



Journées d'Analyse Mathématique et Applications

En l'honneur du Pr. Néjib BEN SALEM

PROGRAMME JAMA 2018

Abstracts

Participants

HAMMAMET: 14-16 Décembre 2018

Vendredi 14 décembre 2018:

Session I

8h30-09h00 : Inscrition, Ouverture.

09h00-09h40 : Ahmed Fitouhi (Université de Tunis El Manar)

Titre: On some q-versions of Ramanujan Master theorem.

09h50-10h30 : Marc Peigné (Université de Tours)

Titre: Un espoir pour l'âne de Buridan et autres racontars...

10H30-11H00 Pause Café

Session II

11h00-11h40 : Lotfi Kamoun (Université de Monastir)

Titre : Harmonic analysis associated to the multivariate Laguerre function.

11h50-12h20 : Samir Kallel (Université de Sousse)

Titre: Duality of Generalized Dunkl-Lipschitz Spaces.

13H00: Déjeuner.

Session III

14h30-15h00 : Fahlaoui Said (Université de Moulay Ismail, Meknes)

Titre: Generalized uncertainty principles associated with the quaternionic offset linear canonical transform.

15h00-15h30 : Abdellatif Bentaleb (Université de Moulay Ismail, Meknes)

Titre: Jacobi spectral approximations.

15h30-16h00 : Walid Nefzi (Université de Carthage)

Titre: Riesz transforms for the Weinstein operator.

16H00-16H30 Pause Café

Session IV

16h30-17h00: Selma Negzaoui (Université de Monastir)

Titre: Lipschitz conditions in Laguerre hypergroup.

17h00-17h30 : Izri Nawal (Université Tunis El Manar)

Titre: Nonhomogeneous $p(x)$ -Laplacian Steklov problem with weights.

17h30-18h00 : Ahlème Bouakkaz (Université Skikda)

Titre: Existence et Unicité des Solutions Périodiques d'une Classe d'Équations Différentielles Non Linéaires du second ordre avec terme source itératif.

Samedi 15 décembre 2018:

Session V

9h00-09h40 : Aline Bonami (Université d'Orléans)

Titre: From mobile networks to spectra of random Fourier matrices.

09h50-10h30 : Frej Chouchène (Université de de Sousse)

Titre : Certaines transformations intégrales associées aux fonctions de Jacobi

10H30-11H00 Pause Café

Session VI

11h00-11h40 : Nizar Demni (Université de Rennes 1)

Titre : Laplaciens magnétiques, mesures quasi-infiniment divisibles et processus déterminantaux .

11h50-12h30 : Philippe Jaming (Université de Bordeaux 1)

Titre : Principes d'incertitude et solution d'EDP - quelques exemples.

13H00: Déjeuner.

Session VII

14h30-15h10 : Salma Azaouzi (Université Sfax)

Titre: A new Beurling-type Theorem for compact extensions of \mathbb{R}^n .

15h10-15h40 : Zeineb Ghardallou (Université de Tunis)

Titre: Large versus bounded solutions to sublinear elliptic problems.

15h40-16h10 : Radhouan Daher (Université Hassan II, Casablanca)

Titre : Hausdorff operator for the Jacobi Hypergroup.

16H00-16H30 Pause Café

Session VIII

16h30-17h00 : Bochra Nefzi (Université de Tunis El Manar)

Titre: On the finite Mellin transform in quantum calculus and application.

17h00-17h30 : Mashhour Bani Ata (College of Basic Education, Kuwait)

Titre : On the stabilizer of two dimensional vector space of 27-dimensional module of type E_6 over a field of characteristic two.

17h30-18h00 : Soraya Rekkab (Université de Constantine)

Titre: Actuators and Regional Gradient Remediability.

21H00: Cérémonie en hommage au Professeur Néjib Ben Salem

Dimanche 16 décembre 2014 :

Session IX

09h00-09h40 : Ali Baklouti (Université de Sfax)

Titre: Analogues of Müntz-Szász's Theorem for some Lie groups.

