

## Some aspects of holomorphic functions in high dimensions and primes

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*Session: 4. Banach Spaces and Operator Theory with Applications*

Recently it became more and more apparent that the study of holomorphic functions  $f: U \rightarrow \mathbb{C}$  on high dimensional polydiscs (i.e.,  $U$  the  $n$ -dimensional polydisc  $\mathbb{D}^n$  for large  $n$ , or the infinite dimensional polydisc  $\mathbb{D}^\infty$ ) is intimately related with the analytic study of Dirichlet series. Dirichlet series form a fundamental tool within analytic number theory – the analytic theory of the distribution of primes numbers. The aim of this talk is to comment on some recent developments in this direction mainly based on joint work with various coauthors: F. Bayart, L. Frerick, M. Maestre, M. Mastyo, S. Schlütters, and P. Sevilla Peris.