

Advanced Materials for Health Monitoring and Haptic Interactions

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Advances in materials science, mechanical engineering and manufacturing methods establish the foundations for high performance classes of electronics technologies that have soft, flexible physical properties, sometimes in bioresorbable forms. The resulting devices can mount on the skin, at nearly any location across the body, and they can also implant into the body, to provide continuous, clinical-quality information on physiological status, with options in complex, large-area multi-haptic forms of engagement and feedback. This talk summarizes the key ideas and presents examples in wireless devices for (1) maternal, fetal, neonatal and pediatric care in clinical facilities and home settings, and (2) full-body haptic experiences in virtual/augmented reality environments.