Leveraging network representations for cancer histopathology and spatial-omics

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Association with spatial transcriptomics

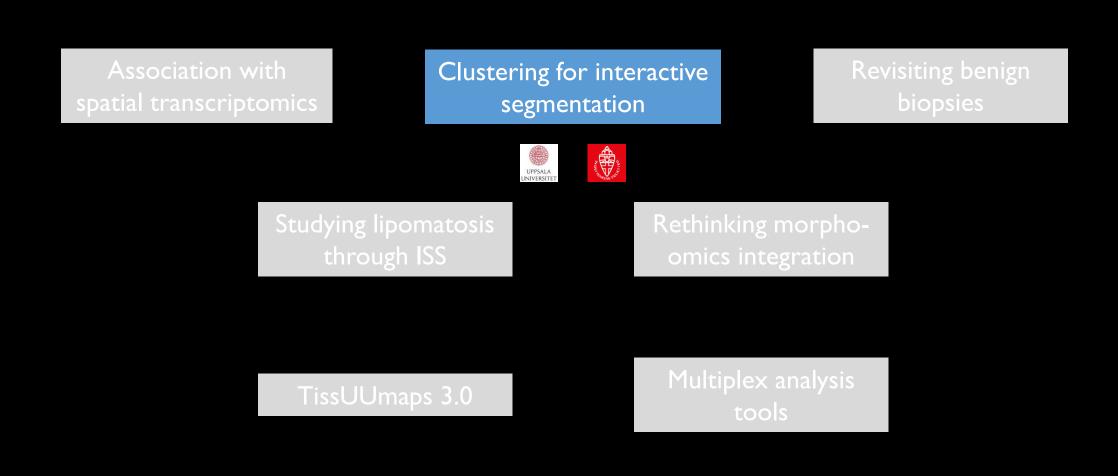


Clustering for interactive segmentation

Revisiting benign biopsies

Studying lipomatosis through ISS Rethinking morpho omics integration

TissUUmaps 3.0



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Project	Imaging type	Spatial-omics	Outcome
Association with spatial transcriptomics (PI)	Prostatectomy H&E	10X Visium	Published in Cancers'
Clustering for interactive segmentation (P2)	Cancer H&E		Technical presented at <i>NeurIPS LMRL</i> workshop ² ; Tool evaluation ongoing
Revisiting benign biopsies (P3)	Prostate needle H&E	—	Testing ongoing
Study of lipomatosis ISS (P4)	Lymph node DAPI	In-situ sequencing	Data collection ongoing
Rethinking spatial-omics morphological integration (P5)	H&E and DAPI	10X Xenium	Design ongoing
TissUUmaps 3.0	Various	Various	Publication process ³
Multiplex analysis tools	Various	Various	Publication process ⁴

I. Chelebian, Eduard, et al. "Morphological Features Extracted by AI Associated with Spatial Transcriptomics in Prostate Cancer" Cancers 13.19 (2021): 4837.

2. Chelebian, Eduard, et al. "Seeded iterative clustering for histology region identification" NeurIPS LMRL workshop arXiv:2211.07425 (2022).

3. Pielawski, Nicolas, et al. "TissUUmaps 3: Interactive visualization and quality assessment of large-scale spatial omics data" bioRxiv (2022).

4. Behanova, Andrea, et al. "TissUUmaps 3 Tools for Visualization & Quality Control in Large-scale Multiplex Tissue Analysis" bioRxiv (2022).

Thank you for listening

<u>https://eduardchelebian.github.io/</u>







