



CERTIFICATE



The Director of the Laboratory of Applied Mathematics and Modeling (LMAM) hereby certifies that :

YAHI Rachid

participated with an **Oral Presentation** and presented a paper entitled:

“Lipschitz Factorable $\$P\$$ -Summing Operators”

at the **2nd International Conference Mohand Moussaoui on Applied Mathematics and Modeling (ICMAM'25)**,

held on **December 15–16, 2025**, at the University 8 May 1945, Guelma, Algeria.

The Laboratory Director
Pr. Hamza GUEBBAI

Chairmen of the Scientific Committee
Pr. AISSAOUI Med Zine

Lipschitz factorable p -summing operators

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Abstract

This talk introduces a novel class of Lipschitz operator ideals: the Lipschitz factorable p -summing operators. We present a systematic study of their foundational properties, culminating in a central domination theorem. Furthermore, we precisely characterize the relationship between a Lipschitz operator T and its linearization T_L within this class and establish that these new operator ideals are of composition type..

Keywords: Lipschitz p -summing operators, Lipschitz factorable p -summing operators, operator ideals.

AMS Classification: 45A05, 47H10, 65R20.

1 Introduction

Inspired by Farmer and Johnson's work [4], which extends the concept of p -summing linear operators to the Lipschitz framework. Several researchers have proposed various definitions of Lipschitz operators between pointed metric spaces and Banach spaces. In specific contexts, these concepts broaden different categories of ideals of linear operators between Banach spaces. It is worth mentioning that Achour et al. provide a detailed and systematic study of Lipschitz operator ideals in [1]. Jarchow and Pełczyński outlined a method for generating new Banach operator ideals from a given one, known as the *closed injective hull* (see [5]). Subsequently, Matter in [6], used this method to introduce another procedure that assigns new Banach operator ideals from a given one, known as the *interpolative ideal procedure*.

Our study aims to introduce and study the classes of Lipschitz factorable p -summing operators, we show some properties (domination Theorem) and study the relationship between a Lipschitz operator T and its linearization T_L and we prove that our new classes of operators is of composition type.

2 Lipschitz factorable p -summing operators

Definition 2.1. Let $1 \leq p < \infty$. A mapping $T \in Lip_0(X, E)$ is called Lipschitz factorable p -summing if there exist a constant $C > 0$ such that for any $x_{ij}, x_{ij'} \in X$, $a_{ij} \in \mathbb{R}$ ($1 \leq i \leq n, 1 \leq j \leq s$) and all positive integers n, m , we have

$$\left(\sum_{j=1}^s \left\| \sum_{i=1}^n a_{ij} (T(x^{j_i}) - T(x^{j_i'})) \right\|^p \right)^{\frac{1}{p}} \leq C \sup_{f \in B_{X^*}} \left(\sum_{j=1}^s \left(\sum_{i=1}^n a^{j_i} |f(x^{j_i}) - f(x^{j_i'})| \right)^p \right)^{\frac{1}{p}} \quad (2.1)$$

The infimum of all such constants $C \geq 0$ is denoted by $\mathcal{F}\pi_p^L(T)$. This class of mappings is denoted by $\mathcal{F}\Pi_p^L(X, E)$.

Remark 2.1. It is clear that (2.2) is equivalent to

$$\left(\sum_{j=1}^m \|T_L(m^j)\|^p \right)^{\frac{1}{p}} \leq C \sup_{f \in B_{\mathcal{B}(X)^*}} \left(\sum_{j=1}^m |f(m^j)|^p \right)^{\frac{1}{p}} \quad (2.2)$$



where the molecule $m^j \in \mathbb{A}(X)$ has a representation of the form $m^j = \sum_{i=1}^n a_i^j m_{x_{ij} x_{ij'}}$, $1 \leq j \leq m$, so we have

$$T \in \mathcal{F}\Pi_{p^L}(X, E) \iff T_L \in \Pi_p(\mathbb{A}(X), E) \quad \text{and} \quad \mathcal{F}\pi_{p^L}(T) = \pi_p(T_L) \quad (2.3)$$

Using (2.3) we get the following corollary

Corollary 2.1. *For every pointed metric space and every Banach space E we have*

1. $\mathcal{F}\Pi_p^L(X, E) \subset \Pi_p^L(X, E)$, $(1 \leq p < \infty)$ with strict inclusion
2. $\mathcal{F}\Pi_p^L(X, E) \subset \mathcal{F}\Pi_q^L(X, E)$, whenever $1 \leq p < q < \infty$

2.1 Lipschitz factorable (p, σ) -summing operators

Let us introduce the interpolative version of Lipschitz factorable p -summing operators.

Definition 2.2. (Lipschitz factorable (p, σ) -summing) Let $1 \leq p < \infty$, and $0 \leq \sigma < 1$. A mapping $T \in \text{Lip}_0(X, E)$ is called Lipschitz factorable (p, σ) -summing if there exist a Banach space G and a Lipschitz factorable p -summing operator $S \in \mathcal{F}\Pi_p^L(X, G)$ such that for any $x_i, x'_i \in X$, $a_i \in \mathbb{R}$ ($1 \leq i \leq n$) and all positive integer n , we have

$$\left\| \sum_{i=1}^n a_i(T(x_i) - T(x'_i)) \right\| \leq \left\| \sum_{i=1}^n a_i(S(x_i) - S(x'_i)) \right\|^{1-\sigma} \left(\sum_{i=1}^n |a_i| d(x_i, x'_i) \right)^\sigma \quad (2.4)$$

Let $\mathcal{F}\pi_{p,\sigma}^L(T)$ denote the infimum of all $\mathcal{F}\pi_p^L(S)^{1-\sigma}$, when S varies over all Lipschitz p -summing operators defined on X that fulfill the above condition. Any mapping in $\mathcal{F}\Pi_{p,\sigma}^L(X, E)$ is Lipschitz and $\text{Lip}(\cdot) \leq \mathcal{F}\pi_{p,\sigma}^L(\cdot)$.

Lemma 2.1. *Let X be pointed metric space, G a Banach space. Let $S \in \Pi_p(\mathbb{A}(X), G)$ and $\delta_X : X \rightarrow \mathbb{A}(X)$ be the nonlinear isometric embedding then $S \circ \delta_X \in \mathcal{F}\Pi_p^L(X, G)$.*

Our first result concerning Lipschitz factorable (p, σ) -summing relates them with (p, σ) -summing linear operators. This relation is given via the linearization of the Lipschitz mapping, and provides a shortcut for the study of such summability property in the Lipschitz context.

