DESIGNING A PDS4 LOCAL DATA DICTIONARY. A. C. Raugh[1], [1]University of Maryland (Department of Astronomy, Physical Sciences Complex (415), Rm 1113, 4296 Stadium Drive, University of Maryland, College Park, MD 20742-2421, araugh@umd.edu).

Introduction: Previous presentations have discussed the use of the PDS Local Data Dictionary Tool (LDDTool) in creating information models and transforming them into the files needed for PDS4 archive creation [1], and the role of a local dictionary as a validation tool in quality assurance [2]. But the first problem that faces any archive designer is that of identifying, assembling, and organizing metadata for the local dictionary into the design that will ultimately be implemented via LDDTool.

Identification: The metadata to be included in archive data labels comes from various sources. The PDS4 standard presents minimum requirements for descriptive metadata of various types. That baseline is augmented by the metadata available in the PDS discipline dictionaries, designed to standardize terminology and support interdisciplinary search and analysis. To these are added metadata from sources like: the observing facility pipeline; interface specification documents; science team requirements and preferences; processing history notes; and so on.

Matching the metadata specified in these sources to the PDS core standards and discipline dictionaries addresses the archiving requirements (and identifies gaps to be filled). The remaining metadata represent mission or project requirements as well as added support for end-users in locating and using the data. These are the attributes that will comprise the local dictionary for the mission or project.

Assembly: The modern standard for metadata goes well beyond an apt keyword name and a value. The next stage of local dictionary preparation involves gathering not just attributes, but strong definitions, units of measure, and validation constraints. All of these are part of the local dictionary to be created, and ultimately become part of the PDS archive documentation.

Organization: The complexity of modern metadata demands context to aid in interpretation. A laundry list of keywords and values is not as easily understood as a structured hierarchy of keywords organized into contextually related groups. The last stage of local dictionary design is identifying these groups, augmenting them as needed with attributes that might have been omitted in the initial list.

Summary: This presentation will address these early stages in the development of local dictionaries, identifying techniques and resources applicable to both large mission archivists and small project data preparers.

References: [1] Raugh A. C. and Hughes J. S. (2017) *Planetary Science Informatics and Data Analytics Conference 6017.* [2] Raugh A. C. and Hughes J. S. (2018) *DPS Meeting Abstracts,* 114.12.