

# Jornada de Geometria Complexa e Singularidades

IMPA, Rio de Janeiro, 23/07

## Abstracts/ Resumos:

### 1) Jorge Vitório Pereira (IMPA)

#### Título: Compact leaves of codimension one foliations

Resumo: I will discuss three questions on this talk.

(Existence) Given a smooth hypersurface  $Y$  of a projective manifold  $X$  with numerically trivial normal bundle, does exist a codimension one foliation on  $X$  having  $Y$  as a compact leaf ?

(Abelian holonomy) What can we say about foliations having a compact leaf with abelian holonomy ?

(Factorization) It is rather easy to construct foliations on projective surfaces having compact leaves with non-solvable holonomy.

In higher dimensions, the only known examples are pull-backs of foliations on surfaces through rational morphism. Is this a general phenomenon ? In particular, does the holonomy of compact leaves factor through curves when non solvable?

(Joint work with B.Claudon, F. Loray, F. Touzet)

### 2) Javier Fernández de Bobadilla (PVE - ICMAT)

#### Título: Disentanglements and Mond Conjecture.

Resumo: Disentanglements are stabilizations of stable mapping germs from  $C^n$  to  $C^{n+1}$ . In several aspects they play a similar role than Milnor fibration for hypersurface singularities. Mond's conjecture is one of the main open problems in the theory and relates the topology of the disentanglement with the dimension of the miniversal unfolding of the map. It is proven only in dimensions one and two. In this talk, of introductory nature, I will explain the conjecture, and if time allows Mond's proof in dimension two.

### 3) Charles Favre (PVE - École Polytechnique)

#### Título: Dynamics and singularities.

Resumo: We shall discuss the problem of classifying singularities carrying non-trivial self-maps, in which the singularities appearing of the MMP play a very special role.

### 4) Benoît Claudon (CNRS/IMPA)

#### Título: Aplicação de Albanese das variedades especiais

Resumo: Nesta palestra, eu vou explicar um resultado sobre a estrutura do mapa de Albanese de uma variedade especial. Esse tipo de variedade (projetiva e lisa) é uma classe de variedades que contém variedades racionalmente conexas e variedade com dimensão de Kodaira nula (de uma certa forma, a classe das variedades especiais é oposta à classe das variedades de tipo geral). O resultado é o seguinte : as fibras gerais do mapa de Albanese de uma variedade especial também são especiais (trabalho em conjunto com o Frédéric Campana).

## **5) Carolina Araujo (IMPA)**

### **Título: On Fano foliations**

Resumo: In recent years, techniques from higher dimensional algebraic geometry, specially from the minimal model program, have been successfully applied to the study of global properties of holomorphic foliations. This led, for instance, to the birational classification of foliations by curves on surfaces by Marco Brunella.

Motivated by these developments, we have been carrying out a systematic study of "Fano foliations". These are holomorphic foliations with ample anti-canonical class on complex projective varieties. In this talk I will present some results and techniques from this theory, developed in a series of joint works with Stéphane Druel.