**Hyperspectral Imaging Standards Workshop, April 16, 2018. SPIE Orlando, FL**

This is a review of topics that were discussed. It is not a comprehensive list of topics related to the needs of hyperspectral imaging standards.

* Hyperspectral imaging may encompass a wide range of sensing technology and applications. In this effort, we are focused on
	+ Spectral range 250 nm to 2500 nm
	+ Passive (solar illumination) and broadband illumination
	+ Typical but not exclusive to pushbroom architecture
	+ It is anticipated that elements of this work will serve as a foundation to other spectral ranges and architectures

The following are areas of interest that where touched on:

* Terminology (closely related to next topic)
	+ Formal definition of “hyperspectral”
	+ Spectral resolution
	+ Spectral sampling
	+ Stray light
	+ Signal-to-noise ratio
* Calibration/characterization (method and reporting)
	+ Lamp (FEL)/plaque method as possible reference for inter-comparisons
	+ Stray light
	+ Signal-to-noise ratio
	+ Spectral smile
	+ Spatial resolution (modulation transfer function, MTF)
	+ Inherent calibration references (e.g., atmospheric lines)
* Standard Methods
	+ White/grey reflectance target
	+ Illumination/observation geometries
	+ Considerations related to outdoor vs. laboratory (controlled) environment
* Operating conditions and stability
	+ High temperature
	+ High humidity
* File structure
	+ Metadata/header file
	+ Compatibility
	+ Use existing file format, modify, or new
	+ Using something like the ENVI header to encode calibration/instrument performance data – worth exploring.
* Standard Algorithms
	+ Can there be a standard algorithm as a benchmark?
	+ Spectral angle, PCA, Matched Filter
* Standards development
	+ IEEE-SA
	+ Established 4001
	+ Meeting planned for IEEE IGARSS
	+ Nearly 200 names on invite list