



@ramialison_lab



@DBienroth



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VR-Omics

Spatially Resolved Transcriptomics
Exploration in Virtual Reality

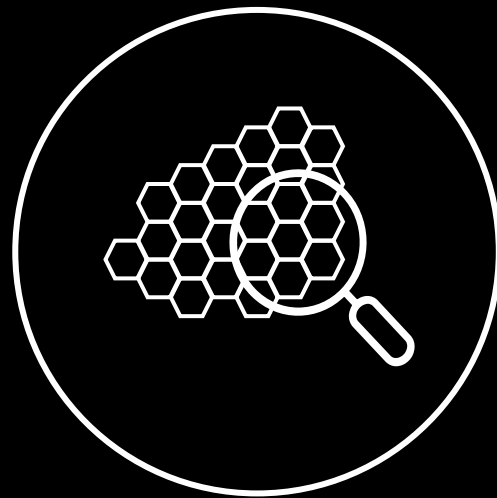
Denis Bienroth^{*}, Natalie Charitakis, Sabrina Jaeger-Honz,
Dimitar Garkov, Karsten Klein, Hieu T. Nim, Falk Schreiber,
and Mirana Ramialison

^{*} Murdoch Children's Research Institute, Melbourne

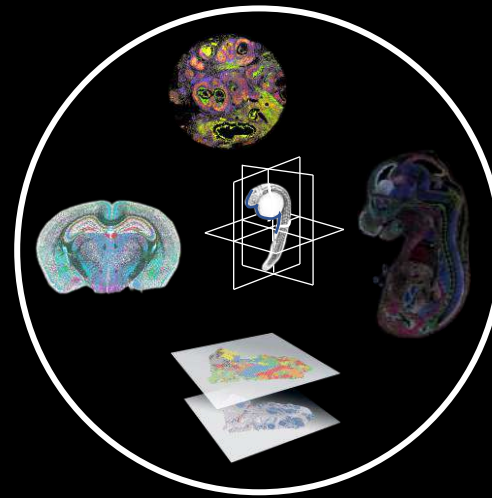
VR-Omics: Motivation



Data
Visualisation



Spatial Analysis
and Data
Exploration

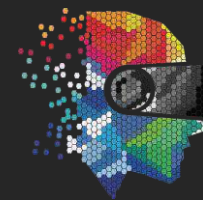


Multiple Spatially
Resolved
Transcriptomics methods

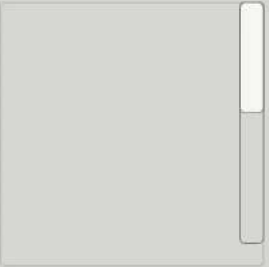


User friendly!
Developed with
biologists, for
biologists!

VR-Omics: Architecture



Search Gene...



Starts With Input
V1_Mouse_Kidney_10000 filtered.



Min: 0%
 Size
 Transp.

