**RESEARCH PROGRAM**

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1. **RESEARCH INTERESTS**

In general, my research interests are in Complex Analysis, Fractional Calculus and Operator Theory, while more exactly in construction of some new weighted spaces of in a sense regular functions in the canonical domains of the complex plane, namely the most general, omega-weighted classes and Banach or Hilbert spaces of Holomorphic, harmonic, subharmonic and delta-subharmonic functions in the disc, half-plane and the finite complex plane, and investigation of latter’s properties.

**The previous results**

* A monograph In Springer, Advances in Complex Analysis and Applications (2005), where I introduced and investigated some classes and spaces of the mentioned type for the simple, common case of power weights in the half-plane;
* 50 publications. These include more than 15 works published in some famous international journals and, as chapters, in Birkhauser (Switzerland) and Springer books, where different parts of the new theory with arbitrary acceptable weights are constructed in all mentioned canonical domains.
1. **PROJECT DESCRIPTION**

The project is to be devoted to the construction of some weighted Banach spaces of functions delta-subharmonic in the unit disc and in the upper half-plane of the complex plane in the case of the most general omega-weights. The most essential properties of functions from the introduced spaces are to be investigated. Also, the possibility of introduction of similar Banach spaces of functions delta-subharmonic in the whole finite complex plane is to be studied.

1. **PREREQUESITS**

A student should have an excellent knowledge of basic university courses in the theory of functions of a complex variable, theory of functions of a real variable, functional analysis and have a good knowledge of the Nevanlinna theory, theory of Hardy spaces, M.M. Djrbashian 'с theory of factorization of functions meromorphic in the disc.

1. **WORKING MODE**

The main part of the project is to be carried by my Doctoral Students Jesus Pejendino and Daniel Vargas under my supervision and with my guidance. For online meetings I prefer Microsoft Messenger.