

7^{ème} Édition du Congrès International de la SM2A
du 1 au 3 Décembre 2025 à Meknès Maroc

Programme Scientifique

Heure	Lundi 01/12/2025
08h30-09h30	Accueil des Participants Salle des conférences
09h30-10h00	Cérémonie d'ouverture
10h00-10h20	Pause
10h20-11h05	Conférence: Jérôme Droniou Complexes polytopaux: introduction, exemples et quelques résultats associés Chairman: Hassan ZERRIK Salle des conférences
11h05-11h50	Conférence: Francisco Ortegon Gallego On the mathematical modeling and the numerical approximation of a parabolic trough collector Chairman: Chérif ZITI Salle des conférences
	Session 1: Analyse Numérique Chairman: Mourad NACHAOUI Salle des conférences
12h00-12h20	On the 3D Scharfetter-Gummel scheme for coupled convection-diffusion in anisotropic porous media: Aberrah Moha , El-Houssaine Quenjel, Patrick Perré, Rhoudaf Mohamed
12h20-12h40	A meshless RBF method for the reconstruction of vector fields: application in meteorology: BOUASSID Houria , ADDAM Mohamed
12h40-13h00	Global Dynamics and Numerical Analysis of a PDE Model for Trichoderma Kinetics: Ezzinbi Khalil, Hardoul Asmae , Mghazli Zoubida, Ouchtout Salih
13h00-13h20	Design of a BGG diagram on polygonal meshes and its application to the Reissner--Mindlin plate bending problem: Jerome Droniou, Arax Leroy
13h30-14h30	Déjeuner
14h50-15h35	Conférence : Catherine Choquet Un modèle unique pour les écoulements en milieux libres et poreux: approche cinétique multi-échelle Chairman : Driss SEGHIR Salle des conférences
15h35-16h20	Conférence : Mazen Saad Simulation numérique du Glioblastome et estimation états-paramètres pour des modèles de réaction-diffusion Chairman : Jilali ASSIM Salle des conférences
	Session 1 : Analyse Numérique Chairman : Ibtissam MEDARHRI Salle des conférences

16h30-16h50	A Meshfree Regularized Moving Least Squares Method for Solving Fredholm Integral Equations in Three-Dimensional Irregular Domains: Z. El Majouti , D. Barrera Rosillo, N. Izem
16h50-17h10	Frequency-Domain Isogeometric Collocation for Damped Fractional Kirchhoff Beam Dynamics: Ahmed AKHAJJAM , Mohamed ADDAM
17h10-17h30	A Numerical Analysis of Textured Oscillatory Squeeze Films using the Elrod-Adams Cavitation Algorithm: A. OUAHLA , M. NABHANI, S. SOBHI, M. EL KHLIFI
17h30-18h00	Pause
18h00-18h20	Non-intrusive reduced-order modeling of parameterized dynamical systems via interpolation on the Stiefel manifold: A. EL OMARI , M. EL KHLIFI, L. CORDIER
18h20-18h40	Enhancing Computational Efficiency of Finite Volume Methods for Nonlinear Problems: Chems Eddine Nachat , El Houssaine Quenjel, Patrick Perre, Mohamed Rhoudaf
18h40-19h00	Turing Instability of Reaction-diffusion Systems with the Fractional Laplacian Operator and Applications to Biological Processes: Abdelaziz El Hassani, Mohammad Eloualy, Khalid Hattaf, Abdelhafid Bassou
19h00-19h20	A variational and numerical investigation of eigenvalues for double-phase elliptic problems under Robin boundary conditions: El Baraymi Abdelaziz , El Yazidi Youness, Ferrahi Bouchaib
19h20-19h40	Innovative Fusion Model for Superior Bilevel Image Denoising: Amin Boukdir , Mourad Nachaoui And Amine Laghrib
	Session 2 : Modélisation Mathématique Chairman : Mohamed ADDAM Centre des Études Doctorales « CeDoc », salle C11
12h00-12h20	Modeling Dengue Spread through Host -Vector Coupling: Ayoub Maki , Aissam Jebrane, Mostafa Adimy, Abdelilah Hakim
12h20-12h40	A Statistical Framework for Comparing SIR, SEIR/SLIR, and SLAIR Epidemic Models: Application to Influenza Dynamics: Rim Adenane , Carlos Andreu-Villarroya, Florin Avram, Rafael-Jacinto Villanueva
12h40-13h00	Fractional Analysis of Hepatitis C Virus Dynamics in the Absence of Alcohol Consumption: Fahd Rachid , Nadia Idrissi Fatmi
13h00-13h20	Inverse Modeling of Honeybee Colony Dynamics under Pesticide Stress: A Regularized Conjugate Gradient Approach: Mohamed Ziouane , Mourad Nachaoui, Abdeljalil Nachaoui
13h30-14h30	Déjeuner
	Session 2 : Modélisation Mathématique Chairman : Mohamed ZITANE Centre des Études Doctorales « CeDoc », salle C11
16h30-16h50	Numerical Modeling of the Influence of Ferromagnetic Particle Size on Ferrofluid-Lubricated Journal Bearings: S. LAGHRABLI , M. EL KHLIFI, M. NABHANI
16h50-17h10	Differential modeling and analysis of the forward contact tracing intervention to assess its impact on the control of epidemics: M. Ladib, A. Ouhinou
17h10-17h30	Spatiotemporal dynamics of an Ebola virus disease model in a bat population: Mohammad Eloualy, Abdelaziz El Hassani , Khalid Hattaf, Abdelhafid Bassou
17h30-18h00	Pause
18h00-18h20	Stability analysis of the mathematical model of HIV-syphilis co-infection: O. Bouaoultaine, C. Moutalibi, N. Idrissi Fatmi
18h20-18h40	Mathematical modeling and analysis of financial system by using Hattaf fractional derivative: Khadija Toufiq , Sara Lasfar, Khalid Hattaf, Khalid Adnaoui
18h40-19h00	The Vehicle Routing Problem: Modeling and Solution Approaches: Zakaria Boufars, Ahmed Lahjouji El Idrissi
19h00-19h20	Modeling the Impact of Contact Tracing on Epidemic Dynamics: A Delay Differential Equation Approach; Khalid Errami, Aziz Ouhinou

