



ICAOTA '2026

The First International Conference on Advances in Operator Theory and Applications

Hammamet – Tunisia, March 24–25–26, 2026

TUI MAGIC LIFE Africana

Welcome Day & Registration: Monday, March 23, 2026 at 3:00 PM

SCIENTIFIC PROGRAM

SPONSORS



Faculty of
Sciences of
Sfax, Tunisia



Higher Institute of
Industrial Management
of Sfax, Tunisia



Digital Research Center
of Sfax, Tunisia



University
of Sfax,
Tunisia



Tunisian
Mathematical
Society

SPRINGER NATURE

Meet with Tatiana Golea, Journal Publisher at Springer Nature,
at the book exhibition stand to discuss your publication ideas
and questions about publishing with Springer Nature

PARTNERS



LR13ES21
LR11ES53

SUPPORTED BY



African
Mathematical Union

PARTICIPATING UNIVERSITIES



University of M'sila, Algeria



University of Saïda, Algeria



University of Adrar, Algeria

THE OFFICIAL WEBSITE



<https://icaota.net/>

Pre-Conference Day: Registration & Welcome: March 23, 2026

Time	Activity	Location
15:00 – 23:30	Registration and welcome desk open	Registration Desk
	Assistance and information available at the welcome desk	
	Distribution of conference materials (badge collection, program and information package)	
	Informal welcome remarks and guidance for the opening day	
18:30 - 21:00	Dinner	

Day 1 : Tuesday, March 24, 2026

I. Official Opening Ceremony

Time	Session	Location
08:30 – 08:45	Official inauguration of the conference by the chair and members of the organizing committee	Zaghouan Room

II. Plenary Lectures

Time	Session	Chair	Location
08:45 – 09:30	<ul style="list-style-type: none"> Pr. Giovanni Paolo Galdi Affiliation: University of Pittsburgh, United States Title : Very weak solutions and asymptotic behavior of Leray solutions to the steady-state Navier-Stokes equations in exterior domains 	<ul style="list-style-type: none"> Pr. Saloua Mani Aouadi Affiliation : University of Tunis El Manar, Tunisia 	Zaghouan Room
09:30 – 10:15	<ul style="list-style-type: none"> Pr. El Hassan Zerouali Affiliation: Mohammed V University, Morocco Title : Quaternionic toeplitz moment problem: structure and measure representation 		
10:15 - 10:45	Coffee Break		
10:45 – 11:30	<ul style="list-style-type: none"> Pr. Fuad Kittaneh Affiliation : University of Jordan, Amman, Jordan Title : On inequalities involving the spherical operator transforms 	<ul style="list-style-type: none"> Pr. Chérif Amrouche Affiliation : University of Pau and the Adour Region, France 	Zaghouan Room
11:30 – 12:15	<ul style="list-style-type: none"> Pr. Šárka Nečasová Affiliation : Institute of Mathematics CAS, Czech Republic Title : The primitive equations and anisotropic Navier-Stokes equations [online] 		
12:15 - 14:00	Lunch Break		

III. Workshop – AI

Time	Session	Location
14:00 – 16:00	<ul style="list-style-type: none"> Pr. Bassem Ben Hamed Affiliation : University of Sfax, Tunisia Title : Foundations and first implementation 	Zaghouan Room
16:00 – 16:30	Coffee Break	

