



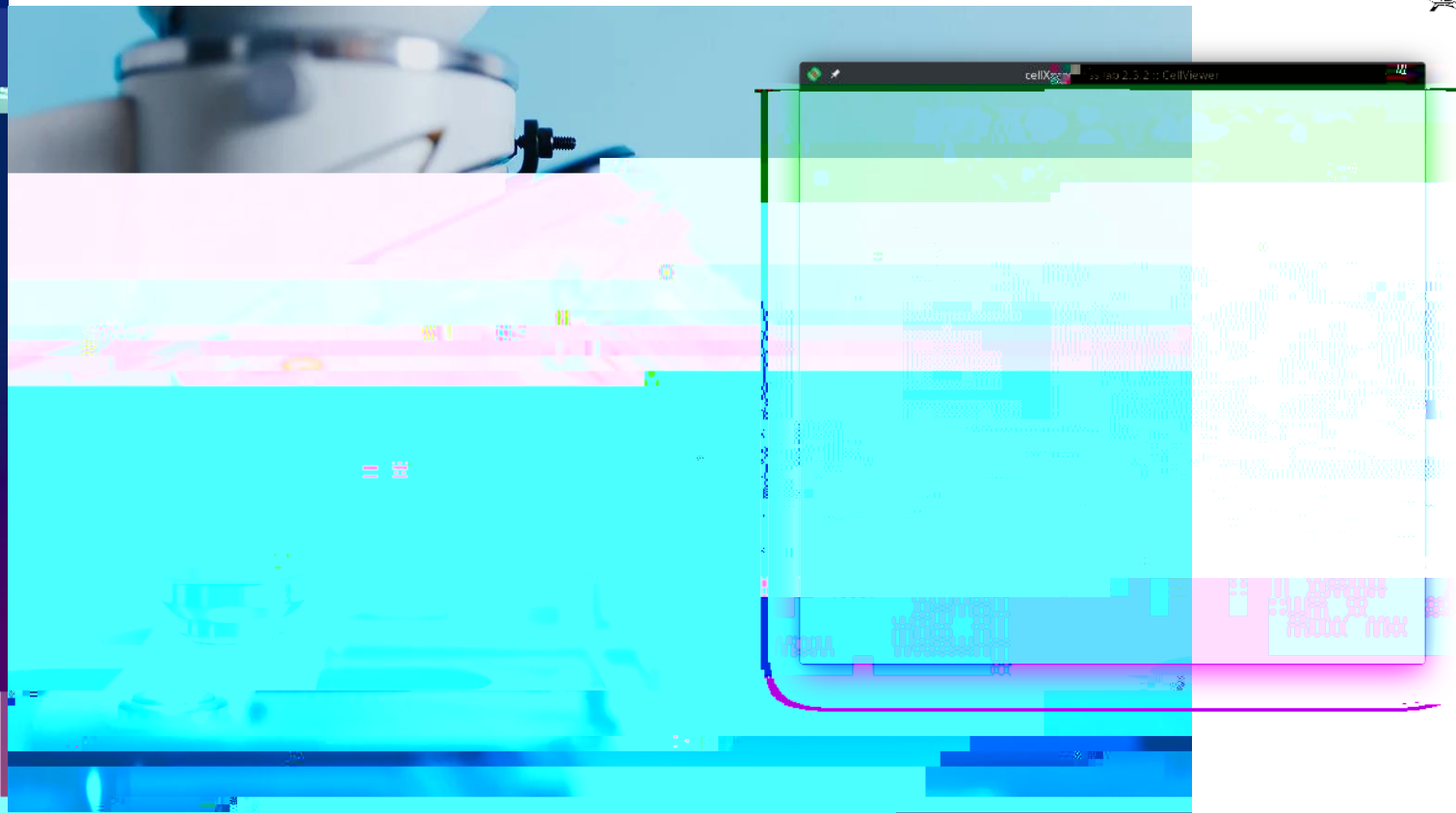
WITH ENHANCING LIVES

CREATING GR



Bioinformatics
Institute

BII



Loo Lit Hsin

Senior Principal Investigator

BII, A*STAR

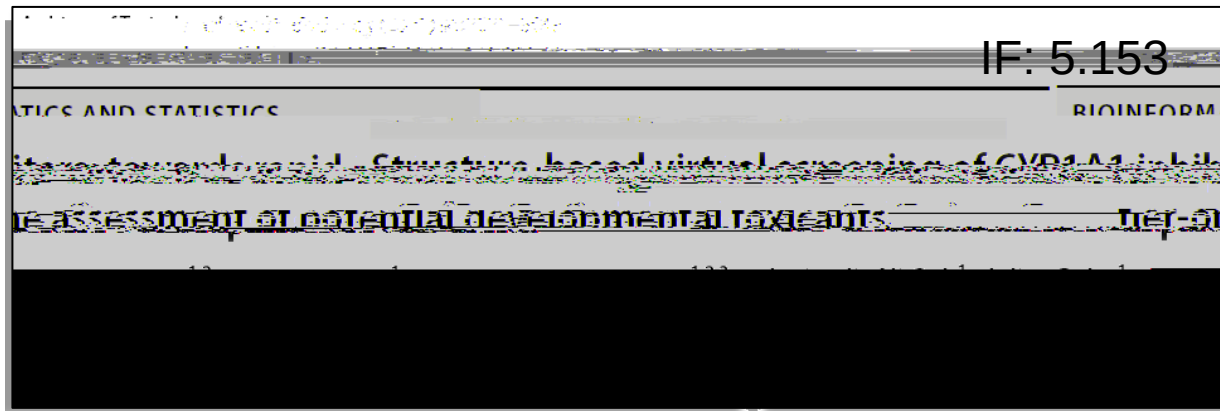
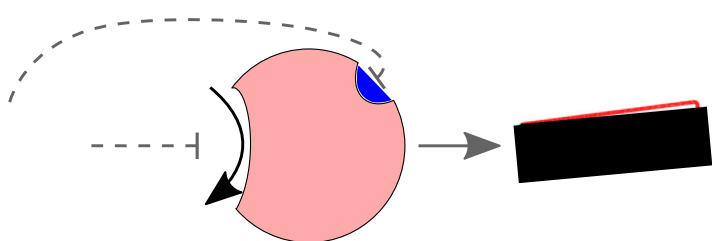
loo1h@bii.a-star.edu.sg

