

## Julia sets for endomorphisms of $\mathbb{R}^2$ and $\mathbb{C}^2$

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In this talk we consider a class of endomorphisms of  $\mathbb{R}^2$  defined by  $f(x, y) = (xy + c, x)$ , where  $c$  is a real number. We prove that when  $-1 < c < 0$ , the forward (resp. backward) filled Julia set of  $f$  is the union of stable (resp. unstable) manifolds of fixed and 3-periodic points of  $f$ . We also study dynamical properties of the family  $f_{c,d}(x, y) = (xy + c, x + d)$  of endomorphisms of  $\mathbb{C}^2$ , where  $c$  and  $d$  are complex parameters. This class of polynomial maps is related to the stochastic Vershik-Bratteli diagrams. This is a joint work with Pierre Arnoux and Ali Messaoudi.