# From PDE models to filter design for image processing

I will discuss a new approach to image processing introduced in the long-term and on-going joint work with Jianzhong Wang of Sam Houston State University. Based on nonlinear PDE models, content-dependent filters (CDF) are designed by mapping the independent time variable to a content-dependent scale parameter. The Perona-Malik anisotropic diffusion will be used as a case study. It turns out that the bilateral filter could be considered as a CDF, by restricting the adaptivity functionality.