

**DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
UNIVERSITY OF SOUTHERN DENMARK, ODENSE**

Mathematics Seminar

**Professor Piotr M. Hajac,
IMPAN**

**Thursday 5 December, 14:15-15:15
IMADA Seminar Room**

FROM PUSHOUTS OF GRAPHS TO PULLBACKS OF GRAPH ALGEBRAS

Abstract

We search for a new concept of graph morphism that would ensure that the assignment of graph algebras to graphs becomes a contravariant functor translating pushouts of graphs into pullbacks of graph algebras. The case of an injective morphism between row-finite graphs is solved by a known concept of admissible subgraph. The non-injective case is motivated by natural and highly non-trivial examples from noncommutative topology (e.g., quantum weighted projective spaces).

To accommodate this naturally occurring non-injectivity, we replace the standard idea of mapping vertices to vertices and edges to edges by the more flexible idea of mapping finite paths to finite paths.

(Based on joint works with Alexandru Chirvasitu, Sarah Reznikoff and Mariusz Tobolski.)