Mathematics, Statistics, and Computer Science   **@ UIC**

Departmental Colloquium

Dynamics of foliations by Riemann Surfaces

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Abstract: Consider the polynomial differential equation in $\mathbb{C}^2$

$\frac{dz}{dt} = P(z, w), \qquad \frac{dw}{dt} = Q(z, w)$. The polynomials P and Q are holomorphic, the time is complex. In order to study the global behavior of the solutions, it is convenient to consider the extension as a foliation in the projective plane $\mathbb{P}^2$.

I will discuss some recent results around the following questions. What are the tools for ergodic theory in this setting? What is the ergodic theory of such systems? How do the leaves distribute in a generic case? The system exhibits some surprising rigidity aspects.

Friday, November 10 at 3:00 PM in SEO 636