



F2MDAYS'23 PROGRAM



On the occasion of
International Mathematics Day
under the theme

Mathematics for everyone and everywhere

Faculty of Sciences - Tetouan, Abdelmalek Essaadi University

March 13-16, 2023

Monday, March 13, 2023

08:30 – 09 :30	Registration and welcome
09:30 – 11 :00	<i>Formation à la Vulgarisation des Mathématiques - I</i> <i>Benoît Rittaud</i>
11:00 – 11 :30	Coffee Break
11:30 – 13 :00	<i>Formation à la Vulgarisation des Mathématiques - II</i> <i>Christian Mercat</i>
13 :00 – 15 :00	Lunch
15 :00 – 16 :30	<i>Parallel Sessions :</i> Room 1 : <i>Nonlinear Analysis and Applications</i> Room 3 : <i>Algebra, Functional Analysis and Applications</i> Room 2 : <i>Numerical Analysis, Modeling and Optimization</i> Room 4 : <i>Statistics, Probability and Operational Research</i>
16 :30 – 17 :00	Coffee Break
17:00 – 18 :30	<i>Parallel Sessions :</i> Room 1 : <i>Nonlinear Analysis and Applications</i> Room 3 : <i>Algebra, Functional Analysis and Applications - Part I</i> Room 2 : <i>Numerical Analysis, Modeling and Optimization</i> Room 4 : <i>Algebra, Functional Analysis and Applications - Part II</i>
End	

Parallel Sessions I

<i>Session 1: Nonlinear Analysis and Applications</i> <i>Room : 1</i>		Chairs
15 :00 – 15 :15	A quantitative and qualitative study for some partial differential inclusions in α -norm. Jaouad El Matloub and Khalil Ezzinbi	Arij Bouzelmate Khalil Ezzinbi Olivier Lafitte
15:15 – 15:30	An efficient algorithm based on particle swarm optimization for solving the Cauchy problem for Helmholtz equation. Jamal Daoudi and Chakir Tajani	
15:30 – 15:45	On the positive solutions of a nonlinear elliptic equation with a gradient term. Mohamed El Hathout and Arij Bouzelmate	
15:45 – 16:00	Exponential stabilization for a class of time delay bilinear systems of neutral type. Atmane El Houch	
16:00 – 16:15	On the study of some nonlinear and noncoercive elliptic problem with Neumann boundary condition. Mohamed Badr Benboubker, Hassane Hjjaj and Hayat Benkhalou	
16:15 – 16:30	Weighted Fractional Ostrowski, Trapezoid, and Grüss type inequalities on time scales. Mohamed El Amri and Mohamed Lahrouz	
<i>Session 2 : Numerical Analysis, Modeling and Optimization</i> <i>Room : 2</i>		Chairs
15 :00 – 15 :15	Generation of 2-d unstructured mesh using a novel algorithm for node placement. Mohamed Mrini, Amal Bergam and Anouar El Harrak	Amal Bergam Youness El Yazidi Naji Yebari
15:15 – 15:30	Modeling of Tumor Growth and Drug Resistance in Gastrointestinal Stromal Tumor Metastases to the Liver. El Hammani Mohammed, Douiri Sidi Mohamed and El Harraki Imad	
15:30 – 15:45	A new approach to improve optimizer performance through algorithms diversification for image reconstruction in diffuse optical tomography. Nada Chakhim, Mohamed Louzar and Mohammed Alaoui	
15:45 – 16:00	Feedback optimal control of a Multi-Objective problem modeling the wastewater treatment. Hicham Hakimi and Mustapha Serhani	
16:00 – 16:15	Infinitely many solutions for a class of fractional equations via variant fountain theorems. Abdelilah Azghay, Mohammed Massar and Abderrahim El Mhouti	
16:15 – 16:30	Numerical approximations for fractional equations in \mathbb{R} via the new method of fixed point. Radouane Azennar, Sophia Bentahar and Driss Mentagui	
<i>Session 3 : Algebra, Functional Analysis and Applications</i> <i>Room : 3</i>		Chairs
15 :00 – 15 :15	The duality problem for the class of order weakly demicompact operators and some properties on order weakly* demicompact operators. El Aloui Abdennabi, Bouras Khalid	El Amin Kaidi Mohamed Louzari Benoît Rittaud
15:15 – 15:30	N -tuple sum analogues for Ramanujan-type congruences. Mohamed El Bachraoui	
15:30 – 15:45	On Pseudo-Hermitian Quadratic Nilpotent Lie Algebras. Mustapha Bachaou, Ignacio Bajo and Mohamed Louzari	
15:45 – 16:00	A Common fixed point results for multi-valued mappings in Hausdorff fuzzy b -metric spaces. Noredine Makran	
16:00 – 16:15	On rings with Property (a.c) and their extensions. Latifa Malki and Mohamed Louzari	
16:15 – 16:30	Propriétés spectrale d'une classe des opérateurs de Toeplitz dans l'espace de Hardy. Adel Babbah	
<i>Session 4 : Statistics, Probability and Operational Research</i> <i>Room : 4</i>		Chairs
15 :00 – 15 :15	Stabilization analysis of a mosquito-borne disease mathematical model with discontinuous vaccination and treatment feedback strategies. Oussama Lazaar and Mustapha Serhani	Mohamed El Merouani Bastien Mallein Samir Tallay
15:15 – 15:30	Investigation of Ant Colony with Levy Flight Techniques for Stochastic Combinatorial Optimization Problems. Fadoua El Asri, Chakir Tajani and Hanane Fakhouri	
15:30 – 15:45	Management of Moroccan Fisheries with Variable Market Price. Ismail El Hakki, Rachid Mchich, Amal Bergam and Najib Charouki	
15:45 – 16:00	Mathematical analysis and numerical simulation of the Ebola epidemic disease in the sense of conformable derivative. Abdellah Ouakka, Abdelhai Elazzouzi and Zakia Hammouch	
16:00 – 16:15	Strong Nash implementation in finite and infinite fair allocation problems. Ahmed Doghmi, Mohamed Bouchta and Abderahmane Ziad	

