The third edition of SPACE STAR Conference will be organized at INAT, and it will focus on :
"The Role of Space Tools in Addressing the Challenges of Emerging Countries in Bridging SDG Gaps."
SPACESTAR'24 will provide a platform for interdisciplinary discussions, knowledge exchange, and collaboration, aiming to advance space usage in emerging countries and beyond.
The conference covers the following space related topics:

- **Space Science and Exploration**
- **Space Technology and Engineering**
- **Space Applications and Utilization**
- **Space Policy, Law, and Governance**

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Mapping of Carthage city. it was world's largest and prosperous cities with extensive fertile lands and major marine trade ways.

Wednesday, November 13, 2024
Space Applications and Earth Observation

8:00 to 8:30	***Registration, INAT Conference Hall***
8:30 to 9:20	**Opening Ceremony** **Official opening: Minister of Agriculture, Water Resources and Fisheries, Tunisia / President of IRESA / INAT General Director**
9:20 -9:50	**Conference Session (1): Water resources under the eye of satellites** **Dr Mehrez ZRIBI, OMP Director, Observatoire de Midi-Pyrénées, France**

9:50 11:10 — **Oral Communication (1): Remote Sensing and Data Processing** Chair : Prof Zohra LILI CHABAANE

EO-001	Z. KASSOUK, F. MAGHREBI , V. SIMONEAUX, A. C. BELLAKANJI, V. LEDANTEC, Z. LILI CHABAANE - INAT-Green Team-Tunisia	Application of high spatial and temporal resolution remote sensing data to map cropping practices in Merguellil plain (Sentinel-2/VENµS synergy)
EO-002	K NEILI, F TRABELSI, S JIWA, A AGHA KOUCHAK ESIM-Tunisia	A Hybrid Approach to Groundwater Level Forecasting: Integrating Earth Observation and Machine Learning in the Medjerda Basin (Tunisia)
EO-003	M BARBOUCHI, E GHARBIA, W TOUKEBRI, H BOUSNINA, M ANNABI, H BAHRI, INAT-Tunisia	Mapping and predicting land use change using remote sensing data: case study of Zaghouan
EO-004	S BEN MAHMOUD, C OLFA,C MASMOUDI, A BOUCHKARA, ENIG-Tunisia	Classification of Time Series Sentinel-1 Images Using Convolutional Neural Networks

11:10 to 11:30	Coffee Break

11:30 to 12:50 — **Oral Communication (2): Earth Observation and Water Management** Chair: Prof Mehdi BEN MIMOUN

EO-005	A CHAHBI, M DRIDI, Z KASSOUK, Z LILI CHABAANE, INAT-Green Team- Tunisia	Identification of flood-vulnerable areas in the Nabeul region by optical and radar remote sensing
EO-006	S. PILIA, G. FONTANELLI, F. BARONI, S. PALOSCIA, S. PETTINATO, G. RAMAT, E. SANTI, L. SANTURRI IFAC – CNR, Italy	Synergy between optical and microwave satellite data to identify agricultural vegetation parameters and soil humidity in arid zones in Tuscany (Italy)
EO-007	M KHLIF, A CHAHBI BELLAKANJI, M J ESCORIHUELA, G S ALCALDE, Z LILI CHABAANE, INAT Green Team- Italy	Early Estimation and Spatial Modeling of Cereal Yields and Water Productivity in Semi-Arid Region Using Machine Learning and Satellite-Based Drought Indices
EO-008	Y GACHAA, T ABDELLATIF, STD-MRC-Tunisia	Water Loss Detection and Mapping System Using Deep Learning and Big Data

12:50 to 14:15	**Lunch**
14:15 to 14:35	**Conference Session (2) : Cartographie des emblavures céréalières par télédétection en Tunisie centrale et mesures d'adaptation dans la gestion de l'eau en agriculture** **Prof Zohra Lili Chabaane, President IRESA**
14:35 to 15:00	**Conference Session (3) : EO Based on the Thermal Infrared Anisotropy Measurements : The TRISHNA MISSION** **Jean Louis ROUJEAN, Directeur de Recherche CNRS, Toulouse, France**