19h20-19h40	Fractional Modeling and Optimal Control of Host-Parasite Model: C. Moutalibi , A. Aghriche, Y. El Hadfi
19h40-20h00	Simulation numérique d'un modèle de pollution atmosphérique à partir de sources ponctuelles continues : Hamid Ait Lhoussaine
	Session 3 : Contrôle Optimal & Optimisation Chairman : Fatima Zahrae EL ALAOUI Centre des Études Doctorales « CeDoc », salle C10
12h00-12h20	Adaptive Energy and Response-Time Optimization for Dynamic IoT-Fog Ecosystems: A. Baroudi , I. EL BAZI, H. MOUSSA
12h20-12h40	Optimal Control in Thermo-Electro-Elasticity: Addressing Signorini's Problem with Tresca's Friction Law: M.A. Faqihi , R. Fakhar, L. Essafi
12h40-13h00	Polynomial decay estimate for a class of bilinear neutral systems with distributed delay: Atmane El Houch
13h00-13h20	Stabilization Analysis of a Class of Unbounded Bilinear Systems with Delay: Hamza El Boutahiri , Rachid El Ayadi
13h30-14h30	Déjeuner
	Session 3 : Contrôle Optimal & Optimisation Chairman : Zakaria HAMIDI Centre des Études Doctorales « CeDoc », salle C10
16h30-16h50	Optimal control problem for a class of unbounded bilinear system: A. Boulagouaz , R. El Ayadi, N. El Boukhari
16h50-17h10	Stability and Existence of Solutions for Weak Bilevel Optimization Problems: H. Keraoui , F. E. Saissi, A. Aboussoror
17h10-17h30	Metaheuristic Optimization Algorithms for Enhancing Bergman's Minimal Model : Ez-zaiym Mustapha , El Moutaouakil Karim, Baizri Hicham, Chellak Saliha, Cheggour Mouna
17h30-18h00	Pause
18h00-18h20	Boundary Controllability Result for Time Fractional Systems with Caputo Derivative.: Aadi Asmaa , Tajani Asmae, El Alaoui Fatima Zahrae
18h20-18h40	The Geometry of Evolution: Strong Resonance Bifurcations in a Darwinian Beverton-Holt Framework: Lahsen OURBAA , Mohamed CH-CHAOU
18h40-19h00	On the gradient stabilization of distributed bilinear systems by boundary controls: E. Zerrik, A. Akoubi , M. Ouhafsa, A. Ait aadi
19h00-19h20	Regional Boundary Observability for Fractional-Order Systems with Hilfer Time Derivatives: Ben Brahim Hamza , Zguaid Khalid, El Alaoui Fatima-Zahrae
19h20-19h40	D-BTC: A Simply Connected Two-Dimensional Blockchain Protocol: S. Bloundi , A. Abassi and H. Ben-azza
	Session 4 : Probabilité, Statistique et IA Chairman : El Mehdi AMHRAOUI Centre des Études Doctorales « CeDoc », salle C6
12h00-12h20	Multivariate nonparametric regression based on tensor product B-spline. : A. EL-ALAOUI , A. MONIR, H. MRAOUI
12h20-12h40	Improving the Value Iteration Algorithm by Action Elimination Procedure in MDPs with discounted costs: Abdellatif Semmouri, Mostafa Jourhmane
12h40-13h00	Modeling Mathematics Learning through Artificial Intelligence: Towards a Predictive and Adaptive Teaching Approach: A. MOSAAD, M. MOUKHLISS, D. ELMOUTAWAKIL
13h00-13h20	Analysis and Simulation of Graph Neural Networks application in Systemic Risk of Financial Networks: Awane Dounia, Kaicer Mohammed, Addi Abdelhamid
13h30-14h30	Déjeuner
	Session 5 : Probabilité, Statistique et IA Chairman : Abdelilah MONIR Centre des Études Doctorales « CeDoc », salle C6