Parallel Sessions II

<i>Session 1: Nonlinear Analysis and Applications</i> <i>Room : 1</i>		Chairs
17:00 – 17:15	Solvability of strongly nonlinear elliptic problems in Musielak-Orlicz spaces. Ouidad Azraïbi, Badr El Haji and Mounir Mekkour	Boubker Azeroual Badr El Haji Hassan Hjjaj
17:15 – 17:30	An existence result for two-dimensional parabolic integro-differential equations involving CEV model. Jarmouni Brahim and Hassan Hjjaj	
17:30 – 17:45	Existence and behavior of singular solutions of a nonlinear boundary value problem with the p-Laplacian operator. Arij Bouzelmate and Hikmat El Baghourî	
17:45 – 18:00	A novel quantum information based computational approximate solution of the Schrödinger partial differential equation. Imane El Hadouti and Mohamed Addam	
18:00 – 18:15	Entropy solutions for some nonlinear and noncoercive parabolic problems in the anisotropic Sobolev spaces. Youssef Hajji and Hassane Hjjaj	
18:15 – 18:30	Exponential and weak stabilization of distributed perturbed semilinear systems. Abdelkader Daoui, Yassine Benslimane and Abdelbaki Attioui	
<i>Session 2 : Numerical Analysis, Modeling and Optimization</i> <i>Room : 2</i>		Chairs
17:00 – 17:15	Numerical methods for an inverse shape design problem with Robin boundary condition. Youness El Yazidi	Btissam Dkhissi Bouchaib Ferrahi Ismail Jamiai
17:15 – 17:30	A bilevel problem based on fractional-space derivative for image denoising. Anouar Ben-Loghfry and Abdelilah Hakim	
17:30 – 17:45	An approach method with application of Covid data using variational spline functions. Abdelouahed Kouïbia, Rim Akhrif and Hossain Oulad Yakhlef	
17:45 – 18:00	Ozone Concentration Forecasting Using LSTM Recurrent Neural Network in Tangier: A Comparative Analysis. Nisrine Marrakchi, Amal Bergam, Hanane Fakhouri and Kenza Khomsi	
18:00 – 18:15	Temporal Evolution of Tumor Growth: A Mathematical Modeling Approach-Simulation and identification of parameters. Hamza Aguedjig, Sidi Mohammed Douiri, Imad El Harraki and Mohammed El Hammani	
18:15 – 18:30	New Hybrid Finite Volume Scheme for Air Quality on Vertex-Centred Mesh. Abdelaziz Chahed, Amal Bergam and Anouar El Harrak	
<i>Session 3 : Algebra, Functional Analysis and Applications -- part I</i> <i>Room : 3</i>		Chairs
17:00 – 17:15	Fixed Point Theorem And Application To Integral Equations. Hamza El Bazi and Abdellatif Sadrati	Aziz Haddi Laurent Vivier Fouad Zitan
17:15 – 17:30	Commutative Sub-algebras in Four-Dimensional Absolute Valued Algebras. Abdelhadi Moutassim	
17:30 – 17:45	On four-dimensional absolute valued algebras with left omnipresent unit. Aziz Es.Sadiq, Mohamed Louzari and Abdelhadi Moutassim	
17:45 – 18:00	Semi-compactness of Null almost L-weakly compact and Null almost M-weakly compact operators on Banach lattices. Safae El Filali and Khalid Bouras	
18:00 – 18:15	Using the Sherman-Morrison-Woodbury Inversion Formula to solve nearly penta-diagonal Toeplitz linear systems. Fouad Aoulad Omar and Chakir Tajani	
18:15 – 18:30	Speed Up The Convergence rate Via Tensor Extrapolation Methods. Ridwane Tahiri	
<i>Session 4 : Algebra, Functional Analysis and Applications -- part II</i> <i>Room : 4</i>		Chairs
17:00 – 17:15	Simultaneous continuous functional calculus and applications. Mazighi Mohamed and Abdellah El Kinani	Mohamed Benslimane Mohamed Ekdiha Adel Louly
17:15 – 17:30	Jordan product and fixed points preservers. Mhamed Elhodaïbi and Soufiane Elouazzani	
17:30 – 17:45	Explicit formulas of the addition law on the elliptic curve over a special nonlocal ring. Abdelhamid Tadmori	
17:45 – 18:00	On Galois Extensions of Graded Rings. Mohammed Charkani and Abdewahed Acharky	
18:00 – 18:15	Optimal Control of a General impulsive VS-EIAR Epidemics Models with Application to Covid-19. Mohammed Elghandouri and Khalil Ezzinbi	
18:15 – 18:30	A fixed point approach to stability for a Cauchy Jensen type functional equation in n Banach space. Khaled Sayar	

