Regulatory T cells (Tregs) are essential for controlling immune responses to self-antigens and non-harmful foreign antigens. Consequently, Treg dysfunction is associated with multiple diseases: from autoimmunity to allergy to cancer. Our lab is interested in defining the mechanisms by which Tregs function and in developing ways to use them therapeutically as a cell-based therapy to restore immune tolerance. Recent data on a novel mechanism of Treg mechanism of action and a new source of therapeutic Tregs will be discussed. Developing a better understanding of how Tregs work and discovering how to generate large numbers of stable and robust cells will lead to optimized protocols for their clinical application.