16h30-16h50	Hybrid Deep Learning and Clustering Model for Anomaly Detection in cybersecurity: Hiba Laknaoui , Mohamed Fihri, Abdellatif El Ghazi
16h50-17h10	Asymptotic Normality of the Kernel Estimator under Widely Orthant Dependence Model: Mouhamed Mar, Aminata GNING, Saliou DIOUF
17h10-17h30	Mathematical Modeling and Statistical Learning of PISA Performance: Comparative Analysis of Machine Learning and Deep Learning Models: Mohamed LATIFI
17h30-18h00	Pause
18h00-18h20	Estimation Approach for a Linear Quantile-Regression Model with Long-Memory Stationary GARMA Errors: Essefiani Oumaima , El Halimi Rachid, Hamdoune Said
18h20-18h40	Benchmarking Amazigh POS Tagging: From Traditional Methods to Neural Models: Abdelouahed MOUSSAOUI, Said BAHASSINE, Khalid HOUSNI
18h40-19h00	Monetary and fiscal policy interactions in Morocco: Vector Autoregression (VAR) Model: Nada ARRIAS, Ayad AL BAZ
19h00-19h20	Imbalanced Classification for P2P Lending: Cost-Sensitive and Resampling Approaches for Credit Risk Scoring: Abderrahim EL AMRANI, Badreddine BENYACOU, Mohammed EL HAJ TIRARI
19h20-19h40	Prédiction des Maladies Cardiaques à l'aide du Machine Learning : Analyse Comparative des Modèles de Classification Accents Ajoutés : Mahmoudi Mohamed , Azhari Mourad, Ziti Soumia
19h40-20h00	Efficient Intrusion Detection Through Contrastive Semi-Supervised Learning: Anass Abdelhamid El Alami , Ilyas Bentachfine, Soufiane El Aamrani, Mourad Nachaoui, Abdelali Elmoufidi
20h00-20h20	Neuro-Symbolic Multi-Agent Assessment for Adaptive Testing: Omar KELLA , Tawfik MASROUR and Thierry BERTIN GARDELLE
	Session 5 : EDP et Analyse Fonctionnelle Chairman : Hicham MOUSSA Centre des Études Doctorales « CeDoc », salle C16
12h00-12h20	On Strongly Elliptic Problem with Weak Monotonicity in Anisotropic Weighted Sobolev Spaces: A. MARSOU , B. EL HAJI
12h20-12h40	For a nonlocal singular problem in fractional Musielak space: A. Lagnaoui , H. El-houari, H. Moussa, H. Sabiki
12h40-13h00	INVARIANT SOLUTIONS AND OPTIMAL SYSTEMS OF SOME PARTIAL DIFFERENTIAL EQUATIONS: A. Dahni , E.H El Kinani, A. Ouhadan
13h00-13h20	Fractional-order mathematical modeling of aquatic ecosystem resilience: a case study of Aguelmam Azegza lake under climate change impact.: A. El Amri , H. Moussa, H. Sabiki
13h30-14h30	Déjeuner
	Session 5 : EDP et Analyse Fonctionnelle Chairman : Badr LAHMI Centre des Études Doctorales « CeDoc », salle C16
16h30-16h50	Existence of Solutions for a (p,q) -biharmonic Kirchhoff Problem with Singular Potential: Abdelhak BOUSGHEIRI , Anass Ourraoui
16h50-17h10	Blow-up and global existence for a new class of parabolic $p(x,\cdot)$ -Kirchhoff equation involving double phase operator: Ahmed Aberqi, Phuong Duc Nguyen, Abdesslam Ouaziz , Maria Alessandra Ragusa
17h10-17h30	Existence and multiplicity of solutions for a capillary discrete problem: M. Barghouthe , I. Chamlal, M. Berrajaa
17h30-18h00	Pause
18h00-18h20	Reflected BSDEs with default time and irregular obstacles: Badr ELMANSOURI
18h20-18h40	Implicit Function Theorem to The Dynamic Von Karman Model Of Shell: B. El-Aqqad , J. Oudaani, A. El Mouatasim

18h40-19h00	Noncoercive Neumann Boundary problem with Variable Exponent: Mohamed Badr Benboubker, Hayat Benkhalou, Hassane Hjjaj, Saad Rian
19h00-19h20	Dynamics of a fractional capital-labour model with Hattaf fractional derivative and nonlinear functional response: F. Assadiki , K. Hattaf, F. Lahmidi
19h20-19h40	Global Stability Analysis of a Predator–Prey Model with Two Effort Functions and Holling Type IV Response and Toxicity: Nabil Rhiati , Rabie Zine, Younes Louartassi
19h40-20h00	Some characterizations of unbounded Dunford–Pettis operators: Sanaa Boumnidel, Abdelmonaim El Kaddouri , and Moulay Othman Aboutafail
	Session 6 : EDP et Analyse Fonctionnelle Chairman : Ahmed YOUSSEFI Centre des Études Doctorales « CeDoc », salle C13
12h00-12h20	Very Weak Solutions for the Generalized Burgers Equation: Maryam Charafi , Abdellah Taqbibt, M'hmed El Omari
12h20-12h40	Option Pricing under Fractional Brownian Motion: A Caputo Black Scholes Approach: F. Charafi , H. Moussa, H. Sabiki
12h40-13h00	The Fractional Two-Sided Quaternionic Dunkl Transform and Heisenberg-Type Inequalities: Mohamed Essenhajy
13h00-13h20	Self-similar solutions to the generalized KPZ equation: Arij BOUZELMATE, Inssaf RAISS
13h30-14h30	Déjeuner
	Session 6 : EDP et Analyse Fonctionnelle Chairman : Ahmed ABERQI Centre des Études Doctorales « CeDoc », salle C13
16h30-16h50	Existence results for the 2d-elastic isotropic half-space contact problem with friction: Ayoub BOUKHIRA , Hicham BENAÏSSA, Zakaria FAIZ
16h50-17h10	Solutions for Conformable Fractional Evolution Equations endminipage : Thami Moualli , Youssef Tidli , Ali El Mfadel , M'hamed El Omari
17h10-17h30	Analytic Resolvents for Scalar-Type Volterra Equations: Khadija ZAHIDI , Ahmed FADILI
17h30-18h00	Pause
18h00-18h20	Nonlinear Singular Problems for the Fractional Laplacian: Y. El Ghali , J. Igbida, A. Kaddar, N. Elharrar
18h20-18h40	Rational Krylov Methods For Large-Scale Linear Multidimensional Dynamical Systems Based On T-Product: H. Barkouki , K. Jbilou
18h40-19h00	Convergence of the Cezaro mean of all numerical sequences and its applications: N. Ouakkasse
19h00-19h20	Motion of an Ellipsoidal Particle in Shear Flow: Analyzing Memory Effect Influence Through Exact Solutions Investigation: EL Houssine AZROUL, Ghizlane DIKI
19h20-19h40	Extensions of Poincaré and Beckner Inequalities for the Jacobi Semigroup: A. Bentaleb, K. El-khalf
19h40-20h00	On $K - g$ – Frame in Cartesian Product of Two Hilbert C^* -Modules: MABROUK Khadija and Rossafi Mohamed
20h00-20h20	Double K_F^α -fractional semi-groups of operators: R. Bahloul, K. EL GOURMATI

Heure	Mardi 02/12/2025
09h00-09h45	Conférence : Patrick Perré Prédiction des propriétés de transfert de matériaux biosourcés : nanotomographie, changement d'échelle par homogénéisation et formulation multiéchelle

