



COMPLEX CELLULAR PHENOTYPE ANALYSIS

COMPLEX CELLULAR PHENOTYPE ANALYSIS GROUP



Cuithbert, Carmen, Claresta, Joey
Oscar, Lit-Hsin, Guorui



Spatial profiling of
cells and tissues

- Spatial multi-omics profiling of human tissues
- High-throughput image-based phenotypic profiling



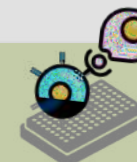
Bioimage databases
and portals

- Visualization and sharing of cellular and tissue images
- HistoPath Analytics (HPA) Platform and ImmunoAtlas



Digital medicine
for cancers

- Biomarkers for patient stratification and targeted intervention
- Pathogenicity of mutations



Predictive models for
therapeutic development

- Tumor-associated antigen prediction
- Xenobiotic-induced toxicity prediction

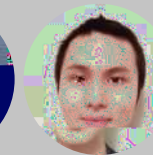
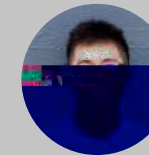






cellXpres  2

- We have updated cX2 to handle large hyperplexed

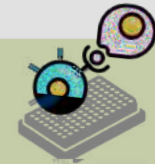


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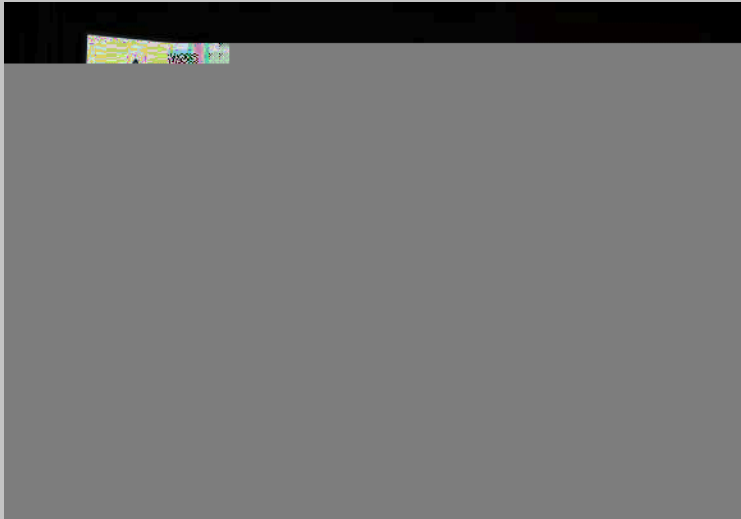
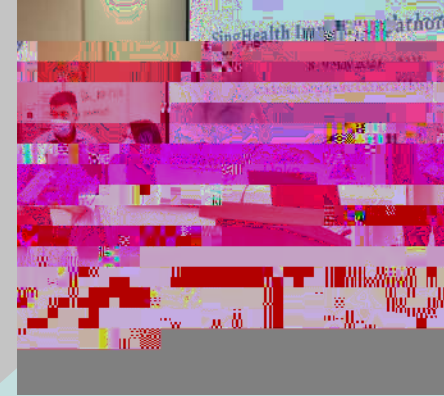
- Tumor-associated
antigen prediction
- Xenobiotic-induced
toxicity prediction







SingHealth Immunopathology Workshop (8th – 9th May 2023)



Joey Lee



Poster award
(Second Prize)



