The ground breaking research at Newcastle University by Kenwright [1,2], takes a different direction for creating character animations. While traditional techniques mostly use motion-capture data-driven methods, Kenwright approaches the problem from a different direction, exploiting research from biomechanics and robotics, to generate animations using physics-based procedural techniques. This produces active character animations that are dynamic and reactive, while possessing instinctual behavioural movements that can react and adapt automatically in a life-like way to both passive and active environmental disturbances. For example, unforeseen push disturbances, stairs, slopes, swinging bridges. Synthesizing active movements simplifies the generation of life-like complex animation that many characters demand. This approach allows a users interaction to produce improvisational style movements that are unscripted that are physically-accurate and correct.

Active avatar characters that are self-driven is an important, interesting, and challenging area of research. In essence, creating puppets that pull their own strings. Applicable to a variety of applications, including, games and interactive venues, such as animation for television and feature films.

References: