

**10<sup>th</sup> ICAT PROGRAM | 22 – 25 NOVEMBER 2022**

DAY 1	TUESDAY 22 NOVEMBER			
Time (Central Africa Time)	ROOM A	ROOM B	ROOM C	ROOM D
7:30 AM *Registration				
8 - 9	INVITED WORKSHOP (7): Water and Sanitation	INVITED WORKSHOP (2): Governance & Policy, Standards, and Ethics	INVITED WORKSHOP (3): Environment, Agriculture, and Ecovillages	INVITED WORKSHOP (4): Manufacturing
9 - 10 *Tea/Coffee				
10 - 11				
11 - 12 PM	INVITED WORKSHOP (6): Energy and Materials			
12 - 1 *Lunch Break				
1 - 2	INVITED WORKSHOP (5): Education, Knowledge, and Technology Transfer	INVITED WORKSHOP (1): Governance & Policy, Standards, and Ethics		
2 - 3				
3 - 4 *Tea/Coffee	WELCOME RECEPTION			
4 - 5	KEYNOTE TALK (1)			
5 - 6	KEYNOTE TALK (2)			
DAY 2	WEDNESDAY 23 NOVEMBER			
Time (CAT)	ROOM A	ROOM B	ROOM C	ROOM D
7:30 AM *Registration				
8 - 9	OPENING SESSION			
9 - 10 *Tea/Coffee	KEYNOTE TALK (3)			
10 - 11		PAPER SESSION: Climate Change	PAPER SESSION: Education, Knowledge, and Technology Transfer (1)	PAPER SESSION: Health
11 - 12 PM	PAPER SESSION: Sustainability, Social Inequality, and Human Wellbeing & Green Economy and Innovation			PAPER SESSION: Water and Sanitation
12 - 1 *Lunch Break				
1 - 2	PANEL: BEST PAPERS (1)			
2 - 3	KEYNOTE TALK (4)			
3 - 4 *Tea/Coffee	PAPER SESSION: Construction and Infrastructure & Cities and Spaces (1)	TECHATHON	WORKSHOP: Education, Knowledge, and Technology Transfer (1)	WORKSHOP: Governance & Policy, Standards, and Ethics (1)
4 - 5				
5 - 6				
6 - 7	CONFERENCE DINNER			
7 - 8				
DAY 3	THURSDAY 24 NOVEMBER			
Time (CAT)	ROOM A	ROOM B	ROOM C	ROOM D
7:30 AM *Registration				
8 - 9	INAT MEETING			
9 - 10 *Tea/Coffee	KEYNOTE TALK (5)			
10 - 11	PAPER SESSION: Environment, Agriculture, and Ecovillages	PAPER SESSION: Construction and Infrastructure & Cities and Spaces (2)	PAPER SESSION: Education, Knowledge, and Technology Transfer (2)	PAPER SESSION: Peace, Security and Safety
11 - 12 PM				PAPER SESSION: Governance & Policy, Standards, and Ethics
12 - 1 *Lunch Break				
1 - 2	PANEL: BEST PAPERS (2)			
2 - 3	KEYNOTE TALK (6)			
3 - 4 *Tea/Coffee	FORUM: Women in Appropriate Technology	PAPER SESSION: Energy and Materials	WORKSHOP: Education, Knowledge, and Technology Transfer (2)	WORKSHOP: Governance & Policy, Standards, and Ethics (2)
4 - 5		PAPER SESSION: Technology R&D & Services Industry		
5 - 6				
DAY 4	FRIDAY 25 NOVEMBER			
Time (CAT)	ROOM A	ROOM B	ROOM C	ROOM D
7:30 AM *Registration				
8 - 9				
9 - 10 *Tea/Coffee	KEYNOTE TALK (7)			
10 - 11	PANEL: Innovation in Africa			
11 - 12 PM				
12 - 1	LUNCH & PRAYERS BREAK			
1 - 2				
2 - 3	SCHOOL STUDENTS' SESSION	TECHFAIR SESSION	POSTER SESSION	
3 - 4 *Tea/Coffee				
4 - 5	KEYNOTE TALK (8)			
5 - 6	CLOSING SESSION			

