

الجمهورية الجزائرية الديمقراطية الشعبية

Ministry of Higher Education and Scientific
Research
University of 08 Mai 1945 – Guelma
Faculty of Mathematics and Computer Science
And Material Sciences
Laboratoire de Mathématiques Appliquées et
Modélisation-(LMAM)



وزارة التعليم العالي والبحث العلمي
جامعة 8 ماي 1945 – قالمة
كلية الرياضيات و الإعلام الآلي و علوم المادة
مخبر الرياضيات التطبيقية و النمذجة

Intervention program

*7th International Workshop on Applied Mathematics
and Modeling "WIMAM'2023"*

Organized by

Laboratoire de Mathématiques Appliquées et

Modélisation-(LMAM)

University

8 Mai 1945 – Guelma

Guelma, December 13-14, 2023

First Day: 13th December 2023

Time	Plenary Session: (Wednesday 13 th December 2023) - Morning			
	قاعة المحاضرات المكتبة المركزية – المجمع القديم – la salle de conférences (la Bibliothèque centrale) - Ancien compus - .			
	Chairman: Prof. M.Z. Aissaoui			
	Link: meet.google.com/isp-bmhy-zjf			
08h00 – 09h30	Opening Ceremony			
09h30 – 10h30	Prof. Abdelhamid Ayadi: Caractérisation de l'optimum d'une fonctionnelle sous contraintes			
10h30 – 11h00	Break + Poster Session 1			
11h00 – 12h00	Prof. Burlakov, Evgenii Olegovich: Mathematical modeling of macro-and mesoscale electrical activity in the neocortex based on neural field theory			
12h00 – 13h00	Lunch Break			
Plenary Session: (Wednesday 13 th December 2023) – Evening				
Chairman: Prof. Abdelhamid Ayadi				
13h00 – 14h00	Prof. Abderrazzak Chaoui: On the Study of some p-biharmonic problems			
14h00 – 14h30	Break			
Ordinary Sessions (1st day: Wednesday 13th December 2023)				
Time	Session 1: Integral Equation, optimization and numerical methods Chairman: Pr. Hamza Guebbai	Session 2: Differential equation and operator theory Chairman: Pr. A. Chaoui	Session 3: Fixed point and fractional theory Chairman: Dr. Ghoumrani sara	Session 4: (Autre) modeling and dynamic system Chairman: Dr. Wahida kaidouchi
14h30 – 14h45	Dr. Benrabia Noureddine : Méthode du complexe	Dr. Rabah DEBBAR: Exotic Banach Spaces and Some Spectral Properties	Berhail Amel : On the existence and stability of solutions of a Snap fractional differential equation	Teghri Samia: Using a cure rate frailty model to analyze long-term survivors
14h45 – 15h00	Meansri Khaoula: Amélioration la condition de descente avec correction spectral améliorée dans la method de gradient conjugué	Radhia Halilou : Existence and Uniqueness of Weak solution for a stochastic evolution model	Tabouche Nora : Study of a system of Sturm-Liouville and Langevin HilferKatugampola fractional differential equations	Bahloul Tarek: Homogeneous Nonlinear Ordinary Differential Equation with Given Boundary Conditions
15h00 – 15h15	Dr. Mesai Aoun M. salah: Error estimation for a piezoelectric contact problem	Aidi Khaoula: Modélisation de la distribution exponentielle linéaire généralisée	MERIKHI M .Lamine: Une nouvelle méthode fractionnaire conforme pour le système Brusselator avec simulation numérique	Zagane Abdelkader: Harmonic and bi-harmonic homomorphisms between three-dimensional Riemannian unimodilar lie groups
15h15 – 15h30				Yakhlef Souhil: استخدامات نموذج السلاسل الزمنية morpak في التقديرات الغير مباصرة لمعدلات تغطية المتغيرات الديمغرافية المسجلة في الحالة المدنية في الجزائر

Poster session

10h30-11h00

- **Bouaziz chamseddine:** Exploring Zero-Hopf Bifurcation Dynamics in the Chua System.
- **ZEROUALI Hadjer:** Reproducing Kernel Hilbert Space for solving partial differential equation.
- **DJAGHOUT Manal:** On the numerical approximation of evolution p- Bilaplace equation.
- **Saadi Douha:** Reproducing kernel hilbert space for solving ordinary differencielle equation with boundary value condition.
- **LABADLA Amel:** An Optimal Error Estimate Of The Integro Differential Equation.
- **Rabah DEBBAR*:** Exotic Banach Spaces and Some Spectral Properties.

- **Boutoutane rayane:** Étude comparative entre les méthodes MLP-ANN et RBF-ANN pour la prédiction de l'indice de cétane des hydrocarbures purs et des fractions pétrolières.

