For over 50 years, optical prisms inducing laterally displaced movements have been used to study perceptual-motor learning. In 1990, client exposure to rightward-displacing prisms during inpatient therapy was reported to improve pathological spatial bias causing functional disability (spatial neglect), which predicts longer hospital stay and poor return of independence. Since then, the cognitive neuroscience community generated numerous studies of prism adaptation effects; we and others reported this treatment may selectively train spatial “Aiming” motor-intentional systems (Fortis et al., 2011). From animal literature to stroke/cognitive neurology, this course is a translational introduction to prism adaptation for spatial neglect: its brain basis, promise, currently-used protocols, and limitations in the clinical setting.

At the conclusion of this presentation, attendees will be able to: (1) list laboratory and clinic methods separating spatial Aiming from the traditionally-defined “Where” visual-perceptual bias in spatial neglect; (2) describe why bottom-up, motor learning approaches might be superior to explicit, verbal strategic training to activate subcortical-cortical spatial Aiming networks; (3) list three knowledge gaps blocking translation of prism adaptation research to standard clinical practice.