**DAY 1: Tuesday 22 November**

TIME	ROOM A	ROOM B	ROOM C	ROOM D
8 – 9 AM	<p><b>INVITED WORKSHOP (7):</b> Water and Sanitation</p> <p><b>WASH (WATER, SANITATION AND HYGIENE) IN ELFASHER</b></p> <p><b>Organizers:</b> <i>Mustafa Omer Mohammed, Mehad Khalil Adam Mohammed, Mayada Yousif Ibrahim Mansur, Mustafa Abdoalrhman Mohamed, and Saif Elislam Adam Musa Abdelkareem</i></p>	<p><b>INVITED WORKSHOP (2):</b> Governance &amp; Policy, Standards, and Ethics</p> <p><b>WORKING WITH UNDERREPRESENTED GROUPS TO INFORM TECHNOLOGY GOVERNANCE &amp; POLICYMAKING</b></p> <p><b>Organizer:</b> <i>Lassana Magassa</i></p>	<p><b>INVITED WORKSHOP (3):</b> Environment, Agriculture, and Ecovillages</p> <p><b>ECOLOGICAL APPROACHES TO FOOD SECURITY AND PEACE IN THE SAHEL FROM THE SMALL HOLDER FARMER UP</b></p> <p><b>Organizers:</b> <i>Brian Stephenson, Mariam Olorundare, Marwan Awad, and Enayat Mohaker</i></p>	<p><b>INVITED WORKSHOP (4):</b> Manufacturing</p> <p><b>3D PRINTING FUNDAMENTALS: GETTING STARTED ON PRINTER CONFIGURATION, TROUBLESHOOTING, AND CAD FILE TO OBJECT STEPS</b></p> <p><b>Organizers:</b> <i>Jephias Gwamuri and William Goriwondo</i></p>
9 - 10 *Tea/Coffee				
10 - 11	<p><b>INVITED WORKSHOP (6):</b> Energy and Materials</p> <p><b>COLLABORATIVE DESIGN AND CONSTRUCTION WORKSHOPS BUILD LOCAL CAPACITY IN SOLAR OVENS AND SMALL WIND TURBINES ON SUMBA ISLAND, INDONESIA - USEFUL OUTCOMES FOR AUTONOMOUS RENEWABLE ENERGY GENERATION?</b></p> <p><b>Organizer:</b> <i>Tim Frodsham</i></p>			
11 - 12 PM				
12 – 1 *Lunch				

10<sup>th</sup> ICAT PROGRAM | 22 – 25 NOVEMBER 2022

TIME	ROOM A	ROOM B	ROOM C	ROOM D
1 - 2	<b>INVITED WORKSHOP (5):</b> Education, Knowledge, and Technology Transfer  <b>SUSTAINABLE COMPUTING</b> USING THE RASPBERRY PI PLATFORM  <i>Organizers:</i> Jesse Bemley, Bryan Bemley, Anthony Adedoyin, and Olaoluwa Adewoye	<b>INVITED WORKSHOP (1):</b> Governance & Policy, Standards, and Ethics  <b>A GLOBAL ETHICS FOR APPROPRIATE</b> <b>TECHNOLOGY</b>  <i>Organizers:</i> Charles Verharen, John Tharakan, Gada Kadoda, George Middendorf, and David Schwartzman		
2 - 3				
3 - 4	<b>WELCOME RECEPTION</b> Akram El Khalifa and Amel Bakhiet			
4 - 5	<b>KEYNOTE TALK (1)</b>  <b>THE DELUSION OF (NEUTRALITY</b> <b>OF TECHNOLOGY): A CRITIQUE</b> <b>FROM A REGIONAL PERSPECTIVE</b>  <i>Speaker: Mohamed Abdelrahman</i> Hassan  <i>Moderator: Aya Aziz</i>			
5 – 6 PM	<b>KEYNOTE TALK (2)</b>  <b>TOWARDS A MORE CIRCULAR</b> <b>ECONOMY: RECYCLING ORGANIC</b> <b>WASTES INTO BIOGAS AND</b> <b>FERTILIZER</b>  <i>Speaker: Myron Williams</i>  <i>Moderator: John Trimble</i>			

DAY 2: Wednesday 23 November

TIME	ROOM A	ROOM B	ROOM C	ROOM D
8 – 9 AM	<b>OPENING SESSION</b>  <i>Gada Kadoda</i> <i>Akram El Khalifa</i> <i>Amel Bakhiet</i>			
9 - 10 *Tea/Coffee	<b>KEYNOTE TALK (3)</b>  <b>EVOLUTION OF SOLAR CONCENTRATOR TECHNOLOGY IN INDIA FOR THERMAL APPLICATIONS LIKE SOLAR COOKING, COOLING AND POWER GENERATION</b>  <i>Speaker: Deepak Gadhia</i>  <i>Moderator: John Tharakan</i>			
10 - 11		<b>PAPER SESSION: Climate Change</b> <i>Chair: Taurai Mutanda</i>  <b>26: INCREASE ATMOSPHERIC WATER GENERATING EFFICIENCY BY USING THERMOELECTRIC COOLERS CHIP AND ELECTROLYTE LIQUID</b> <i>Rumaisa Mohey Eldin Abd Elaziz Miki, Tahleel Mahmoud Idrees Abdelhafeez, Mustafa Ibrahim Yousif Ishaq, and Mohamed Ibrahim Salih Fadul</i>  <b>105: MULTIPLE-CRITERIA DECISION ANALYSIS</b>	<b>PAPER SESSION: Education, Knowledge, and Technology Transfer (1)</b> <i>Chair: Marwan Adam</i>  <b>20: THE BAREFOOT WAY TOWARD “FREEDOM, PEACE, AND JUSTICE”: A QUIET REVOLUTION</b> <i>Gada Kadoda</i>  <b>220: AFRICAN ETHICS AND AN IDENTITY FOR GLOBAL SUSTAINABILITY</b> <i>Enrico J. Wensing and Alexia J. Wensing</i>	<b>PAPER SESSION: Health</b> <i>Chair: John Tharakan</i>  <b>12: SIGN LANGUAGE GLOVES (ARABIC SIGN LANGUAGE)</b> <i>Hamid Mohamed Hamid Mohamed, Mohamed Osama Omer Abuzaid, Tahleel Mahmoud Idrees Abd-Alhafeez, and Amin Galal Elhag Mohamed</i>  <b>151: APPLICABLE INDUSTRY 4.0 – TECHNOLOGIES IN HEALTH 4.0: A REVIEW</b> <i>Meshack Mazibuko, Lagouge Tartibu, and Robert Mutyavavire</i>

