



## Swiss Doctoral Program in Mathematics

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### Cours du semestre d'automne 2009 à l'EPFL

**Title** Introduction to global singularity theory  
**Instructor** Andras Szenes (Genève)

**Time** September 16 - December 16, 2009, Wednesday, 14:15 - 15:30

**Place** EPF Lausanne, room MA A1 12

**Audience** PhD students, advanced Master students

**Objectives** Learning the basic techniques of enumerative geometry such as localization and stratification via applications to global singularity theory. Introduce the audience to recent developments in global singularity theory, which followed the appearance of new topological tools in the subject.

**Content**

1. Singularities of holomorphic and real differentiable maps: examples and classification.
2. Basic notions of enumerative geometry: multidegrees, Groebner bases.
3. Global singularity theory: jet spaces, Thom polynomials.
4. Computational methods: restriction equations and localization.

**Evaluation** On request

**Prerequisite** Basic course in topology

**Keywords** Contact singularities, Thom polynomials, localization in topology.

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