HPASc





- ***Choice of PD-L1**



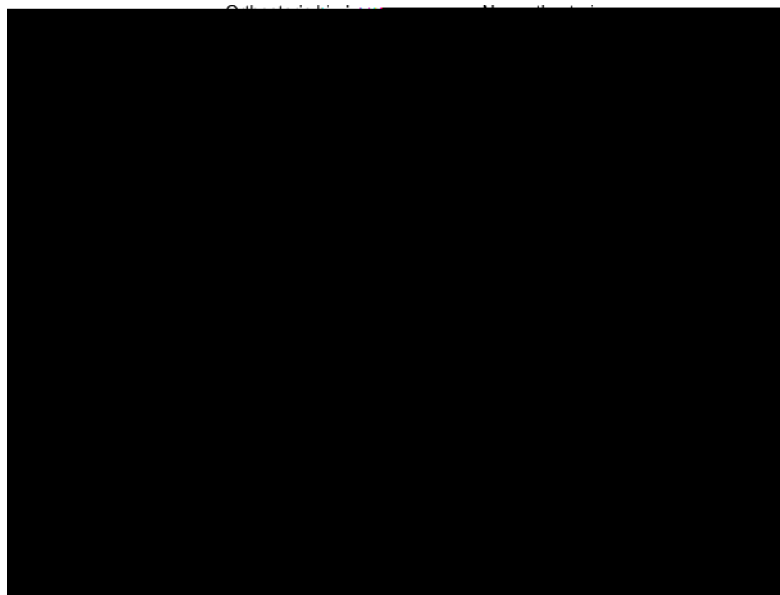
Lit-Hsin Loo



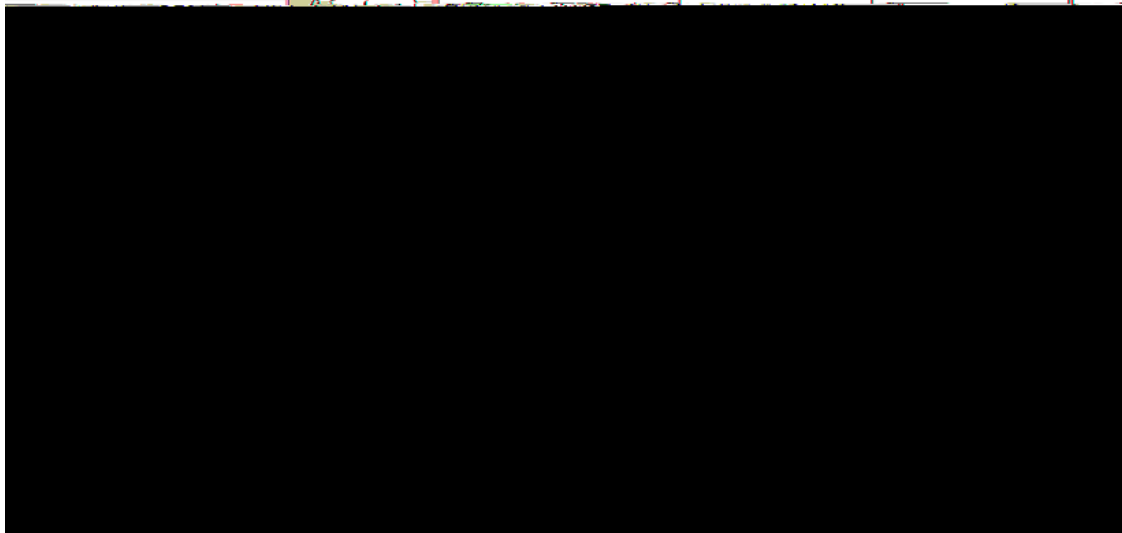
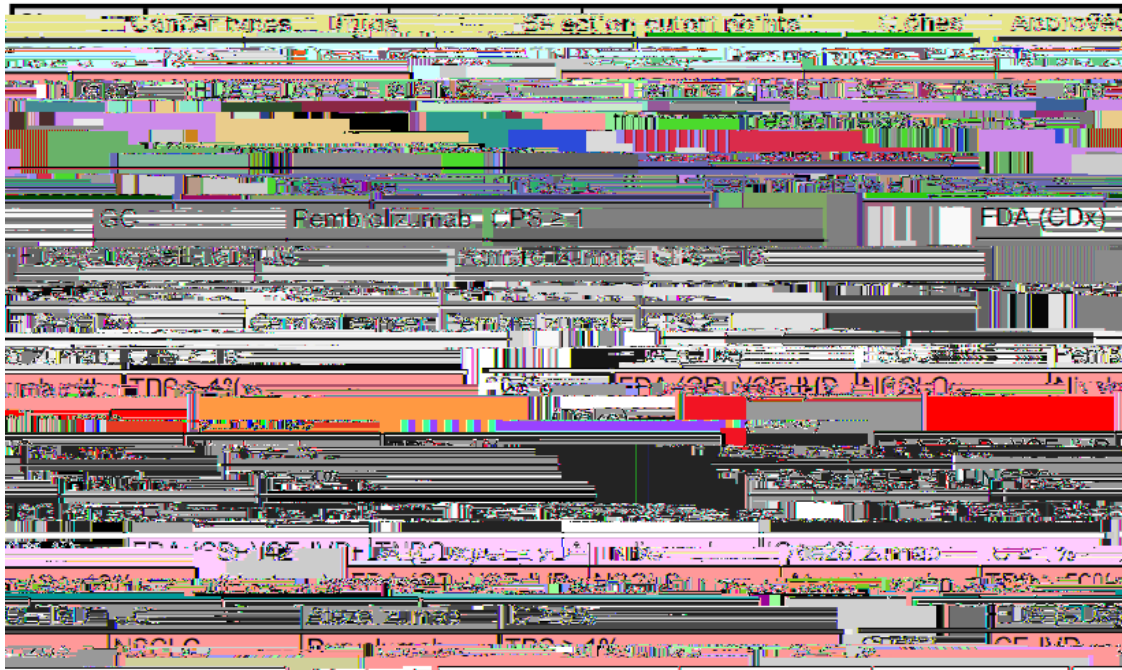
Hao Fan



