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**Anatomical Structures Object Library of the Human Reference Atlas**

Katy Börner1, Ellen M. Quardokus1, Kristen Browne2  
1Indiana University, 2NIH/NIAID

The Human BioMolecular Atlas Program (HuBMAP) aims to create a computable, open Human Reference Atlas (HRA) [1]. This HRA will redefine our understanding of the human body by recovering multi-scale tissue organization from the human body to the single cell resolution. In the initial three years of the project, we created an authoritative ontology of anatomical structures, cell types, and biomarkers; this anatomical structure terminology was then linked to three-dimensional reference objects in the size and shape of human organs, functional tissue units, and anatomical micro-structures [2]. Many of the current 52 reference organs were derived from the Visible Human Project data. An initial subset can be explored at https://hubmapconsortium.github.io/ccf/pages/ccf-3d-reference-library.html. The growing collection of reference objects form the basis of tissue data registration via the Registration User interface (RUI, https://hubmapconsortium.github.io/ccf-ui/rui); registered tissue data can be explored in the context of the atlas via the Exploration User Interface (EUI, https://portal.hubmapconsortium.org/ccf-eui).

We are in the process of developing standard operating procedures and design style guides for the HuBMAP Reference Object Library and would like to present first drafts of both at the AAA meeting to benefit from feedback by the larger expert community.

**References**

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The CCF Exploration User Interface (EUI) represents data across multiple scales, supporting navigation by multiple coordinate systems. The user interface can be freely explored at https://portal.hubmapconsortium.org/ccf-eui. The CCF EUI code is available on [GitHub](https://github.com/hubmapconsortium/ccf-ui) at https://github.com/hubmapconsortium/ccf-ui.

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