Confinement effects on the glass transition of nanolayered polymers — Despite numerous studies of glass transition confinement effects in liquids confined in freestanding films, on rigid substrates, and in pores, many outstanding questions remain regarding the origin, nature, and magnitude of these effects. In recent years, studies have demonstrated that these effects are also present in materials under soft confinement, including in internally nanostructured polymers such as nanolayered polymers and block copolymers. This latter class of materials offers a new platform for exploration of confinement effects in the absence of issues surrounding substrate selection and preparation. In this talk, we describe the results of coarse-grained molecular dynamics simulations probing the glass-formation behavior of nanolayered polymers, with a focus on the role of ‘cooperatively re-arranging regions’ in nanoconfinement effects in these systems. Furthermore, we discuss the role of miscibility and bulk $T_g$ of the nanolayered polymers in determining the magnitude and direction of changes to $T_g$ and mobility of polymers under this form of ‘soft’ nanoconfinement.