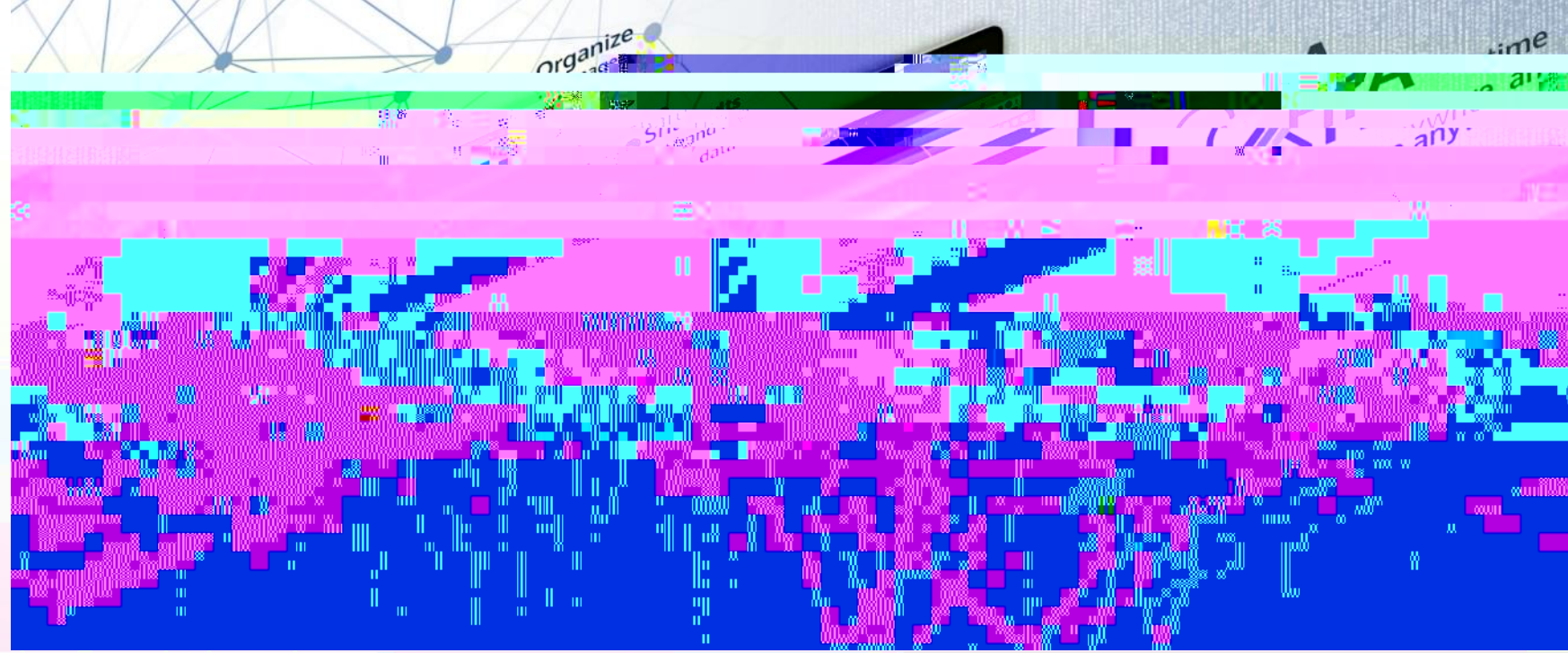
Sebastian
Maurer-Stroh



We confirmed that most predicted inhibitors, including **drugs contraindicated during pregnancy** (amiodarone, bicalutamide, cyproterone acetate, ketoconazole, and tamoxifen) and **chemicals suspected to be endocrine disruptors** (bisphenol A, diethyl and dibutyl phthalates, and zearalenone), are indeed potent inhibitors of CYP1A1.



