Earth Knowledge-Action Network on Water- Energy-Food Nexus.

-She is the North Africa Vice President, African Union Youth for Change (AUY4C).
-She is the Public relation manager of the Green Entrepreneurship Opportunities at Green Shift Africa.
Faten has extensive experience in community engagement, building partnerships, advancing community science and promoting Sustainable Development Goals (SDGs) at national and international levels. She is a recipient of several awards and seats as a council member of YESS.

Mark McCarthy Akrofi; Katherine Kaunza Millar; David Millar,
Algeria

Exploring renewable energy potentials in second cycle schools of Ghana

RokiatouHaidara, CherifaAbdelbaki and Nadia Badr,
Algeria

Study of the feasibility of water reuse for agriculture as an adaptation measure to climate change - Case study of Ain Temouchent, Algeria

PRIORITIES OF THE PAUWES RESEARCH AGENDA: NEXUS WATER, ENERGY AND CLIMATE

► Water-Climate nexus



Dr. Shamseddin Ahmed

Water Management and Irrigation Institute, University of Gezira, Sudan

Scanning Climate Change Impacts on Water Resources of the Largest African River Basins

Biography

Mr. Shamseddin Musa Ahmed graduated in Agricultural Engineering, University of Gezira, Sudan (2000), with first class degree (honour). Immediately, joined the academic staff of the Water Management and Irrigation Institute (WMII), University of Gezira (UofG) where he finished his M.Sc. and PhD in Water Management, 2003 and 2009, respectively. Since 2014, Dr. Ahmed is associate professor working for WMII. His teaching and researching activities span a range of integrated water resources management aspects, e.g. climate change, groundwater hydrology, irrigation systems, soil water conservation, remote sensing & GIS. He developed a newer approach for assessing the sustainability of irrigation system, published in Sustainability Science Journal. The UofG awarded him the Best Publication Prize in 2014. He effectively participated in developing the Irrigation Toolkits of the Eastern Nile Irrigation Projects, ENTRO-Nile Basin Initiative. He is co-founder and president of the African Professionals' Initiative for Water, Environment, Energy and climate (APIWEC).



► Energy-Climate nexus



Prof. Ahmed Hamza H. Ali

Faculty of Engineering, Assiut University, Egypt

Experimental Study on Performance of Solar Thermal Driven Cooling System Versus a Hybrid Mechanical Compression Refrigeration-Solar Thermal Assisted System in Hot Areas

Biography

Ahmed Hamza H. Ali, Prof. Dr.-Ing. is a Professor and the Chairman of Mechanical Engineering Department, Faculty of Engineering, since July 2017, Assiut University, Egypt. He is a Certified Consultant and Professional Engineer of New and Renewable Energy Engineering, and Energy Efficiency since 2012. He was the Director of Research Excellence Center for Energy Resources and Management and Chairman of Energy Resources and Environmental Engineering Department, and Professor of Renewable Energy Systems at Egypt-Japan University of Science and Technology, Alexandria, Egypt from May 2010 to January 2015. He obtained the Doctoral Degree in Engineering from Japan in March 1999 and his BSc. Degree in Mechanical Engineering, from Assiut University, Egypt, in June 1986. He Worked as a Professor of Energy Systems at Fraunhofer Institute for Energy Systems and Environmental Engineering, UMSICHT, Germany from March 2006 to April 2008. His areas of research interest include basic and applied research in Renewable Energy Systems, Energy and Buildings (incl. HVAC systems designs) and Industrial Energy Audit and Energy Efficiency. Honours: Member of International Solar Energy Society (ISES) since 1994 until now. Alexander von Humboldt Foundation Fellow since 2006. He has published more than 200 papers (over 70 are published in refereed Int. Journals, five books and five book chapters (with Scopus H index 13).