Tuesday, March 14, 2023

08:30 – 09:30	Registration
09:30 – 10:30	Opening Speech <ul style="list-style-type: none">• President of UAE• President of USPN• Dean of FS-Tetouan• Head of Galilée Institute• France embassy representant of scientific and university cooperation <p style="text-align: right;">Conference Chairs : <i>Arij Bouzelmate and Benoît Rittaud</i></p>
10:30 – 11:00	Coffee Break
11:00 – 12:00	<p style="text-align: center;"><i>Plenary Talk 1 : Benoît Rittaud</i> Le Fabuleux destin de la racine carrée de 2</p> <p style="text-align: right;"><i>Chair : Arij Bouzelmate</i></p>
12:00 – 13:00	<p style="text-align: center;"><i>Plenary Talk 2 : Christian Mercat</i> Modéliser ou trouver le bon langage</p> <p style="text-align: right;"><i>Chair : Naji Yebari</i></p>
13:00 – 14:30	Lunch
15 :00 – 16:30	Workshops on Scientific Mediation of Mathematics
16 :30 – 17:00	Coffee Break
17:00 – 18:00	<p style="text-align: center;"><i>Plenary Talk 8 : Bastien Mallein</i> Dynamique des populations invasives et mouvement brownien branchant</p> <p style="text-align: right;"><i>Chair : Christien Mercat</i></p>
18 :00 – 19:00	<p style="text-align: center;"><i>Plenary Talk 4 : Aziz Alaoui</i> Émergence de quelques Branches des Mathématiques : Systèmes Dynamiques et Théorie du Chaos</p> <p style="text-align: right;"><i>Chair : Khalil Ezzinbi</i></p>
End	