Different PD-L1 antibodies may have different staining patterns, intensities,



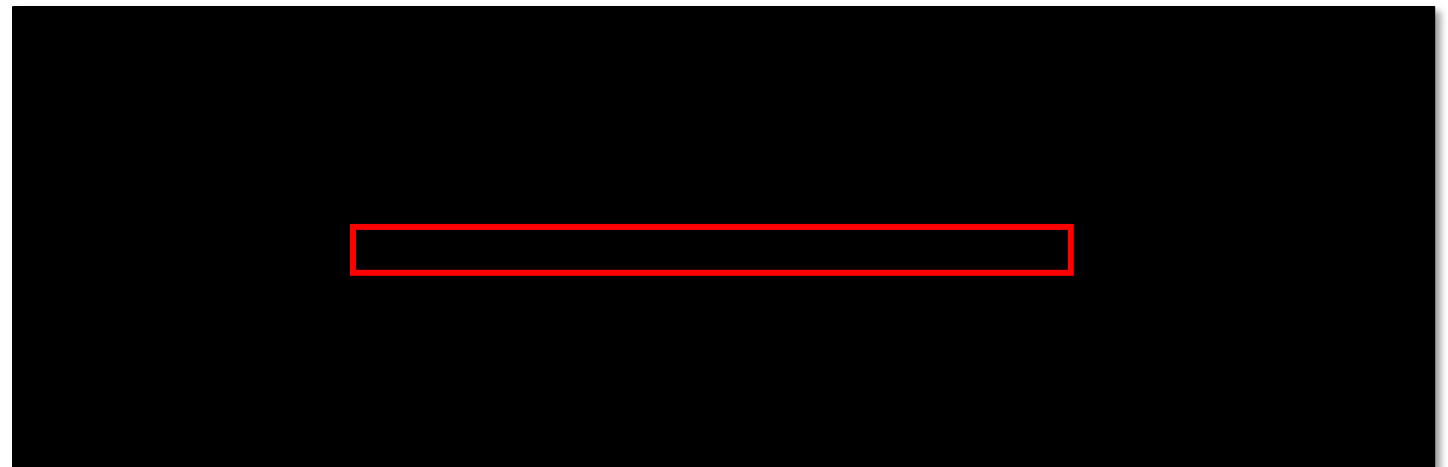
HPASc



[<https://news.bms.com/news/details/2021/U.S.-Food-and-Drug-Administration-Approves-Opdivo-nivolumab-in-Combination-with-Chemotherapy-for-Patients-with-Advanced-or-Metastatic-Gastric-Cancer-Gastroesophageal-Junction-Cancer-and-Esophageal-Adenocarcinoma/default.aspx>]