► Water-Energy nexus



Dr. Ruben M. Mouangue

Department of Energy Engineering, University Institute of Technology,
University of Ngaoundere, Cameroon

Prospect Of Wind Energy as a Resource For Water Pumping In Ngaoundere

Biography

My name is MOUANGUE Ruben Martin, born on January 14, 1981 in Cameroon. I obtained my PhD in Energetic in 2011; My Doctorate thesis was co directed by the University of Yaounde 1 in Cameroon and the Institute Pprime ex LCD (Laboratoire de Combustion etDétonique) in Poitiers France. During the year 2008, I was recruited as Research-Teacher in the Department of Energy Engineering of the University Institute of Technology (UIT) of the University of Ngaoundere in Cameroon. I was promoted at the post of Head of this Department in 2013. My current activities of research undertaken within the framework of a team of research, entitled "Combustion and Green Technology" that I preside, carries on three major topics which are, cartography of the wind resource energy in Cameroun, Chad and the Central African Republic (RCA), for the access to electricity grid and water pumping; the optimization of the combustion of the boilers and industrial furnaces; and the prevention and fire protection engineering. I was developed many case studies in these different field, and I have already obtain some



financing from AUF, GIZ, UNU-ViE and others. These applied research works have led up to now to the publication of 21 scientific articles with reading panel. Actually, I am Associate Professor

► Water-Energy and Food Security nexus



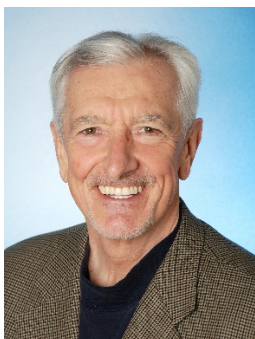
Singanan Malairajan
PG And Research Department Of Chemistry, India

Integrated approach on energy management, treatment and reuse of industrial wastewater for sustainable agricultural development – A green food security concept.

Biography

Studied B.Sc., (Special Chemistry) at American College (Autonomous), Madurai, Tamil Nadu, India, in April 1988 and passed with First Class. Studied M.Sc., Degree in Chemistry with the specialization of "Synthetic Chemistry" in February 1992 and passed in First Class with Distinction and awarded Ph.D. Degree in Chemistry from Andhra University, Vishakhapatnam, Andhra Pradesh, India in March 1998. Previously, I served as Assistant Professor in the Department of Applied Chemistry at Ambo University, Ambo Town, Ethiopia under UNDP program. It is an institution of national importance in the country. My major fields of research interest are Water and Wastewater Treatment, Eco-Toxicology and Water Pollution Studies. Served as a peer reviewer for several international journals. Presented research article in 23 international and 14 National level conferences. Delivered invited talks and chaired and organized one international and one national conference at our institution. Published 25 research papers in International and 16 papers in National peer reviewed journals. Contributed two articles as book chapters in Springer Water book. Currently supervising 07 Ph.D. students and 03 candidates are awarded Ph.D. degrees and also 06 M.Phil. degrees. Visited Beijing and Riyadh. Teaching General Chemistry and Instrumental Methods courses to UG students and Inorganic Chemistry to PG students.

WEDNESDAY, 18 APRIL 2018 – DAY THREE



Dr Walter Pfluger
Executive Director Algerian - German Chamber of Commerce and Industrie
(AHK-Algérie)

From Research2Practice – The German Approach

Biography

Academic background in International Political Economy, Management and Business (MBA), PhD in Social Anthropology. Extensive experience in the transformation process of countries and economies in the emerging markets in Central, Eastern & South Eastern Europe, the Maghreb, Middle East, Asia, Africa and the Caribbean. Wide geographical and policy experience in a great variety of areas, such as Business Development, Economic & Political Governance, Public Sector Reform, social & economic reforms for local & regional economic



development, Reforms of Public utilities & of frameworks for market regulations. Team leader and long-term experience in Project Management and Management Consulting on behalf of the EU, World Bank, UN, KfW, and GIZ, as well as private banks and corporations, in Europe and Overseas. Consultancy services in major Western and Central European markets. From August 1997 to December 1998, he was Head of the Management Consulting Unit for Central European countries in a Consulting firm of the principal German co-operative Bank (DG BANK).

Successfully organised and managed seminars and workshops providing training and capacity building for different private and public organisations, e.g. European Commission, World Bank, CILSS, Arthur D. Little, Kepner&Tregoe and European Corporate Development (ECD).



Anna Ekeledo,
CEO AfriLabs

Technological Innovations in Africa: Tech-Hub as driver of innovation and changes in Africa

Biography

Anna currently heads the AfriLabs Foundation and leads its partnerships, programmes and strategic objectives. She is a technology enthusiast with experience in the social impact, ICT, financial technology and digital media sectors. Prior to joining AfriLabs, Anna has been involved in pioneering various impact driven projects such as the Annual Science, Technology, Engineering and Math (STEM) programme for Teenage Girls for the Visiola Foundation in partnership with Intel and Young Engineers and also worked as a certified digital marketing trainer, training on behalf of organisations such as Wild Fusion Digital Centre, Lagos (Local centre of the Digital Marketing Institute, Ireland) - which she helped to set up - Google Nigeria and Lagos Business School. Anna also headed the Nigerian business activities of Ingenico, a French global financial technology company. She is very passionate about leveraging on technology for Social Impact and Inclusion; creating social and economic opportunities for all.



