

# ALGEBRAICALLY CLOSED STRUCTURES

*Piotr Kowalski (University of Wrocław, Poland)*

I will discuss the concepts of an existentially closed model of a theory and a model companion of a theory. The prototypical example is the theory of algebraically closed fields which is a model companion of the theory of fields. I will give natural examples of the situations when model companions do not exist (the theory of groups or the theory of commutative rings) and discuss some open questions.