TIME	ROOM A	ROOM B	ROOM C	ROOM D
		<p><b>FRAMEWORK FOR WATER INFRASTRUCTURE DEVELOPMENT PRIORITIZATION IN SUDAN</b> <i>Eiman M. Karar and Bouran Awad Hassan</i></p> <p><b>130: FACTORS AFFECTING SOLAR BOXCOOKER (SBC) TECHNOLOGY ADOPTION IN KHARTOUM STATE, SUDAN</b> <i>Mawahib E. Ahmed and Nouralla Y. Bakhiet</i></p> <p><b>186: ECOVILLAGE MODELS AS SOLUTIONS TO COMMUNITY VULNERABILITY TO HUNGER, DISASTERS AND DEVELOPMENT CHALLENGES IN AFRICA</b> <i>George Atisa, Sharon McIntyre, and Cecilio Ortiz-Garcia</i></p> <p><b>198: USING GEOSPATIAL TECHNIQUES TO ASSESS LANDUSE CHANGE DUE TO FLOOD HAZARD IN KOSTI LOCALITY, SUDAN</b> <i>Sona Mohammed Fadoul Mohammed</i></p> <p><b>213: BUILDING THE ELECTRICITY SECTOR IN SUDAN: ADDRESSING FAULT SCENARIOS IN SMART GRID</b> <i>Nahla Mustafa Ali</i></p>	<p><b>72: RE-ENGINEERING ENGINEERING EDUCATION FOR SUSTAINABLE DEVELOPMENT</b> <i>John Tharakan</i></p> <p><b>161: DEVELOPING RESILIENT COMMUNITIES: THE ROLE OF HIGHER EDUCATION INSTITUTES</b> <i>Walaa Ahmed and Akram Elkhalifa</i></p> <p><b>192: EQUIPPING FUTURE DESIGN ENTREPRENEURS WITH APPROPRIATE SMALL-BATCH MANUFACTURING TECHNOLOGIES</b> <i>Oratile R. Mokgatla and Daniel Carstens</i></p> <p><b>195: DETERMINANTS OF SUSTAINABLE COMPETITIVENESS IN AFRICA: ANALYSIS WITH THE OPEN QUINTUPLE HELIX MODEL</b> <i>Bernadin Géraud Comlan Ahodode</i></p> <p><b>196: UNIVERSITY-INDUSTRY COLLABORATION, LEARNING, AND INNOVATION IN AFRICA</b> <i>Bernadin Géraud Comlan Ahodode and Joel Stephan Tagne</i></p>	<p><b>185: USING DATA ANALYTICS TO PREDICT COVID-19 CASES IN SUDAN</b> <i>Aisha Abdel Aziz Elhussien Ali, Marwa Olaish Ahmed Khalafallah, Rugia Ismail Mohamed Ahmed, and Izzeldin Kamil Amin</i></p> <p><b>191: UNIVERSITY TO INDUSTRY: THE COMMERCIALISATION OF APPROPRIATE MEDICAL DEVICES IN THE SOUTH AFRICAN CONTEXT</b> <i>Dominic White and Ashton Margarete Moseley</i></p> <p><b>PAPER SESSION: Water and Sanitation</b> <i>Chair: Sahl Yasin</i></p> <p><b>5: FLUORIDE REMOVAL FROM GROUND WATER IN THE EAST NILE AREA (SUDAN) USING LOCALLY AVAILABLE CHARCOAL</b> <i>Motwkel Mahmoud Ibraheem Alhaj and Bashir Mohammed Elhassan</i></p> <p><b>157: WATER QUALITY MODEL FOR BLUENILE KHARTOUM STATE- SUDAN USING HEC-RAS APPLICATION</b> <i>Alwaleed Seif Aldeen Khider, Khalid Altegani Khalid Abdallah, Mohamed Elfatih Mohamed, and Michael Magdy Mounir Kamel</i></p> <p><b>93: MODIFIED CERAMIC POT FOR WATER PURIFICATION METHODS IN RURAL AREAS IN SUDAN</b></p>
11 – 12 PM	<p><b>PAPER SESSION: Sustainability, Social Inequality, and Human Wellbeing &amp; Green Economy and Innovation</b> <i>Chair: Marcel J. Castro Sitiriche</i></p> <p><b>66: INTEGRATED DEPRIVATION AREA MAPPING SYSTEM FOR DISPLACEMENT DURABLE SOLUTIONS AND SOCIO-ECONOMIC RECONSTRUCTION, SUDAN</b> <i>Nuha Eltinay, Monika Kuffer, Caroline Margaux Gevaert, Inas M.M. Ali, Charlotte Flasse4, Cheruiyot Onyambu, Maysoon Badi, Asgad Gummah, Kumi Julia, Ibrahim Kushieb, Wafa Sakhi, Taha Elzaki, Mosub Abdallah8, Marwa Ali, Mustafa Hamza, and Fatima Ahmed</i></p>			

