International Conference on Safe, Secure, Ethical, Responsible Technologies and Emerging Applications

(EAI SAFER-TEA 2023)

Under the patronage of the Minister of State, Minister of Higher Education and the Ambassador of the Kingdom of Belgium in Cameroon

From the 25th to the 27th of October 2023

Djeuga Palace Hotel, Yaoundé

Theme:

Smart, Responsible and Ethical Innovations through Emerging Technologies: Driver of National Development Strategy 2020-2030

Innovations Intelligentes, responsables et éthiques par le biais des technologies émergentes : Support de la Stratégie Nationale de Développement 2020-2030

PROGRAM OF THE CONFERENCE

P.S: Please consider this program under Cameroonian time

DAY 1 – October 25

8:00 – 9:00   Registration

9:00 – 11:00   **Opening Ceremony**

Speakers:

Professors Daniel Tieudjo and Blaise Omer Yenke, TPC Chairs
Professor Franklin Tchakounte, General Chair
Mr. Luc Messi Atangana, Mayor of Yaounde Town,
Professor Mamoudou Abdoulmoumini, Rector of The University of Ngaoundere
H.E. Eric Jacquemin, Ambassador of the Kingdom of Belgium in Cameroon
Professor J. Fame Ndongo, MINETAT-MINESUP (Minister of State, Ministry of Higher Education)

10:00-10:30   Keynote: *Tech diplomacy and emerging technologies, the African context: strategies of the Current State, analyses and roadmap for resilience* (**Dr Ali Wacka**, *Expert Consultant & Manager, Center for Cybersecurity, Cyber Defense and Forensics, University of Buea*

10:30-11:00   Keynote: Are Emerging technologies for or against Cyberwarfare (**Dr Sameer Patil**, Observer Research Foundation, Mumbai)

11:00-11:30   Cocktail

11:30-12:40   Parallel sessions

Track Agriculture *with Technologies and Emerging Applications*	Track Energy *with Technologies and Emerging Applications*
11:30 - 11:50	

Robert Galatiya Suya: Advancing High-Resolution Weather Prediction through Machine Learning and GNSS Techniques	*P. Njionou Sadjang and N. J. Issondj Banta:* Machine and Deep Learning Models for the Prediction of Performance and Speed Regulation Parameters of a Turbojet Engine using Electric Power Transfer?
11:53- 12:13	
TALA METALOM Diane Carole, YENKE Blaise Omer and FENDJI KEDIENG EBONGUE Jean Louis: French-Fulfulde Textless and cascading speech translation: towards a dual architecture	*Ado Adamou Abba Ari, Yekoniya Ndjekiltemai, Jocelyn Edinio Zacko Gbadouissa, Arouna Ndam Njoya, Lyse Naomi Wamba Momo, Ousmane Thiare, Sondes Khemiri Kallel and Abdelhak Mourad Gueroui:* Correlation clustering adapted for cell site management of mobile networks in developing countries
12: 16- 12:36	
Nadiane Nguekeu Metepong Lagpong, Joseph Mvogo Ngono, Pierre Ele, Vigny Noumsi , Jean-Paul Rudant , and Fabien Mouomene Moffo : Evaluation of machine learning and deep learning algorithms applied to earth observation data for change detection in polarimetric Radar images.	*Tsague Cathy, Medjo Astrid, Jean Seutche, and Tchinda Rene:* Assessment of thermal comfort using PMV, aPMV, ePMV and TSV indices in a naturally ventilated building

12:40 -13:40 PAUSE

PRIVATE HIGHER EDUCATION INSTITUTIONS / NETWORKING

13:40 – 14:10 Talk: *Le nouvel essor de l′agriculture grâce aux technologies émergentes* (Ms. **Marie Helene Ngono Mvodo,** Founder of Merry State & G100 Cameroon Country Chair Farming Agritourism AgroTech)