Wednesday, March 15, 2023

09:00 – 10:00	<i>Plenary Talk 5 : Olivier Lafitte</i> <i>Comprendre la fusion nucléaire dans les Tokamaks pour une énergie illimitée dans le futur: les points chauds dans les plasmas expliqués par les Mathématiques des équations différentielles ordinaires</i> <i>Chair : Arij Bouzelmate</i>
10:00 – 11:00	<i>Plenary Talk 7 : Ezzinbi Khalil</i> Periodic solutions in infinite dimensional dynamical systems: Past and Present <i>Chair : Aziz Alaoui</i>
11:00 – 11:30	Coffee Break
11:30 – 12:30	<i>Plenary Talk 6 : Mostafa Mbekhta</i> <i>Invitation to preserver problems</i> <i>Chair : El Amin Kaidi</i>
12:30 – 13:30	<i>Plenary Talk 3 : El Amin Kaidi</i> Endofinitude pour les modules et les espaces de Banach <i>Chair : Mostafa Mbekhta</i>
13:30 – 15:00	Lunch
15:00 – 16:00	<i>Plenary Talk 9 : Laurent Vivier</i> <i>Perspectives de localité et approximations locales en analyse</i> <i>Chair : Benoît Rittaud</i>
16:00 – 17:30	<i>Parallel Sessions I</i> Room 1 : <i>Nonlinear Analysis and Applications - Part I</i> Room 3 : <i>Algebra, Functional Analysis and Applications</i> Room 2 : <i>Numerical Analysis, Modeling and Optimization</i> Room 4 : <i>Nonlinear Analysis and Applications - Part II</i>
17:30 – 18:00	Coffee Break
18:00 – 19:30	<i>Parallel Sessions II</i> Room 1 : <i>Nonlinear Analysis and Applications - Part I</i> Room 3 : <i>Algebra, Functional Analysis and Applications</i> Room 2 : <i>Numerical Analysis, Modeling and Optimization</i> Room 4 : <i>Nonlinear Analysis and Applications - Part II</i>
End	

Parallel Sessions I

<i>Session 1: Nonlinear Analysis and Applications - Part I</i> Room : 1		Chairs
16:00 – 16:15	Unilateral problems having two lower order terms and measure data in Musielak-Orlicz spaces. <i>Nourdine El Amarty, Badr El Haji and Mostafa El Mounni</i>	Hassane Hjjaj Olivier Lafitte Mohamed Marzougue
16:15 – 16:30	Strongly nonlinear elliptic problem with δ -data in the setting of Musielak-spaces. <i>Rachid Bouzyani, Badr El Haji and Mostafa El Mounni</i>	
16:30 – 16:45	Weak periodic solution for strongly nonlinear parabolic problem. <i>Abdelghani Az-Edine and Mostafa El Mounni</i>	
16:45 – 17:00	Multiplicity of solutions for a bi-nonlocal elliptic problem involving the $p(x)$ -Laplacian. <i>Omar Darhouche and Mostafa Allaoui</i>	
17:00 – 17:15	On the study of some noncoercive elliptic equations in anisotropic weighted Sobolev spaces. <i>Arij Bouzelmate, Hassane Hjjaj and Inssaf Raiss</i>	
17:15 – 17:30	On a p -fractional Kirchoff-type equation with critical exponent. <i>Mohammed Massar and Abdelilah Azghay</i>	
<i>Session 2 : Numerical Analysis, Modeling and Optimization</i> Room : 2		Chairs
