New Algorithms in Information Science and Connections with Time-Dependent PDEs

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The past few years have seen an incredible explosion of new (or revival of old) fast an effective algorithms for various imaging and information science applications. These include: nonlocal means, compressive sensing, graph cuts, Bregman iteration, as well as relatively old favorites such as the level set method and PDE based image processing. I'll give my view of where we are and what time dependent PDE has to do with all this.