Theorem 2.1. *Let X be pointed metric space, E be a Banach space. Let $1 < p \leq \infty$, $0 \leq \sigma < 1$, and $T \in \text{Lip}_0(X, E)$. Then $T_L \in \Pi_{p,\sigma}(\mathbb{A}(X), E)$ if and only if, $T \in \mathcal{F}\Pi_{p,\sigma}^L(X, E)$.*

Using Theorem (2.1) and The Pietsch Domination Theorem related to the class of $\Pi_{p,\sigma}$ we get the following Theorem

Theorem 2.2. *Let $1 \leq p < \infty$, $0 \leq \sigma < 1$ and $T \in \text{Lip}_0(X, E)$. The following statements are equivalent.*

- a) $T \in \mathcal{F}\Pi_{p,\sigma}^L(X, E)$.
- b) $T_L \in \Pi_{p,\sigma}(\mathbb{A}(X), E)$
- c) *There exist a constant $C \geq 0$ and a regular Borel probability measure μ on $B_{X^{\#}}$ such that for any $x_i, x'_i \in X$, $a_i \in \mathbb{R}$ ($1 \leq i \leq n$) and all positive integer n , we have*

$$\left\| \sum_{i=1}^n a_i(T(x_i) - T(x'_i)) \right\| \leq C \left(\int_{B_{X^{\#}}} \left(\left| \sum_{i=1}^n a_i f(x_i) - f(x'_i) \right|^{1-\sigma} \left(\sum_{i=1}^n |a_i| d(x_i, x'_i) \right)^\sigma \right)^{\frac{p}{1-\sigma}} d\mu(f) \right)^{\frac{1-\sigma}{p}}$$

- d) *there exist a constant $C \leq 0$ such that for any $x_{ij}, x'_{ij} \in X$, $a_i^j \in \mathbb{R}$ ($1 \leq i \leq n$, $1 \leq j \leq s$) and all positive integers n, s , we have*

$$\left(\sum_{j=1}^s \left\| \sum_{i=1}^n a_{ij} (T(x_i^j) - T(x'^j_i)) \right\|^{\frac{p}{1-\sigma}} \right)^{\frac{1-\sigma}{p}} \leq C \sup_{f \in B_{X^{\#}}} \left(\sum_{j=1}^s \left(\left| \sum_{i=1}^n a_i^j f(x_i^j) - f(x'^j_i) \right|^{\frac{p}{1-\sigma}} \left(\sum_{i=1}^n |a_i^j| d(x_i^j, x'^j_i) \right)^\sigma \right)^{\frac{p}{1-\sigma}} \right)^{\frac{1-\sigma}{p}}$$

Furthermore, the infimum of the constants $C \geq 0$ in (2) and (3) is $\mathcal{F}\pi_{p,\sigma}^L(T)$.

References

- [1] D. Achour, P. Rueda, E.A. Sánchez-Pérez and R. Yahi, Lipschitz operator ideals and the approximation property. *Math. Anal. Appl.* 436 (2016), 217–236
- [2] R. F. Arens and J. Eells Jr. On embedding uniform and topological spaces, *Pacific J. Math* 6 (1956), 397–403.
- [3] J. Diestel, H. Jarchow and A. Tonge, *Absolutely summing operators*. Cambridge Studies in Advanced Mathematics, 43. Cambridge University Press, Cambridge, 1995.
- [4] J. D. Farmer and W. B. Johnson, Lipschitz p -summing operators, *Proc. Amer. Math. Soc.* 137, 9 (2009) 2989-2995.
- [5] H. Jarchow, *Locally convex spaces*, B. G. Teubner, Stuttgart, 1981.
- [6] U. Matter, *Absolutely continuous operators and super-reflexivity*, *Math. Nachr.* 130 (1987), 193-216.
- [7] Yahi, R., Achour, D., and Dahia, E, Lipschitz closed injective hull ideals and Lipschitz interpolative ideals. *Quaestiones Mathematicae*, 48, 4 (2024) 685–701.

People's Democratic Republic of Algeria



Ministry of Higher Education and Scientific Research University
of 08 Mai 1945 – Guelma

Faculty of Mathematics and Computer Science and Material Sciences Laboratory
of Applied Mathematics and Modeling (LMAM)

Intervention Program

**2nd International Conference Mohand
Moussaoui on Applied Mathematics
and Modeling**

Organized by

**Laboratory of Applied
Mathematics and Modeling**

(LMAM)

**University 8 Mai 1945
Guelma**

Guelma, 15-16thDec, 2025



**2nd International Conference Mohand Moussaoui on Applied
Mathematics and Modeling**



First Day Program

2nd International Conference Mohand Moussaoui on Applied Mathematics and Modeling



First day, 15th December 2025

08h30–09h30 **Opening ceremony** Google meeting link: <https://meet.google.com/foy-dxxt-adf>

In memory of the late Mr. Moussaoui Mohand

09h30–14h30 **Plenary Sessions** Google meeting link: <https://meet.google.com/foy-dxxt-adf>

Plenary Sessions Program

	<u>Chairman:</u> Pr. Guebbai Hamza
09h30–10h30	Pr. Muhammet Kurulay: The Mathematical Background of Artificial Intelligence and Disease Diagnosis from Medical Imaging
10h30–11h00	Break + Poster Session
11h00–12h00	<u>Chairman:</u> Pr. Aissaoui Med Zine Pr. Fatma Zohra Nouri: Flow Dynamics: Modeling, Analysis and Simulation
12h00–13h00	Lunch Break
13h00–14h00	<u>Chairman:</u> Pr. Chaoui Abderrazek Pr. Aymen AMMAR: Demicompact Linear Relations.



Ordinary Sessions Program

Room1: Integral & Differential Equations, Optimization, Numerical Methods, Ai

Chairwoman: Dr. Belhireche Hanane

Chairwoman: Dr. Kamouche Somia

14h00– 14h15	Meriem HAMAMDA: Limit Cycles of a Third Order (p, q)-Generalized Polynomial Liénard System Via Averaging Method
14h15– 14h30	Samia MAMAR: SVM for outlier detection in binary classification
14h30–14h45	Mohammed MESSOUS : On The Solvability Of Nonlinear Φ -Caputo Fractional Differential Equations In Banach Spaces
14h45–15h00	Hamida Leila ACHOURA: Improved Iterative–Nyström Approach for Fredholm Integral Equations on Large Intervals
15h00–15h30	Coffee break
15h30–15h45	Aymen HOUAMED: Wave Front Tracking for an Hyperpolic Triangular System
15h45–16h00	Hamza REZIG: IG-BS-LS: An Iterated Greedy Algorithm with Beam Search Reconstruction for the Permutation Flow Shop Problem
16h00–16h15	Rabiaa OUAHABI: Analysis of A Modified Three-Dimensional Continuous Chaotic System With Applications
16h15–16h30	Samah NEZZAR: New Stability Criteria of Linear Singular Systems
16h30–16h45	Bachir BARROUK: On The Encapsulation Of The New Xlindley Distribution
16h45–17h	Hamouda MESSAADIA: Volume and Area via of Submanifolds the Rotation Method
17h00–17h15	Soumia KAMOUCHE: Analytical And Numerical Study of Coupled Nonlinear Volterra Systems with Weakly Singular Kernels
17h15–17h30	Hanane BELHIRECHE: Numerical Treatment of the Volterra Equation with Delay

