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In this talk we address time-reversal imaging of a target in a complex media. We direct significant attention to time-reversal imaging quality as a function of the mismatch between the Green's function associated with the forward measurement and that used in the inversion problem (when imaging). In addition to the theoretical analysis, an experimental study is performed on electromagnetic and acoustic time reversal in highly scattering environments. We examine the degradation in the time-reversal image with increasing media mismatch, and consider techniques that mitigate such degradation. The experimental results are also compared with theoretical predictions for time reversal in changing media, with good agreement observed. (Received September 29, 2005)