09h50-10h30 : Samir Kabbaj (Université Kenitra)

Titre : On the minimal sums of sequences in the tensor of product of separable Hilbert spaces.

10H30-11H00 Pause Café

Session X

11h00-11h40 : Abderrazek Karoui (Universté de Carthage)

Titre: Non-Asymptotic Analysis of the Spectrum of the Sinc Kernel Operator and Related Applications.

11h50-12h30 : Jacques Faraut (Université de Sorbonne)

Titre: Horn's problem, and product formula for spherical functions.

12H30: Clôture.

13H00: Déjeuner.

ABSTRACTS : JOURNÉES D'ANALYSE MATHÉMATIQUE ET APPLICATIONS

JAMA 2018

A new Beurling-type Theorem for compact extensions of \mathbb{R}^n .

*Azaouzi Salma, University de Sfax
e-mail : azaouzisalma@gmail.com*

Extending earlier partial results, we generate a new analog of Beurling's uncertainty principle on the real line and on compact extensions of \mathbb{R}^n . The representation theory and the Plancherel formula play an important role in the proofs.

Analogues of Müntz-Szász's Theorem for some Lie groups.

*Ali Baklouti, University de Sfax
e-mail : Ali.Baklouti@fss.usf.tn*

The talk consists in showing how to generate in the setting of some compact extensions of nilpotent Lie groups, some analogues of Müntz-Szász's theorem proved way back in 1914 for $L^2([0, 1])$. This requires the introduction of the notion of real Müntz-Szász's sequences and their generalized powers and allows to establish some analogues for $L_c^2(\mathbb{R}^n)$ and $C_c(\mathbb{R}^n)$, $n \in \mathbb{N}^*$. The representation theory plays an important role in the proofs.

On the stabilizer of two dimensional vector space of 27-dimensional module of type E6 over a field of characteristic two.

*Mashhour Bani Ata, College of Basic Education, Kuwait,
e-mail : mashhour-ibrahim@yahoo.com*

The purpose of this paper is to give an elementary and self-contained construction of the stabilizer of two dimensional vector space of the 27-dimensional module of type E_6 over a field of characteristic two. This stabilizer is in fact the maximal parabolic subgroup P_2 of E_6 or a Borel subgroup. This construction is elementary on the account that we use not more than little naive linear algebra notions.

Jacobi spectral approximations.

*Abdellatif Bentaleb , Université Moulay Ismail,
e-mail : abdellatif.bentaleb@yahoo.fr*

The aim goal of this note is to study the heat Jacobi semigroup generated by the operator $Lf(x) := (1 - x^2)f'' + [(\beta - \alpha) - (\alpha + \beta + 2)x]f'$, $\alpha, \beta > -1$, acting on the Hilbert space $\mathbb{L}^2((-1, 1), \mu)$ with weight the normalized beta-type measure on $(-1, 1)$, $\mu(dx) = c_{\alpha, \beta}(1 -$

$x)^\alpha(1+x)^\beta dx$. We use some basic properties of the semigroups $\left\{ \exp\left(t \prod_{k=0}^n (L - k(k + \alpha + \beta + 1))\right) \right\}_{t \geq 0}$, $n \geq 0$, to analyze a large family of geometric inequalities that does not exist in the literature and with which reinforced the (integral) Poincaré inequality. We also analyze the special case when these inequalities are restricted to functions with are orthogonal to the space of polynomials with degree less m .

From mobile networks to spectra of random Fourier matrices.