16:00 – 16:15	Exploring the Applications of DC Programming in Support Vector Machine Learning. <i>Najoua Aafar, Ahmed El Hilali Alaoui and Bouchaib Ferrahi</i>	Aziz Alaoui Youness El Yazidi Chakir Tajani
16:15 – 16:30	Simple and fast convergent procedure to estimate recursive path analysis model. <i>Abderrahim Sahli, Zouhair El Hadri and Mohamed Hanafi</i>	
16:30 – 16:45	Fractional Output Stabilization of Distributed Bilinear Systems with a Time Delay. <i>Mustapha Benoudi and Rachid Larhrissi</i>	
16:45 – 17:00	On multivalued probabilistic ψ -contractions involving orbits in b-Menger spaces. <i>Youssef Achtoun, Ismail Tahiri and Mohamed Sefian Lamarti</i>	
17:00 – 17:15	A critical Steklov-type problem driven by a $\Delta_p(x)$ - Laplace operator. <i>Mostafa Allaoui and Omar Darhouche</i>	
17:15 – 17:30	Non vanishing and Sign changes of Modular Forms. <i>Bouchikhi Abdelmonaim and Mezroui Soufiane</i>	
<i>Session 3 : Algebra, Functional Analysis and Applications</i> Room : 3		Chairs
16:00 – 16:15	On bounded operators of banach-jordan Systems. <i>Chafika Zarhouti</i>	Fadil Chabbabi Mostafa Mbekhta Benoît Rittaud
16:15 – 16:30	Some new results on derivations of Banach-Jordan system. <i>Hassan Marhine</i>	
16:30 – 16:45	Network Visualization and Verbalization of Mathematical Problem Solving in Middle School Students: Modeling Problem Solving Networks. <i>Asmae Bahbah and Mohamed Erradi</i>	
16:45 – 17:00	Développement limité d'une fonction réelle à l'aide des matrices de Toeplitz. <i>Bouifden Rafik, Haddi Aziz</i>	
17:00 – 17:15	On the Non-negative Integer Solutions to Diophantine Equations $F_n - F_m = 7^a$ and $F_n - F_m = 13^a$. <i>Anouar Gaha and Soufiane Mezroui</i>	
17:15 – 17:30	Central reversible ring property via idempotent elements. <i>Yusra Allah and Mohamed Louzari</i>	
<i>Session 4 : Nonlinear Analysis and Applications - Part II</i> Room : 4		Chairs
16:00 – 16:15	On the Periodic Solutions for a class of Partial Differential Equation with Delay. <i>Abdelhai El Azzouzi, Khalil Ezzinbi and Mohammed Kriche</i>	Khalil Ezzinbi Abdelaziz Moujahid Mohamed Ali Tagmouti
16:15 – 16:30	On the asymptotic behavior of radial solutions to quasilinear elliptic equations with a Hardy potential. <i>Mouhssin Bakhadda and Arij Bouzelmate</i>	
16:30 – 16:45	Unilateral problem associated to some noncoercive elliptic equation in anisotropic Sobolev spaces. <i>Rajae Zerouali, Bouchaib Ferrahi and Hassane Hjjaj</i>	
16:45 – 17:00	Study of some non-coercive quasilinear parabolic problem in anisotropic Sobolev space. <i>Ayman El Janathi, Said El Manouni and Hassane Hjjaj</i>	
17:00 – 17:15	Existence result for some coupled nonlinear parabolic systems in Orlicz-Sobolev spaces. <i>Mohamed Bourahma, Hassane Hjjaj, Jabir Ouazzani Chahdi</i>	
17:15 – 17:30	Application of J.F.Colombeau theory <i>Abdelaziz Moujahid</i>	

