On algebraic and pseudoholomorphic plane curves

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Pseudoholomorphic curves (in a tame almost complex structure) were introduced by Gromov in 1985. In the first part of my talk I will give a brief survey of numerous results showing that they have many properties in common with algebraic curves.

In the second part, I will discuss results and conjectures about the difference between these notions. Namely, I will speak about equisingularity types of complex curves and isotopy types of sets of real points of real curves, which are realizable pseudoholomorphically but unrealizable (or not realized yet) algebraically.