*Aline Bonami, Université d'Orléans,
e-mail : aline.bonami@univ-orleans.fr*

In wireless telecommunication, when we have n emitters and n receptors, the phase fading matrix between emission and reception is given by

$$a_{jk} = \frac{e^{2i\pi|r_j - r'_k|/\lambda}}{|r_j - r'_k|}.$$

Here r_j is the position of the j -th emitter while r'_k is the position of the k -th receptor. We are interested in the singular values of this matrix under the assumption that emitters and receptors are located respectively in two balls of radius d , at large distance h apart. Otherwise positions are chosen randomly. We will discuss the possibility to approach this problem by looking at the behavior of the random Fourier matrix

$$A := \frac{\sqrt{m}}{n} \begin{pmatrix} e^{2i\pi m Z_1 Y_1} & \dots & e^{2i\pi m Z_1 Y_n} \\ \vdots & & \vdots \\ e^{2i\pi m Z_n Y_1} & \dots & e^{2i\pi m Z_n Y_n} \end{pmatrix}.$$

Here the two sequences $Y_1, \dots, Y_n, Z_1, \dots, Z_n$ are i.i.d on the real line. We then give an approximation of the singular values of the matrix A under the assumption that m is small compared to n , which is assumed to be very large. The limit law depends on the probability law of the sample. When the law of the sample is the uniform law on the interval $(-1/2, +1/2)$, it is given by the spectrum of the Sinc kernel, which is the object of the talk of Abderrazek Karoui.

This is work in progress in collaboration with Abderrazek Karoui.

Existence et Unicité des Solutions Périodiques d'une Classe d'Équations Différentielles Non Linéaires du second ordre avec terme source itératif.

*Ahlème Bouakkaz, Université de Skikda ,
e-mail : a.Bouakkaz@univ-skikda.dz*

Ce travail a été dévoué à l'étude de l'existence, l'unicité des solutions périodiques d'une classe d'équations différentielles non linéaires du second ordre avec des termes itératifs. La méthode appliquée ici est basée sur l'utilisation de certaines propriétés utiles d'une fonction de Green avec le théorème du point fixe de Schauder ou celui de Banach afin d'établir des conditions suffisantes pour prouver les résultats désirés.

Certaines transformations intégrales associées aux fonctions de Jacobi.

*Frej Chouchène, Université de Sousse ,
e-mail : frejch@gmail.com*

Cette présentation est consacrée à certaines transformations intégrales associées aux fonctions de Jacobi et de Jacobi-Dunkl. Plus précisément, on associe à ces fonctions des transformations intégrales telles que l'opérateur de transmutation et son dual, la transformation de Fourier, l'opérateur de translation, une structure de convolution et une structure duale, la transformation intégrale de Mehler et son dual, le semi-groupe de la chaleur, la transformation de Hilbert, la transformation intégrale de Poisson et la transformation conjuguée. On établit aussi les principaux résultats pour ces transformations.

Hausdorff operator for the Jacobi Hypergroup.
Radhouan Daher, Université de Hassan II, Casablanca ,
e-mail : rjdaher024@gmail.com

In this talk, we first give a brief introduction of some properties and boundedness of the classical Hausdorff operator from Lebesgue space to itself and moreover from the real Hardy space to itself. The aim of the second part of this talk is to generalize this result to the Jacobi analysis.

The content of this talk is mostly based on a recent research work in collaboration with T. Kawazoe.

Laplaciens magnétiques, mesures quasi-infiniment divisibles et processus déterminantaux.

Nizar Demni, Université de Rennes 1 ,
e-mail : nizar.demni@univ-rennes1.fr

Je présenterai deux mesures de probabilités qui généralisent la loi de Poisson et la loi binomiale négative et qu'on construit à partir des fonctions propres des Laplaciens magnétiques à champ constant dans le plan Euclidien et le disque hyperbolique associées aux niveaux de Landau supérieurs. Je donnerai les expressions explicites de leurs fonctions caractéristiques qui montrent qu'elles sont quasi-infiniment divisibles. J'expliquerai brièvement le lien entre ces Laplaciens et les sous-laplaciens du groupe de Heisenberg et de la fibration d'anti de Sitter et j'introduirai un nouveau processus déterminantal qui généralise le processus des zéros des fonctions Gaussiennes holomorphes.