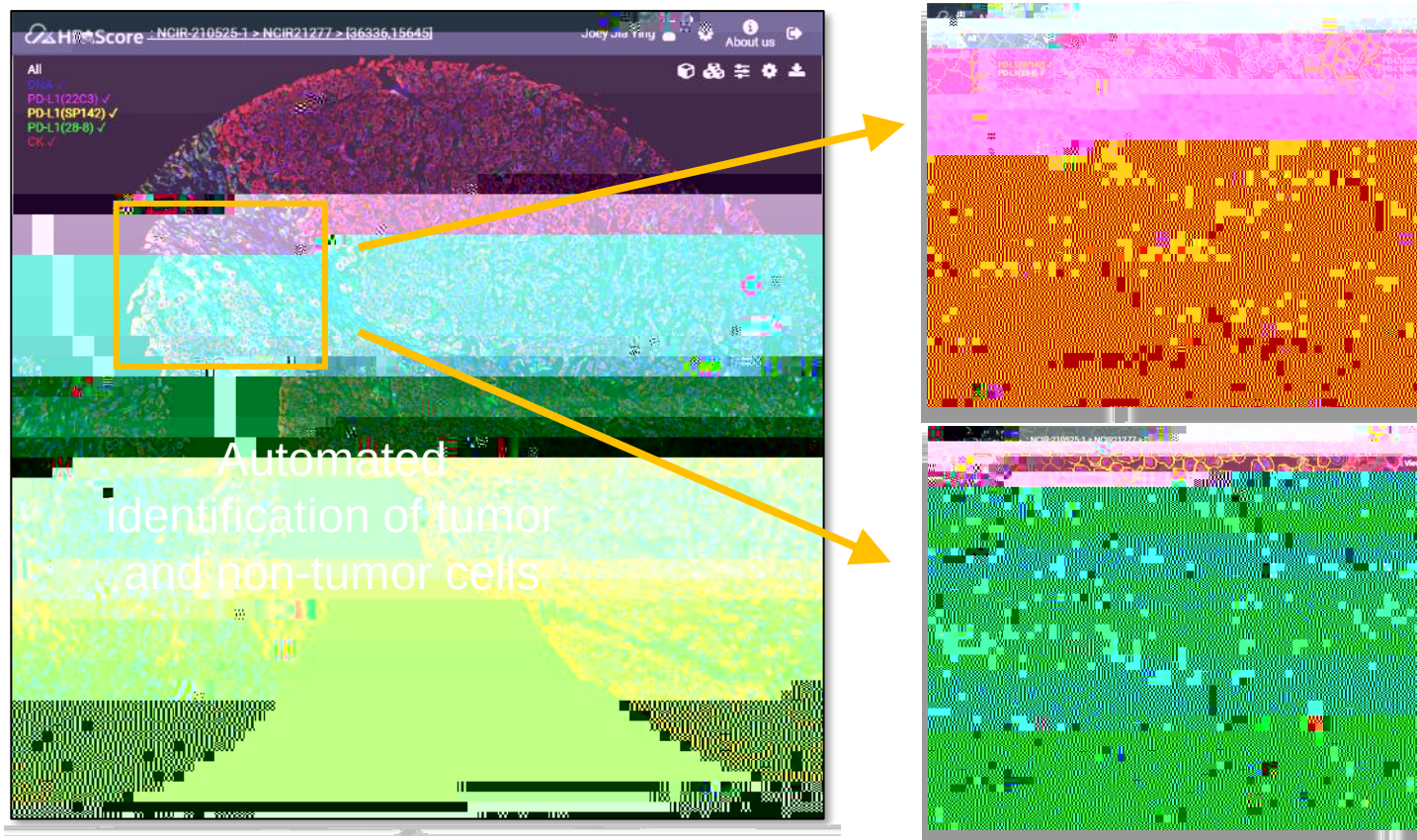


[<https://www.agilent.com/cs/library/brochures/29457-d68866-pd-l1-28-8-gastric-brochure-en-eu.pdf>]



J Yeong, HYJ Lum, CB Teo, BKJ Tan, YH Chan, RYK Tay, JRE Choo, AD Jeyasekharan, QH

- To investigate the interchangeability among three clinically-used PD-L1 CDx assays (22C3, 28-8, SP142) for patient selection in gastric cancers
- The first large-scale study that **score all three markers on the same tissue slides**
- 344 gastric cancer patients from NUH (1997-2019)
- 97GB images uploaded and scored (fully online) using the HPA Platform

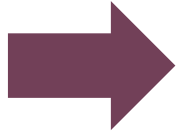
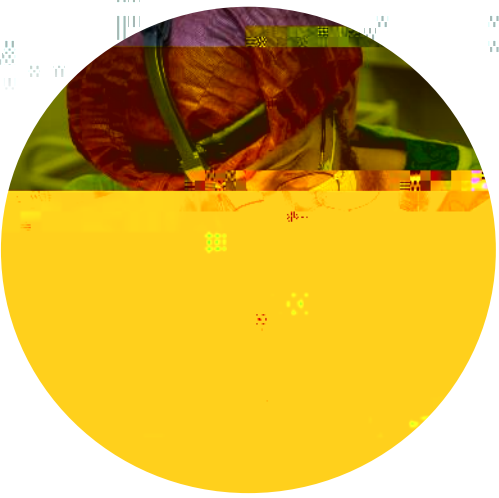


