1096-35-1296 **Georg Hetzer*** (hetzege@auburn.edu), Department of Mathematics and Statistics, 304 Parker Hall, Auburn University, Auburn, AL 36849-5310. *Diffusion-Driven Instability.*

The concept of diffusion-driven instability goes back to Turing who proposed it as a mechanism for pattern formation. In terms of reaction-diffusion systems Turing instability occurs if a stable spatially homogeneous equilibrium in the absence of diffusion becomes unstable in the presence of diffusion. The main part of the talk will focus on results of joint work with A. Madzvamuse and Wenxian Shen for the case of evolving domains. Our approach relies on transforming the original system into a reaction-diffusion system on a fixed domain with time-dependent diffusion coefficients and non-autonomous reaction terms and to employ Lyapunov exponents for establishing Turing conditions. Some work in progress will be mentioned at the end of the talk. (Received September 14, 2013)