Room2: Operator Theory, Probability and Statistics

Chairman: Dr. Segni Sami

Chairman: Dr. Dida Rida

14h00– 14h15	Nassima KHALDI: Stability Of Essential Spectra Of Closed Operators Under T-Compact Equivalence And Perturbation
14h15– 14h30	ABIR Yakoub: The Solvability of Generalized Riccati Operator Equation
14h30– 14h45	Aicha BOUAKA: Weak Brownian Motions
14h45–15h00	Sana BOUZIDI: Invariance of Some Essential Spectra of the Sum of Two Blocks of Operators Matrices via Relatively Fredholm Perturbations
15h00–15h30	Coffee break
15h30–15h45	Ahmed BENSALMA: Fractional Augmented Dickey-Fuller Test
15h45–16h00	Moussa TAZEROUTI: A Large-Step Monte Carlo Method with Geometric Boundary Correction for Elliptic PDEs
16h–16h15	Khaled HAMIDI: On Factorable Strongly P-Summing Bloch Maps
16h15–16h30	Houssam Eddine BENCHABANE: Nilpotent and Quasinilpotent Linear Relations (Multivalue Operator)
16h30–16h45	Dorsaf KOUAS: SVEP and Bishop's Property of Quaternionic Right Linear Operators
16h45–17h00	Mohamed ZAMIME : Global Alliances In Some Graphs
17h00–17h15	Randa CHAKAR: Analyse Théorique Et Méthodes Numériques Pour Les Equations Intégrales De Volterra Non Linéaires A L'aide Des \$ \mathbf{Rho} \$-F-Contractions.
17h15–17h30	Sami SEGNI: A Hybrid Backward Finite Difference–Nyström Method for Efficient Numerical Solution of Linear Fredholm Integro-Differential Equation



Room3: Fixed Point and Fractional Theory

Chairman: Dr. Amer Mesbahi

Chairwoman : Dr. Ghomrani Sarra

14h00– 14h15	Ghania REBIAI: A No-Conformable Fractional Dervative
14h15– 14h30	Hana AOUADJIA: Qualitive Analysis of Mild Solution for Iterative Fractional Differential Equations
14h30–14h45	Zeineb KEBIR: Hadamard Fractional Differential Equations: Existence and Positivity Results
14h45–15h00	Abdellah DJAOUT: Solvability of the System Involving the Mixed Derivative and Integral Erdélyi–Kober Equations of Fractional Order
15h00–15h30	Coffee break
15h30–15h45	Salim BENCHIKH: Banach Fixed-Point Theorem for Boundary Value Problems Via Riemann–Liouville Derivatives And Integrals
15h45–16h00	SOLTANI Nor Elhouda: Existence And Multiplicity Of Nontrivial Positive Solutions For Singular Fractional Elliptic System
16h00–16h15	Kharoubi Mohammed El Amin: Coincidence points for mappings defined on (q_1, q_2) -quasimetric space
16h15–16h30	Safia BAZINE: Recent results on fixed points of nonlinear mappings
16h30–16h45	Safia HIMRI : Study of Molecular Assemblies with Quantum Methods
16h45–17h00	Allaoua MEHRI: Numerical Analysis of a Multi-Term Time-Fractional Convection-Diffusion Equation with a Nonlinear Source Term
17h00–17h15	Souheil YAKHLEF: The main uses of SPSS in demography
17h15–17h30	Amer MESBAHI : Non-Simultaneous Or Simultaneous Quenching In A Nonlinear Parabolic System Of Three Equations



Room4: Other Topics

Chairman: Dr. Benribia Noureddine
Chairman: Dr. Guebbai Hamza

14h00– 14h15	Saliba DJENAQUI: Equicontinuous Totally Disconnected Factors of Cellular Automata
14h15– 14h30	Dyhia FEDALA: The Diophantine Equations $T_x \pm T_y = P^n$
14h30–14h45	SIF Eddine BELKADI : A Blow-Up Phenomenon for Nonlinear Heat Equations with Variable Exponent Diffusion
14h45–15h00	Adel SEDDIKI: Une Etude Qualitative D'un Système Dynamique Non Linéaire Avec Des Dérivées Généralisées
15h00–15h30	Coffee break
15h30–15h45	Oumkeltoum BENHAMOUDA : Stability of a One-Dimensional Wave–Heat Coupled System Governed by Fourier's Law of Heat Conduction
15h45–16h00	Rachid LEMDANI: Quelques Résultats Sur Le Nombre Chromatique De Packing De Quelques Graphes
16h00–16h15	Redha SAKRI: Upper-Bound Characterization of Generalized Petersen Graphs $P(2m+1,2)$ Under Locating–Coloring
16h15–16h30	Abdelhamid TALLAB: Some Properties of $\ \cdot \ _{\Tau(P,Q)}$ -Summing Bloch Maps
16h30–16h45	Saadia MAHIDEB : Common Fixed Point Results In Quasi-Partial Metric Spaces Via Simulation Functions With An Application
16h45–17h00	Mohammed Es-Salih ARIES : Stabilisation Des Quelques Problèmes D'évolutions
17h00–17h15	Noureddine BENRABIA: An Adaptive Hybrid Conjugate Gradient Method with Guaranteed Global Convergence
17h15–17h30	Hamza GUEBBAI:



Poster Session

- **Mohamed Lamine SAADA KHELKHAL:** Thermoelasticity with Infinite Memory and Delayed Damping: Well-Posedness and Energy Decay
- **Karima BOUIBED:** Optimization of the Transportation Plan for Dry Products of Cevital
- **Doursaf ZARAOULIA:** Regularized Projection Approach for Solving Ill-Posed Fredholm Integral Equations with Weakly Singular Kernels
- **Ibtissam KERMICHE:** Solving Unconstrained Minimization Problems with A New Hybrid Conjugate Gradient Method
- **Nada ROUABHIA:** Application Of the Hille–Yosida Theorem to a Poro-Thermal System with Distributed Delay
- **Djamel AAID:** An Efficient Coupled Alienor–Branch-and-Bound Method for Multivariate Global Optimization Problems
- **Ahlam ROUAG:** Monte Carlo Simulations of Matrix Field Theory
- **Khaoula MEKALFA:** Étude Comparative Entre Deux Modèles Sismiques Basés Sur Des Equations Intégrales De Volterra
- **Djihane BOURESSACE:** Approche Intégrale Pour Le Traitement Du Modèle Brusslator
- **Ghania HADJI :** A Hybrid Conjugate Gradient Algorithm Based on a Convex Combination of PRP and RMIL+ Formulas
- **Saleh SADI:** Existence de solutions $\in L^p$ presque périodiques pour des équations différentielles stochastiques à coefficients périodiques
- **Wafa SAYOUD:** Analytical Study for an Integro-Differential Nonlinear Volterra Equation
- **Amira HAMDI:** A New Conjugate Gradient Method for Unconstrained Optimization and Training Neural Networks for Heart Disease Prediction
- **Imane ZOUAK:** Nonlinear Dynamics of Discrete-Time Model for Computer Virus Propagation: Chaos, Complexity, Stabilization and Synchronization
- **CHIBI Mouhamed Amine:** An Adaptive Hybrid Nonlinear Conjugate Gradient Method with Global Convergence Guarantee
- **Nabil HANECHE:** Chaos Analysis and Control in a Discretized Fractional-Order Financial System



- **Raouia HAMIS:** Existence and Uniqueness of Positive Solutions for Multi-Order Fractional Nonlinear Systems with Variable Delays
- **Bochra LAMRI:** Some Results On Lyapunov-Type Inequalities for Certain Fractional Boundary Value Problems
- **Lamia HARKAT:** Y-Compactness and Set-Open Topologies On $C(X, Y)$
- **Elhachmi HAMIDATOU:** Equations Aux Dérivées Partielles Fractionnaires, Existence D'attracteurs.
- **Wassim MERCHELA :** Results on b -metric space
- **Mohamed Lamine MERIKHI:** A New Fractional Modeling of a Nonlinear Reaction-Diffusion System Supported by Numerical Simulation
- **Chabna Halima:** Recherche Des Zéros D'une Fonction Non Linéaire Dans Un Espace De Dimension Infinie
- **Abdallah MEDJOURI:** Sur Les Equations Intégro-Différentielles Issues Des Modèles Électrodynamiques
- **Mohammed KHEMIS:** Linear Volterra Integro-Differential Equations With Delay Terms .



Second Day Program



Second day, 16thDecember 2025

Online Day

08h45–09h00 Opening ceremony

In memory of the late Mr. Moussaoui Mohand



2nd International Conference **Mohand Moussaoui** on Applied
Mathematics and Modeling



Room1: Integral & Differential Equation, Optimization, Numerical Methods, Ai

Integral & Differential Equation: Ordinary session (Morning 8h45-12h15)

Chairman: Pr. Ellagoune Fateh

Chairman: Dr. Aries Mohammed Es-Salih

Google meeting link: <https://meet.google.com/jtx-hpdv-cae>

09h–09h15	Houria KAMACHE: General Decay of Solution for A Viscoelastic Equation with Dynamic Boundary Conditions and Delay Terms
09h15–09h30	Abdellah MESKINE: Boundedness ,Square Integrability and Uniform Stability Result for the Solutions of Neutral Type Fourth-Order Vector Differential Equation with Multiple Delay
09h30–09h45	Abed YFRAH: Convergence and Stability of Semi- And Fully-Discrete Approximations for a Nonlinear Wave Equation
09h45–10h00	Amel ATMANI: Local and Global Well Posedness for a Coupled System of Generalized KdV Equations
10h00–10h15	Hamour BOUSSAD: Some Existence Results for a Nonlinear Problem with Source Term in Zygmund-Space
10h15–10h30	Abdelmoumene MOHAMDI: Existence of Solutions of P-Kirchhoff Type Problem Involving a Hardy Potential
10h30–10h45	Moufida AMIOUR: Viability Result for Caratheodory Non-Convex Differential Inclusion in Finite Dimensional Setting
10h45–11h00	Nadja ABIDAT: A Qualitative Study of TB–HIV Co-Dynamics in a Compartmental Model
11h00–11h15	Break
11h15–11h30	Ibtissam FEKRACHE: On the Stability of a Nonlinear Viscoelastic Timoshenko System
11h30–11h45	Khadidja BENZERROUG: Existence Result of an Elliptic Problem with a Singular Term
11h45–12h00	Abdelkader TAMI: Coefficients in the Asymptotic Expansion of Solutions to the Heat Equation in Polygonal Domains
12h00–12h15	Abdelaziz HELLAL: Schrödinger-Maxwell-Type System Involving Variable Exponents



Integral & Differential Equation: Ordinary session (Afternoon 13h30-16h30)

Chairwoman: Dr. Naima Hamel

Google meeting link: <https://meet.google.com/jtx-hpdv-cae>

13h30–13h45	Tayeb LAKROUMBE: Existence and Decay Rates of Semilinear Wave Equation with General Strong Dissipation by A Variable Coefficient
13h45–14h00	Nadji TOUIL: Critical Energy Levels and Blow-Up Estimates in Kirchhoff-Type Parabolic Equations
14h00–14h15	Abdelhaq ALIOUAT: Energy Blow-Up in a Nonlinear Biharmonic Wave Model with Variable Exponents and Mixed Boundary Conditions
14h15–14h30	Nihad MIMOUNI: On the Dynamics at Infinity in Classes of Liénard-Duffing Systems
14h30–14h45	Faissal Mansouri: Optical Similaritions in Nonlinear Fiber Amplifiers: Self-Similar Evolution and Analytical Modeling
14h45–15h00	Nabila SEGHIRI: Operational Matrices of Genocchi Polynomials for Solving Linear Fredholm Integral Equations



Integral & Differential Equation: Ordinary session (Morning 8h45-12h15)