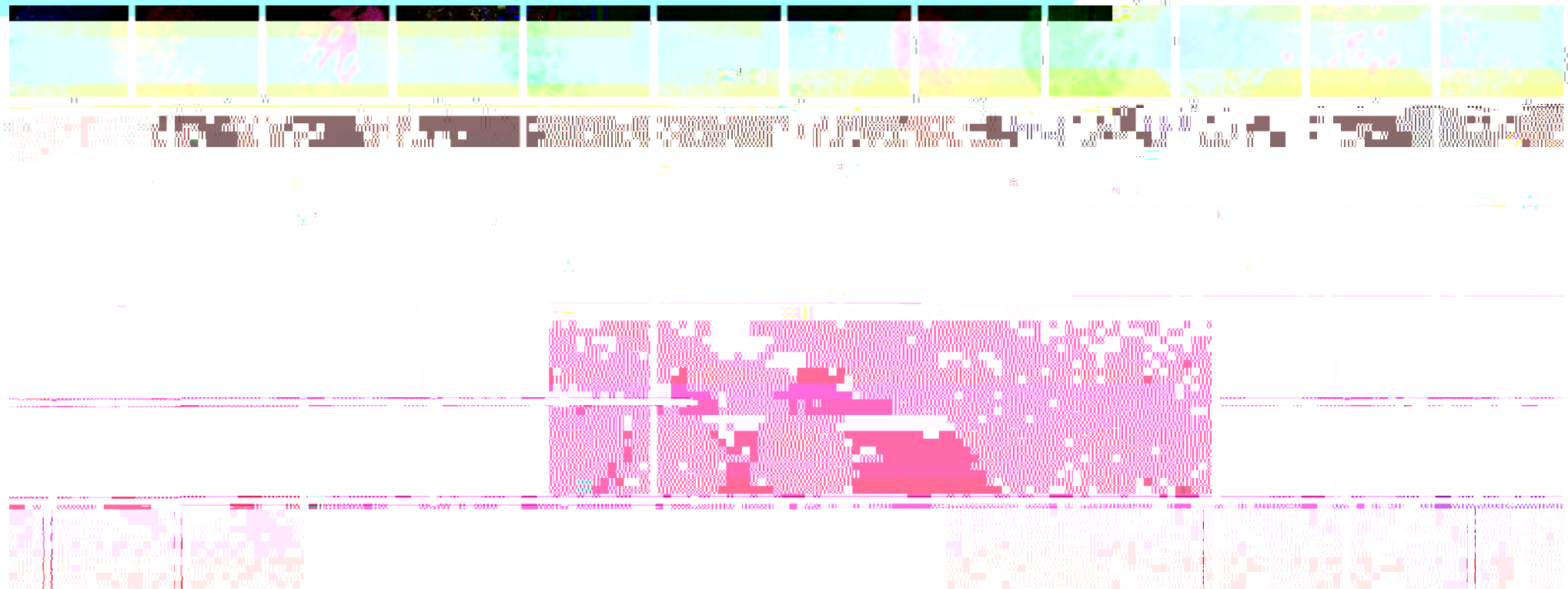


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WTH

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T-cells – CD , CD3, CD , CD5, CD7, CD8, ...