15:00 to 16:20 — **Oral Communication (3): Remote Sensing, Mapping and Management** Chair: Prof Olfa CHARFI MARRAKCHI

EO-009	G GRAJA, T ABDELLATIF STD-MRC-Tunisia	UAV-Satellite data integration for forestry
EO-010	W TALHAOUI, CNCT Tunisia	Remote sensing for geological mapping and mineral resources inventory
EO-011	K MANSOUR, H ABDERRAHMEN CNCT Tunisia	Big geospatial data for smart and sustainable cities
EO-012	A EZZINE, CNCT Tunisia	Modélisation et cartographie du risque de l'érosion hydrique par l'application des techniques géospatiales

16:20 to 16:50	Coffee Break

16:50 to 17:50 — **Oral Communication (4): Remote Sensing Infrastructure and Applications** Chair: Dr Zeineb KASSOUK

EO-013	H TRABELSI, CNCT Tunisia	Estimation des propriétés des sols par l'utilisation de la télédétection et les données spectroscopiques
EO-014	H ISMAIL CNCT-Tunisia	Infrastructure nationale d'information géographique (inig)
EO-015	T SAHLI CHAHED CNCT Tunisia	Rôle de la recherche et la valorisation des résultats dans le développement des techniques de télédétection dans le domaine de la gestion, protection et aménagement du territoire
EO-016	M Ali BRIKI, K BEN HOUIDI, APAL Tunisia	Satellite Observation of Coastal Changes in Tunisia: Addressing Sustainable Development Challenges and Marine Biodiversity Coastal

Thursday, November 14, 2024
Space Science and Technology

09:00 to 9:30	**Conference Sessions (4): Leveraging the Opportunities of Satellite Navigation for the African Continental Agenda- A Priority sectors based approach,** **Dr Aicha ALOU, SatNav-Africa Joint Programme Office, Senegal**
9:30 to 10:30	**Oral Communication (5): GNSS and Space Signal Instrumentation** Chair: Prof. Mounir MANSOUR

ST-001	Alex WANDA, Herbert NGAYA, SATNAV-JPO, Senegal	Bridging gaps in the provision of high accuracy positioning services on the African Continent with Galileo High Accuracy Service (HAS)
ST-002	Noha FATHY, NSST Egypt	Satellite electricity transmission from space to earth
ST-003	Faten OUAJA, RZIGA, Kamel BESBES FSM-CRMN - Tunisia	Space quantum gravimetry

10:30 to 10:50	Coffee Break
10:50 -11:50	**Oral Communication (6): Space Technology Nanosatellite Design and Testing** Chair : Prof Kamel BESBES

ST-004	S LAHOUAR, M MANSOUR, K. BESBES, Uei-CRMN Tunisia	Low-cost thermal vacuum testing setup for CubeSats
ST-005	M MANSOUR, S LAHOUAR, K BESBES, Uei-CRMN Tunisia	Attitude Determination of a CubeSat Based on Multi-sensor Data Fusion
ST-006	N ZELFANI, S LAHOUAR, K BESBES, Uei-CRMN Tunisia	Patch antenna design for nanosatellite communication

12:00 to 12:40	**Conference Session (5) New challenges on space exploration: Lunar Environment Monitoring** **Dr Mehdi BENNA , NASA & UNIVERSITY OF MARYLAND BALTIMORE, NASA, USA**
12:40 to 14:00	**Lunch**
14:00 -14:30	**Conference Session (6): State of the art on transforming Space communication** **Dr Walid MATHLOUTHI, Head of the Future Networks and Spectrum Management division, ITU, Switzerland**
14:40 to 15:40	**Oral Communication (7): Space Engineering development** Chair : Prof. Ahmed SIALA

