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Liliana Borcea* (borcea@caam.rice.edu), Computational and Applied Mathematics, MS134, Rice University, 6100 Main St, Houston, TX 77005-1892. *Adaptive Coherent Interferometric Imaging in Cluttered Media*.

I will discuss a robust approach for sonar array imaging in cluttered media, in regimes with significant multipathing of the waves by the clutter. The key idea is to exploit the spatial and temporal coherence in the noisy data recorded at the array in order to remove the effect of the clutter and thus, achieve reliable images. I will explain how this data processing can be done adaptively, without knowledge of the clutter. Moreover, I will discuss the issue of optimal source distributions and probing signals that one should send in order to achieve the best possible resolution of the images.

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