Chairwoman: Dr. Labadla Amel

Google meeting link: <https://meet.google.com/brx-ubmh-uhb>

09h00-09h15	Sarra HADI: Allencahn Equation in Cylindrical and Non-Cylindrical Domains: an Asymptotic Study
09h15-09h30	Yassine BENIA: Existence of Solutions to Burgers-Huxley Equation in Domains That Can Be Transformed Into Rectangles
09h30-09h45	Affaf REZIG: Asymptotic Stability and Numerical Analysis for A Timoshenko System Under Viscoelastic Damping
09h45-10h00	Aymene KHELAIFA: A Review of Nonlinear Age-Structured Tumor Cell Populations Model
10h00-10h15	Meriem DJIBAOUI: Variational Methods to Second-Order Dirichlet Boundary Value Problems on The Half-Line
10h15-10h30	Kamilia Chettouh: Analysis of an Age-Structured Tumor Growth Model
10h30-10h45	Abdelaziz DOUAH: H^2 -Convergence of Solutions to a Biharmonic Problem on a Truncated Non-Convex Sector as the Angle Approaches π
10h45-11h00	Dounia BOUCHELIL: On the Kelvin–Voigt Wave Equation with a Viscoelastic Term
11h00-11h15	Break
11h15-11h30	Louiza MERZOUGUI: Dimension Reduction Method and Error Estimates
11h30-11h45	Mohamed BOUGUERROUMI: Well-Posedness and Stability of a Nonlinear Beam
11h45-12h00	Asma MAADADI: Numerical Solution of Nonlinear Fredholm Integro-Differential Equations Using Chebyshev
12h00-12h15	Nadia BENGOUAGA: Decomposition of a Beam Displacement and Error Estimates



Integral & Differential Equation: Ordinary session (Afternoon 13h30-16h30)

Chairwoman: Dr. Bouazila Nada
Chairwoman: Dr. Chakar Randa

Google meeting link: <https://meet.google.com/brx-ubmh-uhb>

13h30–13h45	khadidja DAAS: Employing Chaotic Dynamical Systems for Advanced Contemporary Cryptographic Techniques
13h45–14h00	Madani DOUIB: On the Exponential Stabilization of a Flexible Structure with Delay
14h00–14h15	Hocine AYADI : On Weighted P(.)-Laplacian Problems with Singular Nonlinearities and Variable Exponents
14h15–14h30	Wafiya BOUKROUK: Une Question Portant Sur Les Solutions De Deux Problèmes Liés
14h30–14h45	Imane BAZINE : Numerical and Analytical Study of a Weakly Singular Volterra–Fredholm Equation
14h45–15h00	Sarra Ghomrani: Nonlinear Fredholm Integral Equations in Economic Model with Intertemporal Spillovers



Optimization: Ordinary session (Morning 8h45-12h15)

Chairwoman: Dr.Benissaad Meryem

Google meeting link: <https://meet.google.com/cgn-wttj-gcr>

09h00–09h15	Maroua HAKIM: An Hybrid Algorithm to Solve the Fixed Charge Transportation Problem
09h15–09h30	Islem BENNADJA: A Multi-Objective Optimal Control Framework for Infectious Disease Management
09h30–09h45	Welid GRIMES: A Quadratically Convergent Full-Newton Primal-Dual Interior-Point Algorithm for Convex Quadratic Optimization
09h45–10h00	Youcef Elhamam HEMICI: A New Combined Conjugate Gradient Method Applied to Image Restoration
10h00–10h15	Sarah BOUDA: An Adapted Ant Super Colony Algorithm to Solve Bus University Routing Problem(op)
10h15–10h30	Dounia BAHALI: SDDES with Finite Horizon
10h30–10h45	Selma KALLIL: Multi-Objective Coalition Formation in Heterogeneous Uavs Using an Mopso Algorithm
10h45–11h00	Louiza DEHBI: Prey-Predator in Two and Three Species Cases
11h00–11h15	Break
11h15–11h30	Amira AIBECHE: Dynamic of a Second-Order Variational Inequality
11h30–11h45	Adlane BAAZIZ: Bi-Objective Two-Agent Single-Machine Total Weighted Tardiness Scheduling
11h45–12h00	Nadia Amal MESSAOUDI: Parameter Identification in an Hiv Dynamics Model via Chaotic Optimization Algorithms
12h00–12h15	Ouafa BELGUIDOUM: A Projection-Type Algorithm for Generalized Variational Inequalities Problem



Optimization: Ordinary session (Afternoon 13h30-16h00)

Chairwoman: Dr. Belhireche Hanane

Google meeting link: <https://meet.google.com/cgn-wttj-gcr>

13h30–13h45	Ayache BENHADID: Studies on General And Extended General Variational Inequalities
13h45–14h00	Nour El Islem HIBER: Approximation Solution Set of Lipschitz Nonlinear Equations Using Concave Support Functions and $\backslash\Alpha\$$ -Dense Curves
14h00–14h15	Imane MANCER: Risk-Sensitive Optimal Control in Wasserstein Space: a Stochastic Maximum Principle with Impulse Effects
14h15–14h30	Boualem SLIMI: Quasi-Monte Carlo Methods for Calculating European Call Options
14h30–14h45	Ilias BADAQUI: Acceleration of the L-Shaped Method: Stochastic Optimization
14h45–15h00	Nadia LACHEMI: A Network-Based Approach for Generating Efficient Solutions to the Bi-Objective 0/1 Knapsack Problem
15h00–15h15	Bochra ZEGHAD: Modified Extragradient Algorithm Using Bregman Distance
15h15–15h30	Djamel ZERROUKI: Improved Convex Lower Bound Function for Univariate Nonconvex Functions
15h30–15h45	Amira LAHMER: Integro- Differential Inclusion Associated with Primal Lower Regular Functions
15h45–16h00	BENDJEDI Akram : A DC-Penalized dual reformulation for solving mixed-Integer bilevel quadratic programs

Numerical Methods, Ai: Ordinary session (Morning 8h45-12h15)

Chairwoman: Dr. Kaidouchi Wahida

Google meeting link: <https://meet.google.com/vod-wiss-dov>

09h00-09h15	Fatima OUAAR: Effectiveness Fitting Of Linear Regression In Deep-Learning Approach
09h15-09h30	Mohammed ELAROUSSI: Redundancy in Abstract Argumentation: Towards Minimal Frameworks and Efficient Dynamics
09h30-09h45	Nassima ANANE: A Two-Step Iterative Fixed-Point Method for New General Absolute Value Equations
09h45-10h00	Abdelouahab MANI: Efficient Numerical Schemes for Nonlinear Quadratic Integral Equations
10h00-10h15	Nesserine BENELMIR: Stability and Bifurcation Analysis of a 4d Nonlinear Dynamical System
10h15-10h30	Hadjer ZEROUALI: Solving Pseudo-Hyperbolic Equation with Non Local Conditions Using Numerical Technique
10h30-10h45	Fouzia BIREM: A Numerical Method for Solving Systems of Volterra Delay Integro-Differential Equations
10h45-11h00	Ouidad BOULAKOUR: Solving Nonlinear Time-Fractional Evolution Problems Using the Laplace–Residual Power Series Method
11h00-11h15	Break
11h15-11h30	Chahinaz HENNOUS: Numerical Solution of Pantograph-Type Integral Equations via Taylor Collocation
11h30-11h45	Roumaissa BENSEGHIR: Reproducing Kernel Method For Solving Delay Integro-Differential Equations
11h45-12h00	Chafika SAKHANE: Taylor Collocation Method for Solving Two Dimensional Double Delay Differential Equations
12h00-12h15	Safia MEKHALFA: On the Orthogonality of a New Combination of Two Sequences of Classical Orthogonal Polynomials



