

**International E-Conference on Differential Equations and Applications  
(IE-CDEA 2021)**

**24-25 September 2021**

**Faculty of sciences Dhar El Mahraz, Fez, Morocco**

**The laboratory of analysis and applied mathematics (LAMA)**

## **Planning**

**Day1 : Zoom link :**

<https://zoom.us/j/97941830271?pwd=TEFxaVZSbnhUUjhEZmMxZ3ZaZTQ4QT09>

ID de réunion : 979 4183 0271

Code secret : 541633

**All times are Moroccan local time (GMT+1)**

<b>Time</b>	<b>Friday 24/09/2021</b>	
09h30-10h00	<b>Opening ceremony</b>	
10h00-11h00	<b>Prof. A. Benkirane</b>	
	<b>Dr.</b>	
	<b>Title:</b> Honoring the honorable professor : A. Touzani	
11h00-11h15	<b>Break</b>	
	<b>Speaker: M. Seaid</b>	<b>Chair :J. Bennouna</b>
	<b>Title:</b> On some mathematical models for transport and dispersion in porous media	
	<b>Break</b>	
11h15-12h15	<b>Speaker : A. Nachaoui</b>	<b>Chair : A. Azroul</b>
	<b>Title:</b> Iterative methods for inverse problems subject to the convection-diffusion equation	
12h15-14h30	<b>Break</b>	

### **Session 1**

**Google Meet link :**

<https://meet.google.com/vdx-kqhz-erp>

<b>Session 1 (EDP1)</b>	<b>Chair : A. Benkirane</b>	<b>Co-chair : A. Aberqi Co-chair : C. Yazough</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/vdx-kqhz-erp">https://meet.google.com/vdx-kqhz-erp</a>		
15h00-15h20	MOHAMED LGHAZAL	THE GENERALIZED FUGLEDE'S THEOREM IN MUSIELAK-ORLICZ HARDY SPACE
15h20-15h40	OMAR BENSLIMANE	EXISTENCE RESULTS FOR UNILATERAL ANISOTROPIC PROBLEM DEFINED IN ANISOTROPIC SOBOLEV-ORLICZ SPACE
15h40-16h00	BALAADICH FARAH	QUASILINEAR ELLIPTIC SYSTEMS WITH NONSTANDARD GROWTH
16h00-16h20	HAMMOUMI MOHAMED	UNIQUENESS OF RENORMALIZED SOLUTIONS FOR A CLASS OF PARABOLIC EQUATIONS
16h20-16h40	ABDELLATIF BOUTIARA	SYSTEMS OF GENERALIZED STURM-LIOUVILLE AND LANGEVIN EQUATIONS VIA $\Psi$ -HILFER FRACTIONAL DERIVATIVES WITH BOUNDARY CONDITIONS
16h40-17h00	HAYAT BENKHALOU	EXISTENCE OF RENORMALIZED SOLUTIONS FOR ELLIPTIC PROBLEM WITH NEUMANN BOUNDARY CONDITION
17h00-17h20	AIT HAMMOU MUSTAPHA	NONLINEAR PROBLEM INVOLVING THE FRACTIONAL $P(X)$ -LAPLACIAN OPERATOR BY TOPOLOGICAL DEGREE
17h20-17h40	AZRAIBI OUIDAD	ON SOME NONLINEAR ELLIPTIC PROBLEMS WITH LARGE MONOTONOCITY IN MUSIELAK-ORLICZ-SOBOLEV SPACES

## Session 2

Google Meet link :

