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## THE CALABI-YAU EQUATION AND SYMPLECTIC FORMS

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**Abstract:** The conjecture of Calabi, proved by Yau thirty years ago, states that on a Kähler manifold one can find a unique Kähler metric in every Kähler class with prescribed volume form. Donaldson conjectured that this theorem can be extended to symplectic forms with a compatible almost complex structure and gave possible applications to the symplectic topology of 4-manifolds. I will discuss some results on Donaldson's conjecture. Part of this is joint work with Tosatti and Yau.