- **TOUAREF Oussama:** Contrôle optimal de l'obstacle ou la contrainte sur l'état est de type gradient.
- **Bennaceur Houria:** Relativistic effects on molecular geometries dioxo MO 2 +2 complexes, DFT study.
- **BEGHOUR YASSINE:** Estimation de la température d'ébullition des molécules organiques : Comparaison entre les approches QSPR-SVR et QSPR ANN.
- **Moulouk Halima Benchettah*:** On composite Length-Biased Exponential Pareto distribution : Properties, Simulation and Application in Actuarial Science.

- **Ouchen Imene:** Pricing using Gilde and Sundt method in bonus-malus system.
- **ferchichi M. Reda*:** Descrete dynamic system with complex behavior.
- **Segni Sami:** Approximate solution of the nonlinear fredholm integral equation of the second kind.
- **Benssaad Meryem:** Analytical and numerical study of new integro-differential Fredholm-Chandrasekhar equation.
- **HAMEL Naima:** New conjugate gradient coefficient satisfying the conjugation condition.
- **Khalfallaoui Roumaissa:** High-order hyperbolic equations with non-standard anisotropic growth conditions

- **CHAKER Randa:** On the relationships between F -contraction and φ -contraction mapping fixed point
- **Dida Redha:** Asymptotic stability for pantograph Caputo-Hadamard fractional
- **Kaidouchi wahida:** Fractional Boole Type inequalities for differentiable s -convex functi
- **Dr.Aries M.Es-salih:** New numerical method to deal with weakly singular non liner integro-differential voltera equations

Second Day : 14th December 2023(first version)

Time	Ordinary Sessions : (2 nd day: thursday 14 th December 2023) – Morning- On line				
Time	Session 1: Integral equations optimization and numerical methods Chairman: Dr. I.Hafaidia Link: https://meet.google.com/tua-wxrq-svn	Session 2: Differential equation and operator theory Chairman: Dr.S. Ghomrani Link: https://meet.google.com/vas-dign-aww	Session 3: Fixed point and fractional theory Chairman: Dr.W.Kaidouchi Link: https://meet.google.com/kzs-ndui-ujj	Session 4: Modeling and other Chairman: Dr.S.Djanaoui Link https://meet.google.com/rxv-unhr-jvg	Session 5: Numerical analysis ,Dynamic system and other Chairman:Dr. S.Bazine Link: https://meet.google.com/gcj-hrxw-mvk
08h30–08h45	Yasmine Fourar: Innovative Design of Non-Stationary Biorthogonal Wavelets and Their Influence on the Precision of Medical Image Analysis	Taklit Hana LAHLAH: Comportement asymptotique avec frottement non linéaire en couche mince	Zenkoufi Lilia Existence, uniqueness and continuation for ψ -caputo fractional differential equations type	Ameur Lounes: Analysis of Queueing model with Phase-Type arrival	NADJET YAGOUB: Multiple solutions for a semilinear biharmonic problem involving Rellich potentials.
08h45–09h00	Daili chafya: A primal-dual interior-point method for convex quadratic optimization	Hallouz Abdelhamid: Indirect Stabilization of a 2-D Evolution Equation	Nouikas Azeddine Existence Results for a Boundary Value Problem of Hadamard Fractional Derivative Via Critical Point Theory	BENDALI-BRAHAM Amel: b-coloration des arêtes de certains graphes	Mohammed ATTOUCH: Relative regression and its applications.
09h00 – 09h15	Radjai Abir: Numerical Solution of Urysohn integral equations by the collocation method	Elgues anissa: On the class of n-normal Operators and Moore-Penrose inverse	Khial Naouel About the existence of coincidence point for mappings acting on generalised metric space	MOHAMED KHEMICI: Recursive asymmetric kernel density estimation for η -weak dependence	BERKANI Amirouche: Arbitrary decay of the Euler-Bernoulli beam with memory
09h15 – 09h30	Abdelbari Merwan: Finite element method for parabolic optimal control problems with FEniCS	Yassine BENIA: On the existence and regularity of solutions to the linear and nonlinear KdV equations	Bouharket Bendouma Existence result for conformable fractional nonlocal thermistor problem	Abdelkader SAHOUANE: Etude Analytique de l'effet du l'indice de puissance et le rapport de portée à la hauteur des poutres P-FGM lors la vibration libre par une théorie raffinée d'ordre élevé a déformation par cisaillement	Ikram HAMED: Stochastic Maximum Principle for a Fractional Stochastic Differential Equation
09h30 – 09h45	Dahda Bachir: Haar wavelet collocation method for solving a coupled system with the Caputo-Fabrizio fractional derivative	Mohammed Lachache: Mathematical analysis for the Saint-Venant system coupled with the transport equation	Benhmida Ouafaa Fractional Langevin equation with Stieltjes integral condition	Bendehiba Senoussi: Affine factorable surfaces of finite type in E^3 and L^3 space	Abdelhak TAANE: Link between reciprocal polynomials and generalized Fibonacci and Lucas numbers.