<https://meet.google.com/jrs-bwqt-hug>

<b>Session 2</b> Optimization and control theory 1	<b>Chair: A. Nachaoui</b>	<b>Co-chair: A. Khazari</b> <b>Co-chair: M. Baddi</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/jrs-bwqt-hug">meet.google.com/jrs-bwqt-hug</a>		
15h00-15h20	ABDELLAH LOURINI	ON THE NULL CONTROLLABILITY OF BOUNDARY CONTROL PROBLEMS
15h20-15h40	M. OUHAFA	ON THE REGIONAL TRACKING PROBLEM FOR THE BILINEAR DAMPING WAVE EQUATION SUBJECT TO BOUNDED CONTROLS
15h40-16h00	LAMRANI ILYASSE	SUPEREXPONENTIAL STABILIZATION OF WEAKLY COUPLED PARABOLIC SYSTEMS
16h00-16h20	AISSAM ICHATOUHANE	OPTIMALITY CONDITIONS FOR NONSMOOTH MULTI-OBJECTIVE INTERVAL-VALUED OPTIMIZATION PROBLEM WITH SEMI-INFINITE CONSTRAINTS VIA CONVEXIFIERS
16h20-16h40	AYOUB SAKKOU	A MATHEMATICAL SIMULATION AND OPTIMAL CONTROL OF A VIH MODEL WITH DIFFERENT INFECTIOUS LEVEL
16h40-17h00	ABDELKARIM AKOUBI	ON THE OUTPUT STABILIZATION OF INFINITE DIMENSIONAL BILINEAR DELAY SYSTEM
17h00-17h20	AGHEDDOU MUSTAPHA	ENLARGED CONTROLLABILITY OF PARABOLIC BILINEAR SYSTEMS
17h20-17h40	AHMED DELBOUH	STRONG STABILISATION FOR DELAYED SEMILINEAR SYSTEMS GOVERNED BY CONSTRAINED FEEDBACK CONTROL
17h40-18h00	ZOUBIDA ECH-CHAFFANI	EXACT CONTROLLABILITY OF CAPUTO FRACTIONAL EVOLUTION EQUATIONS

## Session 3

Google Meet link :

<https://meet.google.com/yrv-vjpp-inn>

<b>Session 3</b> (EDP2)	<b>Chair : A. Touzani</b>	<b>Co-chair : A. Barbara</b> <b>Co-chair : O. El Barrimi</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/yrv-vjpp-inn">https://meet.google.com/yrv-vjpp-inn</a>		
15h00-15h20	BADR EL HAJI	STRONGLY NONLINEAR ELLIPTIC PROBLEM WITH MEASURE DATA IN MUSIELAK-ORLICZ SPACES
15h20-15h40	MOHAMMED BELAYACHI	EXISTENCE OF ENTROPY SOLUTIONS FOR SOME NONLINEAR AND NONCOERCIVE UNILATERAL ELLIPTIC PROBLEMS
15h40-16h00	MOULAY CHERIF HASSIB	CAPACITY, THEOREM OF H BREZIS AND F.E. BROWDER TYPE IN WEIGHTED VARIABLE EXPONENT SOBOLEV SPACES AND APPLICATION TO AN UNILATERAL PROBLEM
16h00-16h20	M. EL OUARDY	SOME NONLINEAR PARABOLIC PROBLEMS WITH SINGULAR NATURAL GROWTH TERM
16h20-16h40	MOHAMMED SRATI	ON A NEW FRACTIONAL MUSIELAK-SOBOLEV SPACE AND APPLICATIONS
16h40-17h00	ABDESSLAM OUAZIZ	NONLOCAL ELLIPTIC PROBLEMS ON COMPACT RIMMANNIAN MANIFOLDS
17h00-17h20	NOURDINE ELAMARTY	ON THE EXISTENCE OF ENTROPY SOLUTION FOR THE STRONGLY NONLINEAR UNILATERAL PARABOLIC INEQUALITIES WITH LOWER ORDER TERM
17h20-17h40	ELMASSOUDI MHAMED	EXISTENCE RESULT OF A SOLUTION FOR A NONLINEAR ELLIPTIC-PARABOLIC SYSTEM IN ORLICZ SPACES

### Session 4

Google Meet link :

