1077-AB-1739 **Bjorn Sandstede***, Division of Applied Mathematics, Brown University, 182 George Street, Providence, RI 02906. *Snakes and ladders.*

I will discuss localized stationary 1D and 2D structures such as hexagon patches, localized radial target patterns, and localized 1D rolls. These solutions have observed in semiconductor lasers, vegetation patches, buckling patterns of cylindrical shells, binary fluids, and chemical reactions. They can exhibit snaking: in parameter space, the localized states lie on a vertical sine-shaped bifurcation curve so that the width of the underlying periodic pattern, such as hexagons or rolls, increases as we move up along the bifurcation curve. I will give an overview of recent analytical and numerical work in which this phenomenon is investigated. (Received September 20, 2011)