## INSTITUTUL DE MATEMATICA "SIMION STOILOW" AL ACADEMIEI ROMANE Conferința lunară

## Is symmetry better? Symmetry and symmetry breaking arising in calculus of variations and partial differential equations

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**Abstract:** Given a problem in the calculus of variations and partial differential equations invariant under some symmetries, it is natural to wonder whether the solutions do inherit the symmetry of the problem. Symmetry in general sounds too good to be true; I will present some more or less classical counterexamples to symmetry. Symmetry is however not an inaccessible ideal, as I will illustrate with a choice of techniques that have been used to prove the symmetry of such solutions.