Bernard Chiira
Incubation Manager @iBizAfrica, Strathmore University

Integration of Tech-Hub into University an Example at Strathmore University

Biography

I am currently the incubator manager at Strathmore University's @iBizAfrica in Nairobi Kenya. My experience here spans more than 3 years working with Strathmore University, local and international partners such as Idea Foundation, the World Bank, UN-Habitat and TechnoServe in managing and implementing incubation and acceleration programs and projects. Examples include the World Bank Negawatt Challenge, Un-Habitat Hack the City challenge, TechnoServe Agribusiness Challenge among others. I am collaborating with the World Bank and the Kenya Ministry of Trade, Industry and Cooperatives on implementing "The Kenya Industry and Entrepreneurship Project" on incubators and accelerators, to strengthen the entrepreneurship and innovation ecosystem in Kenya. I am the secretary to the board of Afrilabs, a pan-African network of innovation hubs with more than 50 members across Africa.

I have more than 5 years' experience working in the technology sector in Kenya starting off at iLabAfrica, Strathmore University' research and innovation Centre. I have worked as an instructor in Strathmore University's Faculty of IT and a Google AdWords Certified trainer in the Strathmore Digital Advertising Academy. I hold a Bachelor of Science Degree in Business and Information Technology, and a Master Degree in Mobile



Telecommunication and Innovation from Strathmore University.
I am passionate about innovation, mentorship and supporting startup entrepreneurs succeed in anywhere in the world.



Dr. Amazigh Fouad Riad Dib
Private Sector Coordinator PAUWES
PAUWES Entrepreneurship Center

Biography

Dr. Amazigh Fouad Riad Dib has been lecturer, researcher and conference officer in the Department of Physics, Faculty of Sciences at the University of Tlemcen for many years, instructing several generations of physics and engineering students. He holds a PhD in Theoretical Physics and he is member of the Theoretical Physics Laboratory at the University of Tlemcen. His research theme is molecular dynamics. Since 2011, he is the Coordinator of the B.L.E.U. Bureau de Liaison Entreprises Université at Tlemcen University and Head of the High Performance Computing HPC Unit of the University of Tlemcen. He was the Head of the Department of Physics for the Ecole Préparatoire en Sciences et Technologies EPST de Tlemcen from 2009 to 2010, after having been involved in their national establishment. He was responsible for the University-Private Sector Relations in the framework of the Algerian-European programme PAPS-ESRS and he was also an expert for innovative projects for the ATRST (ex ANDRU).



Res Prac

PAUWES

RESEARCH 2 PRACTICE FORUM 2018

ENERGY, WATER SECURITY AND CLIMATE CHANGE IN AFRICA

16th - 18th APRIL, 2018

GENERAL INFORMATION



ACCOMMODATION

► HOTEL IBIS TLEMCCEN



Adress: Boulevard El Kiffane, Wilaya de Tlemcen, 13000 TLEMCCEN, ALGERIA

The Ibis Tlemcen hotel is located in the center of Tlemcen in the north-west of Algeria, near to the border with Morocco, 81 miles (130 km) from Oran and 16 miles (25 km) from Tlemcen Zenata airport. Tlemcen can be reached from the East-West Highway.

Get In Touch

Tel: (+213)43981010
Fax: (+213)43381212
Mail: h6583@accor.com

Hotel services

Check-in **12:00**
Check-out **12:00**

Offered Services

Wifi – Parking- Air Conditioning- Sweet Bed- Reduced mobility facilities- Online check-in

How to reach the Ibis Hotel?



- ▶ **From Tlemcen Airport:**
The symposium will provide free transportation airport/hotel/airport
- ▶ **From Oran Airport:**
The symposium will provide free transportation airport/hotel/airport
- ▶ **From Tlemcen bus station:**
The hotel is at a walking distance from the bus station (4 minutes)
- ▶ **From Tlemcen train station:**
The hotel is at 3km / 1.86mi from Railway station GARE DE TLEMCEN .You can also take a taxi just in front of the station (~ 200 DA).