Colorgradient:
 0% 20% 40% 60% 80% 100%



Leiden Cluster





VR-Omics

Visium

Xenium

Tomo-seq

STOmics

MERFISH

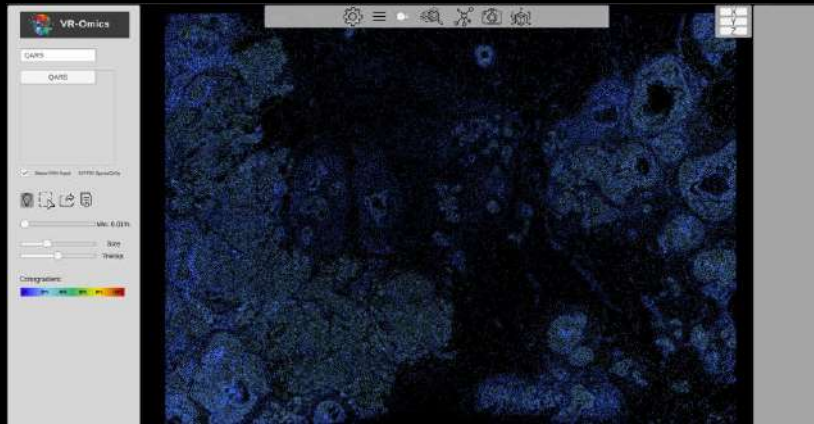
Other

Load 3D object

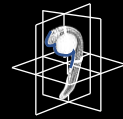
VR-Omics: Other methods



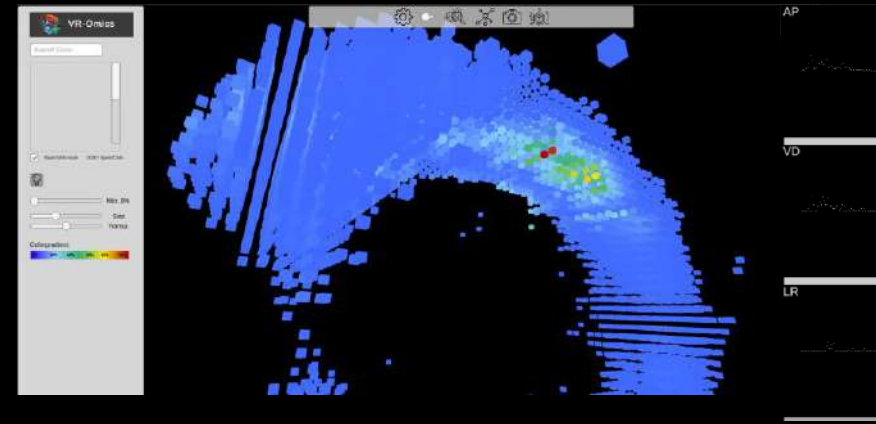
10X
GENOMICS
Xenium



Janesick *et al.* High resolution mapping of the breast cancer tumor microenvironment using integrated single cell, spatial and in situ analysis of FFPE tissue



Tomo-Seq



Junker *et al.* Genome-wide RNA Tomography in the zebrafish embryo 15 somites stage intact embryo



Custom data

Bienroth *et al.* Spatially Resolved Transcriptomics in immersive environments (VCIBA)

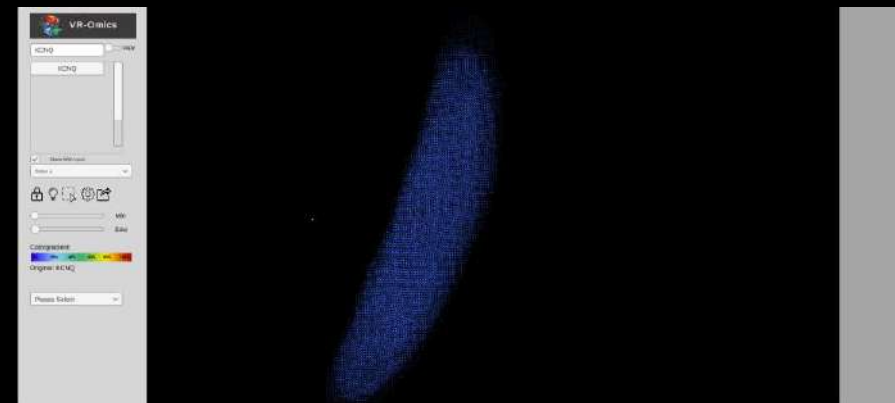
vizgen
MERFISH



Vizgen MERFISH Mouse Receptor Map, <https://vizgen.com/data-release-program/>

BGI 华大

STOmics



Miongyue Wang *et al.* High-resolution 3D spatiotemporal transcriptomic maps of developing *Drosophila* embryos and larvae



Similar Genes

Current gene: None

HHI

Comparison

are

Hhip

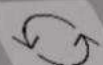
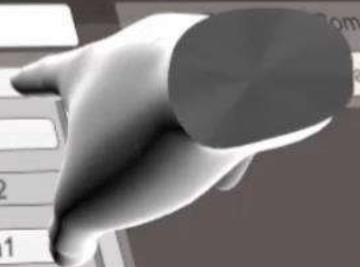
Hhip1

Hhip2

Hhla1

Hibadh

Hibch



Acknowledgments



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- Grzegorz Maciąg
- Kevin Nguyen



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[ramialison-lab.github.io](https://github.com/ramialison)