Lymphocytes - CD45, CD45RA, CD45RO

B cells and plasma cells – CD20, CD38, CD138

Macrophages – CD11b, CD68, CD163, CD206

Dendritic cells – CD1a, CD11c

Epithelia – CK, MUC-1

Smooth muscle – α-SMA

Vasculature – CD31, CD34

ECM – Collagen IV

Stroma – Vimentin

Proliferation



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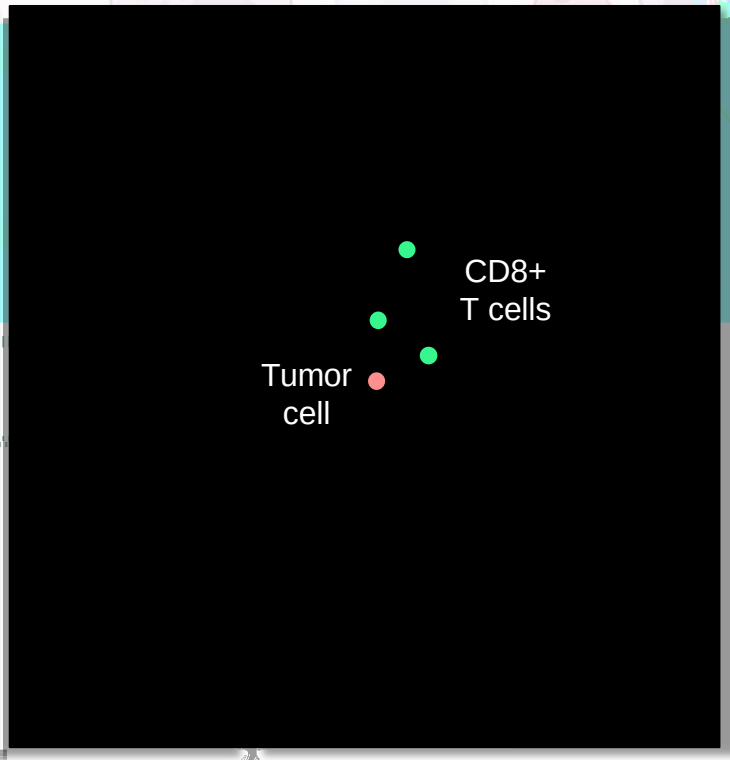
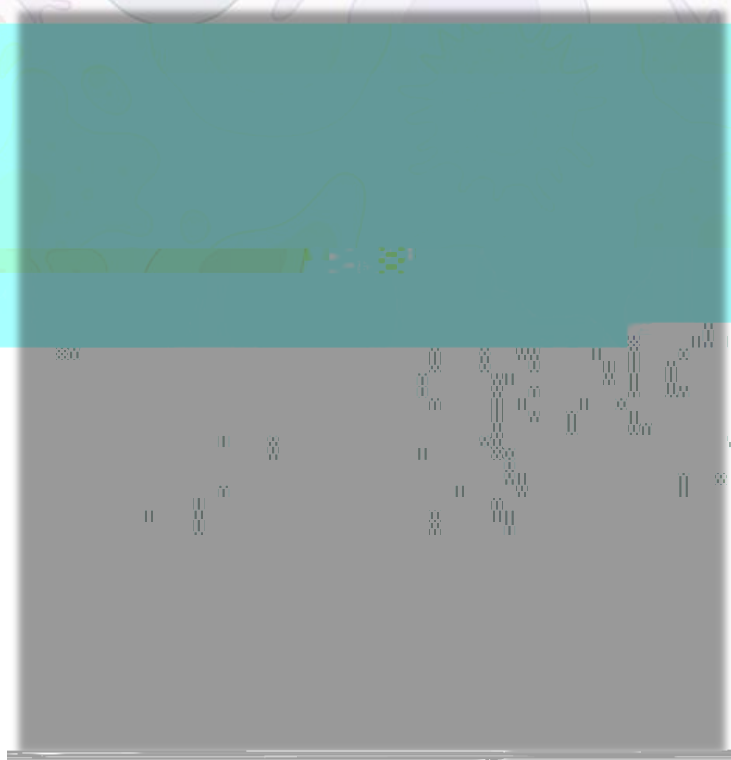
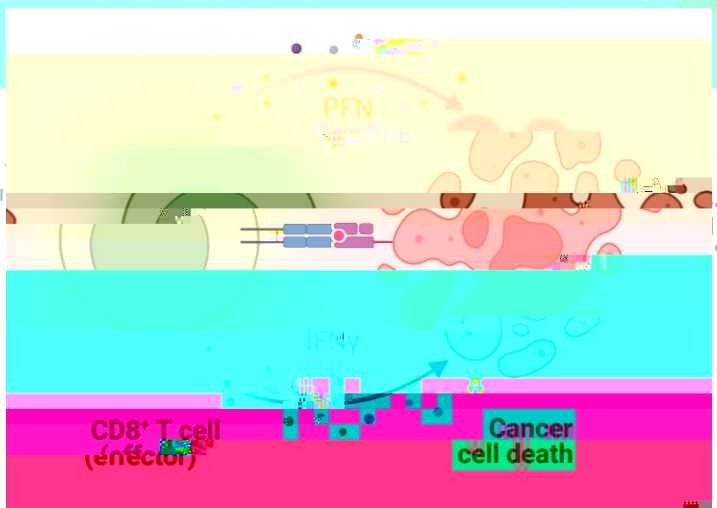