ST-007	BENDJEDID R, SANOUSSI, T TCHANGOLE, O BENJELLOUN, EU Fez, Morocco	The Atom: A Solution For The Fight Against Climate Change
ST-008	S SNOUSSI, I TITOUHI, A HAMMAMI, I ALBOUCHI, CST Tunisia	TUN'Sat1, Educational and space promotion program
ST-009	S SNOUSSI, I TITOUHI, A HAMMAMI, I ALBOUCHI, CST-Tunisia	CST activities in the field of Space and Astronomy

16:10 to 16:30	Coffee Break
16:30 to 17:30	**Oral Communication (8): SPACE and SDG** Chair : Prof. Imed Riadh FARAH

ST-010	R BEN MOUSSA, T S.DIAS,S PALIT, S HAZRA, FLT ElManar-Tunisia	Space as a Global Commons to Attain the UN Agenda 2030: An African Perspective
ST-011	H.BALTI, A.BEN ABBES, M.RHIF, F.CHOUIKHI, M.FARAH, I.R. FARAH, MSE Tunisia	SmartSDGTunisia: An AI and Remote Sensing Framework for Advancing SDG in Tunisia
ST-012	R BEN MOUSSA, O JOUINI, FLT El Manar-Tunisia	Bridging Digital Divides: Addressing Regulatory Gaps in Satellite Internet Integration for Sustainable Development in Tunisia

17:30 to 18:00	**Conference Session (7) : HERA asteroid mission for planetary defence program,** **Rania TOUKABRI, Satellite and launcher systems architect, ESA**

Friday, November 15, 2024 **Space Regulations and Policies,** *Conference Co- Chair: Prof. Refaat CHAABOUNI*	
ARTIFICIAL INTELLIGENCE AND SPACE	
09:00 to 9:20	**Key Note 1 : AI to the Rescue: Enhancing Disaster Warnings with Tech Tools** Dr Bilel JAMOUSSI, and Dr Monique Kuglitsch, ITU Switzerland
09:20 to 9:40	**Key Note 2: Applications of Deep Learning in Smart Agriculture** Dr Karem CHOKMANI, INRS University (Quebec City, Canada)
9:40 to 10:30	**Panel 1: AI Factories program and Space applications** • Dr Michel BOSCO, MAMIC, Belgium, Chair • Prof Ferdaous CHAABANE Sup Com, Tunisia • Prof Imed Riadh FARAH, NESM Director, Tunisia • Col. Haythem ISMAIL CNCT, Tunisia
10:30 – 11:00	**Coffee Break**
SPACE POLICY & CHALLENGES	
11 :00 to 11:30	**Key Note 3 : Space and Cooperation: A perfect match towards Sustainability** Dr; Francesco LONGO, Head of the Earth Observation Office, Italian Space Agency
11:30 - 12: 30	**Panel 2: A new frontier: Space policies, standards, markets and cooperation, organized by The AdWisers** • Tomas MATRAIA – CEO of The AdWisers Strategic Advisory Group, Chair • Dr.Mondher KHANFIR, Tunisia African Business Council - Tunisia • Dr. Aicha ALOU, SATNAV Africa, Senegal • Catherine VIGNERON, Cen-Cenelec, Belgium • Stefano BELLA TERRA, European Union Commission • Dr Mehdi BENNA, PLANETARY SCIENTIST, NASA, USA
CNEEA, Celebrating 40 Years	
12:30 to 12:45	**Key note 4: CNEEA and Space Activities in Tunisia, What'next** Malek KOCHLEF, DG DCI MESRS
12:45 to 13:00	**Closing Ceremony: Minister of Higher Education and Scientific Research** **CNEEA 40 anniversary ceremony**
13:30	**Closing Lunch**

Scientific Committee Chairs

- Prof Kamel BESBES, CRMN Sousse Technopole
- Prof Zohra LILI CHABAANE, INAT-IRESA
- Prof Refaat CHAABOUNI, ENIT

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