Numerical Methods, Ai: Ordinary session (Afternoon 13h30-16h30)

Chairwoman: Dr. HIMRI Safia

Google meeting link: <https://meet.google.com/vod-wiss-dov>

13h30–13h45	Khaoula Imane SAFFIDINE: Periodic Pattern Reaction-Diffusion System
13h45–14h00	Salah Eddine BENCHELLALI: Mathematical Analysis and Numerical Simulation to Investigate the Propagation Properties of Kink Soliton in the Higher Order Nonlinear Schrödinger Equation in the Presence of Quintic Term
14h00–14h15	Abdennour KROUCHI: Local Discontinuous Galerkin Method for \Vspace Second Order Partial Differential Equation
14h15–14h30	Abdelhakim DEHAMNIA: Homogenization and Uniform Stabilization for a Nonlinear Second Order Equation with Multiple Spatial Scales
14h30–14h45	Seddik MERDACI: Homogénéisation a symptomatique des Plaques Hétérogènes Visco-Elastique Affaiblies Par des Micro-Fissures
14h45–15h00	Najia HAOUARI: A Python-Based Neural Network Method for Linear Programming
15h00–15h15	Sara LABIDI: From Physical Models to Mathematical Analysis



Room2: Operator Theory, Probability and Statistics

Operator Theory: Ordinary session (Morning 8h45-12h15)

Chairwoman: Dr. Bazine Imane

Google meeting link: <https://meet.google.com/pbw-cxrp-cyz>

09h00–09h15	Nadjet MERDJ: On The Operator Equation $XDX + YEX + AX - BX = C$
09h15–09h30	Hicham KASRI: Theoretical Analysis and Uniform Stability for a Hyperbolic Equation with Dirichlet and Wentzell Boundary Conditions
09h30–09h45	Farida MEKKAOUI: A Note on (F,G) -Aluthge Transforms of Operators
09h45–10h00	Belaala MAATOUGUI : An Over View on Lipschitz Ph-Summing Operators
10h00–10h15	Nesrine HAMIDI: Estimation of the Relative Error Under Functional Censored Data
10h15–10h30	Aissa BOUHALI: Commutants of the Sums of Two Toeplitz Operators on the Bergman Space with General Symbols
10h30–10h45	Raoudha LAFFI: Boundedness and Reproducing Kernels of Multiplier Operators in the Fourier-Laguerre Setting
10h45–11h00	Antar BOUYELLI: On the Extended Spectrum of Certain Operators
11h00–11h15	Break
11h15–11h30	Abdelaziz GHERDAOUI: Some Estimates for Hardy-Steklov-Type Operators Acting on Monotone Functions in L^p Spaces With $0 < p < 1$.
11h30–11h45	Mohammed Aiman: DOUCHE A Review on the Applications of the Drazin Inverse in Solving Differential Equations
11h45–12h00	Tayeb MAHROUZ: Regularity of Differential Operators of Constant Strength in Roumieu Spaces
12h00–12h15	Ayyoub FELLAG ARIOUAT: Example of Non Normal Operator on Hilbert Spaces

Operator Theory: Ordinary session (Afternoon 13h30-16h30)

Chairman : Pr. Guebbai Hamza

Google meeting link: <https://meet.google.com/pbw-cxrp-cyz>

13h30–13h45	Brahim ABDELMALEK: Existence and Multiplicity of Solutions for Nonlinear Elliptic Systems
13h45–14h00	Mourad RAGHDI: Dense Range of Nonlinear Operators and Approximate Controllability of Semilinear Heat Equations
14h00–14h15	Mustapha MAADANI: A-Isometry Operators in Semi-Hilbertian Spaces
14h15–14h30	Abdelkader BOUREBAI: Normal Forms and Semiclassical Spectra of Schrödinger Operators Near Resonance
14h30–14h45	Rachid YAHI: Lipschitz Factorable $\$P\$$ -Summing Operators
14h45–15h00	Wissem CHOUGAR: The Controllability Of A Parabolic System Using Carleman's Estimates.
15h00-15h15	KAIDOUCHE Wahida: Study Of A Nonlinear Infinite-Dimensional Equation

Probability and Statistics: Ordinary session (Morning 8h45-12h15)

Chairwoman: Dr. Kamouche Somia

Google meeting link : <https://meet.google.com/nsw-xohg-vri>

09h00–09h15	Oum Kelthoum BELLAOUI: Existence and Uniqueness of Riemann-Liouville Fractional Integro-Differential Equations with Random Coefficient
09h15–09h30	Atika AOURI: Estimation of Spatiotemporal Garch Model
09h30–09h45	Kheira SENOUCI: On the Local Linear Estimation of the Conditional Cumulative Distribution for Functionally Dependent and Censored Data
09h45–10h00	Faiza LIMAM-BELARBI: Robust Estimation for Censored Functional Time Series: Strong Consistency Results of a Trimmed Regression Approach
10h00–10h15	Ahmed LAKEHAL: The Application of Brass' Relational Models for Estimating Experience Mortality
10h15–10h30	Ahmed AKRIMI: Local Linear Estimation of Spectral Density Function with Missing Data
10h30–10h45	Ikram HAMED: Risk Sensitive for Fractional Brownian Motion
10h45–11h00	Oum Elkheir BENAOUEDA : A Note on the Conditional Distribution Estimate in Single Functional Index Model
11h00–11h15	Break
11h15–11h30	Abdellatif GUENAIZI: Détection Offline Des Ruptures Dans Les Modèles De Durées
11h30–11h45	Billel ALIAT: On Markov Regime Switching Periodic Linear State Space Models: Filtering, Estimation and Applications
11h45–12h00	Samia MAZOUZ: Partial Functional Mean Characterization Based Tests for the Bivariate Skew-Normal Distribution
12h00–12h15	Farida SLIMI : Algebraic Method for Computing Weibull Moments



Probability and Statistics: Ordinary session (Afternoon 13h30-16h30)