<https://meet.google.com/qpe-huht-oki>

<b>Session 4</b> <b>Numerical</b> <b>Analysis and</b> <b>Modelling</b>	<b>Chair: M. Seaid</b>	<b>Co-chair : S. Wardi</b> <b>Co-chair : A. Azzouzi</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/qpe-huht-oki">https://meet.google.com/qpe-huht-oki</a>		
<b>15h00-15h20</b>	LAHCEN EL-OUADEFLI	NUMERICAL SIMULATION OF THE BRINKMAN SYSTEM WITH DIFFERENT PERMEABILITY
<b>15h20-15h40</b>	MASROUR MOHAMMED	REGULARITY OF SOLUTIONS TO SOME CLASSES OF LINEAR ELLIPTIC DEGENERATE HIGHER-ORDER OPERATORS
<b>15h40-16h00</b>	ABDELOUAHED ALLA HAMOU	NUMERICAL ANALYSIS OF TIME FRACTIONAL PARABOLIC EQUATIONS WITH INITIAL AND PERIODIC CONDITIONS
<b>16h00-16h20</b>	KHOUYA BASSOU	A SEMI-LAGRANGIAN FINITE ELEMENT METHOD FOR TREE-DIMENSIONAL INCOMPRESSIBLE FLOW PROBLEMS
<b>16h20-16h40</b>	ADNANE GEBLI	AN ADAPTIVE PRIMAL-DUAL MIXED FINITE VOLUME APPROXIMATION FOR ELLIPTIC BOUNDARY-VALUE PROBLEMS WITH DISCONTINUOUS COEFFICIENTS
<b>16h40-17h00</b>	KHADIJA RIZKI	DEEP LEARNING FOR PARTIAL DIFFERENTIAL EQUATIONS
<b>17h00-17h20</b>	ELMEHDI FARAH	MODELLING ANALYSIS HIV-1 AND HIV-2 MODEL WITH DRUG RESISTANCE COMPARTEMENT
<b>17h20-17h40</b>	MUSTAPHA BOUALLALA	A DYNAMIC THERMO-VISCOELASTIC CONTACT PROBLEM WITH NORMAL COMPLIANCE FOR LOCKING MATERIAL
<b>17h40-18h00</b>	YOUSOUF LAABASSI	A PRIMAL-DUAL MIXED FINITE VOLUME METHOD FOR NUMERICAL SOLUTIONS OF PDES ON DEFORMABLE DOMAINS

**Day 2 : Zoom link :**  
<https://zoom.us/j/97941830271?pwd=TEFxaVZSbnhUUjhEZmMxZ3ZaZTQ4QT09>  
 ID de réunion : 979 4183 0271  
 Code secret : 541633

	<b>Saturday 25/09/2021</b>	
<b>10h00-11h00</b>	<b>Speaker : M. Adimy</b>	<b>Chair : N. Gadhi</b>
<b>Title:</b> Modelling the relationship between antibody-dependent enhancement and disease severity in secondary dengue infection		
<b>11h00-11h30</b>	<b>Break</b>	
<b>11h30-12h30</b>	<b>Speaker: A. Youssfi</b>	<b>Chair :J. Bennouna</b>
<b>Title:</b> Meyers-Serrin type approximations in Musielak spaces		
<b>12h30-14h30</b>	<b>Break</b>	