Generalized uncertainty principles associated with the quaternionic offset linear canonical transform.

Fahlaoui Said, Université de Meknes,
e-mail : saidfahlaoui@gmail.com

The quaternionic offset linear canonical transform (QOLCT) can be thought as a generalization of the quaternionic linear canonical transform (QLCT). In this participation we define the QOLCT, we derive the relationship between the QOLCT and the quaternion Fourier transform (QFT). Based on this fact we prove the Plancherel formula, and some properties related to the QOLCT, then we generalize some different uncertainty principles (UPs), including Heisenberg-Weyl's UP, Hardy's UP, Beurling's UP, and logarithmic UP to the QOLCT domain in a broader sense.

Horn's problem, and product formula for spherical functions.

*Jacques Faraut, Université de Sorbonne,
e-mail : jacques.faraut@imj-prg.fr*

Let A and B be two $n \times n$ Hermitian matrices. Assume that the eigenvalues $\alpha_1, \dots, \alpha_n$ of A are known, as well as the eigenvalues β_1, \dots, β_n of B . What can be said about the eigenvalues of the sum $C = A + B$? This is Horn's problem. In 1962 Horn proposed a conjecture, the so called Horn's conjecture, which says : the set of possible eigenvalues $\gamma_1, \dots, \gamma_n$ for C is determined by a system of linear inequalities of the form

$$\sum_{k \in K} \gamma_k \leq \sum_{i \in I} \alpha_i + \sum_{j \in J} \beta_j,$$

where $\{I, J, K\}$ is a triple of subsets of $\{1, 2, \dots, n\}$ which is admissible (in a sense to be given). Horn's conjecture has been proven by Klyachko in 1998. We revisit the problem from a probabilistic point of view. The set of Hermitian matrices X with spectrum $\{\alpha_1, \dots, \alpha_n\}$ is an orbit \mathcal{O}_α for the natural action of the unitary group $U(n) : X \mapsto UXU^*$ ($U \in U(n)$). Assume that the random Hermitian matrix X is uniformly distributed on the orbit \mathcal{O}_α , and, independently, the random matrix Y is uniformly distributed on \mathcal{O}_β . In this talk we will present a formula for the joint distribution of the eigenvalues of the sum $Z = X + Y$. The proof involves orbital measures with their Fourier transforms, and Heckman's measures. This distribution is precisely the measure which appears in the product formula of two spherical functions for the Gelfand pair $(U(n) \times \mathcal{H}_n, U(n))$ associated to the Cartan motion group $U(n) \times \mathcal{H}_n$.

On some q-versions of Ramanujan Master theorem.

*Ahmed Fitouhi, Université Tunis El Manar,
e-mail : ahmed.fitouhi@fst.rnu.tn*

We state some q-analogues of the famous Ramanujan Master Theorem. As applications, some values of Jackson's q-integrals involving q-special functions are computed.

Large versus bounded solutions to sublinear elliptic problems.

*Zeineb Ghardallou, Université de Tunis,
e-mail : zeineb.ghardallou@gmail.com*

We study nonnegative continuous solutions to the equation

$$(0.1) \quad Lu(x) - \varphi(x, u(x)) = 0, \text{ in } \Omega$$

where $\Omega \subset \mathbb{R}^d$ is a Greenian domain (bounded or unbounded) ($d \geq 3$), L represents a second order elliptic operator with smooth coefficients satisfying $L1 \leq 0$, φ belongs locally to the Kato class with respect to the first variable and it grows sub-linearly with respect to the second variable. Under fairly general assumptions on φ we prove that if there is a bounded non zero solution then there is no large solution.

Nonhomogeneous $p(x)$ -Laplacian Steklov problem with weights.

