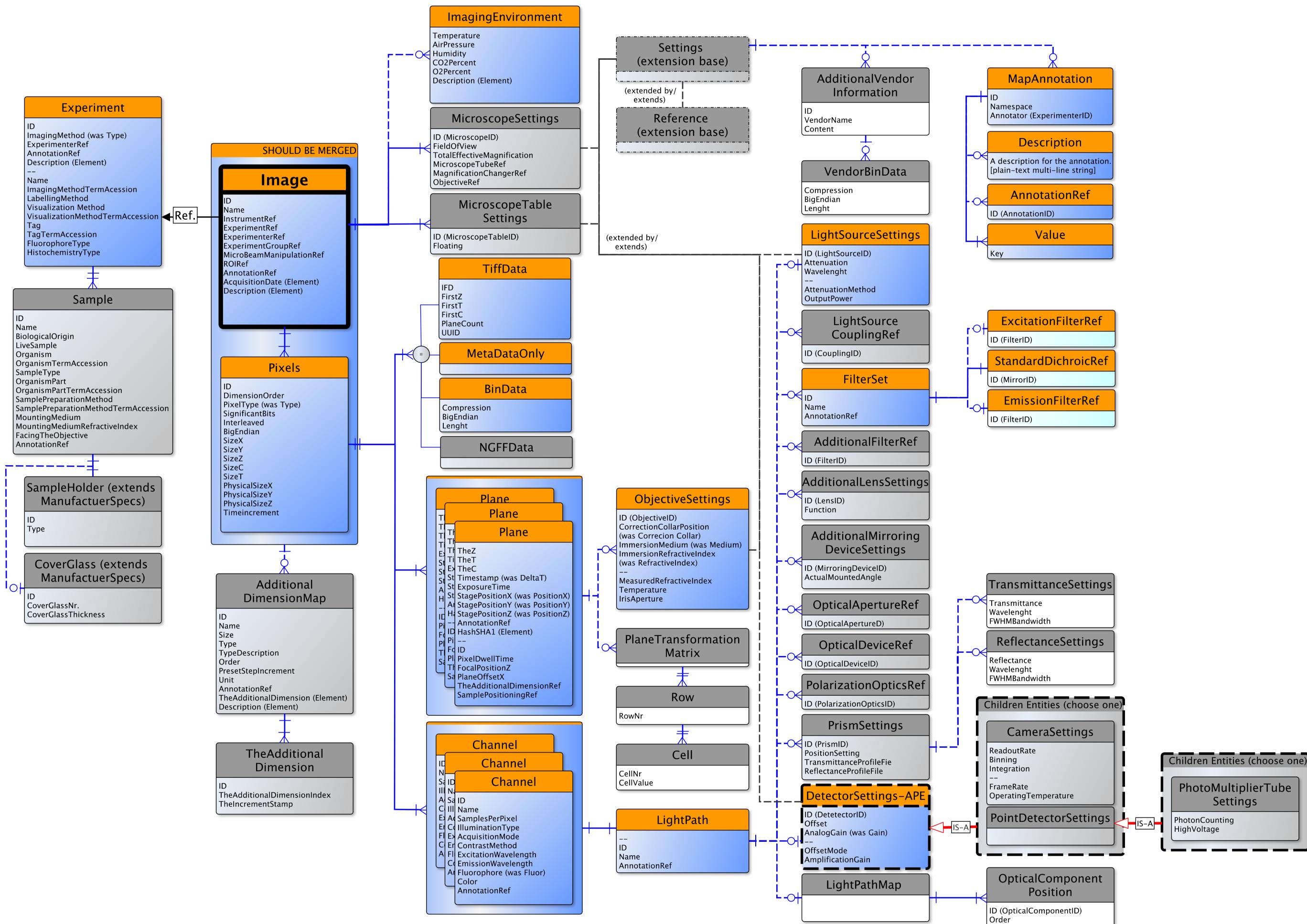
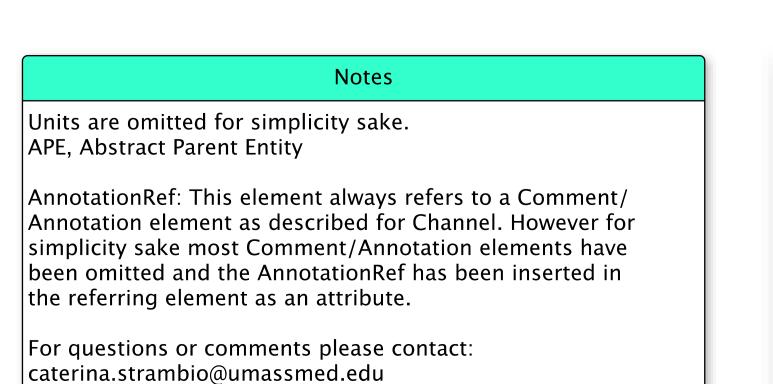
MICROSCOPE Specifications WavelengthRange GenericExcitationSourc Children Entities WavelengthRange LaserMedium Wavelength FrequencyMultiplication Tuneable ContinuousWave (was Pulse) Upright LEDModule EyepieceFieldNumber LaserRackPosition MicroscopeTable WavelenghtProfileFlle WavelengthRange MultiLaserEngine FilterRef LensRef LightGuide MirroringDeviceRef D (MirroringDeviceID) NumericalAperture MechanicalStage CouplingLensRef SingleMode WaveguideMode Diameter TurretObjective OpticsHolderRef ■ZPositionLinearityError Objective Focusing Encoded ID (OpticsHolderID) ZMaxVelocity PiezoelectricStage FreeBeam PolarizationOpticsRef Correction PiezoelectricObjectiv LensNA DirectMount ID (PolarizationOpticsID) _____ Focusing NominalMagnification MountType CalibratedMagnification _____ AutoFocus PrismRef WorkingDistance _____ Children Entities ID (PrismID) AcquisitionSoftware (choose one ExcitationFilterRef WavelenghtOfReflectedBeam ContrastModulator BeamExpander PhaseContrastType Configuration StandardDichroicRef $\mathsf{CorrectionCollarType}$ (was DichroicRef) Collimator GitURL ReleaseDate ObjectDistance (MirroringDeviceID) rontFocalLength Launguage Publication BackFocalLenght **EmissionFilterRef** ParfocalizingDistance Condenser OpenSource ObjectiveViewField | ID (FilterID) AnnotationRef MicroscopeTube ExcitationFilterRef MechanicalLength StandardDichroicRef OpticalDevice-APE Children Entities (choose on OpticalAperture-APE ID (MirroringDeviceID) (extension base) ______ EmissionFilterRef DarkFieldStop nnotationRef Children Entities (choose or Manufacturer OuterDiameter CenterStopDiameter OpticsHolderPosition SerialNumber AnnotationRef HoffmanSlitPlate FilterCubeRef FilterCube LotNumber ID (FilterCubeID) SpecsFile Optics Holder Position | IrisDiaphragm FilterCubeRef FilterSlider ID (FilterCubeID) AdditionalVendor Diameter OpticsHolder-APE PhaseRing ExcitationFilterRef FilterCubeTurret Annotator (ExperimenterID) ID (FilterID) CenterStopDiameter SlitWidth FilterWheel StandardDichroicRef MirroringDeviceRef FilterCube Description VarelRing ID (MirroringDeviceID) ID (MirroringDeviceID) A description for the annotation. OpticsTurret [plain-text multi-line string] EmissionFilterRef LensRef AnnotationRef Lens-APE PrimsRef _____ ID (AnnotationID) PolarizationOpticsRef (choose one) Children Entities (choose one Value ID (PrismID) D (PolarizationOpticsID) MagnificationChange ExcitationFilter FilterHolderPosition (was FilterWheel) Magnification OpticalApertureRef ■NumericalAperture ID (OpticalApertureID) GenericLens EmissionFilter Construction Geometry AttenuationCoefficient RefractiveIndex