IV. Parallel Sessions

Parallel Sessions : Part I			
Zaghouan Room	Room 1	Room 2	Room 3
<ul style="list-style-type: none"> Chair : Pr. Nour El Houda Seloula Affiliation : University of Caen Normandy, France 	<ul style="list-style-type: none"> Chair : Pr. Abdelhalim Azzouz Affiliation : University of Saïda, Algeria 	<ul style="list-style-type: none"> Chair : Pr. Dahmane Achour Affiliation : University of M'sila, Algeria 	<ul style="list-style-type: none"> Chair : Pr. Wathek Chammam Affiliation : University of Carthage, Tunisia
16:30 – 16:50			
<ul style="list-style-type: none"> Speaker : Hassen Aydi Affiliation : University of Sousse, Tunisia Title : On multiplicative metric spaces and related fixed point results 	<ul style="list-style-type: none"> Speaker : Abdelkader Benali Affiliation : Hassiba Benbouali University of Chlef, Algeria Title : Generalizations of Kaplansky theorem related to linear operators 	<ul style="list-style-type: none"> Speaker : Said Baghdad Affiliation : University of Saïda, Algeria Title : A study on Sturm-Liouville fractional differential equations via measures of noncompactness 	<ul style="list-style-type: none"> Speaker : Khaled Bouadjila Affiliation : University of Medea, Algeria Title : Multilinear relations between normed spaces
16:50 – 17:10			
<ul style="list-style-type: none"> Speaker : Asma Azaiez Affiliation : University of Sfax, Tunisia Title : Scalar behavior for a complex multi-soliton arising in blow-up for a semilinear wave equation 	<ul style="list-style-type: none"> Speaker : Sadok Chakroun Affiliation : University of Sfax, Tunisia Title : Some results concerning stability problem in Fredholm theory via measure of weak noncompactness and application 	<ul style="list-style-type: none"> Speaker : Mongia Khlifi Affiliation : University of Carthage, Tunisia Title : On some generalizations and extensions of formulas and identities for special numbers 	<ul style="list-style-type: none"> Speaker : Khaled Ben Amara Affiliation : University of Sfax, Tunisia Title : Existence and uniqueness of continuous solutions for iterative functional differential equations in Banach algebras
17:10 – 17:30			
<ul style="list-style-type: none"> Speaker : Imen Ferjani Affiliation : University of Sfax, Tunisia Title : Relative generalized weakly demicontact operators 	<ul style="list-style-type: none"> Speaker : Chiraz Kroumi Affiliation : University of Sfax, Tunisia Title : On the order structure of the linear relations set 	<ul style="list-style-type: none"> Speaker : Marwa Khemis Affiliation : University of Salah Boubnider, Constantine 3, Algeria Title : Existence and uniqueness results to a neutral Mackey-Glass of hematopoiesis model with harvesting 	<ul style="list-style-type: none"> Speaker : Fairouz Bouchelaghem Affiliation : University of Mostaganem, Algeria Title : On the factorization of monic quadratic operator pencils with accretive coefficients
17:30 – 17:50			
<ul style="list-style-type: none"> Speaker : Yesmine Bahloul Affiliation : University of Sfax, Tunisia Title : Generalized Fredholm theory 	<ul style="list-style-type: none"> Speaker : Nihel Feki Affiliation : University of Sfax, Tunisia Title : Generalized Kato and Browder linear relations via commuting projections 	<ul style="list-style-type: none"> Speaker : Hassen Magtouf Affiliation : University of Monastir, Tunisia Title : Almost order Fredholm theory via some quantities 	<ul style="list-style-type: none"> Speaker : Loubna Herhira Affiliation : University of Oran 1 - Ahmed Ben Bella, Algeria Title : Analyzing the solutions of second order nonlinear boundary value problem of p-Laplacian operator under integral condition
Parallel Sessions : Part II			
<ul style="list-style-type: none"> Chair : Pr. Omar Jedidi Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> Chair : Pr. Ahmed Boudaoui Affiliation : University of Adrar, Algeria 	<ul style="list-style-type: none"> Chair : Pr. Faiçal Abdelmouleh Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> Chair : Pr. Boulbeba Abdelmoumen Affiliation : University of Sfax, Tunisia
17:50 – 18:10			
<ul style="list-style-type: none"> Speaker : Mustapha Meghnafi Affiliation : University of Bechar, Algeria Title : Quadrature method and applications 	<ul style="list-style-type: none"> Speaker : Nahed Krir Affiliation : University of Gabes, Tunisia Title : Bessel Gabor operator 	<ul style="list-style-type: none"> Speaker : Hedda Bouras Affiliation : University of M'sila, Algeria Title : Structure of lipschitz compact operators via c_0-factorization 	<ul style="list-style-type: none"> Speaker : Aida Jrajria Affiliation : University of Sfax, Tunisia Title : Rescaling method for blow-up solutions of nonlinear wave equations
18:10 – 18:30			
<ul style="list-style-type: none"> Speaker : Omaima Kchaou Affiliation : University of Sfax, Tunisia Title : Weak demicontactness of restricted operators 	<ul style="list-style-type: none"> Speaker : Hana Chtourou Affiliation : University of Sfax, Tunisia Title : Local spectral theory for invertible linear relations 	<ul style="list-style-type: none"> Speaker : Khadidja Mebarki Affiliation : University of Adrar, Algeria Title : Study on existence and stability of solutions for coupled fractional differential equations involving the Atangana-Baleanu derivative in the Caputo sense 	<ul style="list-style-type: none"> Speaker : Fatma Jerbi Affiliation : University of Sfax, Tunisia Title : Convergence study of a psi-shifted fractional differential scheme