*Nawal Irzi, Université de Tunis El Manar,
e-mail : nawalirzi15@gmail.com*

This paper is concerned with a weighted Steklov problem involving the $p(x)$ -Laplacian operator in Sobolev spaces with variable exponents

$$\begin{cases} -\operatorname{div}\left(\xi(x)|\nabla u|^{p(x)-2}\nabla u\right) + a(x)|u|^{p(x)-2}u = \lambda\frac{\partial F}{\partial u}(x, u), & x \in \Omega, \\ \xi(x)|\nabla u|^{p(x)-2}\frac{\partial u}{\partial n} = \beta\frac{\partial G}{\partial u}(x, u), & x \in \partial\Omega. \end{cases}$$

Our approach is based on variational method and Ekeland's principle, we establish that the above problem admits a nontrivial weak solution under appropriate conditions. The content of this talk is mostly based on a recent research work in collaboration with Mounir Hsini and Khaled Kefi.

Principes d'incertitude et solution d'EDP - quelques exemples.

*Philippe Jaming, Université de Bordeaux 1,
e-mail : philippe.jaming@gmail.com*

Le but de cet exposé est de montrer comment des problèmes liés aux solutions d'EDP (unique continuation, contrôlabilité) peuvent être vu comme des principes d'incertitude. Nous allons ensuite explorer les connections entre les deux. En particulier, nous nous concentrerons sur

- les problèmes d'unique continuation de l'équation de Schrödinger (cadre discret, travaux avec A. Fernandez-Bertolin, Y. Lyubarskii, E. Malinnikova, K. Perfect)
- les problèmes de contrôlabilité d'équations hypo-elliptiques (travaux avec K. Beauchard et K. Pravda-Starov)

On the minimal sums of sequences in the tensor of product of separable Hilbert spaces.

*Samir Kabbaj, Université de Kenitra,
e-mail : samkabbaj@yahoo.fr*

It is known that the tensor product of two sequences, in the tensor product of two separable Hilbert spaces, is a frame if and only if each component of that product is a frame. This work proposes a sort of generalization of the aforementioned result by dealing with sequences S that are finite minimal sums of tensor products of a finite number of sequences. We prove that S is a Bessel sequence if and only if it is a sum for which each term is the tensor product of Bessel sequences. We also state necessary conditions for S to be a frame. For dimensions higher than one, we deduce several results on Gabor systems generated by finite rank square integrable functions. Meanwhile, the one dimensional versions of some of these results are surprisingly extremely difficult to prove or disapprove.

Duality of Generalized Dunkl-Lipschitz Spaces.

*Samir Kallel, Université de Sousse,
e-mail : Samir.Kallel@isimm.rnu.tn*

The aim of this talk is to prove duality and reflexivity of generalized Lipschitz spaces $\Lambda_{\alpha,p,q}^k(\mathbb{R})$, $\alpha \in \mathbb{R}$ and $1 \leq p, q \leq \infty$, in the context of Dunkl harmonic analysis.

Harmonic analysis associated to the multivariate Laguerre function.

*Lotfi Kamoun, Université de Monastir,
e-mail : kamoun.lotfi@planet.tn*

The aim of this talk is to associate an harmonic analysis for multivariate Laguerre's functions $\mathcal{L}_m^\alpha(x)$, $x = (x_1, \dots, x_n) \in [0, +\infty[^n$. We consider the kernel, defined on $\mathbb{K} = [0, +\infty[^n \times \mathbb{R}$, by :

$$\Psi_{m,\lambda}^\alpha(x, t) = e^{i\lambda t} \mathcal{L}_m^\alpha(|\lambda| x^2), \quad (m, \lambda) \in \mathbb{N}^n \times \mathbb{R}, \quad \text{where } x^2 = (x_1^2, \dots, x_n^2).$$

We begin by establishing a product formula for these kernels. Then we introduce a generalised Fourier-Laguerre transform as follows :

$$\mathfrak{F}(f)(m, \lambda) = \frac{1}{\pi^n} \int_{\mathbb{K}} f(x, t) \Psi_{m,-\lambda}(x, t) \prod_{k=1}^n \frac{x_k^{2\alpha_k+1}}{\Gamma(\alpha_k + 1)} dx dt, \quad (m, \lambda) \in \mathbb{N}^n \times \mathbb{R}.$$

Thereafter, in the framework of the transform \mathfrak{F} , we provide Plancherel theorem, inversion formula and Paley-Wiener theorem.

