



UNIVERSITÀ DI PARMA

DIPARTIMENTO DI SCIENZE MATEMATICHE, FISICHE E INFORMATICHE

<http://smfi.unipr.it>

SEMINARIO

Professor **David Marti-Pete**, Polish Academy of Sciences

Lunedì 4 novembre 2019, ore 16.00

Sala Riunioni, III piano, Plesso di Matematica

***Wandering domains for entire functions of finite order
in the Eremenko-Lyubich class***

Tutti gli interessati sono invitati a partecipare

Organizzatrice: Prof.ssa Anna Miriam Benini

Abstract: In the iteration of transcendental entire functions, wandering domains are a type of Fatou component that is not eventually periodic. Recently Bishop constructed the first example of a transcendental entire function with a bounded set of singular values (such functions are known as the Eremenko-Lyubich class or class B) that has a wandering domain using a new technique called quasiconformal folding. It is easy to check that his method produces an entire function of infinite order. We construct the first examples of functions in the class B of finite order with wandering domains. In Bishop's example, as well as in our construction, the wandering domains are of oscillating type, that is, with an unbounded non-escaping orbit. To build such a function, we use quasiconformal interpolation instead of quasiconformal folding, which is much more straightforward. Our examples have order $p/2$ for any positive integer p and thus, since functions in the class B have order at least $1/2$, we can achieve the smallest possible order. This is a joint work with Mitsuhiro Shishikura.