Plenary Session: Foliations with Trivial Canonical Class

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The talk will focus on holomorphic foliations with trivial canonical class, which may be viewed as the foliation-theoretic analogues of Calabi–Yau varieties. This class has gained relevance in light of recent advances in the birational geometry of foliations, as they constitute the ideal models for foliations of numerical Kodaira dimension zero. Emphasis will be placed on the main ideas behind the results rather than on technical details. We will review developments from the past four decades and discuss connections with other areas of complex geometry, including Beauville's conjecture on the decomposability of universal covers of compact Kähler manifolds and the theory of holomorphic Poisson structures.

In Plenary Talks at the Mathematical Congress of the Americas 2025.

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