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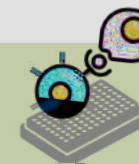
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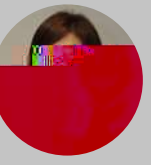
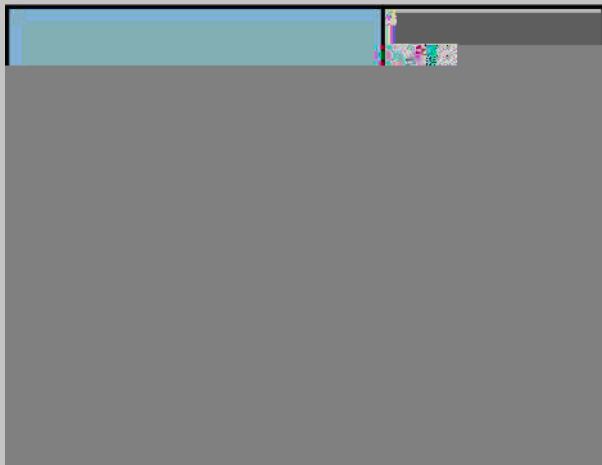
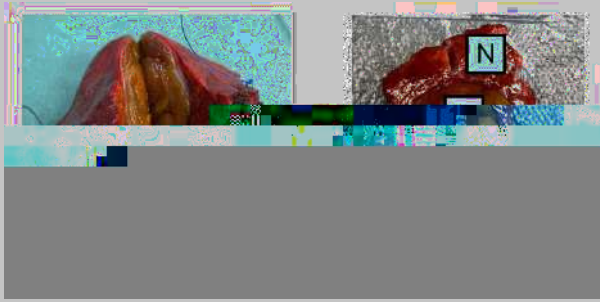
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Biomarkers for Liver Cancer





Spatial metabolomics landscape of **Liver Cancer**





The 5th Singapore Liver Cancer Consortium Scientific Symposium

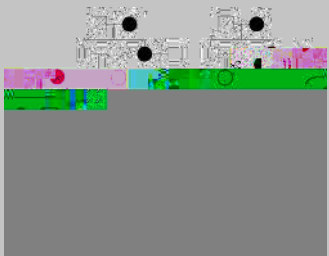
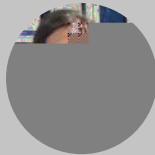
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www



imaging-based phenotype profiling to predict pathogenic mutations

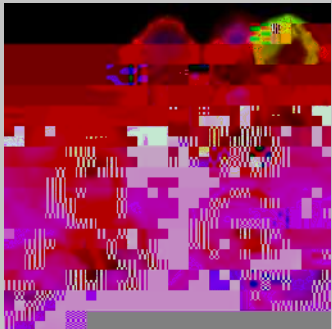
77 slides



VUS
classification



BRCA2 mut

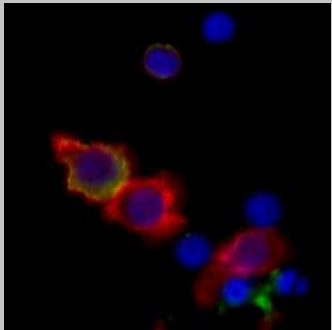


S02026

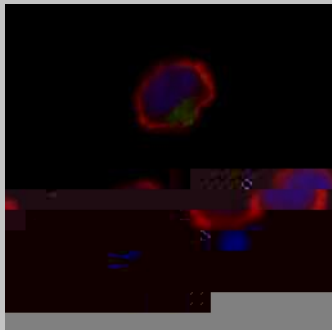
S02123

S01932

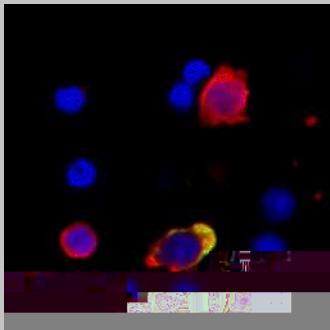
Wildtype



S02135

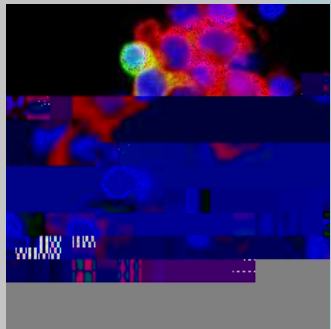


S02134



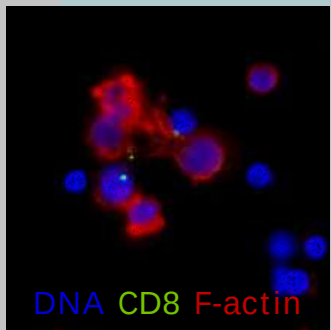
S01926

PALB2 mut



S02446

Wildtype



S01561

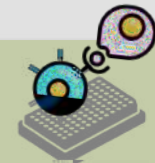
DNA CD8 F-actin

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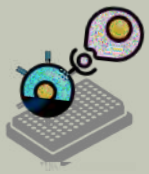


