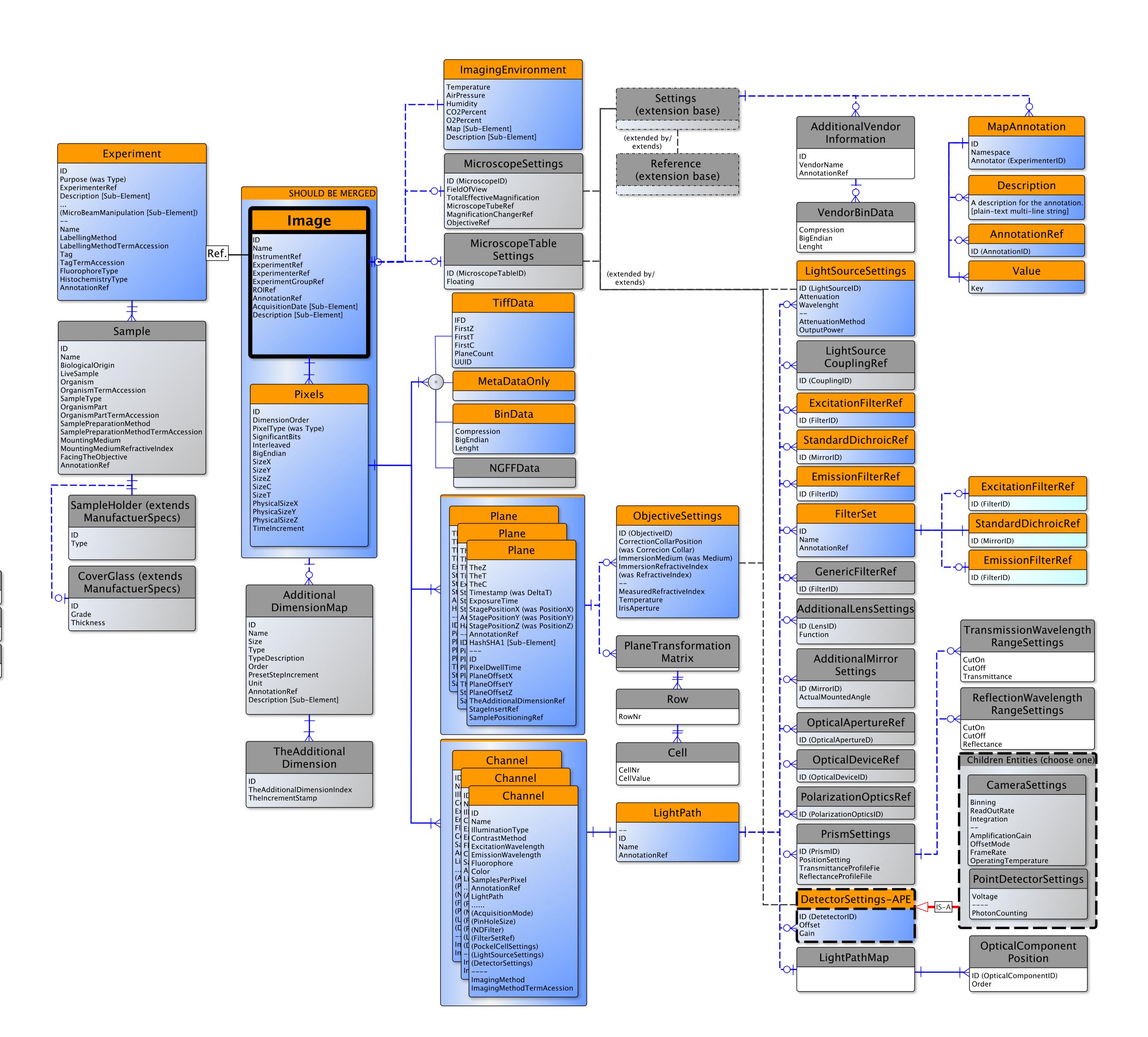
PeakWavelength | WavelenghtProfileFile MICROSCOPE **IluminationWavelend** Specifications | WavelenghtProfileFile ID (LightSourceID) GenericExcitationSource Inverted WavelenghtProfileFile LaserMedium IsPumped RepetitionRate 4 EyepieceFieldNumber EnvironmentContro FrequencyMultiplication (Wavelength) (PockelCell) MicroscopeTable LaserClass IsPump Position PulseDuration WavelenghtProfileFile Acousto-OpticalDeviceRef MultiLaserEngine **FemperatureControlled** FilterRef Laser [Sub-Element] Children Entities (choose one (choose on LensRef Children Entities (choose one) Positioning-APE MechanicalStage LightGuide MirroringDeviceRef TravelRange ID (MirroringDeviceID) PiezoelectricStage IS-A RefractiveIndex NumericalAperture Transmittance OpticalApertureRef Motorized ZTravelRange CouplingLensRef ■AnnotationRef ______ Geometry ID (OpticalApertureID) Children Entities ■ ZPositionLinearityError MaterialName ZMaxVelocity SingleMode WaveguideMode OpticsHolderRef FocusingDevice-APE ZRepetability ZSettlingTime ZResolution Objective Diameter ID (OpticsHolderID) ObjectiveTurret StageType FreeBeam RecommendedImmersion PolarizationOpticsRef Focusing DirectMount ID (PolarizationOpticsID) Magnification MountType <u>_____</u> IndividualObjective FocusStabilizationDevice PrismRef -----WorkingDistance Focusing _____ Children Entities AcquisitionSoftware PiezoElectric (boolean) ExcitationFilterRef BeamExpander ID (FilterID) ContrastModulation | PhaseContrastType | Configuration Version Patch Collimator CorrectionCollarType GitURL D (MirroringDeviceID) FrontFocalLength Publication Condenser BackFocalLenght ParfocalizingDistance ID (FilterID) ObjectiveViewField | ExcitationFilterRef MicroscopeTube StandardDichroicRef hildren Entities (choose one ID (MirroringDeviceID) (extension base) ______ EmissionFilterRef DarkFieldStop AnnotationRef Manufacturer ID (FilterID) OpticsHolderPosition nnotationRef HoffmanSlitPlate FilterCubeRef FilterCube LotNumber **----**ID (FilterCubeID) SpecsFile Optics Holder Position | IrisDiaphragm FilterCubeRef FilterSlider OpticsHolder-APE Information PhaseRing ExcitationFilterRef FilterCubeTurret Namespace ID (FilterID) Annotator (ExperimenterID) VendorName CenterStopDiameter NrOfSlots SlitWidth FilterWheel StandardDichroicRef MirroringDeviceRef FilterCube Description VarelRing ID (MirroringDeviceID) D (MirroringDeviceID) A description for the annotation. OpticsTurret [plain-text multi-line string] EmissionFilterRef Compression AnnotationRef BigEndian Lens-APE Filter-APE ID (AnnotationID) PrimsRef PolarizationOpticsRef (choose one Children Entities (choose on Value D (PolarizationOpticsID) **NagnificationChange** ExcitationFilter Magnification FilterHolderPosition (was FilterWheel) OpticalApertureRef GenericLens D (OpticalApertureID) EmissionFilter Composite CoatingMethod Geometry RefractiveIndex TransmittanceRange AttenuationCoefficient **AttenuationCoefficient** BeamExpanderLens NeutralDensityFilter AttenuationMethod WorkingDistance (deprecated: CutIn, CutOut, ImageDistance CutInTolerance, CutOutTolerance) Thickness Transmittance AngleOfIncidence FrontFocalLength CollimatorLens Polarization BackFocalLenght Wavelenght TransmittanceProfile AdditionalFilter FWHMBandwidth CondenserLens