

Notes Legend This is a graphical representation of a possible extension of the OME data model developed by members of the Imaging Working Group of the Units are omitted for simplicity sake. 4D Nucleome consortium. The graph utilizes the Entity-Relationship formalism. In this formalism information about a real world situation/thing APE, Abstract Parent Entity (in our case a Microscope and an image acquired using that instrument) are represented by three types of model elements: 1) Entities = Boxes; 2) Relationships = lines connecting boxes; 3) Attributes = fields within boxes AnnotationRef: This element always refers to a Comment/ Annotation element as described for Channel. However for When describing a real life situation/thing: 1)ENTITIES corresponds to NOUNS = the things we want to collect information about. simplicity sake most Comment/Annotation elements have 2) RELATIONSHIPS corresponds to VERBS = actions/state/occurrence that connect Entities with each other been omitted and the AnnotationRef has been inserted in 3) ATTRIBUTES corresponds to ADJECTIVES = the actual information about each Entity we want to collect the referring element as an attribute. In order to read the schema please start from INSTRUMENT and from and IMAGE for the Specifications and Settings section respectively. Then follow the lines to the connected boxes and think something like: 1) An Instrument has a Microscope_Body, might rest on a Microscope_Table, and has a Light_Source etc.; 2) An Image was For questions or comments please contact: caterina.strambio@umassmed.edu produced as part of a specific Experiment, was collected in a specific Imaging_Environment, was collected using specific Microscope_Settings etc. **ImagingEnvironment IMAGE** AirPressure MicroscopeSettings ID (MicroscopelD) Settings **OptovarMagnification** TotalEffectiveMagnification | TIRFSettings Description ThroughLens _ _ _ _ _ _ _ _ A description for the TIRFsettings [plain-text multi-line string] AnnotationRef ObjectiveSettings ID (ObjectiveID CorrectionCollar Immersium Medium | ImmersionRefractiveIndex MeasuredRefractiveIndex Temperature