09h45 – 10h00	Bensatal Kattar enada: L'existence de solutions faible pour des équations intégrales du second ordre avec un retard dépendant de l'état	BENTATA F.Ezahra: A VARIATIONAL APPROACH TO AN HYPERBOLIC PROBLEM WITH VOLUME CONSTRAINT AND FREE BOUNDARY	Kasmi Lotfi The well posedness of a singular linear pseudo-hyperbolic fractional system with classical and nonlocal boundary conditions	Makulouf Amar: LIMIT CYCLES FOR A CLASS OF SECOND ORDER DIFFERENTIAL EQUATIONS AND DUFFING EQUATIONS.	Zerrouak sadem: Direct competition in chemostat
10h00 – 10h15	Guefassa Imane : A novel conjugate gradient method for unconstrained optimization with application in mode function	Abdelkader Braik: Global existence and energy decay for a transmission problem under a boundary fractional derivative type	Biroud Kheireddine Existence and regularity of positive solutions to the singular elliptic equations	HAMBLI Nawel: W -shaped soliton solution for the inhomogeneous higher-order non-linear Schrödinger equation using the trial equation method.	Khadidja Boubellouta: Generating functions of the products of Fibonacci polynomials with special numbers and polynomials.
10h15 – 10h30	Bennani Ahlem: Solving quadratic fractional programming problems via two projective approaches	Oussama Khaldi: A Local existence and blow up of solutions for a logarithmic nonlinear viscoelastic wave equation with time-varying delay	Lachachi Merad Nardjis Evolution fractional inclusions with state dependent delay	Nesrine BENAKLEF: Estimation pour les modèles autorégressifs fractionnaires d'ordre 1 à coefficients constants	Bilel Elbetch: Coupled Cooperative Differential System: Generalized Logistic Equation and Total Biomass
10h30- 10h45	Benmenni Rania: Open Loop Nash and Stackelberg Equilibrium in Nonzero-Sum Differential Games	Hamdi Bassma: Impact of dispersion and negative Kerr nonlinearity on the modulational instability of the nonlinear Schrodinger equation in a highly dispersive media	Boutillis Mokhtaria Existence of Mild Solutions for Semilinear Stochastic Differential Equations	Derouiche Farida: An enhanced Bi-directional chaotic optimization algorithm and Its Application to Nonlinear Problems	Saadiya Benatmane: Structural, elastic and optical properties of Cubic BaLiO 3 perovskite for photovoltaic application: an ab initio study
10h45 – 11h00	Benraouda Ahlem: A Regularization method and optimal control for an elastic frictional contact problem.	Youcef Samia: Resultats d'existence pour un problème périodique impulsif avec phi-Laplacien	Ait Ouali Nadia Results on Caputon fractional-order neutral integro-differential systems.	Draifia Ala Eddine: ON A MIXED NONLOCAL PROBLEM FOR A WAVE EQUATION	Ines Saker: The Dynamics of New Motion Styles in The Time Dependent Four-Body Problem: Weaving Periodic Solutions.
11h00 – 11h15	Bensatal Kattar enada: L'existence de solutions faible pour des équations intégrales du second ordre avec un retard dépendant de l'état	Rezoug noredine: Asymptotically almost automorphic mild solutions Asymptotically Almost Automorphic Mild Solutions for Second Order Nonautonomous Semilinear Evolution Equations	Serrai Hacem Uniqueness and Ulam Hyers' Stability Analysis for an Ordinary Non-Local Version of Generalized Sturm-Liouville-Langevin Equation Involving ψ -Caputo Derivative with Modified Argument	BENCHIHA Abbassia: Estimation of functional regression with missing data at random	Derradj yasmine: Topic modeling of reports data using text mining and latent Dirichlet allocation: The case of World Bank report.

