



## Colloquium

# The Institute Colloquium: (Joint) segmentation and tracking with applications in biol

**Fred Hamprecht**

University of Heidelberg

Host:

The tracking of an unknown number of divisible cells, or of indistinguishable larvae, is an intriguing problem with important applications in developmental biology, ethology and beyond.

I will show some of the best current approaches to solving this problem: firstly, a tracking-by-assignment approach that tries to detect all targets and then links them up while making allowance for undersegmentation, false positive detections and divisions. Secondly, I will present a model that addresses the detection and assignment steps jointly. Both formulations lead to difficult combinatorial optimization problems that can be solved to optimality for modestly sized instances.

Finally, I will demo the former model, which is available as a workflow in the open source "ilastik" package; and will show a possible strategy to identify the less confident parts of a structured prediction for targeted proofreading.

**Monday, May 4, 2015 04:30pm - 05:30pm**

Raiffeisen Lecture Hall, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

Please find a schedule of the ISTA Shuttle on our webpage:

<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.