Sara Lapan* (slapan@ucr.edu). Existence of a domain of attraction along a characteristic direction of higher degree.

In this talk, we will consider holomorphic self-maps of \( \mathbb{C}^2 \) that fix the origin and are tangent to the identity (e.g., \( f(0) = 0 \) and \( df(0) = \text{Id} \)). We are interested in how points near the origin move under iteration. Do they converge to the origin and, if so, do they converge along a direction? When this happens, such a direction must be a characteristic direction.

We will discuss what is known in \( \mathbb{C}^2 \), focusing on degenerate characteristic directions and the role that higher degree terms can play in the existence of a domain of attraction along those directions. (Received August 27, 2018)