Parallel Sessions II

<i>Session 1: Nonlinear Analysis and Applications - Part I</i> <i>Room : 1</i>		Chairs
18:00 – 18:15	Renormalized solutions for some non-coercive parabolic equation in the anisotropic Sobolev spaces. Moussa Chrif, Hassane Hjjaj and Mohamed Sasy	Aziz Alaoui Badr El Haji Abderrahim Zertiti
18:15 – 18:30	Exponential stabilization for a semi-linear systems with discrete multi-delays. Cheddour Ayoub and El Azzouzi Abdelhai	
18:30 – 18:45	Stability and bifurcation of fluid drop subjected to a uniform electric field. Youness Filali, Mustapha Er-Riani and Mustapha El Jarroudi	
18:45 – 19:00	Some results on regional optimal control problem for fractional systems with time-varying delays in the state Wadii Ghandor, Ahmed Aberki and Touria Karite	
19:00 – 19:15	Existence and uniqueness of a mild solution for a class of the fractional evolution equation With nonlocal condition involving φ -Riemann Liouville fractional derivative. Zakaria Mouhssine, Moujahid Abdelaziz and Bouzelmate Arij	
<i>Session 2 : Numerical Analysis, Modeling and Optimization</i> <i>Room : 2</i>		Chairs
18:00 – 18:15	Pricing American options with irregular Payoff via reflected BSDEs Mohamed Marzougue	Bouchaib Ferrahi Ismail Jamiai Sefian Mohammed Lamarti
18:15 – 18:30	Central finite volume methods for nonlocal traffic flow models with arrhenus-type look-ahead rules. Said Belkadi and Mohamed Atounti	
18:30 – 18:45	Combining Non-Classical Method and Finite Element Method for Efficient Numerical Solution of Time-Fractional Diffusion Equation. Ahdia Achabbak, Naji Yebari and Mohammed seaid	
18:45 – 19:00	Adjusting support in CSRBF function interpolation for BEMD decomposition. Mohammed Arrazaki, Othman El Ouahabi and Hamza El Bazi	
19:00 – 19:15	Improved statistical and machine learning methods for images database classification Ismail Jamiai	
19:15 – 19:30	Some numerical results of the Brinkman problem using generalised Taylor-Hood elements. Lahcen El Ouadefji	
<i>Session 3 : Algebra, Functional Analysis and Applications</i> <i>Room : 3</i>		Chairs
18:00 – 18:15	Cantor-Bendixson derivatives of the spectrum. Zakariae Aznay and Hassan Zariouh	Aouatif El Biari Zine-El-Abidine Guennoun Mohamed Louzari
18:15 – 18:30	Some Identities of 3-Prime Near-Rings Involving Jordan Ideals and Left multipliers. Abdelkarim Boua	
18:30 – 18:45	Spectrally starred advertibly complete A_p -normed algebras. Ouhmidou Abderrahim and El Kinani Abdellah	
18:45 – 19:00	Subspace- hypercyclicity. Ahmed Toukmati	
19:00 – 19:15	AHP-Method and its applications: Review. Youssef Karkour and Chakir Tajani	
<i>Session 4 : Nonlinear Analysis and Applications – part II</i> <i>Room : 4</i>		Chairs
18:00 – 18:15	Square root problem and Subnormal Aluthge transforms. Hamza El Azhar, Abdelouahab Hanine, Kaissar Idrissi and El Hassan Zerouali	Mohamed Erradi Adel Louly Soufiane Mezroui
18:15 – 18:30	Approximation in some spaces of analytic functions. Hafid Bahajji-El Idrissi	
18:30 – 18:45	The Aluthge and mean transform on certain class of bounded linear operators. Fadil Chabbabi	
18:45 – 19:00	Existence result of entropy solution for degenerate elliptic problem without monotonicity condition in Generalized Sobolev spaces. Abdelkarim Derham, Badr El Haji and Hassane Hjjaj	
19:00 – 19:15	Renormalized periodic solutions for a nonlinear parabolic equation involving $p(x)$ -growth conditions with irregular data. Abderrahim Charkaoui and Nour Eddine Alaa	



Franco-Moroccan Mathematics Days

F2MDAYS'23 CULTURAL PROGRAM

**Gala Dinner
March 15th 2023**

This is an opportunity to make speeches and pay tribute to all those who have contributed to strengthening cooperative relations between Moroccan and French universities in mathematics. As well as the discussion of the various partnership projects between the research teams of the universities of the two countries.

**A Guided visit to Chefchaouen
March 16th 2023**

1. We guide you through the side streets until you arrive at Uta Hammam Square, Great Mosque, and Kasabah. A few steps ahead is the Makhzen square with the Hotel Parador. From here an alley can be taken that leads northeast to Bab El Ansar and the source Ras El Maa one of the prettiest places in Chefchaouen. This precious walk takes us to the Rif Sebbanin, the laundry district, with the Seat of Sebbanin and its mosque of century XV, We continue the route until the center of the Medina again.
2. Also, we will take you to Akchour, a nice mountainous region near Chefchaouen. We will take the road from Chefchaouen to Akchour waterfalls via Al kalaa.

Participation fees for Gala Dinner and the guided visit

Gala Dinner: 200 dh.

Touristic visit:

- For Professors: 600 dh,
- For Students: 400 dh.



Franco-Moroccan Mathematics Days

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Faculty of Sciences - Tetouan, Abdelmalek Essaadi University
March 13-16, 2023



جامعة عبد المالك السعدي
Université Abdelmalek Essaadi



جامعة عبد المالك السعدي
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AMBASSADE
DE FRANCE
AU MAROC
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UNIVERSITÉ
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جامعة سيدي محمد بن عبد الله - فاس
Université Sidi Mohamed Ben Abdellah - Fès



المدرسة العليا للأساتذة
ÉCOLE NORMALE SUPÉRIEURE



FSJES TANGER
كلية العلوم القانونية والاقتصادية
والاجتماعية - طنجة



Laboratoire de Recherche
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Analyse non Linéaire