10<sup>th</sup> ICAT PROGRAM | 22 – 25 NOVEMBER 2022

TIME	ROOM A	ROOM B	ROOM C	ROOM D
	<p><b>162: APPROPRIATE METHODS TO ENSURE HOUSING PROVISION FOR THE LOW-INCOME GROUPS IN KHARTOUM, SUDAN</b>  <i>Shaza Khatab and Mustafa, A/Bagi</i></p>			<p><i>Sahl Yasin, Noha Almahi, Gameraldawola Mustfa, Haider Abaker, Rabei Suliman</i></p>
<b>12 – 1 *Lunch</b>				
<b>1 – 2</b>	<p><b>PANEL: BEST PAPERS (1)</b></p> <ul style="list-style-type: none"> <li>• Cities and Space &amp; Construction and Infrastructure</li> <li>• Energy and Materials</li> <li>• Health</li> <li>• Governance &amp; Policy, Standards, and Ethics</li> </ul> <p><i>Moderator: Charles Verharen</i></p>			
<b>2 – 3</b>	<p><b>KEYNOTE TALK (4)</b></p> <p><b>WASTEWATER TREATMENT AS IF PEOPLE MATTERED!</b></p> <p><i>Speaker: Lilia Abron</i></p> <p><i>Moderator: Hattie Carwell</i></p>			

TIME	ROOM A	ROOM B	ROOM C	ROOM D
3 – 4 *Tea/Coffee	<p><b>PAPER SESSION: Cities and Space &amp; Construction and Infrastructure (1)</b> <i>Chair: Amged O. Abdelatif</i></p> <p><b>53: EXPERIMENTAL ASSESSMENT OF FABRIC- REINFORCED CEMENTITIOUS MORTAR (FRCM) MECHANICAL PERFORMANCES</b> <i>Alaa Mohammed Ali, Marco Di Ludovico, and Costantino Menna</i></p> <p><b>99: UTILIZING OF PLASTIC WASTE INTO MANUFACTURING OF PAVER TILES</b> <i>Ali Hussein M. Ali and Abdelmonim Adam Haroun</i></p>	<p><b>TECHATHON</b> <i>Organizer: Mjumbe Poe</i></p>	<p><b>WORKSHOP: Education, Knowledge, and Technology Transfer (1)</b></p> <p><b>10: PLASTIC-FREE PERIOD: MENSTRUAL CUPS</b> <i>Marwa Tageldin, Muna Abdelrahman, Maisaa Dean, and Aamir Dean</i></p>	<p><b>WORKSHOP: Governance &amp; Policy, Standards, and Ethics (1)</b></p> <p><b>169: OPEN DATA SHARING PROTOCOL: A SUDANESE EXPERIMENT</b> <i>Safa Suliman, Marwan Adam, Rofaida El Zubair, Gada Kadoda</i></p>
4 - 5	<p><b>167: THE EFFECT OF USING CEMENT DUST ON THE PROPERTIES OF MORTAR AND CONCRETE</b> <i>Ali Hussein M. Ali and Adel Salah A. Alrahim</i></p> <p><b>199: DESIGN OF PASSENGER CARS ASSEMBLY FACTORY IN NORTH OF KHARTOUM USING BUILDING INFORMATION MODELLING (BIM)</b> <i>Mohamed Elrashid Mohamed, Ahmed Mohamed Doul, Mohamed Yousif Mudawi, Naji Mohammed Othman, Mohammed Tagelsir Abdelsalam, and Aziz Fadoul</i></p> <p><b>23: ARTIFICIAL INTELLIGENCE APPROACH FOR PREDICTING THE</b></p>			