14:10 -15:42 Parallel sessions

Track Health with Technologies and Emerging Applications (Health-TEA)	Track General Topics
14:10 – 14:30	
Ngolah Kenneth Tim, Vivient Kamla and Elie T. Fute : Machine Learning Techniques for the management of Diseases: A paper Review	*Jean-Marie Kuate Fotso, Ismael Abbo, Franklin Tchakounté, William Shu and Claude Fachkha :* Feature Engineering Considerations in IoT: A Case Study
14:33 – 14:53	
Fotsing Kuetche, Noura Alexendre, Ntsama Eloundou Pascal, Welba Colince and Simo Thierry : DeepAF: A Multi-task deep learning model for Arrhythmias detection at Resource-Constrained Mobile Device	*Zaza, Marcellin Atemkeng and Sisipho Hamlomo :* Wine feature importance and quality prediction: A comparative study of machine learning algorithms with unbalanced data Siphendulwe
14:56 – 15:16	
Samuel Kotva Goudoungouu, Paul Dayang, Naomi Dassi Tchomte, Nathalie Mitton and Justin Moskolaï Ngossaha : Covid-19 Data	*Roger Yiran Mawoh, Franklin Tchakounte, Joan Beri Ali, and Claude Fachkha :* Feature Analysis and Classification of Collusive Android App-Pairs Using DBSCAN Clustering Algorithm

Preprocessing Approach in Machine Learning for Prediction	
15:19 – 15:39	
Scott Ulrich JEMEA EBOLO, Olusola Samuel MAKINDE , and Berthine NYUNGA MPINDA : Classification Analysis of Some Cancer Types Using Machine Learning	*Tse S. Azoh, Wolfgang Nzie, Bertin Soh fotsing and Tibi Beda :* Development of an Intelligent Safety Monitoring Device for Train-Track System in Cameroon

16:12 – 16:42 Talk: Diet assessment tools and sustainable healthcare technologies for the future, (**Dr Ines Obolo,** *General medicine physician, Faculty of Medicine and Biomedical Sciences, The University of Yaoundé 1*)

DAY 2 – October 26

8:00-8:30   Registration
             Introduction of the Day (Professors Daniel Tieudjo, Blaise Yenke, **TPC Chairs**)

8:30-9:00   Keynote: *Guaranteeing Responsibility and Ethics in Emerging Technologies for Innovations: The Case of Artificial Intelligence* (**Dr Amro Najjar**, *Luxembourg Institute of Science and Technology*)

9:00-09:30   Talk: *The Impact of the Triad 4.0 - Agriculture, Health, Energy in the SND2030: Challenges and Perspectives* (**Pr Esther Ngah**, *Director EGCIM, University of Ngaoundere*)

09:30-10:00 Talk: *Ecoagriculture and biofertilizers: the emerging solution for food security and health in Africa.* (**Pr Nwaga Dieudonne**, *Manager AGRIBIOCAM Project*)

10:30-12:00 Lectures & Practical Tutorials – Phase 1: Mathematics for Responsible Artificial Intelligence (Case studies in Health/Agriculture/Energy) – (**Dr. Arnaud Nguembang Fadja,** Head of Machine Learning. Research Department, Paragon semvox GmbH Germany)

12:00-13:10 Parallel sessions

Track Health with Technologies and Emerging Applications (Health-TEA)	*Track General Topics*
12:00- 12:20	
Olayide Tolulope Ezekiel and Tchakounte Franklin : Support to Interaction between Medical Practitioners and Patients: A Systematic Review	*Sidoine Djimnaibeye, Aminata Ngom, Igor Tchappi, Borgou Mahamat Hassan, and Amro Najjar :* Improvement of Cloud-Assisted Identity-Based Anonymous Authentication and Key Agreement Protocol for Secure WBAN
12:23- 12:43	
Moskolaï Ngossaha Justin, Ynsufu Ali, Batouré Bamana Apollinaire, Djeumen Rodrigue, Bowong Tsakou Samuel, Raymond Houe Ngouna and Ayissi Eteme Adolphe : Towards a Flexible Urbanization Based Approach for Integration and Interoperability in Heterogeneous Health Information Systems: Case of Cameroon	*Saha Fobougong Pierre and Mohamed Mejri :* DIDOR: A Decentralized Identifier Based Onion Routing protocol