Predictive models for
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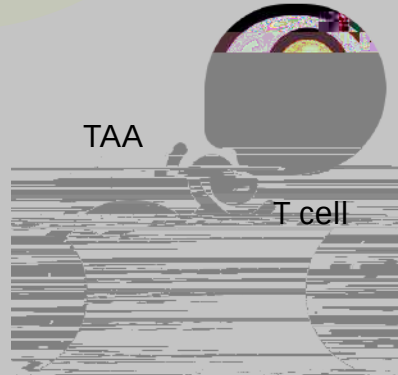
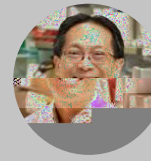
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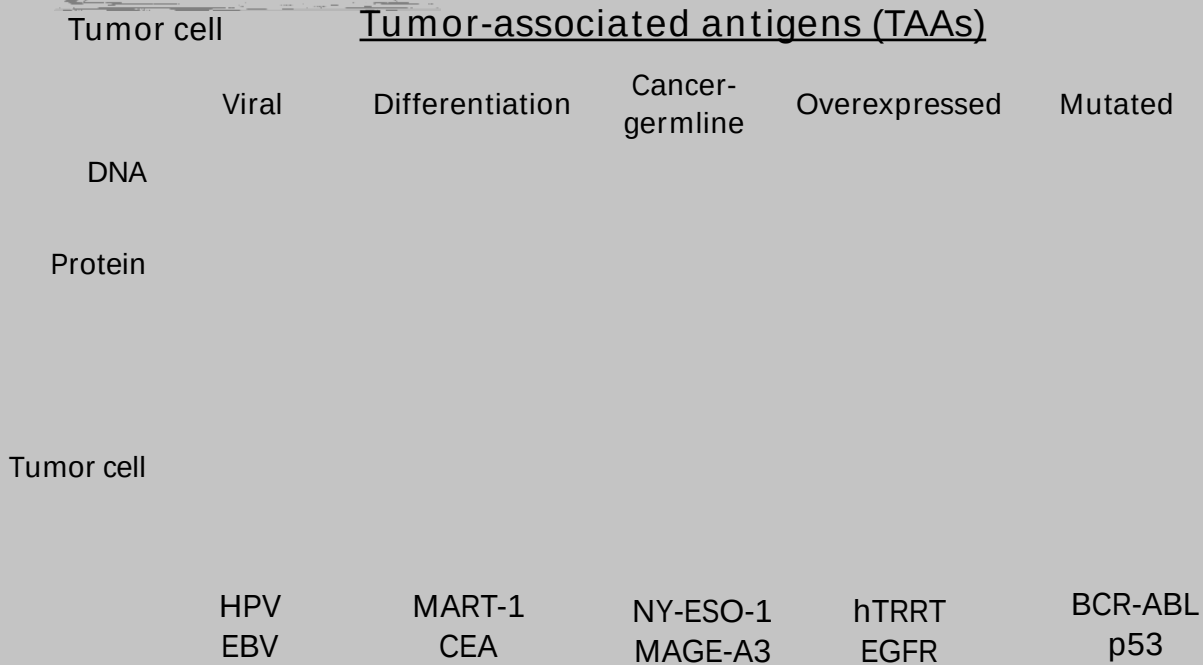




High-throughput assays and AI models for **tumor-associated antigen classification**



IAF-ICP funded: \$3,897,195
(1 Sept 2022 to 31 Aug 2025)

