



**CIFAR**



**12AM**

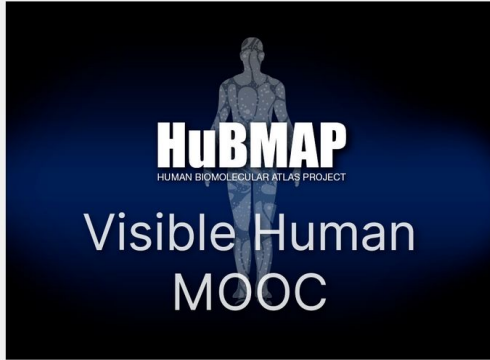
5AM in London (GMT), 2PM in Tokyo (GMT+9)

**Visible Human MOOC**

**Moderator:** Todd Theriault, *Indiana University*

**Presenters:** Andreas Bueckle & Katy Börner, *Indiana University*

# Visible Human MOOC



## HuBMAP Visible Human MOOC (VHMOOC)

Started Aug 4, 2020

To enroll, first [log in](#). If you don't have an account, [create an IU Guest account](#).



INDIANA UNIVERSITY

### Course Introduction

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This 10h course introduces the HuBMAP project which aims to create an open, global reference atlas of the human body at the cellular level. Among others, the course describes the compilation and coverage of HuBMAP data, demonstrates new single-cell analysis and mapping techniques, and introduces major features of the HuBMAP portal.

### Meet the Instructors

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**Katy Börner**, Victor H. Yngve  
Distinguished Professor of  
Engineering and Information  
Science. Founding Director of



**Length:** 10 hours



**Department:**  
Cyberinfrastructure  
Network Science

<https://expand.iu.edu/browse/sic/e/cns/courses/hubmap-visible-human-mooc>

# Learning Outcomes

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- Theoretical and practical understanding of different single-cell tissue analysis techniques.
- Expertise in single-cell data harmonization used to federate data from different individuals analyzed using different technologies in diverse labs.
- Hands-on skills in the design and usage of semantic ontologies that describe human anatomy, cell types, and biomarkers (e.g., marker genes or proteins).
- Knowledge on the design and usage of a semantically annotated three-dimensional reference system for the healthy human body.
- An understanding of how the HuBMAP reference atlas might be used to understand human health but also to diagnose and treat disease.

# Module Topics Include

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- HuBMAP Overview: Project Goals, Setup, and Ambitions
- Tissue Data Acquisition and Analysis
- Biomolecular Data Harmonization
- Ontology, 3D Reference Objects, and User Interfaces
- HuBMAP Portal Design and Usage

# Meet the Instructors

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**Katy Börner**, Victor H. Yngve Distinguished Professor of Engineering and Information Science. Founding Director of the [Cyberinfrastructure for Network Science Center](#) at Indiana University.



**Ellen M. Quardokus**, staff in the Chemistry Department and research scientist, Cyberinfrastructure for Network Science Center, SICE with expertise in molecular biology, microscopy, anatomy, and interdisciplinary communication.



**Andreas Bueckle**, PhD Candidate in Information Science, performing research on information visualization, specifically virtual and augmented reality.



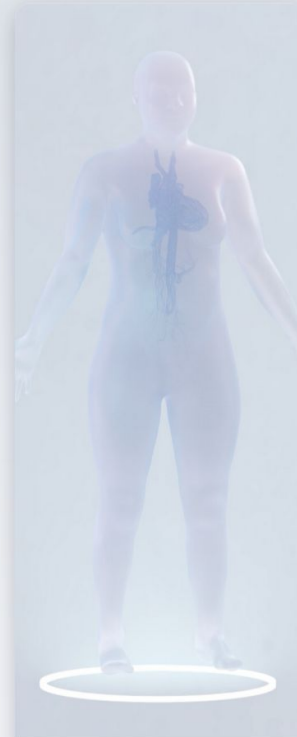
Data →



Usage →



Publications →



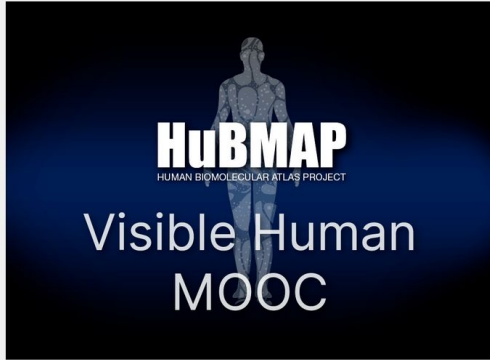
Experimental Data →



Diversity & Inclusion →

<https://apps.humanatlas.io/dashboard>

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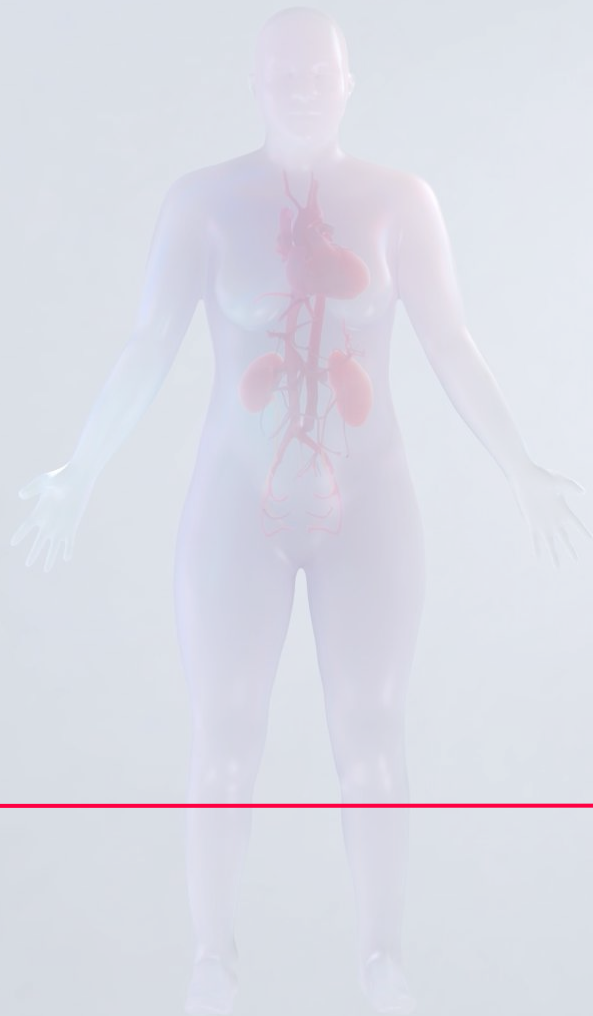


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# Q&A

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<https://humanatlas.io/events/2024-24h>

# Q&A

What made you decide to create a course about this material? Why was it important for you make it a MOOC?

What were the challenges of “translating” material from an active, ongoing project to a educational program?

**Thank you**

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