### Session 1

**Google Meet link :**

<https://meet.google.com/vdx-kghz-erp>

<b>Session 1</b> Dynamic systems	<b>Chair : M. Adimy</b>	<b>Co-chair : N. Gadhi</b> <b>Co- Chair : A. Aberqi</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/vdx-kghz-erp">https://meet.google.com/vdx-kghz-erp</a>		
<b>15h00-15h20</b>	K. CHOKRI	A DYNAMIC MODEL FOR COVID-19 AND OPTIMAL CONTROL STRATEGY
<b>15h20-15h40</b>	MOSTAFA ABAALI	EXISTENCE AND STABILITY OF A STEADY STATE FOR A COUPLED SYSTEM OF ELLIPTIC EQUATION MODELLING THE BIODENITRIFICATION PROCESS
<b>15h40-16h00</b>	MOHAMED ELHIA	OBSERVER DESIGN FOR A CLASS OF NON-LINEAR EPIDEMIC CONTINUOUS MODELS
<b>16h00-16h20</b>	MOURAD EL IDRISSI	NECESSARY AND SUFFICIENT CONDITION FOR PERSISTENCE AND EXTINCTION OF A STOCHASTIC SIRI MODEL WITH A GENERAL TRANSMISSION RATE
<b>16h20-16h40</b>	RACHID OU-AZZOU	REGULATOR PROBLEM FOR LINEAR DISCRETE-TIME DELAY SYSTEMS WITH EQUILIBRIUM ON THE BOUNDARY OF CONTROL DOMAIN CONSTRAINS: NON-SYMMETRICAL CASE
<b>16h40-17h00</b>	FATIMAEZZAHRAE MOUTAHIR	A SIMPLIFIED MATHEMATICAL MODEL FOR NONLINEAR TRANSIENT THERMAL RADIATION IN MATERIALS UNDER PHASE CHANGE
<b>17h00-17h20</b>	AMAL EZZIDANI	THE FLUID LIMIT OF THE MULTICLASS PROCESSOR SHARING TANDEM QUEUE
<b>17h20-17h40</b>	ILHEM GACEM	STABILITY ANALYSIS OF A SIR EPIDEMIC MODEL WITH GENERAL INCIDENCE RATE AND TIME DELAY

### Session 2

**Google Meet link :**

<https://meet.google.com/jrs-bwqt-hug>

<b>Session 2</b> (EDP3)	<b>Chair : A. Youssfi</b>	<b>Co- Chair : K. Benhadouch</b> <b>Co- Chair : Y. Ahmida</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/jrs-bwqt-hug">meet.google.com/jrs-bwqt-hug</a>		
<b>15h00-15h20</b>	RACHID ELHARCH	ANISOTROPIC SOBOLEV $C^p$ - CAPACITY
<b>15h20-15h40</b>	YOUNESS OUBALHAJ	EXISTENCE OF SOLUTIONS FOR A FRACTIONAL $(P(X), Q(X))$ -LAPLACIAN SYSTEM WITH WEIGHT
<b>15h40-16h00</b>	AKHDI ABDESSAMAD	EXISTENCE AND MULTIPLICITY RESULTS FOR A CLASS OF ANISOTROPIC ELLIPTIC EQUATIONS INVOLVING $(P(X); Q(X))$ -LAPLACIAN
<b>16h00-16h20</b>	MOHAMMED ABDELLAOUI	ON THE BEHAVIOUR OF ENTROPY SOLUTIONS FOR A FRACTIONAL P-LAPLACIAN PROBLEM AS T TENDS TO INFINITY
<b>16h20-16h40</b>	EL HOUCINE RAMI	EXISTENCE OF A WEAK SOLUTION $(P(X), Q(X))$ -(N,M)-LAPLACIAN LIKE SYSTEMS IN A SOBOLEV SPACES
<b>16h40-17h00</b>	LMOU HAMID	EXISTANCE RESULT FOR FRACTIONAL LANGEVIN INCLUSION WITH MULTI-POINT BOUNDARY CONDITIONS
<b>17h00-17h20</b>	SAID AIT TEMGHART	ENTROPY SOLUTION FOR A CLASS OF $(P(U); Q(U))$ -LAPLACIAN PROBLEM
<b>17h20-17h40</b>	MOHAMMED EL FATRY	RENORMALIZED SOLUTIONS FOR SOME NONLINEAR ELLIPTIC PROBLEMS

### Session 3

Google Meet link :