This work is in collaboration with Rim Selmi.

Non-Asymptotic Analysis of the Spectrum of the Sinc Kernel Operator and Related Applications.

*Abderrazek Karoui, Université de Carthage,
e-mail : abkaroui@gmail.com*

In this talk, we first give a brief description of some properties and estimates of the eigenfunctions and the eigenvalues of the Sinc kernel or the time- and band-limiting operator. For a positive real number $c > 0$, this operator, denoted by \mathcal{Q}_c is defined on $L^2([-1, 1])$ by

$$\mathcal{Q}_c(f)(x) = \int_{-1}^1 \frac{\sin c(x-y)}{\pi(x-y)} f(y) dy.$$

The corresponding eigenvalues play a key role in a wide range of applications from applied harmonic analysis, signal processing and mathematical physics. It is the aim of this talk to give some precise and recent non-asymptotic estimates for these eigenvalues, within the three main regions of the spectrum of \mathcal{Q}_c . This issue is rarely studied in the literature. This is not the case for the asymptotic behaviour of the spectrum of \mathcal{Q}_c , where there are well established results in the literature. As applications of our non-asymptotic estimates, we first provide estimates for the constants appearing in the Remez and Turán-Nazarov type concentration inequalities. Then, we give an estimate for the hole probability, associated with a random matrix from the Gaussian Unitary Ensemble (GUE).

The content of this talk is mostly based on a recent research work in collaboration with Aline Bonami and Philippe Jaming.

Existence et unicité des solutions d'un problème itératif aux limites avec des conditions intégrales .

*Rabah Khemis, Université de Skikda,
e-mail : kbra28@yahoo.fr*

Dans ce travail, nous considérons un problème aux limites avec des termes itératifs et des conditions aux limites intégrales. Ce type d'équations modélisent plusieurs problèmes qui apparaissent dans l'industrie et les sciences de l'ingénieur modernes. Après l'inversion du problème considéré en une équation intégrale, les théorèmes de points fixes de Schauder et de

Banach seront appliqués pour prouver l'existence des solutions. Ce travail est en collaboration avec Ahlème Bouakkaz et Ahcene Djoudi.

Probabilistic approach for the dynamics and valuation of volatility and variance derivatives under Heston stochastic volatility model.

*Abdallah Lallouche, Université de Skikda,
e-mail : lalloucheabd@yahoo.fr*

It is known that the volatility and variance derivatives have become more popular in the financial mathematics since their introduction in the late 20th century. In this work, we present the valuation and dynamics of volatility and variance derivatives (volatility and variance swaps). An explicit variance swap formula and a closed-form volatility swap formula using the Brockhaus-Long approximation and exact solution of the partial differential equation (PDE) system based on the Heston model are found. Finally, we make an application example for stock market within the frame of a GARCH(1,1) stochastic volatility model under Heston model.

Références

- [1] Black, M., Scholes, The pricing of option and corporate liabilities, J. Math. Anal. Appl. 81 , 637-659. (1973).
- [2] A. Swishchuk, Variance and volatility swaps in energy markets. J. Math. Anal. Appl, 33-49. (2013).
- [3] O. Brockhaus, D. Long, Volatility swaps made simple, J. Math, 92-96(2000).

On The Finite Mellin Transform in Quantum Calculus and Application.

*Bochra Nefzi, Université Tunis El Manar,
e-mail : asimellinbochra@gmail.com*

The aim of the present paper is to introduce and study a new type of q -Mellin transform [?], that will be called q -finite Mellin transform. In particular, we prove for this new transform an inversion formula and q -convolution product. The application of this transform will be also earlier proposed in solving procedure for a new equation with a new fractional differential operator of a variational type.