TransmittanceRange AttenuationMethod AttenuationCoefficient BeamExpanderLens NeutralDensityFilter CoatingMethod WorkingDistance (deprecated: CutIn, CutOut, Diameter ImageDistance ObjectDistance CutInTolerance, CutOutTolerance) Thickness Transmittance AngleOfIncidence FrontFocalLength CollimatorLens Polarization ➤ BackFocalLenght Wavelenght ransmittanceProfile GenericFilter FWHMBandwidth AbbeNumber CondenserLens RadiusOfCurvature TransmittanceRange MaterialName ______ GlassCode FWHMBandwidth Children Entities (choose one (was Dichroic) CouplingLens Transmittance AnnotationRef ______ ReflectingMirror ReflectanceRange AnnotationRef RelayLens **├ ─ ─ ─** Wavelenght ReflectanceProfileFile FWHMBandwidth AngleOfIncidence Reflectance TubeLens Children Entities Function Condenser MirrorType Beamsplitter Geometry RadiusOfCurvature (choose one Transmittance SubstrateType OilObjective TransmissionAngle ubstrateMaterial Compound TransmittanceProfileFile StandardDichroic GlassCode Design PrismAngle RefractiveIndex Reflectance WavelengthRange ReflectanceProfileFile Reflectance PeakWavelength AdditionalDichroic Detector-APE AngleOfIncidence CutOn CutOff (was Detector) AbbeNumber WavelenghtProfileFile Technology MaterialName _____ AttenuationMethod GlassCode notationRef AttenuationCoefficient (additional attributes removed ■ Coating Method AnnotationRef or moved to new Detector Settings Thickness or Laser Scanner classes) Polarization PolarizationOptics FilterHolderPosition AnalogVideo TransmittanceProfileFile ReflectanceProfileFile MaxBitDepth QuantumEfficiency Function ______ CCD WavelengthRange ElectronConversionFactor CrossPolarizer Children Entities (choose on ReadOutNoise DetectorNoiseModel PeakWavelength - RegisterWellCapacity CutOn CutOff DarkCurrentRate Camera-APE DynamicRange 💎 Construction WavelenghtProfileFile mbientOperatingTemperature CMOS Fabrication **AmbientOperatingHumidity** ArrayWidth MaterialName ArrayHeight Intensified ■PixelWidth PixelHeight ManufacturerOffset SensorType WavelengthRange Color PixelWellCapacity IntensifierType RegisterWellCapacity PeakWavelength MaximumFrameRate CutOn CutOff Children entities (choose one) VerticalClockSpeed WavelenghtProfileFile ______ PointDetector-APE PhotomultiplierTube CollectionEfficiency ResponseTime DeadTime MultianodeChannelNr MultianodeArrangement / _____ HeadOn Coating GenericDetector PhotoDiode MapAnnotation HybridPhotoDetector

IMAGE ACQUISITION Settings





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 of

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 produced as part of a specific Experiment, was collected in a specific Imaging_Environment, was collected using specific Microscope_Settings etc.