	Chairman : EL Haj LAAMRI Salle des conférences
09h45 -10h30	Conférence : Samir ADLY Dynamiques continues et algorithmes de gradient : un regard sur l'accélération des méthodes de premier ordre Chairman : Youssef EL FROM Salle des conférences
10h30-10h50	Pause
	Session 1 : Analyse Numérique Chairman : El Houssaine QUENJEL Salle des conférences
11h00-11h20	Convergence of a CVFE finite volume scheme for a nonisothermal incompressible two-phase flow in porous media: Y. Zahraoui , B. Amaziane, M. El Ossmani, E.H. Quenjel
11h20 -11h40	Finite Volume Method for Nonlinear Diffusion-Based Image Denoising: H. El Moutaouakil
11h40-12h00	Numerical Study and Result for the 2D Telegraph Equation Inverse Problem: Hicham Ouchicha , Adnane Azzouzi, Abdeljalil Nachaoui
12h00-12h20	On a finite element approximation of the Non-stationary Navier-Stokes equation with Long-Memory: Rachid Lmangad , Abderrahmane Oultou, Hicham Benaissa
12h20-12h40	Positivity-Preserving DDFV method for anisotropic degenerate parabolic problems: Oussama EL FAHRI , Mohamed RHOUDAF, El Houssaine QUENJEL
12h40-13h00	A parallel time-Schwarz domain decomposition method applied to an Euler-Bernoulli beam equation: Ben bouzid Abdelhalim , Samir Khallouq, Nabila Nagid
13h30-14h30	Déjeuner
14h50-15h35	Conférence : Raghay Said Analyse mathématique pour le traitement d'images Chairman : Elhoussine AZROUL Salle des conférences
15h35-16h20	Conférence : Pascal Omnes Chairman : Hassan EL AMRI Salle des conférences
	Session 1 : Analyse Numérique Chairman : Mustapha EL OSSMANI Salle des conférences
16h30-16h50	High-Order Tensorial Spline Approach for Unsteady Beam Deflection Analysis: BEN ABDELLAH Ahmed , ADDAM Mohamed
16h50-17h10	Resolution des equations de diffusion en utilisant Discrète PINN : Abderrahim Naouate
17h10-17h30	A Physics-Informed Neural Networks for Solving some PDEs: J. Hafidi , M. Ait Ichou, N. Izem
17h30-17h50	Non-overlapping Schwarz Domain Decomposition Coupled with Physics-Informed Neural Networks (PINNs) to Solve Euler—Bernoulli Beam Equation: Abdelhalim Ben Bouzid, Chadi Chahid , Samir Khallouq
17h50-18h10	Modélisation fractionnaire (caputo) de la dynamique tumorale dans le cancer de prostate : Lhoussain BOUISSOU
18h10-18h30	Pause
18h30	Assemblée Générale de SM2A Salle des conférences
	Session 2 : Modélisation Mathématique Chairman : My Rachid SIDI AMMI Centre des Études Doctorales « CeDoc », salle C11

11h00-11h20	A Mathematical Study of a Fractional-Order Model Describing Cell-Mediated Immunity Against Tumor Growth: Fatima Zahra BENCHAKRYA , Mustapha AIT HAMMOU, Elhoussine AZROUL
11h20 -11h40	Dual-disease stochastic SIR models with newborn immunization and limited healthcare resources: Israr Ali , Abdulwasea Alkhazzan, Hui Zhang, Ali Turab, Jun-Jiat Tiang
11h40-12h00	Generative IA in medical imaging: From reconstruction to diagnostics; Youness Azroul
12h00-12h20	Modeling and numerical study of squeeze film characteristics in MHD journal bearings: M. KARDOUDI, M. NABHANI, M. EL KHLIFI
12h20-12h40	Novel insights into Cassava mosaic disease using Caputo fractional derivative: Modeling and Analysis: N. Kamali, E. Azroul, M. Shimi
12h40-13h00	Enhancing the condition for disease disappearance in a stochastic hepatitis B model with vaccination and Ornstein-Uhlenbeck process: Salim El Azami El-idrissi , Driss Kiouach
13h30-14h30	Déjeuner
	Session 2 : Modélisation Mathématique Chairman : Abdelaziz TAAKILI Centre des Études Doctorales « CeDoc », salle C11
16h30-16h50	A bioeconomic model of sheep population dynamics under variable market prices using the Hattaf mixed Fractional derivative: Sara Lasfar , Khadija Toufiq, Khalid Hattaf
16h50-17h10	Mathematical modeling of contact tracing to inform its impact on disease outbreaks: Ladib Mohamed, Ouhinou Aziz , Yakubu Abdulaziz
17h10-17h30	Accurate Low-Dimensional Modeling of Epileptic State Transition Dynamics: Chaymae Sabane , Youssef Akdim, Abdelilah Lamrani Alaoui
17h30-17h50	Stability Analysis of a Compartmental Model Linking Diabetes, Smoking, and Pancreatic Cancer: Laila Baouch , Oumaima Bouaoultaine, Nadia Idrissi Fatmi
17h50-18h10	Hybrid Fuzzy Fractional Framework for the Analysis of Multi-Phasic Epidemics: Application to Omicron and Malaria: Safae Ben Cheikh, Youssef Akdim, Mohammed Shimi
18h10-18h30	Pause
18h30	Assemblée Générale de SM2A Salle des conférences
	Session 3 : Contrôle Optimal & Optimisation Chairman : Hanaa HACHIMI Centre des Études Doctorales « CeDoc », salle C10
11h00-11h20	Active Flow Separation Control Over a 25° Backward-Facing Ramp Using Sweeping Jet Actuators: A Numerical Investigation: A. SERRAR , M. EL KHLIFI, A. KOURTA
11h20 -11h40	Delay stabilization of linear systems under a class of unbounded perturbations: S. El Alaoui , Y. Ouakrim, M. Ouzahra
11h40-12h00	Stabilisation results in Banach spaces for bilinear neutral systems: Marwan Fakhri , Atmane El Houch, Yassine Benslimane
12h00-12h20	Global Optimality Conditions for Bilevel Optimization Problems with Extremal Value Function: F. E. Saissi , H. Keraoui, A. Aboussoror
12h20-12h40	Rapid stabilization of parabolic coupled system: Ilyasse Lamrani , Imad El Harraki, Fatima-Zahrae El Alaoui
12h40-13h00	A Fractional Hodgkin-Huxley Model for Neuronal Dynamics with Memory: Analysis and Simulations: Dounia Rachyq , El Houssine Azroul, M.A. Aziz-Alaoui
13h30-14h30	Déjeuner
	Session 3 : Contrôle Optimal & Optimisation Chairman : Abdessamad EL ALAMI Centre des Études Doctorales « CeDoc », salle C10
16h30-16h50	On the convergence of a nonlinear optimal control problem with a p-Laplacian operator: Mohamed Mergui , Rachid Fakhar, Jamal Messaho