Parallel Sessions : Part II

Zaghouan Room	Room 1	Room 2	Room 3
<ul style="list-style-type: none"> Chair : Pr. Omar Jedidi Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> Chair : Pr. Ahmed Boudaoui Affiliation : University of Adrar, Algeria 	<ul style="list-style-type: none"> Chair : Pr. Faiçal Abdelmouleh Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> Chair : Pr. Boulbeba Abdelmoumen Affiliation : University of Sfax, Tunisia
18:30 – 18:50			
<ul style="list-style-type: none"> Speaker : Anupam Priyadarshi Affiliation : Banaras Hindu University, India Title : Arnold tongues and multistability in a discrete predator-prey system 	<ul style="list-style-type: none"> Speaker : Kanailal Mahato Affiliation : Banaras Hindu University, India Title : The continuous gyrator wavelet transform 	<ul style="list-style-type: none"> Speaker : Vuk Stojiljković Affiliation : Mathematical Institute of the Serbian Academy of Sciences and Arts, Belgrade, Serbia Title : Structural approach to numerical radius inequalities: integrating geometric angles and range closures 	<ul style="list-style-type: none"> Speaker : Bilel Trabelsi Affiliation : University of Sfax, Tunisia Title : Characterization of B-Browder and δ-pseudo quasi-Fredholm operators in Banach spaces

V. Poster Session

Time	21:00 - 21:30			
Location	Zaghouan Room			
Chair : Pr. Abdelhalim Azzouz [University of Saïda, Algeria]				
Poster Session	Poster 1	Poster 2	Poster 3	Poster 4
	<ul style="list-style-type: none"> Speaker : Mustapha Merzoug Affiliation : University of Science and Technology Houari Boumediene, Algeria Title : Wavelet-based denoising of gearbox signals using a Genetic Algorithm 	<ul style="list-style-type: none"> Speaker : Khaled Belabbasse Affiliation : Higher Teacher Training College of Laghouat, Algeria Title : Weighted fractional differential equation in Banach spaces 	<ul style="list-style-type: none"> Speaker : Nacéra Maachou Affiliation : University of Science and Technology Houari Boumediene, Algeria Title : A branch-and-cut method for integer indefinite quadratic bilevel problems with multiple upper-level objectives 	<ul style="list-style-type: none"> Speaker : Ibtissem Touati Affiliation : Badji Mokhtar University, Algeria Title : Analytical modeling of the synergistic effects of composition and porosity on the bandgap evolution of Si_{1-x}Gex alloys
	Poster 5	Poster 6	Poster 7	Poster 8
	<ul style="list-style-type: none"> Speaker : Suleyman Demir Affiliation : Eskisehir Technical University, Turkiye Title : Macfarlane quaternion formulation of the two-fluid plasma model 	<ul style="list-style-type: none"> Speaker : Leïla Alem Affiliation : Badji Mokhtar University, Algeria Title : Inverse problem for Poisson equation 	<ul style="list-style-type: none"> Speaker : Hafida Abbas Affiliation : University of Saïda, Algeria Title : New extensions of some special functions 	

I. Plenary Lectures

Time	Session	Chair	Location
08:30 – 09:15	<ul style="list-style-type: none"> Pr. Chérif Amrouche Affiliation : University of Pau and the Adour Region, France Title : The Dirichlet problem for the Laplacian in Lipschitz Domains 	<ul style="list-style-type: none"> Pr. Ulrich Razafison Affiliation : University of Picardie Jules Verne in Amiens, France 	Zaghouan Room
09:15 – 10:00	<ul style="list-style-type: none"> Pr. Saloua Mani Aouadi Affiliation : University of Tunis El Manar, Tunisia Title : Sensitivity and parameter calibration for a PDE-based tumour growth model 		
10:00 - 10:30	Coffee Break		
10:30 – 11:15	<ul style="list-style-type: none"> Pr. Ulrich Razafison Affiliation : University of Picardie Jules Verne in Amiens, France Title : Mathematical analysis of the three-dimensional stationary exterior Stokes problem with Navier boundary conditions 	<ul style="list-style-type: none"> Pr. Nazife Erkursun Özcan Affiliation : University of Hacettepe, Turkey 	Zaghouan Room