RadiusOfCurvature TransmittanceRange MaterialName _____ MirroringDevice-APE GlassCode (was Dichroic) FWHMBandwidth Children Entities (choose or CouplingLens Density Transmittance notationRef AnnotationRef ReflectingMirror ReflectanceRange RelayLens Prism **♥** Wavelenght ReflectanceProfileFile FWHMBandwidth Diameter Reflectance AngleOfIncidence TubeLens Beamsplitter Children Entities Condenser RadiusOfCurvature Transmittance SubstrateType OilObjective TransmittanceProfileFile Compound GlassCode StandardDichroic Design PrismAngle Reflectance OpticsHolderPosition WavelengthRange ReflectanceProfileFile RefractiveIndex PeakWavelength Reflectance AdditionalDichroic CutOn Detector-APE AngleOfIncidence DeviationAngle (was Detector) WavelenghtProfileFile AbbeNumber MaterialName AttenuationCoefficient GlassCode Children Entities (additional attributes removed CoatingMethod Thickness (choose on or moved to new Detector Settings or Laser Scanner classes) ■ Polarization PolarizationOptics AnalogVideo ransmittanceProfileFile Mount MaxBitDepth QuantumEfficiency Function CrossPolarizer WavelengthRange CCD ElectronConversionFactor Children Entities (choose one) ReadOutNoise BeamSplitter PeakWavelength DetectorNoiseModel Faradaylsolator CutOn CutOff RegisterWellCapacity DarkCurrentRate Camera-APE DynamicRange WavelenghtProfileFile Construction AmbientOperatingTemperature CMOS Fabrication Illumination ArrayWidth ArrayHeight PixelWidth PixelHeight ManufacturerOffset Retardation MaterialName GlassCode Intensified SensorType IntensifierType Color PixelWellCapacity MaximumFrameRate MaximumReadoutRate WavelengthRange RegisterWellCapacity PeakWavelength _____ CutOn CutOff VerticalClockSpeed Children entities (choose one WavelenghtProfileFile _____ PointDetector-APE PhotomultiplierTube _____ SignalProcessing CollectionEfficiency Coating ResponseTime DeadTime MultianodeChannelNr MultianodeArrangement HeadOn _____ PhotoDiode GenericDetector Avalanche MapAnnotation [Sub-Element] PINJunction HybridPhotoDetector

IMAGE ACQUISITION Settings



Units are omitted for simplicity sake. APE, Abstract Parent Entity AnnotationRef: This element always refers to a Comment/ Annotation element as described for Channel. However for simplicity sake most Comment/Annotation elements have been omitted and the AnnotationRef has been inserted in the referring element as an attribute.

LensRef

This is a graphical representation of a possible extension of the OME data model developed by members of the Imaging Working Group of the 4D Nucleome consortium. The graph utilizes the Entity-Relationship formalism. In this formalism information about a real world situation/thing (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 When describing a real life situation/thing: 1)ENTITIES corresponds to NOUNS = the things we want to collect information about.

2) RELATIONSHIPS corresponds to VERBS = actions/state/occurrence that connect Entities with each other 3) ATTRIBUTES corresponds to ADJECTIVES = the actual information about each Entity we want to collect

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: produced as part of a specific Experiment, was collected in a specific Imaging_Environment, was collected using specific Microscope_Settings etc. caterina.strambio@umassmed.edu