Chairman : Dr.Segni Sami

Google meeting link: <https://meet.google.com/nsw-xohg-vri>

13h30–13h45	Hafida BEN BRAHIM: Martingale Problem and Weak Solution for General Sdes
13h45–14h00	NOUR El-Hayet Ladaouri: Impact of Choosing the Kernel, Smoothing Parameter and Norm on the Estimation of the Conditional Density with Functional Data
14h00–14h15	Aida ZITOUNI: A Chaos–Sobol Framework for Global Sensitivity Analysis of GI/M/1/N Queuing Systems
14h15–14h30	Asma HADJOU BELAID: Stochastic Stability Analyses of a Diffusion Drift System with the Lyapunov Function
14h30–14h45	Dihia BELAIZA: Reliability Analysis of an M/M/1 Retrial Queue with Negative Arrivals and Breakdowns
14h45–15h00	Dahbia HAFAYED : Sufficient Conditions for Optimal Control of Forward-Backward Doubly Stochastic Volterra Systems with Random Jumps
15h00–15h15	Oussama BAHI: Bayesian inference for Twice-Censored Data

Room3A: Fixed Point and Fractional Theory

Ordinary session (Morning 8h45-12h15)

Chairwoman: Dr. Bazine Safia

Google meeting link: <https://meet.google.com/mnz-cdkm-xse>

09h00–09h15	Fatma BERRIGHI: Study of Mild Solutions to Conformable Fractional-Order Evolution Equations
09h15–09h30	Aboubaker El-Saddik BOUZIANE: Investigating a Class of Caputo-Type Fractional Integro-Differential Equations
09h30–09h45	Rachid CHERIEF: Novel Doubly Periodic and Other Solutions of the Conformable Time-Fractional (2+1)-Dimensional Modified Kdv-CBS Equation
09h45–10h00	Amar BENKERROUCHE: Initial Value Problem With Ordinary And Fractional Derivatives for Non-Autonomous Variable Order Differential Equations
10h00–10h15	Nassima MELOUANE: Fixed Point Index for Positive Meir-Keeler Condensing Operator and Application
10h15–10h30	Naima BOUSSEKKINE: Weak Solutions for a Fractional Boundary Value Problem (Bvp) Involving Ψ Caputo Impulsive Fractional Differential Equations
10h30–10h45	Souhila SABIT: Existence, Uniqueness, And Stability of Fractional Operator Approach to Cauchy-Type Problems
10h45–11h00	Hammou BENMEHIDI: Coupled Fractional Differential Systems with the Caputo-Fabrizio Operator
11h00–11h15	Break
11h15–11h30	Belqassim AZZOUZ: On a Nonlinear Fractional Differential Equation Under Certain Condition
11h30–11h45	Yacine ELHADJ MOUSSA: Smoking As An Epidemic: Relapse Dynamics With Caputo Derivatives
11h45–12h00	Radhowane CHAIB: Contraction Sequences and Fixed Points in B-Metric Spaces
12h00–12h15	Azeddine NOUIKAS : Variational Approach to Hadamard Fractional Boundary Value Problems with Infinitely Many Solutions



Room3A: Ordinary session (Afternoon 13h30-16h30)

Chairwoman: Dr. Djennaoui Saliha

Google meeting link: <https://meet.google.com/mnz-cdkm-xse>

13h30–13h45	Mohammed Elamine BEROUDJ: Solving An Inverse Problem Of A Fractional Partial Differential Equation Using Orthonormal Legendre Polynomials
13h45–14h00	Rachid BELKFIF: Existence , Uniqueness And Ulam--Hyers Stability For Two--Point Fractional Boundary Value Problems
14h00–14h15	KAMACHE Fares: Positive Solution For Singular Double Phase Nonhomogeneous Quasilinear Problems Involving The Ψ -Hilfer Fractional Operator
14h15–14h30	Abdelhak ABDALLAH: Study Of A Three Sequential Abstract Fractional Differential Equations
14h30–14h45	Said MEKHDOUA: On the Existence and Uniqueness of Solutions for a Coupled System of Nonlinear Langevin Equations
14h45–15h00	Amouria HAMMOU: Impulsive Fractional Differential Equations Involving The Caputo-Hadamard Fractional Derivative In A Banach Space
15h00–15h15	Randa HADJADJ: A Common Fixed Point Approach to Equilibrium in Abstract Economies
15h15–15h30	Bourega Abdeldjabar: Coupled Riemann–Liouville Fractional Systems Via Fixed Point Theorems In Generalized Banach Spaces.
15h30-15h45	Zineb KORICHI: Mathematical Solution Of The Fractional Liouville Equation
15h45-16h00	Maroua NOUAR: INITIAL Data Reconstruction in Time-Fractional Allen-Cahn Equations
16h00-16h15	Oussama BOUANANE : analytical and numerical study of the time-fractional caputo-burger equation

Room3B: Fixed Point and Fractional Theory

Ordinary session (Morning 8h45-12h15)

Chairman: Dr. Dida Rida

Google meeting link: <https://meet.google.com/foy-dxxt-adf>

09h00–09h15	Souheyla DEBBOUCHE : Quelques Définition De La Dérivée Fractionnaire Avec Une Application Aux Equations Logistiques
09h15–09h30	Aymen LAKEHAL : MATHEMATICAL Analysis of Spatial SEIAR Models with Componentwise Caputo Derivatives and Non Linear Diffusion
09h30–09h45	Hamdi Cherif MOUNTASSIR : Analytical Solutions Of Fractal Partial Differential Equations Via A Unified Local Fractional Transform Approach
09h45–10h00	Mohammed KOUIDRI : Analytical Foundations And Applications Of Fractional Resonant Boundary Value Problems
10h00–10h15	Soumia BENSIMESSAOUD : Realization Of Compound Combination Synchronization Between Three Identical Integer-Order Chaotic Systems And A Fractional-Order Chaotic System
10h15–10h30	ABDELAZIZ Belaada : Existence Of Weak Solution For A Fractional $P\bar{S}$ -Laplacian Problem
10h30–10h45	Bochra AZZAQUI : Integral Equation Of Nonlinear Boundary Value Problem In Fractional Sobolev Spaces
10h45–11h00	Aida BELLOUT : A Study of Chaotic Dynamics in a Fixed-Memory Fractional Cardiac Action Potential Duration Model
11h00–11h15	Break
11h15–11h30	Samia YOUSSEFI : Existence and Ulam-Hyers Stability of Boundary Value Problems for Nonlinear Variable-Order Caputo Fractional Differential Equations
11h30–11h45	Naceur CHEGLOUFA : Neutral Ψ -Hilfer Fractional Delay Equations: Existence of S-Asymptotically Bloch Type Periodic Solutions
11h45–12h00	Nora BENMIR : Euler-Bernoulli Beam Model For Lateral Dynamics Of Drill Strings: Analysing Resonance And Stability Under Axial Tension And Compression
11h45–12h00	Lilia ZENKOUFI : Positive Solution of a Three-Point Boundary Value Problem for a Fifth-order Differential Equation



Room4: Other Topics

Room4A: Ordinary session (Morning 8h45-12h15)

