Closure of leaves and Lie groupoid structure: the proof of Molino's conjecture

Prof. Marcos M. Alexandrino [1]

[1] Instituto de Matemática e Estatística, Universidade de São Paulo (USP), Rua do Matão, 1010, Bloco A, 05508 090, São Paulo, Brazil

In this talk we review the ideia of the proof of Molino's conjecture that for each singular Riemannian foliation $(M, \mathcal{F})$, the partition $\overline{\mathcal{F}}$ given by the closures of the leaves of $\mathcal{F}$ is again a singular Riemannian foliation. In addition, we discuss the semi-local models of Singular Riemannian foliations and stress the Lie groupoid structure of the associated subfoliation (the linearized subfoliation) that roughly speaking describe the semi-local dynamical behavior of $\mathcal{F}$. This talk is based on a joint work with Prof. M. Radeschi (Notre-Dame) [1] and other work with M. Inagaki and Prof. I. Struchiner (IME-USP) [2]. It is aimed at a broad audience of students, faculties and researchers in Geometry.

References

[1] M. M. Alexandrino and M. Radeschi, Closure of singular foliations: the proof of Molino's conjecture; Compositio Mathematica, Vo. 153, Issue 12 December 2017 , pp. 2577–2590

[2] M. M. Alexandrino, M. K. Inagaki, I. Struchiner, Lie groupoids and semi-local models of Singular Riemannian foliations, Preprint arXiv:1812.03614 (2018)