

## Description for the General Public

The inspiration of the project comes from interactions between two various fields of mathematics – Several Complex Variables and Operator Theory. Both are represented at the Jagiellonian University by the very strong groups (the strongest ones in the Institute of Mathematics) which have focused their research on areas entirely separated from each other. **The main aim of the project is to form a new international research group working on problems that lie on a borderline between SCV and OT.** The project will focus on some famous conjectures.

The project will be carried out in a group composed of five researches. The participation of Principal Investigator, one 2-year postdoc position (advertised internationally), two PhD-students and one 30-months co-investigators is planned.

A whole spectrum of methods coming complex and functional analysis, operator theory,  $L^2$ -tools and kernel methods will be used to solve the problems raised in the project. It is also expected that some new methods will be developed during the project.

The main result of the project, beyond creating a new research group, will be diversifying and intensifying research collaboration with some of the leading research centres abroad. The results obtained within the project will be submitted to top-level journals and presented at international conferences.