



# THE WORLDWIDE CENTER OF MATHEMATICS

## On the generalized Nash problem for smooth germs and the singularities adjacency problem



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**Coffee, tea, cookies: 3:30pm**

**Talk: 4-5pm**

**929 Massachusetts Ave., Cambridge, Suite #102**

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Abstract: We investigate the relative positioning in arc space of cylinders associated with divisorial valuations in a surface germ. This problem, posed by S. Ishii, is a natural generalization of Nash problem on arc spaces, and can be proved to be equivalent with the problem of finding  $\delta$ -constant deformations of plane branches with special properties. We relate this problem with the classical adjacency problem of singularities by defining and characterizing a new notion of adjacency between singularity classes (adjacencies which fix the free infinitely near points). We also prove that the generalized Nash problem for smooth germs is of combinatorial nature. Joint work with M. Pe Pereira and P. Popescu-Pampu.

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