10<sup>th</sup> ICAT PROGRAM | 22 – 25 NOVEMBER 2022

TIME	ROOM A	ROOM B	ROOM C	ROOM D
	<p><b>COMPRESSIVE STRENGTH OF CONCRETE MIXTURE</b>  <i>Alziber Mohammed, Ayman Salah, Moayad Jamal, Omer Ali, and Yousif Hummaida Ahmed</i></p> <p><b>110: PREDICTION OF SOIL'S COMPACTION CHARACTERISTICS USING ARTIFICIAL NEURAL NETWORKS (ANNs)</b>                      Mohamed Alhag Emad Mohamed, Alzobair Mohammed, and Ahmed Mohammed Elsharief</p>			
5 – 6 PM				
6 - 7	CONFERENCE DINNER			
7 – 8 PM				



DAY 3: Thursday 24 November

TIME	ROOM A	ROOM B	ROOM C	ROOM D
8 – 9 AM	<p><b>MEETING: INTERNATIONAL NETWORK ON APPROPRIATE TECHNOLOGY (INAT)</b> <i>Chair: John Trimble</i></p>			
9 - 10 *Tea/Coffee	<p><b>KEYNOTE TALK (5)</b></p> <p><b>APPROPRIATE SCALES OF ARCHITECTURE FOR THE AFRICAN ANTHROPOCENE</b></p> <p><i>Speaker: Sushma Patel</i></p> <p><i>Moderator: Akram El Khalifa</i></p>			
10 - 11	<p><b>PAPER SESSION: Environment, Agriculture, and Ecovillages</b> <i>Chair: Brian Stephenson</i></p> <p><b>28: MUTUAL RELATIONSHIP BETWEEN LAND DEGRADATION AND POVERTY IN SUDAN</b> <i>Mohammed Abdalla Elsheikh and Eltayeb Suleiman Babikir</i></p> <p><b>29: THE SMART JUBRAKA: A SUSTAINABLE HOME GARDEN FOR FOOD SECURITY</b> <i>Enayat Salih, Marwan Adam and Fatima Ali</i></p> <p><b>33: ELECTROCOAGULATION OF CATTLE MANURE WASTEWATER</b> <i>Bianca Bailey, Rabin Bhattarai, Tony Grift, and Sharvi Goyal</i></p>	<p><b>PAPER SESSION: Cities and Space &amp; Construction and Infrastructure (2)</b> <i>Chair: Aamir Dean</i></p> <p><b>178: RECONSTRUCTION STRATEGIES IN THE SYRIAN ARAB REPUBLIC</b> <i>Munir Al-Atrash, Elham Badour, and Isam Mohammed Abdel-Magid</i></p> <p><b>120: REMARKS ON IDENTIFICATION AND APPROACHES OF PROTOTYPE BUILDINGS IN SUDAN_ THE CASE OF PUBLIC SERVICES BUILDINGS</b> <i>Razan Abdelgadir, Rami Zeinelabdein, and Tallal Saeed</i></p>	<p><b>PAPER SESSION: Education, Knowledge, and Technology Transfer (2)</b> <i>Chair: John Trimble</i></p> <p><b>208: FOOD WASTE, NOT IN GOOD TASTE: AN INVESTIGATION OF THE CAUSES OF FOOD WASTE IN THE NATIONAL SCHOOL NUTRITION PROGRAMME</b> <i>Tressilia Mumba, and Hema Kesa</i></p> <p><b>152: COVID-RESPONSIVE STUDIO MANAGEMENT SYSTEMS IN ARCHITECTURAL EDUCATION: THE CASE OF UNIVERSITY OF KHARTOUM</b> <i>Duaa Abdalhaleem, Akram Elkhalifa, and Malathe Hamid</i></p>	<p><b>PAPER SESSION: Peace, Security, and Safety</b> <i>Chair: Charles Verharen</i></p> <p><b>17: KNOWLEDGE NETWORKING FOR EAST AFRICA CSO NETWORK FOR PEACEBUILDING AND CONFLICT PREVENTION (ECONET)</b> <i>Marwan Adam, Dalia Eissa, and Gada Kadoda</i></p> <p><b>197: REGIONAL SPATIAL STRATEGY AS A TECHNICAL TOOL FOR PEACE CONSOLIDATION IN SUDAN</b> <i>Salah Mahmoud Osman</i></p> <p><b>129: DECENT HOME DESIGN FOR RESETTLEMENT OF WAR DISPLACED IN DARFUR, SUDAN</b> <i>Fatimah Abubaker</i></p>

