



Mahidol University  
Faculty of Medicine  
Siriraj Hospital

# Cancer Precision Medicine

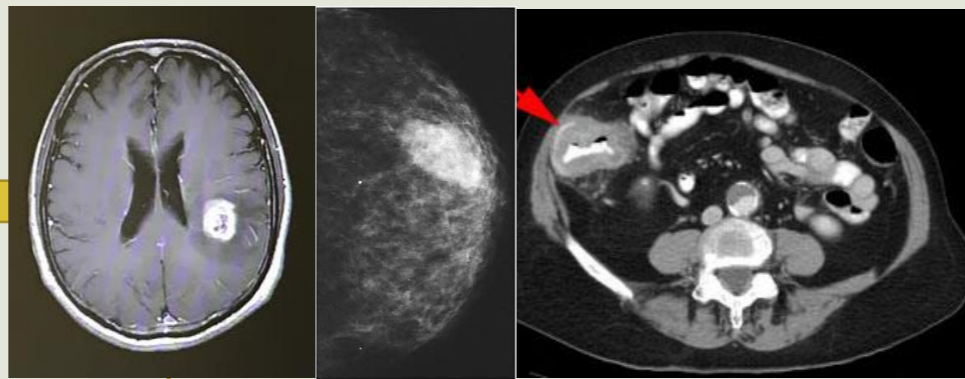
ASEAN Medical School Network



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Division of Medical Genetics  
Department of Medicine



Databases/AI



Patients



Germline, cfDNA, biomarkers  
**Blood test**



**Surgery/Biopsy**

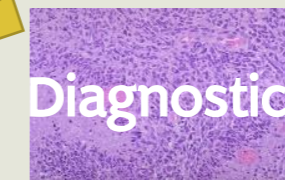


Frozen specimens



**Biobanking**

**Pathologist**



**Diagnostics**

Standard & Advanced Lab



**Advanced immunostaining**

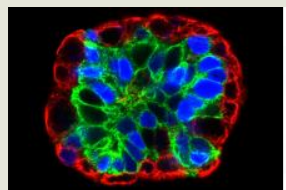


**Treatment selection**

**Cancer cell lines**

**Clinical Cohorts/Clinical Trials**

**Collaboration**



**Spheroid Organoid**

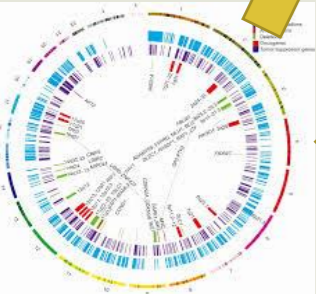
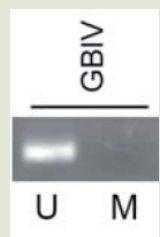
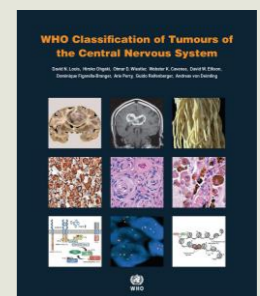
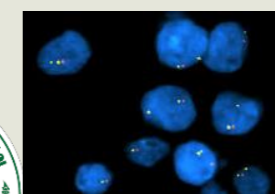


**Orthotopic xenograft**



**Zebrafish Model**

**Drug testing/Tailored regimen**



Genome Landscape

Genome Sequencing

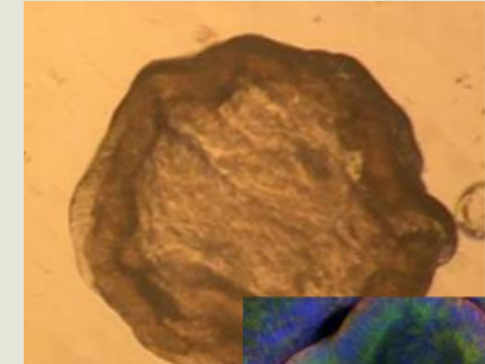
Bioinformatics



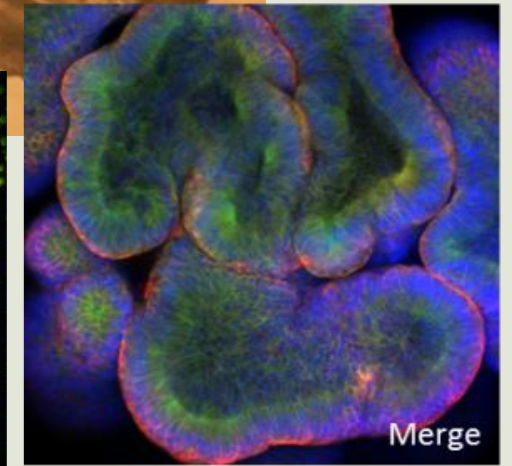
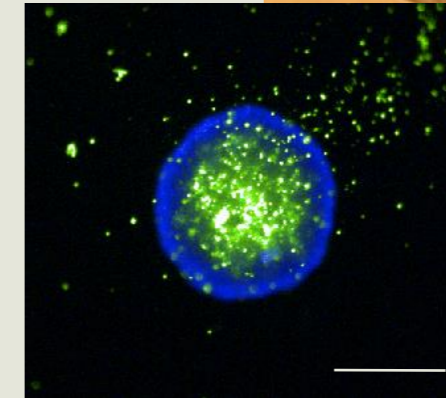