Riesz transforms for the Weinstein operator.

*Walid Nefzi, Université de Carthage,
e-mail : walidahla@yahoo.fr*

In this paper we study the Riesz transforms \mathcal{R}_w related to the Weinstein operators $\Delta_w = \sum_{i=1}^d x_d^{-2\alpha-1} \frac{\partial}{\partial x_i} \left(x_d^{2\alpha+1} \frac{\partial}{\partial x_i} \right)$. We develop for \mathcal{R}_w a theory that runs parallel to the one for the Euclidean Riesz Transform. It is proved that the Riesz-Weinstein transform in coordinates $i = 1, \dots, d$, \mathcal{R}_w^i is actually a Calderón-Zygmund singular integral operator in the sense of the associated space of homogeneous type. Moreover, our Riesz-Weinstein transform can be written as a principal value.

Theorem. Assume that $\alpha \geq -\frac{1}{2}$. Then the Riesz-Weinstein transforms \mathcal{R}_w^j , $j = 1, \dots, d$, can be uniquely extended to $L^p(\mathbb{R}_+^d, \Phi d\mu_\alpha)$ as a bounded operators from $L^p(\mathbb{R}_+^d, \Phi d\mu_\alpha)$ into itself,

$1 < p < \infty$, $\Phi \in A_p^\alpha$, and to bounded operators from $L^1(\mathbb{R}_+^d, \Phi d\mu_\alpha)$ to $L^{1,\infty}(\mathbb{R}_+^d, \Phi d\mu_\alpha)$, $\Phi \in A_1^\alpha$.

Lipschitz conditions in Laguerre hypergroup.

*Selma Negzaoui, Université de Monastir,
e-mail : selma_negzaoui@yahoo.fr*

In this talk we show analogous of Titchmarsh's theorems for the Laguerre transform. More precisely, we give a Lipschitz type condition on f in $L^p(\mathbb{K})$ for which its Laguerre transform belongs to $L^\beta(\hat{\mathbb{K}})$ for some values of β , where $\mathbb{K} = [0, +\infty) \times \mathbb{R}$ and $\hat{\mathbb{K}}$ is its dual. In the particular case, when $p = 2$, we provide equivalence theorem : we get a characterization of the space $Lip_\alpha(\gamma, 2)$ of Lipschitz class functions by means of asymptotic estimate growth of the norm of their Laguerre transform for $0 < \gamma < 1$. Furthermore, we introduce Laguerre-Dini-Lipschitz class $LDLip_\alpha(\gamma, \delta, p)$ and we obtain analogous of Titchmarsh's theorems in this occurrence.

Un espoir pour l'âne de Buridan et autres racontars...

*Marc Peigné, Université d'Orléans,
e-mail : Marc.Peigne@lmpt.univ-tours.fr*

La légende, attribuée à Buridan, évoque l'histoire d'un âne, mort de faim et de soif entre son picotin d'avoine et son seau d'eau, faute de choisir par quoi commencer. Le cas cas d'école de dilemme poussé à l'absurde ! Mais un espoir existe si l'indécision de l'âne varie selon l'endroit où il se trouve. Et la situation se complique si notre âne a le choix entre le picotin d'avoine, un seau d'eau et une meule de foin.

Nous modéliserons cette histoire à l'aide d'une chaîne de Markov simple, dont les transitions sont gérées par des transformations aléatoires et dont nous décrirons le comportement asymptotique. Nous décrirons les propriétés spectrales de l'opérateur de transition de cette chaîne et nous nous concentrerons sur la multiplicité la valeur propre 1.

Actuators and Regional Gradient Remediability.

*Soraya Rekkab, Université d'Orléans,
e-mail : rekkabsoraya@yahoo.fr*

In this paper, we introduce and characterize the notions of regional gradient remediability and regionally gradient efficient actuators. We study their relationship with regional gradient controllability and sensors. As an application, we consider the case where the domain is one and two dimension.