16h50-17h10	Strong Feedback Stabilization for a Class of Bilinear Control Systems with Time-Dependent Delays via a Decomposition Method: O. Ejjarjari , R. El Ayadi
17h10-17h30	Approximate Controllability of Fractional Differential Systems with Nonlocal Conditions of Order $\alpha \in]1,2[$ in Banach Spaces: Zoubida Ech-chaffani , Ahmed Aberqi, Touria Karite
17h30-17h50	Block Coordinate Descent Methods for Solving Fractional Programs: C. Ennouri , A. Roubi, K. Boufi
17h50-18h10	On a regularizing approach for solving shape design problem of a melting furnace in phosphate production: Taib Annouaoui , Abdelkrim Chakib, Ibrahim Khalil, Azeddine Sadik
18h10-18h30	Pause
18h30	Assemblée Générale de SM2A Salle des conférences
	Session 4 : Probabilité, Statistique et IA Chairman : Khalid HATTAF Centre des Études Doctorales « CeDoc », salle C6
11h00-11h20	Smart Energy Transition: A Methodological Framework for Ai-Based Renewable Energy Forecasting: Ibtissam Chabba , Omar Jellouli, Mohamed Fihri
11h20 -11h40	XAI for Short-Term Energy Forecasting Using Optimized Deep and Machine Learning Models: Safaa Kahil , Omar Jellouli, Mohamed Fihri
11h40-12h00	Context-Aware Tensor Decomposition for Diverse Recommendations : Menedore Nishishikare Marouane Nazih Hamid Bourray
12h00-12h20	Comparative Study Of The Performance Of Machine Learning Algorithms For Predicting The Stock Market Behavior: Radia Oussouaddi, Mohamed Hosni., Ibtissam Medarhri
12h20-12h40	Audit quality in Moroccan banking: a probabilistic tree model of anomaly detection: Said EL MELIANI
12h40-13h00	Cryptocurrency Volatility Prediction Using Deep Learning and On-Chain Data: Evidence from Bitcoin and Ethereum: Khalid JEAAB , Ahmed NADER, Ikram IMAD, Moulay El Mehdi FALLOUL
13h30-14h30	Déjeuner
	Session 4 : Probabilité, Statistique et IA Chairman : Salim EL-IDRISSI EL AZAMI Centre des Études Doctorales « CeDoc », salle C6
16h30-16h50	Unified Framework for Distributed General-Purpose Digital Twins: Hicham AGOURAME , Tawfik MASROUR, Mustapha EL OSSMANI
16h50-17h10	Interpretable Machine Learning for Health Insurance Pricing with Explainable Boosting Machines: Amina RABBAJ, Khalil SAID
17h10-17h30	AI with Deep learning for predictive modelling in healthcare: H. Maadan, J. Elkarkri
17h30-17h50	A hybrid approach using logistic sigmoid, radial basis, and hyperbolic tangent neural networks to model M-pox disease dynamics: Nassira Madani , Zakia Hammouch
17h50-18h10	Predictive maintenance of mechanical ventilators: a basic approach using logistic regression: Sara Karimi, Mourad Nachaoui, Soufiane Lyaqini
18h10-18h30	Pause
18h30	Assemblée Générale de SM2A Salle des conférences
	Session 5 : EDP et Analyse Fonctionnelle Chairman : Lakbir ESSAFI Centre des Études Doctorales « CeDoc », salle C16
11h00-11h20	Higher-Order Conformable Derivatives and Their Applications: Mohammed Bouziani , Rachid Bahloul