# Network Resource

Clinical Database & Biospecimens from >3,000 patients

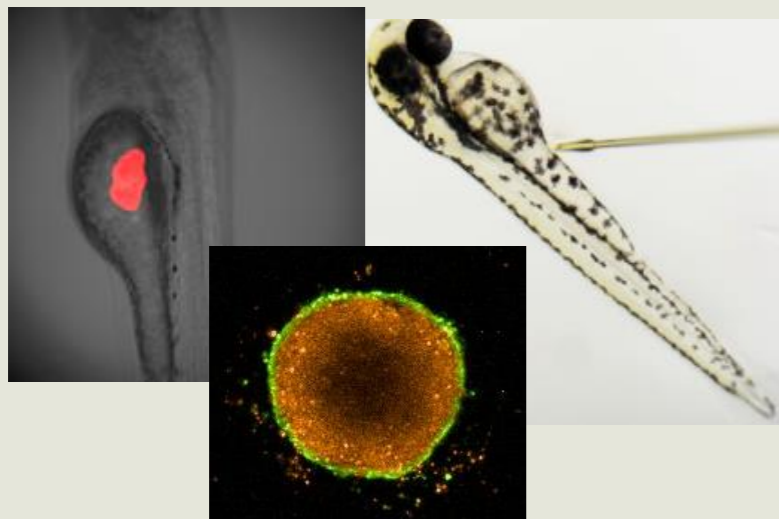


>300 cancer genome sequencing data



Multi-gene panel testing

>30 primary cancer cell lines/organoids



Zebrafish model and drug testing platform

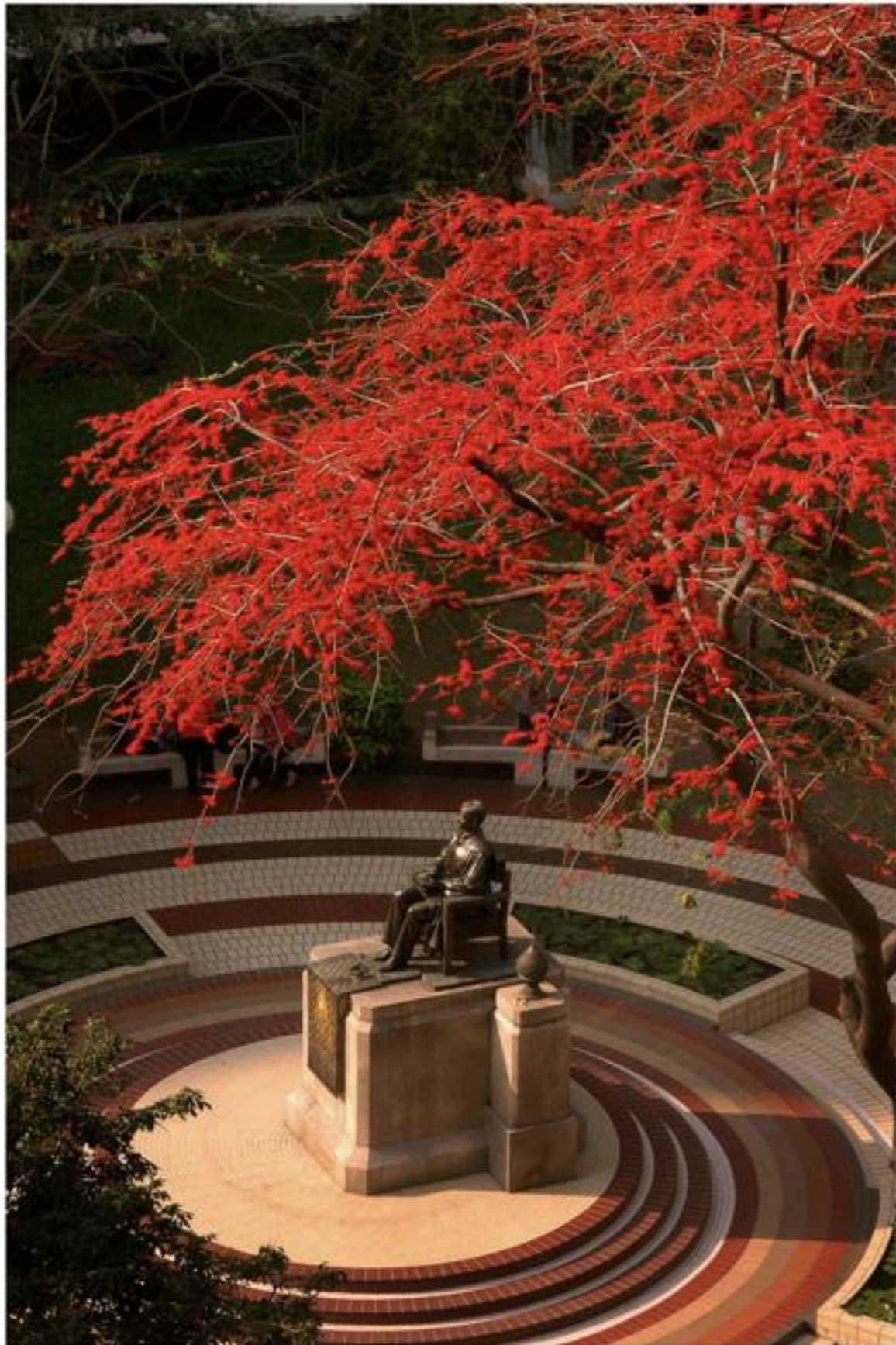


# Scope of Research Network

- ❖ Focus on selected cancers (breast cancer, H&N cancer, colorectal cancer) with unique clinical/population aspect
- ❖ Set up biorepository: blood (serum/plasma, DNA), tissue
- ❖ Establish multidisciplinary databases: clinical data, pathological data, multi-omics data, cell line, PDX, drug screening data
- ❖ Data sharing policy
- ❖ Clinical implementation: individual cancer care, clinical trials, clinical guidelines/policies
- ❖ Capacity building
- ❖ Start with the most capable topic then gradually expand



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# Questions & Answers