11h15 – 11h30	SAFIA BELLA BAC : NEW GRADIENT EDGE DETECTION METHOD BASED ON CAPUTO k-FRACTIONAL DERIVATIVE	Abedlkader SEGRES: Hyperinvariant subspace for operators intertwined with weighted shift Operators	Nawal Bettayeb Upper, lower solutions method and Oscillatory Results for Caputo Tempered Fractional Differential Inclusions	Yasmina Ghattout: Synchronisation d'un Système Hyperchaotique	Sara DRIDI: Classification of Elementary Cellular Automata Rules Based on The controllability problem
11h30 – 11h45	Dr. belhirech hanane: On the mixed Volterra-Fredholm nonlinear equations system	Djilali MEDJAHED New analytical solutions for the time fractional general modified Degasperis-Procesi - Camassa - Holm equation	FOUKRACH Djamel Periodic Solutions for Certain Nonlinear Fractional Pantograph Differential Equations with ψ -Caputo Derivative.	Slimane Benmahmoud: A novel fractional-order Cross entropy	Dr. Mohamed Touati: Nodal solutions for a Paneitz-Branson type equation
11h45 – 12h00	Hallal Amina: The new method for solving a minimization problems	Ayari Amira: Conditions suffisantes pour la stabilité exponentielle de quelques systèmes non linéaires perturbés sur une échelle de temps et applications.	Kaddouri Heddi Some fixed point theorems by combining the contractions of Geraghty and Hardy-Rogers with F-contraction in metric space	Achour Hana: A Nonlinear Singular Fractional Elliptic Problem with a Discontinuity	Dr.DERKAOUI Khadidja: The magnetic curves in three dimensional Heisenberg group.
12h00 – 13h00	Break				
Time	Session 1: Integral equations optimization and numerical methods Chairman: Dr. BELHIRECHE Link: https://meet.google.com/tua-wxrq-svn	Session 2 Differential equation and operator theory Chairman: Dr.Sedka Iliyes Link: https://meet.google.com/vas-dign-aww	Session 3: Fixed point and Integral equations Chairman: Dr. Merchela wassime Link: https://meet.google.com/kzs-ndui-ujj	Session 4: Modeling and other Chairman: Dr. Sara Benarab Link: https://meet.google.com/rxv-unhr-jvg	Session 5 Numerical analysis ,Dynamic system and other Chairman: Dr.segni sami Link: https://meet.google.com/gcj-hrxw-mvk
13h00- 13h15	Ghomrani Sarra : Numerical Simulation of Volterra's Nonlinear System Describing Seismic Phenomena	LASSAL Hakima: Growth Properties of Meromorphic Solutions to Nonhomogeneous Linear Differential-Difference Equations	Bazine Safia Common fixed point for weakly compatible maps	Dr. Merabti Nesrine Lamy: Feedback Control Systems.	Merad meriem: Generalized Newton-Cotes inequalities involving three points via the Riemann-Liouville integral operators
13h15- 13h30	Fatma Achab : Identification of the source term of an ill-posed fractional problem	Imane Achour: Solving Transport-Coagulation Equations via Decomposition Method	Kerboua Mourad Controllability results for (k, ψ) -Hilfer fractional neutral stochastic differential equations driven by α -stable process	Mohamed MELLAH: Existence and asymptotic behavior of solutions for non linear wave equations of Kirchhoff type with viscoelasticity	Bouzeraa Seyf El Islam: Dynamics of the incommensurate fractional Hénon map

13h30-13h45	Bitam Messaoud: A CRANK-NICHOLSON METHOD FOR A REACTION-DIFFUSION SYSTEM	Fadia Hauouam: Global Existence For A Deterministic Diffusive Epidemic Of Generalized Reaction Diffusion System	Ouaddah abdelhmid Fractional Bihari inequalities and some applications		
13h45-14h00	Benatallaissra nada : comparison between maximum likelihood estimation and Bayesian estimation in the presence of censored data	Garti Ines: Establishing the well-posed solutions for generalized Boussinesq equations with logarithmic nonlinearity			
14h00-14h15		Bensebaa Nadjet: A frictionless contact problem for electro-viscoelastic material with thermal effects			
14h15-14h30		Raid ZOUAI: Nontrivial solutions for a discontinuous Schrodinger equation in R^N .			
14h30-14h45		BENARBIA Narimene Mathematical modeling of sylvatic transmission of Chagas disease			
14h45-15h00		MEZIANI Tinhinane: NON-SMOOTH PREY HARVESTING ON PREDATOR-PREY MODELS			
15h00-15h15		Sara Smail: Some Results on the S-essential Pseudospectra			
15h15-15h30		BENCHELLALI Salah eddine: Mathematical and numerical study of the impact of higher-order dispersion and nonlinearity effects on the modulational instability of the higher-order (3+1)D non-linear Schrödinger equation.			

Online Poster Session

15h30-15h40	Mokhtar Khassani	Study the regularity of solution for some elliptic differentiable equations.
15h40-15h50	DEKKICHE NORA	On Diffusion models for population dynamics with individual behavior at boundaries

