Hyperspectral Imaging (HSI) is one of the fastest developing research areas in image processing. Its applications have moved from traditional remote sensing such as mining, precision agriculture and environmental monitoring to more industry based applications including food and pharmaceutical quality inspection/grading, medical applications and even artwork authentication. With an increasing industrial demand, the need for more efficient and effective algorithms and data analysis techniques that can handle the vast data amount of hyperspectral imagery becomes more pressing.

Particular challenges of hyperspectral data processing are how to deal with the high amount of data produced by HSI systems. Many algorithms aim at reducing the data amount by selecting only a subset of wavelengths or linear combinations of the same that carry the most information for a particular application. Subsequent data mining algorithms can often be improved by selecting the most useful information but often tend to limit themselves by only including the spectral information. Algorithms that include all information available in HSI are yet scarce which shows that the full potential of HSI is not fully explored yet.

The goal of this special issue is to provide a premier forum for researchers working on the aforementioned hyperspectral imaging and related applications as well as providing an important opportunity for multidisciplinary development. Topics of interest include, but are not limited to:

**Topics of interest:**

- Compressed sensing enabled effective data acquisition techniques
- Sparse representation and data reduction
- Feature extraction and selection
- Band selection and optimisation
- Quality ensured hyperspectral data compression
- Improved algorithms for classification and regression analysis
- Deep learning based models and algorithms
- Effective techniques for hypercube data visualisation
- Hyperspectral applications

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