Location

Sat, 7 Apr
15°C | 12°C

Contact

ADDRESS
Boulevard El Kiffane,
Wilaya de Tlemcen,
13000 TLEMCEN, ALGERIA

MAIN POINT OF INTEREST
IALLA SETTI (5km / 3.11mi)

LOCATION
In town

GET IN TOUCH
Tel: (+213)43981010
Fax: (+213)43381212
Mail: h6583@accor.com

Transport

+

Around the hotel

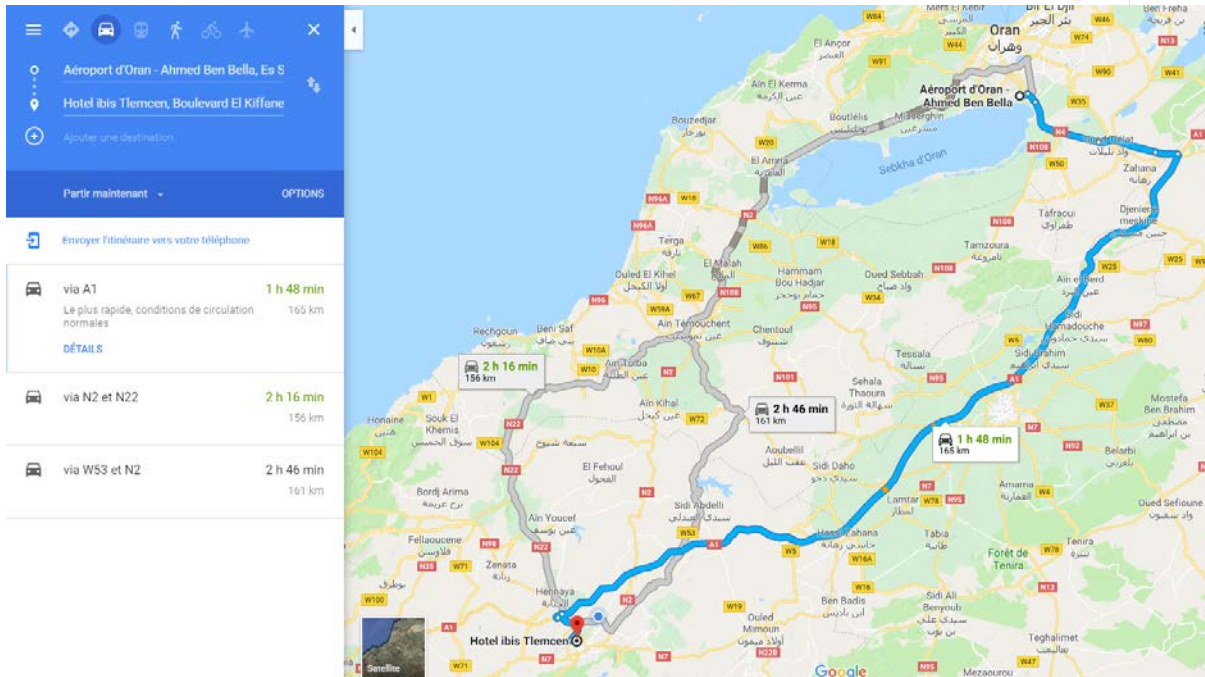
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- ▶ FOR PARTICIPANTS WHO OPTED FOR THE "REGISTRATION WITHOUT ACCOMMODATION" FORMULA:

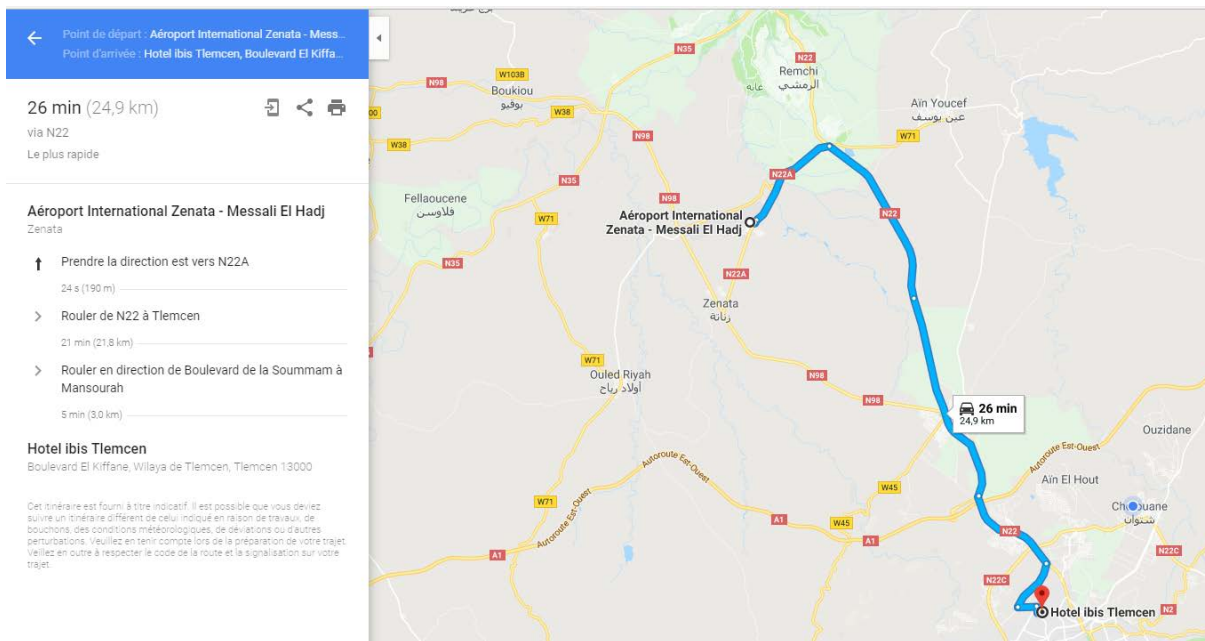
Ibis Hotel/Transport

<ul style="list-style-type: none"> ▪ Airport ▪ TLEMCEN ZENATA (20km / 12.43mi) 	<ul style="list-style-type: none"> ▪ Railway station ▪ GARE DE TLEMCEN (3km / 1.86mi)
<ul style="list-style-type: none"> ▪ Parking ▪ Bus/coach parking area ▪ Private enclosed outdoor parking 	<ul style="list-style-type: none"> ▪ Railway exit ▪ AUTOROUTE EST OUEST (1km / 0.62mi)

- ▶ HOW TO REACH IBIS HOTEL FROM ORAN AIRPORT:



► HOW TO REACH IBIS HOTEL FROM TLEMCCEN AIRPORT:



OTHER ACCOMMODATION

There are several hotels in Tlemcen, from basic to luxury hotels, you have the choice!

1. **Mariott Renaissance Hotel**
40 minutes by car from the symposium site
Plateau Lalla Setti, 13000 – Tlemcen, Algeria
2. **Agadir Hotel**
15 minutes walk from the symposium site
Ibn Khaldoun street, 13000 – Tlemcen, Algeria
3. **Stambouli Hotel**



15 minutes walk from the symposium site
Ibn Khaldoun street, 13000 – Tlemcen, Algeria

Pomaria Hotel

30 minutes by car from the symposium site
RN7, 13000 – Tlemcen, Algeria

VENUE

The symposium will take place at the Auditorium, located at the downtown campus of the University of Tlemcen.
<https://www.univ-tlemcen.dz/>



Res2Prac



Daily free transportation will be provided between the symposium site and the IBIS hotel.

MORE ABOUT TLEMCCEN



- ▶ Tlemcen Capital of Islamic Culture 2011 - [hyperlink: goo.gl/X35Sis](http://goo.gl/X35Sis)
- ▶ Tlemcen City – [hyperlink: http://www.tlemcen-dz.com/](http://www.tlemcen-dz.com/)
- ▶ Tlemcen Touristic Information – [hyperlink: goo.gl/5FEq8q](http://goo.gl/5FEq8q)
- ▶ Citadelle et Palais El Mechouar – [hyperlink: goo.gl/L8NMhA](http://goo.gl/L8NMhA)



► Les Grottes de Beni Add *_hyperlink: goo.gl/v72Q25*



► **NOTE: PRISES ELECTRIQUE DEUX PORTS**

► **TAUX DE CHANGE:**

USD	DZD
0.50	57.20
1.00	114.35
2.00	228.75

► **CONTACT**

Dr. Erick Tambo: 00213 665664300

Prof. Chewki Ziani: 00213 554814016