12:49- 13:09	
Ephraim Sinyabe Pagou1, Vivient Corneille Kamla, Igor Tchappi, Josiane Ngathic, Ludovic Tsakam, and Amro Najjar : Food recommender system based on artificial intelligence : the case of Sub-saharan Africa	**NZOH SANGONG Job :** The legal framework of Artificial Intelligence in Cameroon

13:10-14:10   PAUSE/NETWORKING

14:10-14:53   Parallel sessions

Track Health with Technologies and Emerging Applications (Health-TEA).	**Track General Topics**
14:10- 14:30	
Fabien MOUOMENE Moffo, Auguste Vigny Noumsi Woguia, Joseph Mvogo Ngono, Samuel Bowong Tsakou and Nadiane Nguekeu Metepong Lagpong : Detection and recognition of cough sounds using deep learning for medical monitoring	**Rehema Baguma, Hajarah Namuwaya and Joyce Nakatumba-Nabende :** Examining Potential Harms of Large Language Models (LLMs) in Africa
14:33- 14:53	
Jean Emmanuel Ntsama, Claude Fachkha, Philippe Brice Owomo and Adrian Chickagwe Focho : A Gamification Architecture to Enhance Phishing Awareness	**Mounirah Djam-Doudou, Ado Adamou Abba Ari, Abdelhak Mourad Gueroui, Alidou Mohamadou, Nabila Labraoui, and Ousmane Thiare :** A lightweight authenticated key agreement scheme for resource-constrained devices based on implicit certificates and finite graphs

15:26 -17:10 Lectures & Practical Tutorials – Phase 2: Mathematics for Responsible Artificial Intelligence (Case studies in Health/Agriculture/Energy) (**Dr. Arnaud Nguembang Fadja,** Head of Machine Learning. Research Department, Paragon semvox GmbH Germany)

DAY 3 – October 27

8:00-8:30   Registration

Introduction of the Day (Professors **Daniel Tieudjo, Blaise Yenke,** TPC Chairs)

8:30-9:00   Keynote: *Tradition and Innovation in Agriculture in Cameroon: Perspectives and Challenges of Artificial Intelligence* (**Dr Justine Germo NZWEUNDJI**, *Ministry of Scientific Research and Innovation*)

9:00-09:30   Talk: *Legal framework in Cameroon for emerging technologies such as Artificial Intelligence* (**Dr Job Nzoh Sangong**, *Head Legal Affairs, University of Garoua*)

09:30-10:30 Innovations :
- A Computer Numerical Control (CNC) machine for both laser and plasma cutting (Dr. Guy-de-patience FTATSI MBETMI)
- An online platform to detect fake news (Gildas Wappamsa)

11:00-11:20   Talk: *Construire et Réussir sa carrière dans nouveaux métiers technologiques* (**Mr. André HOT**, Directeur Général Campus Métiers)

11:20-12:25   **Roundtable** with the Government, telecommunication operators and digital experts

Current strategies and infrastructures for a reliable digital economy to boost the three sectors: Energy, Health and Agriculture

12:25-13:25   Communities in Emerging Technologies
Chairs Working Group in Parallel (Agriculture, Energy, Health)

13:25-14:25   PAUSE/NETWORKING & Preparation for the AWARDS Ceremony

14:30-16:00   Closing Ceremony

14:30-14:55   AWARDS (*Chaired by* **Pr Emmanuel Ngameni**, *Dean Faculty of Science, University of Ngaoundere*)

14:55–15:25 Reporting and Recommendations (*Chaired* **by Pr Duplex Elvis Houpa Danga, Local Chair et Pr Esther Ngah, Directeur EGCIM,** *University of Ngaoundere*)

Closing address: Professor Fame Ndongo, MINETAT-MINESUP (Ministry of the Higher Education