TIME	ROOM A	ROOM B	ROOM C	ROOM D
11 - 12 PM	<p><b>35: EFFICACY OF CONSTRUCTED WETLAND IN THE IMPROVEMENT OF EFFLUENT FROM SOBA STABILIZATION PONDS, KHARTOUM, SUDAN 2021</b> <i>Ibrahim Ahmed Suliman Bdal, Babiker Ahmed Babiker, and Aziza abd Elgadir Mohammed Abd Ulla</i></p> <p><b>205: DESIGNING A PORTABLE TREATMENT SYSTEM FOR EQUIDS IN RURAL SOUTH AFRICA IN A POSTHUMAN-CENTRED DESIGN FRAMEWORK</b> <i>Azél Viljoen and Martin Bolton</i></p>	<p><b>134: SOLVING THE URBAN PROBLEMS FROM WITHIN: THE CASE OF MAYOUP</b> <i>Mirametta Botrous and Akram Elkhalifa</i></p> <p><b>206: ACHIEVING RESILIENCE IN COASTAL COMMUNITIES: A CASE STUDY OF JABAL AWLIYA LOCALITY, KHARTOUM-SUDAN</b> <i>Hanan Alswahli, Samah Tambal, and Mohammed Gismallah</i></p> <p><b>13: THE ROLE OF SUDANESE PRIVATE SECTOR IN PEACEBUILDING IN WASH SECTOR: INITIATION OF INFRASTRUCTURE FOR PEACE PRACTICES</b> <i>Bouran Awad Hassan</i></p>	<p><b>52: CLOUDS OF LIES OBSCURE SUDAN'S SKY: POLITICS OF MISINFORMATION, DISINFORMATION, AND HATE IN TIMES OF TRANSITION</b> <i>Husam Mahjoub and Marwan Adam</i></p> <p><b>90: AN ASSESSMENT OF THE EFFECTS OF SOCIAL MEDIA ON LEARNERS AT NUST IN BULAWAYO, ZIMBABWE</b> <i>Sibangiso Ngwenya and Khesani Richard Chilumani</i></p> <p><b>207: PREDICTION AND ANALYSIS MODEL FOR ACADEMIC SCHOOL PERFORMANCE (SUDANESE PRIMARY SCHOOLS AS CASE STUDY)</b> <i>Safa Suliman, Asma Idris, Sara Mergani, and Duha Gaafar</i></p> <p><b>190: AN ANALYSIS OF IMPACT OF SEO FOR SUDANESE UNIVERSITIES WEBMETRICS RANKING, CASESTUDY: UNIVERSITY OF KHARTOUM WEBSITES</b> <i>Nada Ali</i></p>	<p><b>PAPER SESSION: Governance &amp; Policy, Standards, and Ethics</b> <i>Chair: Charles Verharen</i></p> <p><b>203: A VISION OF LEED-LIKE ETHICAL STANDARDS FOR A GLOBAL CONSORTIUM OF ECOVILLAGES</b> <i>Charles Verharen, Flordeliz Bugarin, John Tharakan, George Middendorf, David Schwartzman, Peter Schwartzman, Gada Kadoda, Bekele Gutema, and Enrico Wensing</i></p> <p><b>73: SUDAN ICT POLICY PLANNING: CITIZENS CENTRED, MULTI-STAKEHOLDER, AND MCDA FORMULATION FOR ICT POLICY</b> <i>Marwan Adam and Osama Khair</i></p> <p><b>217: PEOPLE-CENTERED EVALUATION OF INDUSTRIAL POLICIES IN POST REVOLUTION SUDAN 2019-2021</b> <i>Muzan Alneel</i></p>
12 – 1 *Lunch				
1 - 2	<p><b>PANEL: BEST PAPERS (2)</b></p> <ul style="list-style-type: none"> <li>• <i>Climate Change</i></li> <li>• <i>Environment, Agriculture and Ecovillages</i></li> <li>• <i>Water and Sanitation</i></li> </ul>			

10<sup>th</sup> ICAT PROGRAM | 22 – 25 NOVEMBER 2022

TIME	ROOM A	ROOM B	ROOM C	ROOM D
	<ul style="list-style-type: none"> <li>• Education, Knowledge and Technology Transfer</li> <li>• Peace, Security, and Safety</li> </ul> <p><i>Moderator: Taurai Mutanda</i></p>			
2 - 3	<p><b>KEYNOTE TALK (6)</b></p> <p><b>NANO-MATERIALS FOR ENERGY APPLICATIONS &amp; WOMEN IN STEM IN SUDAN</b></p> <p><i>Speaker: Nashwa Eassa</i></p> <p><i>Moderator: Amel Bakhiet</i></p>			
3 - 4 *Tea/Coffee	<p><b>FORUM: Women in Appropriate Technology</b> <i>Chair: Hattie Carwell</i></p> <p>Presenters &amp; Discussants to be confirmed.</p>	<p><b>PAPER SESSION: Energy and Materials</b> <i>Chair: Jephias Gwamuri</i></p> <p><b>219: SOLAR POWER FUTURES: BOTTOM-UP POWER</b> <i>Lyam Rivera, Javier Moscoso-Cabrera, Alexis Burgos-Rivera, Reiner Simshauser-Arroyo, and Marcel Castro-Sitiriche</i></p> <p><b>216: MICROALGAL BIOMASS AS BIOFATORIES FOR THE PRODUCTION OF BIOENERGY AND BIOFUNCTIONAL COMPOUNDS FOR PHARMACEUTICAL APPLICATIONS</b> <i>Taurai Mutanda, Nicole Pillay and Akash Anandraj</i></p>	<p><b>WORKSHOP: Education, Knowledge, and Technology Transfer (2)</b></p> <p><b>7: HOW TO INCORPORATE A CITIZEN SCIENCE APPROACH INTO AT PROJECTS?</b></p> <p><b>Organizers:</b> <i>Gada Kadoda, Marwan Adam, Rofaida El Zubair, Safa Mohamed, Rawan Sharfi, Wadah Omer, Fatima Salah, Sahl Wasin, and Dalia Eissa</i></p>	<p><b>WORKSHOP: Governance &amp; Policy, Standards, and Ethics (2)</b></p> <p><b>2: SCIENCE, TECHNOLOGY AND INNOVATION APPLICATION TO BUILD GRAND HYDROELECTRIC GENERATION DAMS IN AND FOR AFRICA: THE CASE OF GERD</b></p> <p><b>Organizers:</b> <i>Mammo Muchie and Gada Kadoda</i></p>