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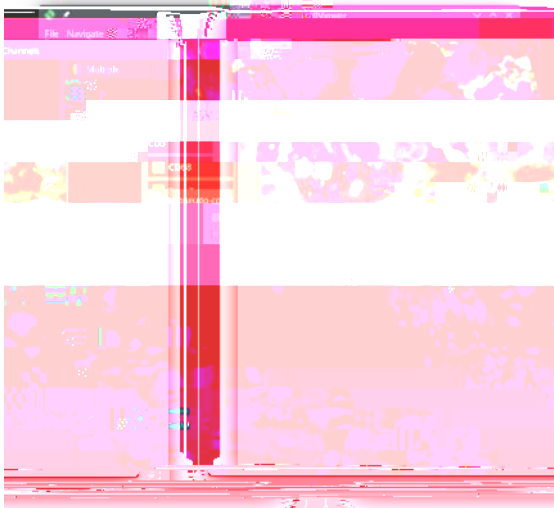
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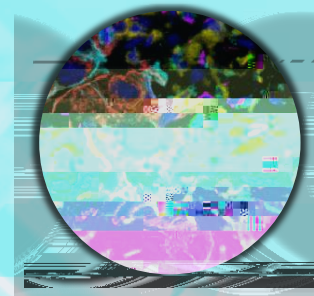


- Point-and-click, no programming needed
- Written in C++
- Support multi-CPU and GPU
- Publicly available soon
- Manuscript in preparation

Large tissue images
(>500MB/image)



Hyperplexed markers
(>50 markers)



Spatial and multi-modal profiling
(DNA/RNA/
Protein/Metabolite)



AI-based cell segmentation
(heterogenous and overlapping cells)