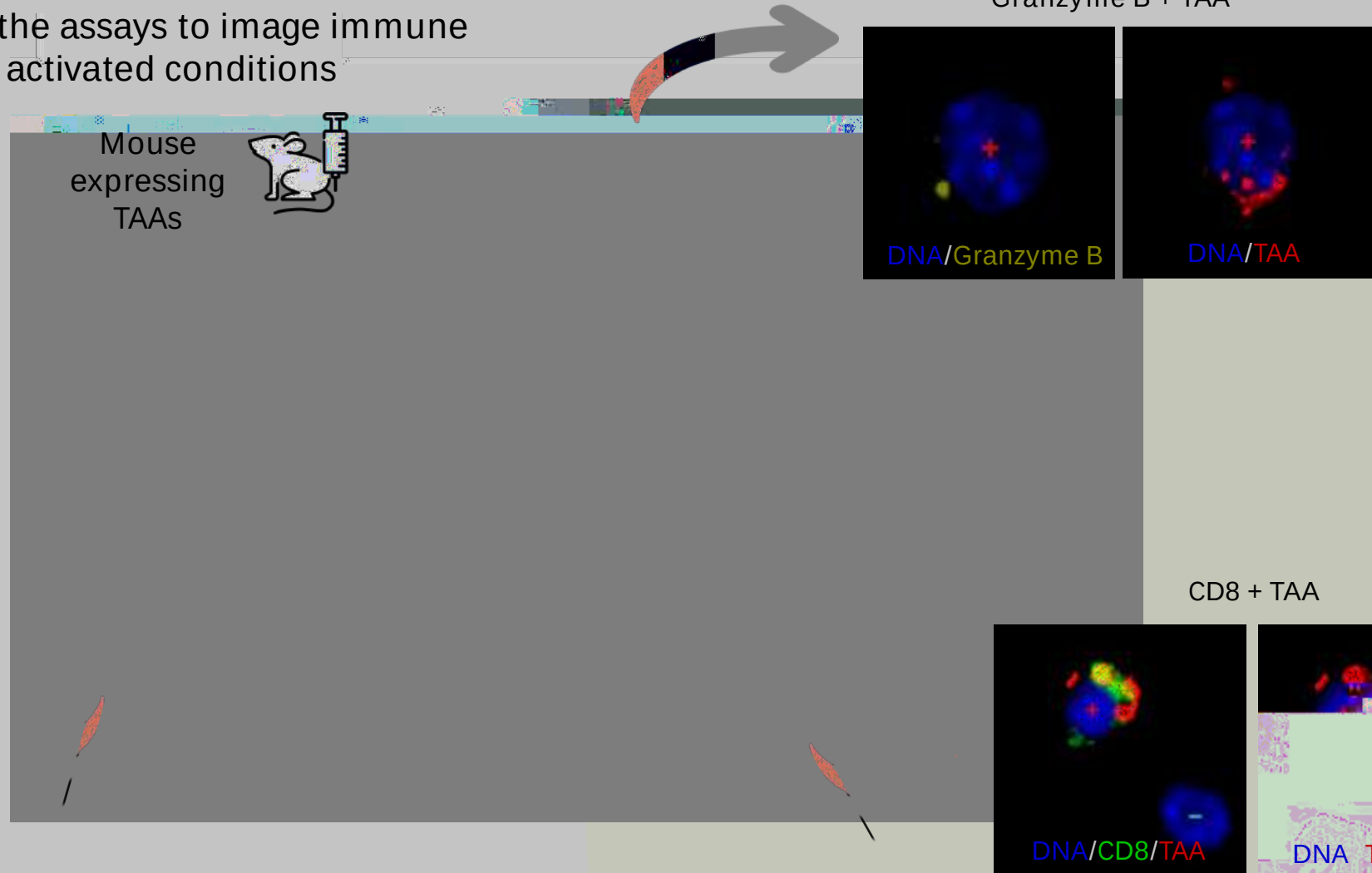
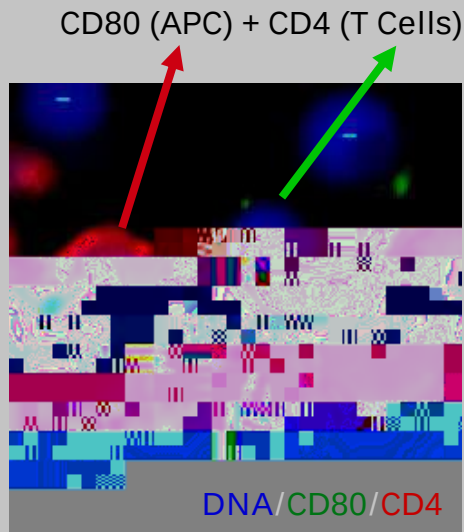


Imaging-based phenotypic profiling to predict **tumor-associated antigens**

Oscar
Fu



We have developed the assays to image immune cells under different activated conditions



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Carmen,