Day 2 Continued – Wednesday, March 25, 2026

Time	Session	Chair	Location
11:15 – 11:30	<ul style="list-style-type: none"> • Mrs. Tatiana Golea • Affiliation : Journal Publisher of Springer Nature • Title : Springer Nature: enhancing your publishing opportunities 	<ul style="list-style-type: none"> • Pr. Nazife Erkursun Özcan • Affiliation : University of Hacettepe, Turkey 	Zaghouan Room
11:30 – 12:15	<ul style="list-style-type: none"> • Pr. Jacek Banasiak • Affiliation : University of Pretoria, South Africa • Title : Positive operators in applied sciences 		
12:15 - 14:00 Lunch Break			

II. Workshop – AI

Time	Session	Location
14:00 – 16:00	<ul style="list-style-type: none"> • Pr. Bassem Ben Hamed • Affiliation : University of Sfax, Tunisia • Title : PDEs and real-world applications 	Zaghouan Room
16:00 – 16:30 Coffee Break		

III. Parallel Sessions

Parallel Sessions : Part I			
Zaghouan Room	Room 1	Room 2	Room 3
<ul style="list-style-type: none"> • Chair : Pr. Ridha Sfaxi • Affiliation : University of Gabes, Tunisia 	<ul style="list-style-type: none"> • Chair : Pr. Wajdi Chaker • Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> • Chair : Pr. Hassen Aydi • Affiliation : University of Sousse, Tunisia 	<ul style="list-style-type: none"> • Chair : Pr. Mustapha Meghnafi • Affiliation : University of Bechar, Algeria
16:30 – 16:50			
<ul style="list-style-type: none"> • Speaker : Slah Eddin Ben Abdejilil • Affiliation : University of Tunis El Manar, Tunisia • Title : The Malthus parameter in metastatic growth model 	<ul style="list-style-type: none"> • Speaker : Aida Gammoudi • Affiliation : University of Gabes, Tunisia • Title : Bloch periodic functions and their relation to S-asymptotically W-periodic functions 	<ul style="list-style-type: none"> • Speaker : Faten Belgacem • Affiliation : University of Sfax, Tunisia • Title : Pseudo-Browder spectrum of right linear operator in quaternionic setting 	<ul style="list-style-type: none"> • Speaker : Ahlem Alouani • Affiliation : University of M'sila, Algeria • Title : Characterization of (p,q)-regular non linear operators
16:50 – 17:10			
<ul style="list-style-type: none"> • Speaker : Abdelbasset Felhi • Affiliation : University of Carthage, Tunisia • Title : Optimization results for cyclic proximal non-self mappings and application to a system of differential equations 	<ul style="list-style-type: none"> • Speaker : Kais Dhifaoui • Affiliation : University of Sfax, Tunisia • Title : B-essential and B-Weyl pseudo-spectra for the sum of two commuting bounded operators 	<ul style="list-style-type: none"> • Speaker : Nesrine Sghaier • Affiliation : University of Sfax, Tunisia • Title : Essential spectra of bounded operators acting on right quaternionic Hilbert spaces 	<ul style="list-style-type: none"> • Speaker : Fatima Zohra Boutaf • Affiliation : University of M'sila, Algeria • Title : Kato's strictly singular and compact operators in non-Archimedean Banach spaces
17:10 – 17:30			
<ul style="list-style-type: none"> • Speaker : Hamdi Braiek • Affiliation : Esprit School of Engineering, Tunisia • Title : A variable-order fractional total variation operator for multiplicative noise removal 	<ul style="list-style-type: none"> • Speaker : Amina Haimed • Affiliation : University of M'sila, Algeria • Title : Comparative analysis of Newton Kantorovich and Adomian decomposition methods for nonlinear Volterra integral equations 	<ul style="list-style-type: none"> • Speaker : Noura Laksaci • Affiliation : University of Adrar, Algeria • Title : On Tychonoff's fixed point theorems using degrees of weak nondensifiability in Banach spaces and applications 	<ul style="list-style-type: none"> • Speaker : Abdelwaheb Ifa • Affiliation : University of Kairouan, Tunisia • Title : Semiclassical Bohr-Sommerfeld conditions for the Schrödinger operator using microlocal Wronskians
17:30 – 17:50			
<ul style="list-style-type: none"> • Speaker : Rabeb Aydi • Affiliation : University of Sfax, Tunisia • Title : Perturbation classes of generalized Fredholm operators and generalized essential spectrum 	<ul style="list-style-type: none"> • Speaker : Abdessadek Saib • Affiliation : National Higher School of Autonomous Systems Technology, Algeria • Title : On multiple orthogonality and iterative Darboux transformation 	<ul style="list-style-type: none"> • Speaker : Moufida Lahrach • Affiliation : University of Gabes, Tunisia • Title : Characterization and construction of a solution for a perturbed elliptic problem 	<ul style="list-style-type: none"> • Speaker : Habib Zmouli • Affiliation : University of Sfax, Tunisia • Title : Characterization of the discrete spectrum