Chairman: Dr. SEDKA Ilyes

Google meeting link: <https://meet.google.com/rca-mcaa-xbo>

09h00–09h15	Mohamed BEKIRI : Nodal Solutions For A Yamabe Type Problem On Compact Manifold
09h15–09h30	Nawel HAMBLI : Numerical Analysis To Investigate The Impact Of Chirp On The Propagation Of Optical Pulses In Nonlinear Media
09h30–09h45	Dounya HAMEK : An Entirely New Family Of Generating Functions for Binary Products of Gaussian Pell Padovan Numbers With Bivariate Polynomials.
09h45–10h00	Rayane BOUCHERMA : Modeling the Dynamics of Tuberculosis Transmission in Algeria
10h00–10h15	Sara DRIDI : A Boolean Satisfiability Formulation of Regional Controllability in Cellular Automata
10h15–10h30	Aicha BENGUETAIB : Singular Elliptic Equations with Variable Exponents and $L^{\{1\}}$ -Data
10h30–10h45	Khelifa BERKANE : Modeling Infectious Disease Spread Using a Fractional Stochastic Sirds Framework
10h45–11h00	Ayoub KEMARI : Stabilité De La Méthode Linéaire Appliquée A Un Système Caténaire A Tricompartment. Le Cas Du Système Polynomial D'ordre $(\Alpha + \Beta)$.
11h00–11h15	Break
11h15–11h30	Nadjet LAKEHAL : On the Synchronization of a Novel Chaotic System with Two Method
11h30–11h45	Nawel ABDESSELAM : Blow-Up of Nonlinear Schrödinger Equations with Variable Coecients and Memory
11h45–12h00	Chahinez IMINE : Measuring Symmetry Resistance in Graph Products
12h00–12h15	Abdeldjalil KADRI : Dynamics of a Time-Delayed Stochastic Sir Model With Nonlinear Incidence and Treatment Rate

Room4A: Ordinary session Afternoon 13h30-16h00)

Chairwoman: Dr. Khalfallaoui Roumaissa

Google meeting link: <https://meet.google.com/rca-mcaa-xbo>

13h30–13h45	Amina BELLIL : Decomposition Of Quasi-Twisted Codes Over Non-Chain Ring
13h45–14h00	FIDA BAHBA : Advances In Harmonic Analysis Within The Opdam-Cherednik Framework
14h00–14h15	Zaineb LOKSAIER : A Rational-Closure of the Heisenberg Group : Application to Image Texture Analysis
14h15–14h30	Djahida BOUCHEFRA : Dirac Equation with Exactly Solvable Killingbeck with a Ring-Shaped Oscillatory Potential
14h30–14h45	Yacine BRIEDJ : Integer Points of a Family of Elliptic Curves Induced by a Diophantine Set
14h45–15h00	Said AMROUCHE : Un Triangle Arithmétique Lié A La Suite De Fibonacci
15h00–15h15	Ibrahim DAAMECHE : Exponential Stability of the Von Kármán System With Internal Damping
15h15–15h30	Saad MOHAMED : Fuzzy Subring
15h30–15h45	Hamza LEKHCHINE : Mohand Moussaoui: A Scientific Legacy and Historical Vision in the Development of Applied Mathematics
15h45–16h00	Maroua Amel BOUBEKEUR : Impact of Chronic Diseases on Epidemic Dynamics: A Mathematical Perspective
16h00–16h15	Moustafa TADJ : a Generalisation of Biharmonic Maps in Riemannian Manifolds

Room4B: Ordinary session (Morning 8h45-12h15)

Chairwoman: Dr. Djaghout Manal

Google meeting link: <https://meet.google.com/tue-aroo-xhe>

09h00–09h15	Yassine OUAKOUAK: Exponential Stability of a Thermoelastic Shear Beam Model With Lord-Shulman Type
09h15–09h30	NABIL Hamidi: A Model of Plasmid-Bearing and Plasmid-Free Competition in a Chemostat with Distinct Removal Rates
09h30–09h45	KOUAKOU Kouassi Vincent: Congruent Numbers From The Unity Circle Via Elliptic Curves: Trigonometric And Galaxy Families
09h45–10h00	Amel RAHMANI: Multiplicity Results For Boundary Value Problems Of Kirchhoff Type On The Half-Line Via Genus Theory
10h00–10h15	Hamid ACHAB: On the Mathematical Modeling of Thermo-Viscoplastic Contact with Time-Fractional Derivatives
10h15–10h30	Amina BECHEROUL: Trend Function Estimation In Stochastic Differential Equations Driven By Generalized Mixed Bi-Fractional Brownian Motion
10h30–10h45	Chahinaze DJADI: On Extended Congruence Relations And Arithmetic Properties Of Generalized Binomial Coefficients
10h45–11h00	Hossemddine ACHOUR: Self-Similar Solution For The Inverse Problem That Occurs In Image Restoration
11h00–11h15	Break
11h15–11h30	Rebiha SAFFIDINE : The Regularization Method For Solving Bilinear Sub-Riemannian Geodesic Problem
11h30–11h45	Oussama REZAIGUIA : Optimal Control Strategies For A Cost-Effective Diphtheria Transmission Model
11h45–12h00	Meriem El-Batoul KEDDAR : Controlling Covid-19 Dynamics Using An Epidemic Model
12h00–12h15	Souad AZRA : Nilpotent-By-Polycyclic-By-Cernikov Groups Nilpotent-By-Polycyclic-By-Cernikov Groups



Room4B: Ordinary session (Afternoon 13h30-16h30)

Chairwoman: Dr. Hafaidia Imane

Google meeting link: <https://meet.google.com/tue-aroo-xhe>

13h30–13h45	Yasmina GHETTOU: Synchronization Of Chaotic Systems Using Active Control And Backstepping Control Methods
13h45–14h00	Samiha AGUEB: L'effet De L'ajout D'une Chaine Sur Le Nombre B-Chromatique
14h00–14h15	Bochra GHERIBI: Morrey Space And Besov Space
14h15–14h30	Ghania GUETTAI: Exploring A Novel Class Of Polynomials Derived From The Laguerre Transform
14h30–14h45	MOUSSA FALL: Classification Of Algebraic Points On The Hyperelliptic Curve Of Affine Equation $Y^2 = X^5 + 3x^3 + X$
14h45–15h00	Abdelaziz BENNOUR: Existence And Multiplicity Of Solutions To The Nonhomogeneous Biharmonic Problem Involving Critical Growth And Hardy Potentials
15h00–15h15	Amina GUERROUMA : A Comparative Study of Heuristic-Based Memetic Algorithms for Multi-Objective Stochastic Knapsack Problems