11h20 -11h40	On a $\mathcal{S}_p(x)$ -biharmonic problem with a $\mathcal{S}_q(x)$ -Hardy weight: Ibrahim Chamlal , Mohamed Talbi, Najib Tsouli
11h40-12h00	On a class of fractional elliptic reaction-diffusion systems: Maha DAOUD
12h00-12h20	Three Critical Points for a Nonlocal Fractional Kirchhoff Problem in Variable-Order Musielak Sobolev Framework: D. Baghba , M. Sрати, E. Azroul
12h20-12h40	On the existence of Entropy solutions for some nonlinear problem in the setting of Generalized Sobolev spaces: Ouidad AZRAIBI, Mohamed Benboubker, Badr EL HAJI, Jalal EL HAJOUJI
12h40-13h00	Dynamics of the Caputo Fractional Derivative: El-mahdi Nafia , Abdellah Taqbibt, M'hamed El Omari
13h30-14h30	Déjeuner
	Session 5 : EDP et Analyse Fonctionnelle Chairman : Hassan ASENSOUYIS Centre des Études Doctorales « CeDoc », salle C16
16h30-16h50	A Variational Framework for the Uniqueness of Weak Solutions to Nonlinear Parabolic Problems in Orlicz Spaces: L. Essafi , M. Mabdaoui
16h50-17h10	A Study of Fractional Integro-Differential Inclusions Based on the $\mathcal{S}_{\Psi}$ -Caputo Fractional Derivative: F-E. Bourhim , M. Elomari
17h10-17h30	Backward stochastic differential equations driven by optional semimartingales with conditional reflecting and regulated barrier: M. Haddadi , K. Akdim
17h30-17h50	Existence Results for double phase system in Sobolev-Orlicz spaces with variable exponents in Complete Manifold: Mohamed Knifda , Ahmed Aberqi
17h50-18h10	Construction of a Topological Degree in Generalized Sobolev Spaces: Mustapha Ait Hammou
18h10-18h30	Pause
18h30	Assemblée Générale de SM2A Salle des conférences
	Session 6 : EDP et Analyse Fonctionnelle Chairman : Mohammed ABDELLAOUI Centre des Études Doctorales « CeDoc », salle C13
11h00-11h20	On the uniqueness of fixed points for nonlinear-linear operator sums of Krasnosel'skii type: Soukaina El Bazi , Ahmed Zeghal
11h20 -11h40	Multiple Solutions for Fractional $\mathcal{S}_p(X,.)$ -Kirchhoff-Type Problems in Unbounded Domains: Abdelkrim BARBARA, Ahmed BOUSMAHA , Mohammed Shimi
11h40-12h00	Spatiotemporal dynamics of an HIV-1 infection model with Hattaf fractal-fractional operator and study of existence of solutions by means of fixed point theory: H. El Mamouni , K. Hattaf
12h00-12h20	A system of Hilfer fractional differential equation combined with quasi-hemivariational inequality deriving from contact mechanics: A. Oultou , H. Benaissa
12h20-12h40	Generalized solution of Burger equation in Colombeau algebra using fixed point: S. Sadek , M. Elomari
12h40-13h00	Refined Integral Inequalities for Weighted and Uniform Measures: M'hammed OUYAHIA , Ali Hafidi, Moulay Rchid Sidi Ammi
13h30-14h30	Déjeuner
	Session 6 : EDP et Analyse Fonctionnelle Chairman : Youssef AKDIM Centre des Études Doctorales « CeDoc », salle C13
16h30-16h50	Existence results for the evolution thermistor problem: H. Ouyahya , F. Orteg'on Gallego, M. Rhoudaf
16h50-17h10	Elliptic Equations With Degenerate Coercivity And Singular Data In Weighted Sobolev Spaces: Hassan El Hamri , Morad Ouboufettal, Youssef Akdim

17h10-17h30	Infinitely many solutions for an elliptic equation in divergent form: HADAD Hicham
17h30-17h50	Existence and Uniqueness of Renormalized Solutions for Anisotropic Elliptic Non-Coercive Problem Under Neumann Boundary Conditions: Hayat Benkhalou
17h50-18h10	Lipschitz-Type Estimates for a Class of Quadratic Functional Equations Defined on Monoids: Iz-iddine EL-Fassi
18h10-18h30	Pause
18h30	Assemblée Générale de SM2A Salle des conférences

Heure	Mercredi 03/12/2025
09h00-09h45	Conférence : Talhouk Raafat Solution globale pour le système de boussinesq-peregrine unidimensionnel dans le cas d'une faible variation du fond Chairman : Abdellatif CHAÏRA Salle des conférences
09h45 -10h30	Conférence : Hattaf khalid Different types of stability and numerical schemes for fractional differential equations with applications to the fields of health and social sciences Chairman : Hassan ELKINANI Salle des conférences
10h30-10h50	Pause
	Session 1 : Analyse Numérique Chairman : Abderrahim TAZDAYTE Salle des conférences
11h00-11h20	Numerical Analysis of Nonlinear Parabolic Problems Using the Finite Volume SUSHI Scheme: M. Khiri, M. Rhoudaf
11h20 -11h40	Numerical Modelling of the Giesekus Model in Rotating Cylinders Configuration: NASSIRI Fatima Ezzahra, BOUIDI Abderrahim
11h40-12h00	A High-Order Tensorial B-Spline Approach for Solving the Time-Fractional Electromagnetic Wave Problem: Imad El Barkani, Mohamed Addam
12h00-12h20	Additive Schwarz preconditioner for the biharmonic problem discretized by a P1 finite element method: Abdelhalim BEN BOUZID, Yassin KHALI, Samir KHALLOUQ
12h20-12h40	A high-order spline collocation approach for a linearized Oseen model of incompressible flow: AMIROUNE YOUSSEF, ADDAM MOHAMED
12h40-13h00	Polynomial Orthogonal Weighted Finite Element Method (POWFEM) for Degenerate Elliptic Problems: H. Atamni, O. Koubaiti
13h30-14h30	Déjeuner
15h00-15h20	A Numerical Analysis of Time-Fractional Integro-Differential Equations Using a High-Order ($L_{1,2}^{\psi}$)-Type Scheme: S. BAROUDI, M. ELOMARI, A. KASSIDI, A. EL MFADEL
15h20-15h40	High-order B-spline based finite element methods for solving time-dependent-harmonic wave equations: Imane El Hadouti, Mohamed ADDAM, Imad EL BARKANI, Mohammed Seaid
15h40-16h00	Variational frequency-domain analysis of diffusive-viscous wave equations with high-order spline Galerkin spaces: OUAKIF ELMEHDI, ADDAM MOHAMED
16h00-16h20	On the Construction of Locally-Quadratic Galerkin Bases for Elliptic Problems with Irregular Data: Rachid Messaoudi, Abdeluaab Lidouh
16h20-16h40	Axisymmetric Rising Bubble in an Enclosure Filled with Liquid Metal under Magnetic Fields: K. Elhadi, K. Benmoussa, D. Yakoubi

