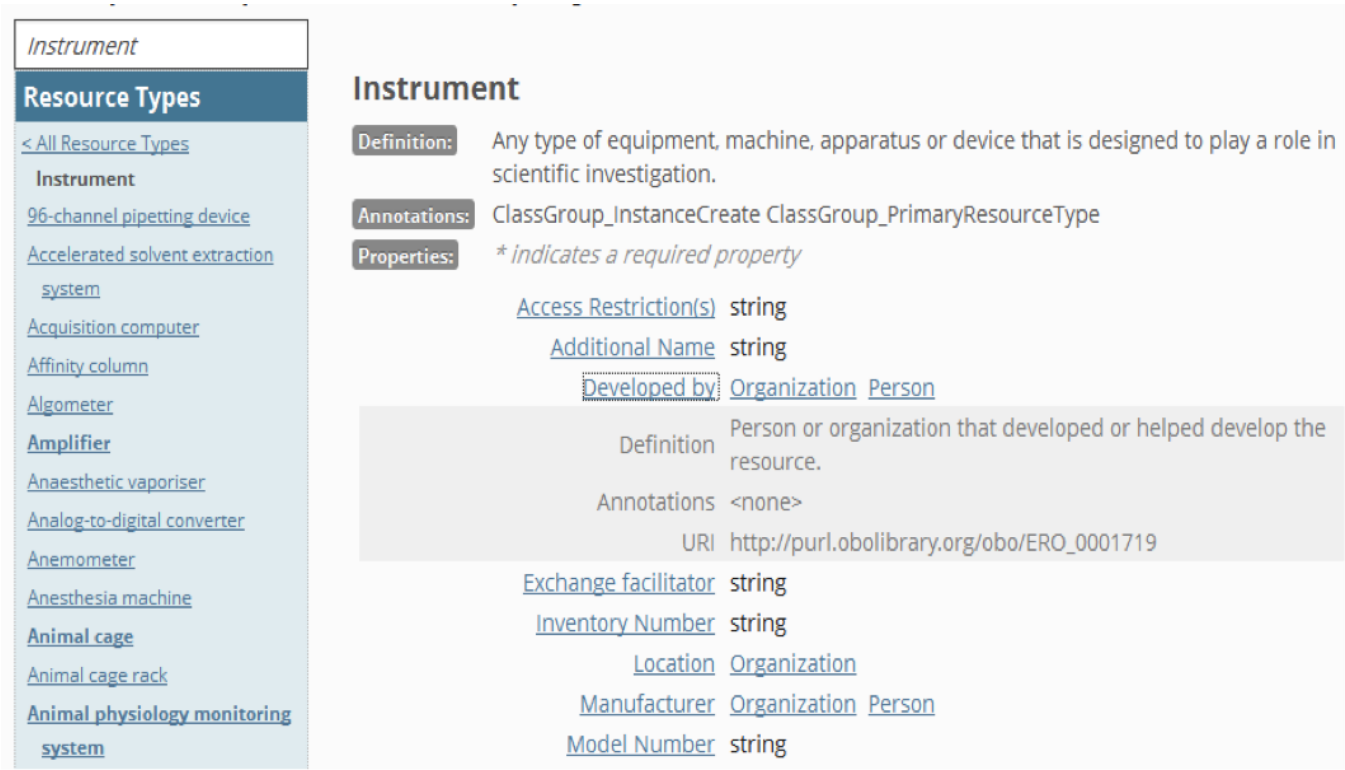
ISF ontology browser

The eagle-i ontology browser is being used to visualize the ISF ontology. It can be accessed at https://search.eagle-i.net/model/. The following describes this UI and how it relates to the OWL content of the ISF ontology. Figure 3 shows this UI with the “Instrument” class selected.

Figure **3. The ISF visualized through the eagle-i ontology browser.**



The search box above the left navigation bar can be used to find classes from the ISF ontology. The “Resource Types” section of the navigation bar is used to navigate the class hierarchy. Instrument is selected and any classes above it are parent classes and the different instrument subclasses are shown below it. The main content shows the selected class, its text definition, and any relevant properties. A property can be clicked to open an area that shows additional information about the property. In the above screenshot we see that an instrument can have the listed properties and we also see the possible values of the properties.

The applicable properties for a specific class are calculated based on the logical definitions in the ontology and additional application-specific annotations. The annotations are used when the ontology itself does not provide this level of detail. An ontology usually does not define the various attributes needed to collect information about an instance of a class (a specific instrument in a specific lab) but it does provide the classes and logical relationships needed to capture this information. The above image shows that the eagle-i application chose to collect information about an “exchange facilitator” for instrument but this same property might be also used to capture similar information about other classes.

It is important to keep the above notes in mind when navigating the ontology browser and comparing it with the ontology content in an editor such as Protégé. In Protégé, when opening the arg-app.owl file in the beta release folder [9], the class “Instrument” has a label of “instrument” and an eagle-i preferred label (in an application file) of the capitalized form “Instrument”. Also, the properties shown above do not appear as logical definitions of the instrument class. Instead, individual properties in the ontology indicate (either through logical definitions or application specific annotations) which classes they relate to. For example, the Protégé screenshot in Figure 4 shows that the “Exchange facilitator” property applies to instruments and few other classes and its value should be a string. It also shows few eagle-i application annotations in addition to the label annotation, including a user-interface “eagle-i preferred label” and definition.

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