TIME	ROOM A	ROOM B	ROOM C	ROOM D
4 - 5		<p><b>79: RENEWABLE ENERGY ALGORITHM TOOL FOR RURAL ELECTRIFICATION AND APPROPRIATE</b>  <i>Robert A. García Cooper and Marcel Castro Sitiriche</i></p> <p><b>184: REAL ENVIRONMENTAL PROBLEMS REQUIRING REAL SOLUTIONS: THE DEVELOPMENT AND APPLICATION OF INNOVATIVE BIOMATERIALS IN NEW PRODUCT DEVELOPMENT WITHIN INDUSTRIAL DESIGN EDUCATION</b>  <i>Martin Bolton</i></p> <p><b>175: ANALYSIS OF ROOFTOP GRID CONNECTED SOLAR PV VS UTILITY SCALE PV POWER PLANT, SUDAN CASE STUDY</b>  <i>Mahmoud Hassan Onsa, and Iman Onsa</i></p> <p><b>144: INNOVATIVE METHODS TO IMPROVE AERODYNAMIC PERFORMANCE OF SAVONIUS TYPE WIND TURBINE</b>  <i>Mai K. H. Mohamed, Hadia I. E. Elhassan, and Eltayeb M. Eljack</i></p> <p><b>153: CONTROL OF DYNAMIC STALL ON A PITCHING AIRFOIL USING A LEADING-EDGE ROTATING CYLINDER</b>  <i>Munib Zain, Elasim Elhaj, and Eltayeb Eljack</i></p>		

10<sup>th</sup> ICAT PROGRAM | 22 – 25 NOVEMBER 2022

TIME	ROOM A	ROOM B	ROOM C	ROOM D
		<p><b>141: AIRFOIL GUST LOAD ALLEVIATION USING A ROTATING LEADING-EDGE CYLINDER</b>  <i>Ahmed M. A. AbdAllah, Moayed S. M. Hassan, Eltayeb M. Eljack.</i></p>		
5 – 6 PM		<p><b>PAPER SESSION: Technology R&amp;D &amp; Services Industry</b>  <i>Chair: Jephias Gwamuri</i></p> <p><b>132: THE DEVELOPMENT OF AN APPROPRIATE ASSISTIVE DEVICE FOR WATER SAFETY TRAINING IN SOUTH AFRICAN SCHOOLS</b>  <i>Wessel Wessels and Ashton Margarete Moseley</i></p> <p><b>46: WASTE WATER TREATMENT VIA ACTIVATED FLY ASH ADSORBENT</b>  <i>Afaf Ghais Abadi</i></p>		

DAY 4: Friday 25 November

TIME	ROOM A	ROOM B	ROOM C	ROOM D
8 – 9 AM				
9 - 10 *Tea/Coffee	<b>KEYNOTE TALK (7)</b>  <b>APPROPRIATE TECHNOLOGY, AND SUSTAINABLE PEACE AND DEVELOPMENT: A REFLECTION ON SUDAN</b>  <i>Speaker: Guma Kunda</i>  <i>Moderator: Gada Kadoda</i>			
10 - 11	<b>PANEL: Innovation In Africa</b>  Discussants to be confirmed.			
11 - 12 PM				
12 – 1	<b>LUNCH &amp; PRAYERS BREAK</b>			
1 - 2				
2 - 3	<b>SCHOOL STUDENTS' SESSION:</b>  <b>STEM Sudan</b> Projects List to be confirmed.	<b>TECHFAIR SESSION:</b>  <b>8: DUNIA AL-MADARIS: A PROJECT BLENDING APPROPRIATE TECHNOLOGY AND CITIZEN SCIENCE</b> <i>Gada Kadoda, Marwan Adam, Rofaida El Zubair, Safa Mohamed</i>  <b>160: CONTROLLING FLOOD AND BENEFITING IN IRRIGATION PURPOSES AND IN GENERATION ELECTRICITY IN THE RIVER NILE</b>	<b>POSTER SESSION:</b>  <b>50: TUTI ISLAND – PROPOSALS OF SUSTAINABLE URBAN DEVELOPMENT</b> <i>Andrea Dung, Martin Speth, and Clemens Bonnen</i>  <b>107: IMPROVING INCUBATION PROGRAMS MECHANISMS FOR CREATIVE IDEA TO ENHANCE PRODUCTION PROCESS</b> <i>Yahia Holi</i>  <b>18: GOLD DETECTION USING REMOTE SENSING AND ARTIFICIAL NEURAL NETWORK TECHNIQUES</b> <i>Ahmed Dawod M. Ibrhum, Moawia Elfaki Yahia Eldow, and Anwar F.A. Dafaalla</i>	

