Dr Samir EL Mourchid
Assistant Professor at Ibn Zohr University, Agadir, Morocco

s.elmourchid@uiz.ac.m a

Educational Curriculum	✓ 1999: Bachelor in Applied Mathematics, Ibn Zohr University, Agadir, Morocco. ✓ 2002: Master degree in Applied Mathematics, Cadi Ayyad University, Marrakech, Morocco. ✓ 2007: PhD in Applied Mathematics, Cadi Ayyad University, Marrakech, Morocco
Professional Experience	✓ 2008: Post doc position , Universita di Salerno, Italy ✓ 2009-2010: Assistant professor, King Khalid University, Saudi Arabia ✓ 2011: Postdoc position, Blaise Pascal University, Clerment Ferrand, France. ✓ 2012-until now Assistant Professor, Ibn Zohr University, Agadir, Morocco.
Current research interest	Ergodic theoretical approach to chaotic dynamical systems
Research methods	Operator theoretical method: Spectral theory of semigroups . Stochastic approach: Gaussian measures and Stochastic processes.
Publications	S. EL Mourchid, K. Latrach, On the ergodic approach for the study of chaotic linear infinite dimensional systems, Diff. Int. Equ. (2013) M. Chakir, **S. EL Mourchid**, Strong mixing Gaussian measures for chaotic semigroups . J. Math. Anal. Appl. (2018)

Title of the talk: On mixing behaviour of chaotic linear dynamical systems.

Abstract of the talk (10 lines): In our talk we will be interested in chaotic systems. We will try to prove that despite their erratic and unstable behaviours, they are likely to be statistically predictable. For this goal, we use tools from Ergodic theory and Gaussian processes. More precisely, we tackle the problem of the existence of an invariant mixing measure considering its connection with the chaotic behaviour of a linear infinite dimensional system. We first prove an identity characterizing invariant Gaussian measure involving its covariance operator and the infinitesimal generator of the

semigroup. This gives an answer to a question raised by Ryszard Rudnicki in one of his inspiring papers. Under suitable conditions, we used the proved identity to give an invariant mixing Gaussian measure as distribution of a Wiener Integral.