

# Dr. Florian Jug

<https://humantechnopole.it/jug>

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## QUANTITATIVE BIO-DATA ANALYSIS

### RESEARCH EXPERIENCE

#### **FONDATION HUMAN TECHNOPOLE** | SENIOR RESEARCH GROUP LEADER / FACILITY LEADER

since August 2020 | Milano, Italy

- Artificial Intelligence/ Machine Learning.
- Quantitative Bio-Image Analysis.
- Data Analysis as a Service.
- Community Building and Teaching.

#### **CSBD / MPI-CBG** | RESEARCH GROUP LEADER

since Mar 2017 | Center for Systems Biology, Dresden, Germany

- Content-aware Image Restoration (CARE, Cryo-CARE).
- Quantification of cellular processes in light and electron microscopy data.
- Segmentation, tracking, and lineage-tracing in biomedical image data.
- Monitoring single-cell gene regulation under dynamically controllable conditions.

#### **MPI-CBG** | POSTDOCTORAL RESEARCH

Sep 2012 - Feb 2017 | Myers Lab, Dresden, Germany

- Multi-object tracking and lineage-tracing.
- Quantification of single RNAs in Zebrafish.
- Leveraged Editing for assignment tracker.
- Bacteria tracking in the Mother Machine.
- Dynamic C. elegans atlas and matching.

#### **ETH ZURICH** | POSTDOCTORAL RESEARCH

Jan 2012 – Aug 2012 | Steger Lab, Zurich, Switzerland

- Heterogeneous but reliable neural systems.
- Wrap-up postdoc.

#### **ETH ZURICH** | PHD STUDENT

2006 – 2011 | Steger Lab, Zurich, Switzerland

- Theses: On Computation and Learning in Cortical Structures.
- Computational neuroscience.
- Efficient algorithms and graph theory.

### ADDITIONAL SCIENTIFIC EXPERIENCE

#### **DEEP LEARNING AT MBL** | COURSE DIRECTOR

2019-2023 | Woods Hole, Massachusetts

After a pilot in 2019, we established a dedicated annual 2 week course on deep learning for microscopy image analysis at the prestigious Marine Biology Laboratories in Woods Hole, Massachusetts.

#### **DEEP LEARNING FOR MICROSCOPY IMAGE ANALYSIS** | MAIN ORGANIZER

2020-2023 | Milan, Italy

Main organizer of several online courses on various aspects of microscopy image data analysis. Many teaching aspects seek to educate participants on novel deep learning methods designed to operate on microscopy image data.

### **QUANTITATIVE IMAGING COURSE | CO-ORGANIZER OF THIS CSHL COURSE**

2017-2023 | Cold Spring Harbor, New York

Faculty at the prestigious Quantitative Imaging microscopy course. Responsible for teaching topics around data processing and machine learning in the context of microscopy data analysis.

### **VISITING SCIENTIST/ COURSE FACULTY | PHYSIOLOGY COURSE, MBL**

2019, 2021, 2022 | Woods Hole, Massachusetts

Visiting scientist and course faculty at the prestigious Physiology Course at MBL, teaching microscopy image data analysis methods and their practical applications.

### **EMBL CONFERENCE: FROM IMAGES TO KNOWLEDGE WITH IMAGEJ AN FRIENDS | MAIN AND CO-ORGANIZER**

2018, 2022, 2024 | Heidelberg, Germany

Initiator and organizers of the first edition of the conference I2K held at EMBL Heidelberg. This conference brought 250 people together to discuss the future of bioimage analysis tools: what is needed, how can tools synergize?

(<http://www.embl.de/training/events/2018/IMJ18-01/>)

### **BIOIMAGE COMPUTING (BIC) WORKSHOPS | WORKSHOP ORGANIZER**

2015-2023 | Boston, Amsterdam, Venice, Munich, Paris etc.

Organizer of the several BIC workshops at prime computer vision conferences (CVPR,ECCV,ICCV). The purpose BIC is to draw attention of the computer vision experts to data offered by the bio-image community. (<https://bioimagecomputing.com>)

### **HORIZON EUROPE GRANT: AI4LIFE | 2022-2025, (4.2 MILLION EURO)**

Scientific coordinator of a large European consortium grant for AI4LIFE.

## AWARDED GRANTS (RECENT)

### **HORIZON EUROPE GRANT: IMAGINE | 2022-2025, (280 KEURO)**

Participating partner of a large European consortium grant.

### **CZI NAPARI PLUGIN GRANTS | 2022, (2 x 20.000 USD)**

### **CZI NAPARI INFRASTRUCTURE GRANT | 2022, (50.000 USD)**

## OTHER AWARDS (RECENT)

### **FRONTIERS OF SCIENCE AWARD (FSA) | ICBS HONORS TOP RESEARCH WHICH ARE BOTH EXCELLENT AND OF OUTSTANDING SCHOLARLY VALUE.**

2023 | Beijing

### **TUD YOUNG INVESTIGATOR | EXT. MEMBER OF CS FACULTY, INCLUDING THE RIGHT TO AWARD DOCTORATES.**

2018 | Dresden

### **THE 'PIXAR' AWARD | FOR BEST USE OF ANIMATIONS.**

2018 | GRC on Lasers in Medicine and Biology

## LANGUAGE SKILLS

### **PROGRAMMING**

Java • Python • C • C++ • C# • Mathematica • Matlab

### **DEPLOYMENT**

Maven • conda • pip • Make/Cmake • Jenkins • Gradle

### **SPOKEN & WRITTEN**

Native: German

Fluency (C2): English

Level B2: Italian