LISTE DES PARTICIPANTS JAMA 2018

Nom Prénom	Université	Adresse E-mail
Abdelkefi Chokri	Tunis	Chokri.abdelkefi@yahoo.fr
Ammari Kais	Monastir	Kais.ammari@fsm.rnu.tn
Ammari Kais	Carthage	
Azaouzi Salma	Sfax	azaouzisalma@gmail.com
Baklouti Ali	Sfax	Ali.baklouti@fss.usf.tn
Baraket Sami	Tunis El Manar	Smbaraketyahoo.fr
Bchatnia Ahmed	Tunis El Manar	Ahmed.bchatnia@fst.utm.tn
Ben Abdallah Nabiha	Sousse	nabihabenabdallah@gmail.com
Ben Gharbi Karima	Tunis El Manar	karimabengharbi@yahoo.fr
Ben Salem Néjib	Tunis El Manar	nejib.bensalem@gmail.com
Bentaleb Abdellatif	Meknes	abdellatif.bentaleb@yahoo.fr
Bonami Aline	Orléans	aline.bonami@gmail.com
Bouakkaz Ahlème	Skikda	a.Bouakkaz@univ-skikda.dz
Boubatra Mohamed Amine	Tunis El Manar	boubatra.amine@yahoo.fr
Chouchène Fredj	Sousse	frejch@gmail.com
Daher Radhouan	Casablanca	rjdaher024@gmail.com
Demni Nizar	Rennes 1	nizar.demni@univ-rennes1.fr
Dziri Moncef	Carthage	moncef.dziri@iscae.rnu.tn
Essifi Rim	Carthage	Essifi.rim@gmail.com
Ezzoug Meriem	Gabès	meriemezzoug@yahoo.fr
Fahlaoui Said	Meknes	saidfahlaoui@gmail.com
Fourati Faiza	Gabès	Fayza.Fourati@ipeit.rnu.tn
Haddad Meniar	Carthage	Meniar.haddad@fst.rnu.tn
Hamda Nabila	Monastir	hamdanabila@gmail.com
Haouala Iness	Sousse	Iness.haouala@yahoo.fr
Hkimi Siwar	Tunis El Manar	cywarhkimi@gmail.com
Izri Nawal	Tunis El Manar	nawalirzi15@gmail.com
Jaming Philippe	Bordeaux 1	Philippe.Jaming@math.u-bordeaux1.fr
Kabbaj Samir	Kenitra	samkabbaj@yahoo.fr
Kallal Samir	Monastir	Samir.kallem@isimm.rnu.tn
Kamoun Lotfi	Monastir	Kamoun.lotfi@planet.tn
Karoui Abderrazek	Carthage	abkaroui@yahoo.com
Khélifi Chahiba	Carthage	
Khemis Rabah	Skikda	kbra28@yahoo.fr
Khériji Lotfi	Tunis El Manar	kheriji@yahoo.fr
Laffi Raoudha	Monastir	rawdhalaffi@gmail.com
Lassoued Lotfi	Tunis El Manar	lassoued.lotfi@gmail.com
Mejri Manoubi	Tunis El Manar	Manoubi.mejri@issatgb.rnu.tn
Mhamdi Zeineb	Sfax	zeinabmhamdi24@hotmail.fr
Nefzi Bochra	Tunis El Manar	asimellinbochra@gmail.com
Nefzi Walid	Carthage	walidahla@yahoo.fr
Negzaoui Selma	Monastir	selma_negzaoui@yahoo.fr
Peigné Marc	Tours	Marc.Peigne@lmpt.univ-tours.fr
Rachdi Mongi	Tunis	Rachdi.mongi@gmail.com
Rejeb Chaabane	Tunis El Manar	chaabane.rejeb@gmail.com
Selmi Belgacem	Carthage	belgacem.selmi@fsb.rnu.tn
Sifi Mohamed	Tunis El Manar	Mohamed.sifi@fst.rnu.tn