Magnetic resonance imaging (MRI), which is a quite powerful and versatile medical imaging modality, has witnessed a decade of extensive developments in advanced computational algorithms for image recovery. For example, advances in multichannel (parallel) MRI and compressed sensing (CS), which enabled MRI to go beyond classical Nyquist sampling limit, have facilitated considerable reduction in acquisition time in static imaging applications and improved temporal resolution in dynamic applications. The recent approval of CS products for clinical scans by the United States food and drug administration (FDA) makes MRI one of the main benefactors of CS algorithms. The excitement generated by compressive sensing and parallel MRI has initiated a computational way of thinking in MRI, resulting in several novel advances including estimation of biophysical parameters directly from measurements, non-linear measurement schemes, learned signal representations, and learned inverse operators. Many of these developments have been fueled by signal processing advances in areas including sampling, sparse and low-rank methods, and convex optimization. At the same time, the practical problems and clever computational solutions that were developed in the MRI context will find more broader appeal in the signal processing and computational imaging community.

This special issue invites well thought-out tutorial style surveys and overviews of recent, which pushes the frontier of computational MRI beyond compressed sensing. The special issue is intended as a forum with high visibility and synergy between the theoretical and the applied research in medical imaging is expected to bring together scientists from signal processing community, MRI physicists, clinicians, and industry to solve practical problems of high significance. The scope of this special issue includes, but is not limited to:

- Novel image representations in MRI
- Fast optimization algorithms for MRI
- Machine learning & dimensionality reduction
- MR fingerprinting and applications
- Clinical translation of computational tools
- Low-rank and dictionary learning in MRI
- Computational methods for artifact reduction
- Trajectory design and optimization in MRI
- Learning based algorithms for MRI
- Industry perspective on computational MRI

White papers are required, and full articles are invited based on the review of white papers. Articles submitted must be of tutorial and overview/survey nature and in accessible style to a broad audience. Submissions will be reviewed according to the IEEE Signal Processing Magazine guidelines and should not have been published or under review elsewhere. Submissions should be made online at http://mc.manuscriptcentral.com/sps-ieee. For guidelines and information on paper submissions, visit http://signalprocessingssociety.org/publications-resources/ieee-signal-processing-magazine

Important Dates: Expected publication date for the special issue is January 2020.

<table>
<thead>
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<th>White paper due</th>
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<tr>
<td>Notification of white paper review</td>
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<td>Submission of invited full-articles</td>
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