16h40-17h00	Numerical Studies of the Schoenberg Spline Distribution and Density Estimator: Nezha Mohaoui , Hamid Mraoui and Abdelilah Monir
17h00-17h20	Numerical Simulation of the Thermistor Problem with Anisotropic Nonlinear Diffusion: M. Lahrahe , F.Ortegon Gallego, M.Rhoudaf
	Session 2 : Modélisation Mathématique Chairman : Younes ABOU EL HANOUNE Centre des Études Doctorales « CeDoc », salle C13
11h00-11h20	Self-Supervised Vessel-Guided Image Enhancement for Low-Quality Fundus Photographs Without Reference Images: Amine EL HOSSI , Abdelali ELMOUFIDI, Mourad NACHAOUI
11h20 -11h40	A generalized fractional-order model for the dynamics of HIV and HBV co-infection: H. Boukhrissi , K. Hattaf, F. Lahmidi
11h40-12h00	On the Approximate Controllability of Fractional Partial Differential Equations in Hilbert Spaces: Youssef Afdifid , Ali El Mfadel, M'hamed Elomari
12h00-12h20	Metaheuristic Optimization of UAV Trajectories for Data Collection in IoT Networks: A Close-Enough TSP Approach: Mohamed Abid, Said El Kafhali, Abdellah Amzil, Mohamed Hanini
12h20-12h40	Fractional Dynamics of Tuberculosis: Caputo Approach with Individual-Environment-Dairy Products Transmission: Fatima Ezzahra Chaoui , Nadia Idrissi Fatmi
12h40-13h00	Stochastic Dynamics and Parameter Sensitivity in a Covid-19 Lévy Jump Model with Immigration: Mohammed Senglali
13h30-14h30	Déjeuner
15h00-15h20	On the role of the displacement current and the Cattaneo's law on boundary layers of plasma: Nacer Aarach , Francesco De Anna, Marius Paicu, Ning Zhu
15h20-15h40	On Implicit Neutral Caputo Tempered Fuzzy Fractional Differential Equations With Delay: M. OUALD-MOUNTI , F. I. A. AMIR , M. ELOMARI, A. EL-GHAZOUANI
15h40-16h00	Analysis of a Fractional-Order SEIR Epidemic Model with Nonlinear Incidence and Treatment Control: Mohsine Aarir , Sanaa Harroudi, Karam Allali, Jaouad Danane
16h00-16h20	Influence of Prey Harvesting on the Dynamics of a Prey–Predator System: Multi-Parameter Bifurcation Analysis: Mohamed Ahmidi , Mohamed Ch-Chaoui
16h20-16h40	Les données de comptage en épidémiologie: Constructions des modèles et leurs comparaisons: Nourdine Attya et Younes Filali Zegzouti
16h40-17h00	Dynamical Properties of a stochastic tumor-immune model: N. Bajja , D. Seghir
17h00-17h20	Modélisation et Analyse des problèmes de la tuberculose: Approche Mathématique- IA ; Hamza Azroul
17h20-17h40	Distinct Spatiotemporal Dynamics of Thermoelectric Transport Across Superconducting Transition: R. Malek , QD. Jiang, H. Liu
	Session 3: Contrôle Optimal & Optimisation Chairman: My Soufiane RECHDAOUI Centre des Études Doctorales « CeDoc », salle C10
11h00-11h20	Strong and weak-star stabilization of unbounded bilinear systems using nonlinear control in Banach space: Abdelhak El Aoula , Rachid El Ayadi
11h20 -11h40	Optimal Control Strategies For a Fractional Leprosy Model With Environmental Bacterial Load: Sara BOUDA , Elhoussine AZROUL
11h40-12h00	Observability of linear time fractional Riemann-Liouville systems with a fractional spatial derivative output: Fouzya Mennioui , Rachid Larhissi
12h00-12h20	Exact Controllability For The Vibrating Plate Equation In A Lipschitz Domain: O. Baali , A. Chaira, B. Lahmi
12h20-12h40	On the stabilization of infinite-dimensional bilinear systems by boundary controls: Mohamed Ouhafsa , El Hassan Zerrik
12h40-13h00	Nonlinear parabolic problem in Orlicz spaces via an optimization method: Mohamed Mabdaoui
13h30-14h30	Déjeuner