<p>3 - 4 *Tea/Coffee</p>		<p><i>Enas Bushra Homaida Ahmed, Maab Mohamed Ahmed Omer, and Maaz Omer Mohammedani Hamed</i></p> <p><b>61: ONLINE ELECTION DASHBORAD FOR CANDIDATES VOTING</b> <i>Safa Mohammed Ahmed Suliman and Iman Adam El Tayeb</i></p>	<p><b>94: THE USE OF RECYCLED SLAG STEEL POWDER IN FINGER PRINT PROCEDURE AFTER CHEMICAL TREATMENT</b> <i>Abdelazem E.A. Mohamed, Sahl Yasin, Abdelsakhi Suliman, Sara Eljaile, Mohammed A. Halato, and Siddig T Kafi</i></p> <p><b>148: NUMERICAL INVESTIGATION OF AIRFOIL DIPOLE NOISE DUE TO FLOW SEPARATION AND REATTACHMENT AT NEAR STALL CONDITIONS</b> <i>Mohamed G. H. Salih, Omer E. K. Mustafa, and Eltayeb M. Eljack</i></p> <p><b>154: NUMERICAL SIMULATION OF FLUID FLOW AND HEAT TRANSFER IN A PLANETARY GEARBOX</b> <i>Rawy J.M. Ibrahim, Ammar E.M. Elamin, and Eltayeb M. Eljack</i></p> <p><b>155: IMPROVEMENT OF AERODYNAMIC PERFORMANCE OF STRAIGHT-BLADED DARRIEUS WIND TURBINE USING BLADES EQUIPPED WITH MOVING SURFACE</b> <i>Abdelsalam Sharfy, Albraa S. S. Mohammed, and Eltayeb Eljack</i></p> <p><b>21: CAUSES OF DEGRADATION OF THE VEGETATION COVER IN THE WHITE NILE STATE-SUDAN (ELGETAINA AREA)</b> <i>Nuha Mutwali and Ahmed Salih</i></p> <p><b>111: THE USE OF ANIMAL SENSOR DATA FOR PREDICTING ANIMALS' ACTIVITIES USING MACHINE LEARNING</b> <i>Hiba ELjozouly AbdELwahab Mohamed</i></p> <p><b>60: DESIGN OF A PROSTHETIC KNEE-JOINT BASED ON 4BAR MECHANISM FOR AMPUTEES IN THE DEVELOPING WORLD</b> <i>Safa Elamin Mahmoud Hamad, Hanna Gasem Ahmed Abdalla, Mona Elemam Ali Sharf Aldeen, Fatima Galal Ahmed Elsayed, Mohamed Ibrahim Salih Fadul, and Altayeb Mobarak Altayeb Babeker</i></p> <p><b>103: USING OF A LOCAL HERB (CYMBOPOGON SCHOENANTHUS) AS APPROPRATE TECHNOLOGY FOR ENHANCE A HEALTH</b> <i>Salma Mohammed Alameen</i></p> <p><b>135: UNSATURATED FATTY ACID HINDERED PORPHYROMONAS GINGIVALIS PATHOGENICITY FACTORS</b> <i>Sara Ahmed Eltigani, Mohamed Mutasim Eltayeb, and Jiro Arima</i></p>
--------------------------	--	---	---

			<p><b>42: APPLICATIONS OF DNA FINGERPRINTING IN IDENTIFICATION OF DISASTER VICTIMS IN SUDAN</b> <i>Zeinab Adam Abakar Mohamed</i></p> <p><b>131: A COMMUNIYY-ORIENTED MOBILE APPLICATION MODEL FRAMEWORK TO CONTROL PRODUCTS PRICE</b> <i>Mathani Hajali</i></p>	
4 - 5	<p><b>KEYNOTE TALK (8)</b></p> <p><b>APPROPRIATE TECHNOLOGY MANIFESTO AND TECHNOLOGY POLICY</b></p> <p><i>Speaker: John Trimble</i></p> <p><i>Moderator: Marcel J. Castro Sitiriche</i></p>			
5 – 6 PM	<p><b>CLOSING SESSION</b></p> <p><i>Chair: Gada Kadoda</i></p>			

Saturday 26 November: CULTURAL PROGRAM