Day 2 Continued — Wednesday, March 25, 2026

Parallel Sessions : Part II

Zaghouan Room	Room 1	Room 2	Room 3
<ul style="list-style-type: none"> • Chair : Pr. Imen Safi • Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> • Chair : Pr. Hatem Megdiche • Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> • Chair : Pr. Asma Azaiez • Affiliation : University of Sfax, Tunisia 	<ul style="list-style-type: none"> • Chair : Pr. Salma Azaouzi • Affiliation : University of Sfax, Tunisia
17:50 – 18:10			
<ul style="list-style-type: none"> • Speaker : Mahamed Beghdadi • Affiliation : University of Saïda, Algeria • Title : Characterizations of the γ-approximative pseudospectrum of bounded linear operators 	<ul style="list-style-type: none"> • Speaker : Zahia Khemissi • Affiliation : University of Biskra, Algeria • Title : Reduced-bias estimation of the extreme value index via generalized least squares : a Monte Carlo simulation 	<ul style="list-style-type: none"> • Speaker : Rafea Chouder • Affiliation : University of M'sila, Algeria • Title : A two-parameter hybrid diffusion model with a numerical scheme for edge-preserving image enhancement 	<ul style="list-style-type: none"> • Speaker : Mohammed Benyoub • Affiliation : Higher Teacher Training College of Laghouat, Algeria • Title : Monotone iterative technique via addressing impulsive conformable fractional integro-differential equations in Banach spaces
18:10 – 18:30			
<ul style="list-style-type: none"> • Speaker : Anis Bel Hadj Hassin • Affiliation : Esprit School of Engineering, Tunisia • Title : Reconstruction of missing boundary data in nonlinear parabolic systems 	<ul style="list-style-type: none"> • Speaker : Rim Farhat • Affiliation : University of Sfax, Tunisia • Title : Local and global well-posedness for hyperbolic Navier-Stokes equations 	<ul style="list-style-type: none"> • Speaker : Bisma Nedjai • Affiliation : University of M'sila, Algeria • Title : Herz-type modulation spaces 	<ul style="list-style-type: none"> • Speaker : Wefa Cherif • Affiliation : University of Oran 1 Ahmed Ben Bella, Algeria • Title : Binormal linear operators: a study of the bounded and unbounded case in Hilbert spaces
18:30 – 18:50			
<ul style="list-style-type: none"> • Speaker : Fateh Mekdour • Affiliation : University of M'sila, Algeria • Title : Factorization of multilinear operators through L_p spaces 	<ul style="list-style-type: none"> • Speaker : Souad Khelifa • Affiliation : University of Sfax, Tunisia • Title : Existence of solutions for an infinite system of quadratic integral equations in Banach algebra 	<ul style="list-style-type: none"> • Speaker : Aicha Abdelkader • Affiliation : University of Gabes, Tunisia • Title : On m-biisometric operators on a Hilbert space 	<ul style="list-style-type: none"> • Speaker : Mohamed Ali Dbeibia • Affiliation : University of Sfax, Tunisia • Title : Fredholm theory for continuous families of bounded linear operators on Krein spaces

Day 3 : Thursday, March 26, 2026

Plenary Lectures

Time	Session	Chair	Location
08:30 – 09:15	<ul style="list-style-type: none"> • Pr. Carsten Trunk • Affiliation : Ilmenau University of Technology, Germany • Title : Hermitian pencils and their representation in Krein space 	<ul style="list-style-type: none"> • Pr. Hamadi Baklouti • Affiliation : University of Sfax, Tunisia 	Zaghouan Room
09:15 – 10:00	<ul style="list-style-type: none"> • Pr. Clemente Cesarano • Affiliation : University of Uninettuno, Italy • Title : Operator theory in the description of orthogonal polynomials [online] 		
10:00 – 10:45	<ul style="list-style-type: none"> • Pr. Maher Mnif • Affiliation : University of Sfax, Tunisia • Title : Local spectral theory of linear relations : advances in decomposability, local properties and generalized inverses 		

II. Closing Ceremony

Time	Session	Location
10:45 – 11:00	Official closing of the conference by the chair and members of the organizing committee	Zaghouan Room

The Organizing Committee expresses its deepest gratitude to all keynote speakers, presenters, and participants for their invaluable contributions to ICAOTA 2026, and looks forward to welcoming you at future editions of the conference