



CIMAT

Centro de Investigación en Matemáticas, A.C.

Series of conferences on **Advances in Representation Theory of Algebras (ARTA)**  
Guanajuato-Toruń-Montréal  
Guanajuato, Mexico. June 22-26, 2015.

**NAME:** Mariusz Kaniecki

**INSTITUTION AFILIATION:** Nicolaus Copernicus University in Toruń

**I WOULD LIKE TO PRESENT A TALK AT THE CONFERENCE:** YES

**PROPOSED TITLE AND ABSTRACT (AT MOST 20 LINES ARIAL 12 PT).**

**TITLE:** Invariant subspaces of a fixed nilpotent linear operator.

**ABSTRACT:** We generalize results of Justyna Kosakowska and Markus Schmidmeier given in *Operations on arc diagrams and degenerations for invariant subspaces of linear operators*, Tran. Amer. Math. Soc., <http://dx.doi.org/10.1090/S0002-9947-2014-06206-5>, about arc diagrams and invariant subspaces of nilpotent linear operators. We fix a nilpotent linear operator and investigate all its subspaces of nilpotency index at most 2 with given linear dimension. We study relationship between algebraic, geometric and combinatorial properties of these subspaces.

CIMAT