15h00-15h20	Stabilization of a degenerate Euler-Bernoulli beam equation with time delay: Jawad Salhi, Mohamed Azzaoui , Mouhcine Tilioua
15h20-15h40	Hyperparameter Optimization via Bi-Level Optimization Using Evolutionary Programming for Supervised Models: Naseddine Hafidi , Z. Khoudi, M. Nachaoui, S. Lyaqini
15h40-16h00	Multiobjective Optimization of ODE-Constrained Problems Using A Multiple Reduced Gradient Method: Zouhir Erraji , Mustapha El Moudden, El Mostafa Sadek
16h00-16h20	Stability analysis of an optimal shape design problem of Bernoulli's type: Yassine NABID , Abdelkrim CHAKIB, Ibrahim KHALIL, Azeddine SADIK
16h20-16h40	Stability and Control Analysis of Quasi-static Thermo-piezoelectric Frictional Unilateral Contact Problem: Oumaima ATELAUE , Hicham BENAÏSSA
16h40-17h00	Non-Convex Optimal Control for Wastewater Treatment Problem: Hamilton-Jacobi-Bellman Approach: H. Boutanfit , M. Serhani O. Lazaar A. Khazari
17h00-17h20	Exponential Stability of Conformable Fractional-Order Memristive Hopfield Neural Networks Under Parameter Perturbations: Mohamed ERRACHIDI , Rachid EL AYADI
	Session 4: EDP et Analyse Fonctionnelle Chairman: Mohammed KACHAD Centre des Études Doctorales « CeDoc », salle C16
11h00-11h20	Existence Result for Nonlocal Elliptic Systems with Hardy Potentials and Gradient Nonlinearities: A. Hamdaoui , A. Youssfi, K. Ben Haddouch
11h20 -11h40	Existence and Uniqueness of Weak Solutions for a Nonlinear Fractional problem with ψ -Hilfer Derivative and Singular Terms: H. Hilali , A. Kassidi, L.S. Chadli
11h40-12h00	An innovative hybrid model coupling non-Local fractional PDEs and bilateral convolution for denoising degraded digital images: Soufiane KASSIMI , Hicham MOUSSA, Hajar SABIKI
12h00-12h20	Global existence and finite-time blow-up for a nonlocal parabolic equation: M. El Massaoudi , A. Youssfi, K. Ben Haddouch
12h20-12h40	Capacity Solutions for Thermistor Problem with Double Degenerance in Weighted Sobolev Spaces: Chahboune Manar , Lahmi Badr
12h40-13h00	Radial Solutions for Nonlinear Elliptic Equations with Gradient Terms in Exterior Domains: Mouhssin BAKHADDA , Arij BOUZELMATE
13h30-14h30	Déjeuner
15h00-15h20	On Strongly Elliptic Problem With Weak Monotonicity In Anisotropic Weighted Sobolev Spaces: O. Azraibi , B. El Haji, A. Marsou
15h20-15h40	Existence Results for Nonlinear Sequential Hybrid Fractional Differential Equation based on Dhage's Fixed Point Theorem: Saliha Ouzelmat , Mohamed Hannabou, M'hamed El Omari
15h40-16h00	Existence and Asymptotic Behavior of Large Solutions for a p-Laplacian Problem in $\mathbb{R}^N$: Tahiri Hasnae , Bouzelmate Arij
16h00-16h20	Existence Of Infinite Weak Solutions For A Nonlocal Eigenvalue Problem In Fractional Orlicz-Sobolev Spaces With Indefinite Weight : Gholali Fatima Zahra , Hicham Moussa, Hajar Sabiki
16h20-16h40	On the geometric form of Hahn-Banach theorem in the quaternionic siting: Jaouad BOUIKHAF , Mohammed KACHAD
	Session 5: EDP et Analyse Fonctionnelle Chairman: Youness MAZIGH Centre des Études Doctorales « CeDoc », salle C13
11h00-11h20	Existence of Solutions for Thermoelastic Semiconductor Equations with Small Accelerations: Hicham MOUSSA, Hajar SABIKI, Fadoua AOUANE
11h20 -11h40	Analysis in SBV cap L^∞ of a nonlinear parabolic model with zero-flux boundary conditions: M. El Abbassi , B. Lahmi, C. Ziti
11h40-12h00	Renormalized and entropy solutions for nonlinear parabolic equations with variable exponents and L^1 data: Oulaid En-Feur

12h00-12h20	Study of a Second-Order Nonlinear Elliptic Problem Generated by a Divergence Type Operator on a Compact Riemannian Manifold: LIJANE SAID
12h20-12h40	Evolution Families, Maximal Regularity, and Admissibility of Observation Operators: Yassine Kharou
12h40-13h00	On the fractional Musielak Sobolev spaces with variable $s(\cdot, \cdot)$ -Order : Results and Applications: Mohammed SRATI
13h00-13h20	Study of the thermistor problems in generalized functional frameworks: Hajar Talbi , Mohamed Rhoudaf, Francisco Ortega on Gallego
13h30-14h30	Déjeuner
15h00-15h20	Green's Function Method for Solving Fractional Differential Equations with Ψ -Caputo Derivative: K. OUFKIR , M. ELOMARI, H. SADIKI
15h20-15h40	Existence of mild solution to nonautonomous partial functional differential equations of neutral type with infinite delay: I. Oumadane , M. Zitane
15h40-16h00	Capacity Methods for Nonlinear Coupled Systems with Degenerate Conductivities: Rabab Elarabi
16h00-16h20	Mathematical Modeling of Alzheimer's Disease Progression via Coupled Population-Protein Dynamics: S. Hamani , E. AZROUL and A. BOUMAZOURH
16h20-16h40	Analysis of a Caputo fractional derivatives model for unemployment Incorporating Nonlinear Job Creation: Salma Moujid
16h40-1700	Existence of Positive Solution of a Generalized Fisher-KPP Equation with Radial Form : S. EL ABOUDI and A. BOUZELMATE
	Session 6: Algèbre et Application Chairman: Brahim BOUDINE Centre des Études Doctorales « CeDoc », salle C6
11h00-11h20	On the simultaneous triangularization of a set of matrices: Moulay A. BARKATOU
11h20 -11h40	On monomial equivalence in some classes of polycyclic codes: Abdelghaffar CHIBLOUN
11h40-12h00	On The A-property in certain cases : Ahmed CHIBLOUN
12h00-12h20	Coclass graphs and p-group classification.: A. Jaari, M. Sahmoudi, M. Taous
12h20-12h40	Quantum Codes over $\mathbb{F}_q$ from Multivariate Constacyclic Codes: Bassou AOUIJIL , Mohammed SABIRI
12h40-13h00	Heights of error-correcting codes over rings: Darmoun Saber , Abdelmoumen Khalid, Ben-azza Hussain
13h30-14h30	Déjeuner
15h00-15h20	Quasi Einstein locally conformally Kahler (LCK) manifolds: Youssef Makroune, Mohamed Tahar Kadaoui ABBASSI
15h20-15h40	An extended Drazin inverse in a Ring: A. Tajmouati, M. Karmouni, M. Abkari
15h40-16h00	Additive preservers of S-spectrum and related subsets: El Miloud Ouahabi, Khalid Souilah
16h00-16h20	Using ghosts to adapt attacks to ElGamal's signature: T. Taoutaou, O. Khadir
16h20-16h40	Skew field-valued Kannappan functions: A. Ouhabi , M. Ayoubi and D. Zeglami