The proposal is devoted to certain class of perfect ideals in a commutative ring. These are so-called licci ideals. They can be characterized by the fact that their free resolutions can be iteratively constructed from so-called Koszul complexes-the simplest resolutions of ideals of this type.

The licci ideals have good deformation properties: each is a specialization of a rigid one (its Herzog class).

PI with collaborators propose a classification of rigid licci ideals. It depends on a triple (c, d, t) where c is a codimension, d-a deviation and t- a Cohen-Macaulay type of a given ideal. We say that an ideal I is of class (c, d, t) if its codimension is $\leq c$, deviation is $\leq d$ and Cohen-Macaulay type is $\leq t$.

The investigators construct for each triple (c, d, t) countable list of examples of such ideals. The list is connected to combinatorics of the root system associated to a graph $T_{c-1,d+1,t+1}$.

The list is finite if and only if $T_{c-1,d+1,t+1}$ is a graph of ADE type.

The main conjecture of the proposal says that the constructed list contains all rigid ideals of class (c, d, t).