<https://meet.google.com/yrv-vjpp-inn>

<b>Session 3</b> Optimization and control theory 2	<b>Chair : E. Azroul</b>	<b>Co- Chair : S. Lalaoui Rhali</b> <b>Co- Chair : M. Ait hammou</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/yrv-vjpp-inn">https://meet.google.com/yrv-vjpp-inn</a>		
15h00-15h20	MOURAD CHQONDI	STRONG AND WEAK STABILIZATION OF NON-HOMOGENEOUS SEMI-LINEAR CONTROL SYSTEMS
15h20-15h40	ABDELOUAFI GHAZI	OPTIMALITY CONDITIONS AND DC-DINKELBACH-TYPE ALGORITHM FOR VECTOR FRACTIONAL MATHEMATICAL PROGRAMMING WITH RATIOS OF DIFFERENCE OF CONVEX FUNCTIONS
15h40-16h00	BOUCHRA AZZAOU	EXISTENCE AND UNIQUENESS RESULTS FOR GENERALIZED CAPUTO FRACTIONAL INTEGRO-DIFFERENTIAL EQUATIONS
16h00-16h20	SAFAE EL ALAOU	EXPONENTIAL STABILITY OF A NONLINEAR BEAM
16h20-16h40	SOUFIANE LAACHACHI	SOME RESULTS ON OPERATORS DEFINED BY UN-KB SPACE
16h40-17h00	TALHA IBTISAM	CLOSED FORM SOLUTIONS OF SYSTEM OF DIFFERENCE EQUATIONS ASSOCIATED TO FIBONACCI NUMBERS
17h00-17h20	KAMAL EL FAHRI	ON THE CLASS OF ALMOST ORDER (L) SETS AND APPLICATIONS
17h20-17h40	AFKIR FARID	WEAK COMPACTNESS OF ALMOST L-WEAKLY COMPACT OPERATORS
17h40-18h00	TOURIA KARITE	NOTES ON REGIONAL CONTROL PROBLEM WITH DELAY FOR DIFFUSION SYSTEMS WITH CAPUTO DERIVATIVE

### Session 4

Google Meet link :

<https://meet.google.com/qpe-huht-oki>

<b>Session 4</b> (EDP4)	<b>Chair : S. Wardi</b>	<b>Co-chair : A. Elgourari</b> <b>Co- Chair : M. EL massoudi</b>
<b>Google Meet link :</b> <a href="https://meet.google.com/qpe-huht-oki">https://meet.google.com/qpe-huht-oki</a>		
15h00-15h20	OUBOUFETTAL MORAD	EXISTENCE OF SOLUTION FOR A GENERAL CLASS OF STRONGLY NONLINEAR ELLIPTIC PROBLEMS HAVING NATURAL GROWTH TERMS AND $L^1$ DATA
15h20-15h40	MOHAMED BOUZIANI	ON QUASILINEAR ANISOTROPIC ELLIPTIC PROBLEMS WITH WEIGHT INVOLVING SINGULARITIES AND $L^1$ -DATA
15h40-16h00	SIDI MOHAMED DOURI	NONLINEAR UNILATERAL PARABOLIC PROBLEMS IN MUSIELAK SPACES WITH ONLY THE LOG-HÖLDER CONTINUITY CONDITION
16h00-16h20	MUSTAFA AIT KHELLOU	EXISTENCE OF SOLUTIONS FOR NONLINEAR PARABOLIC EQUATION IN MUSIELAK SPACES WITH ONLY THE LOG-HOLDER CONTINUITY CONDITION
16h20-16h40	M.H.BEN TAHIR	STUDY ON CONFORMABLE FRACTIONAL NEUTRAL EVOLUTION EQUATION WITH DELAY
16h40-17h00	ADEL LACHOURI	EXISTENCE AND UNIQUENESS OF SOLUTIONS FOR NONLINEAR FRACTIONAL RELAXATION DIFFERENTIAL EQUATIONS
17h00-17h20	ABDELLATIF EL JAZOULI	EXISTENCE OF A RENORMALIZED SOLUTION OF THE NONLINEAR ELLIPTIC SYSTEM
17h20-17h40	SOULAIMANE AZNAGUE	A STOCHASTIC SIRI EPIDEMIC MODEL WITH SATURATION INCIDENCE AND LOGISTIC GROWTH
17h40-18h00	ABERQI AHMED	FRACTIONAL $P(X,.)$ - LAPLACIAN PROBLEM WITH INDEFINITE WEIGHTS