Colóquio CIDMA / DMat

17 de Setembro, 15h30

## Auditório Mestre Hélder Castanheira

Rigidity of smooth group actions on manifolds

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While it is very easy to perturb a smooth flow on a manifold and bifurcation is one of the main subject in the theory of dynamical systems, smooth actions of higher dimensional Lie groups might exhibit rigidity under perturbation. Such rigidity phenomena are related to rigidity of lattices of simple Lie groups and are studied from both dynamical and geometrical view points.

This colloquium talk gives a panorama of rigidity of smooth group actions, including the speaker's recent results. The talk starts with a classical result on actions of compact group by Palais, and explore rigidity results on actions related to Fuchsian groups and lattices of simple Lie groups of higher real rank. Rigidity of actions related to simple Lie groups of real rank one is still mysterious, but we will see some results on such Lie groups by the speaker.
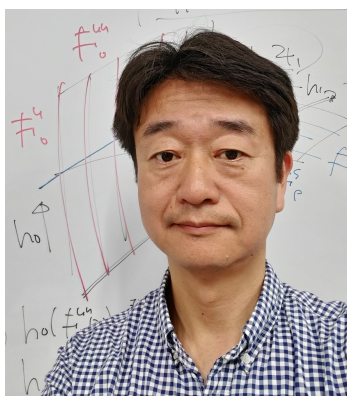
Short bio:

Masayuki Asaoka (born in 1973) is a Japanese mathematician who works in dynamical systems, foliation theory, and differential geometry. He is a professor at the prestiged Doshisha University in Kyoto and has published over 30 papers in top mathematical journals. His research blends topology, geometry, and ergodic theory, with significant contributions to the stability of dynamical systems. In 2013, he received the Spring Prize from the Mathematical Society of Japan for his influential work on Anosov flows, Hamiltonian dynamics, and geometry of foliations.