Potential partnerships between IMAT and

Drug Resistance & Sensitivity Network (DRSN)

and

Patient-Derived Models Consortium (PDMC)

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Therapeutic Target Identification to Overcome Cancer Drug Resistance

Co-Chairs: Jeff Hildesheim (DCB) & Percy Ivy (DCTD)

(DCTD) Jeff Moscow, Austin Doyle, Lyndsay Harris, Rich Little, Elise Kohn, Shakun Malik, Bhupinder Mann, Carmen Allegra, Anne Menkens, Suzanne Forry, Sudhir Kondapaka, Susan Holdbeck, **(DCB)** Dick Pelroy, Rihab Yassin, Mike Espey, Konstantin Salnikow, **(SBIR)** Andy Kurtz, **(CRCHD)** Liz Perruccio, **(CSSI)** Stephanie Morris, **(CCG)** Daniela Gerhard

CANCER MOONSHOT

DRSN

(RFA-CA-17-009)

NCI DRUG RESISTANCE & SENSITIVITY NETWORK

DRSN Mission

To conduct preclinical research focused on innovative strategies to understand and combat mechanisms of tumor resistance (intrinsic and acquired) and/or exploit tumor sensitivities to anti-cancer therapies.

CANCER MOONSHOT

DSRN Contact: Austin Doyle

DRSN

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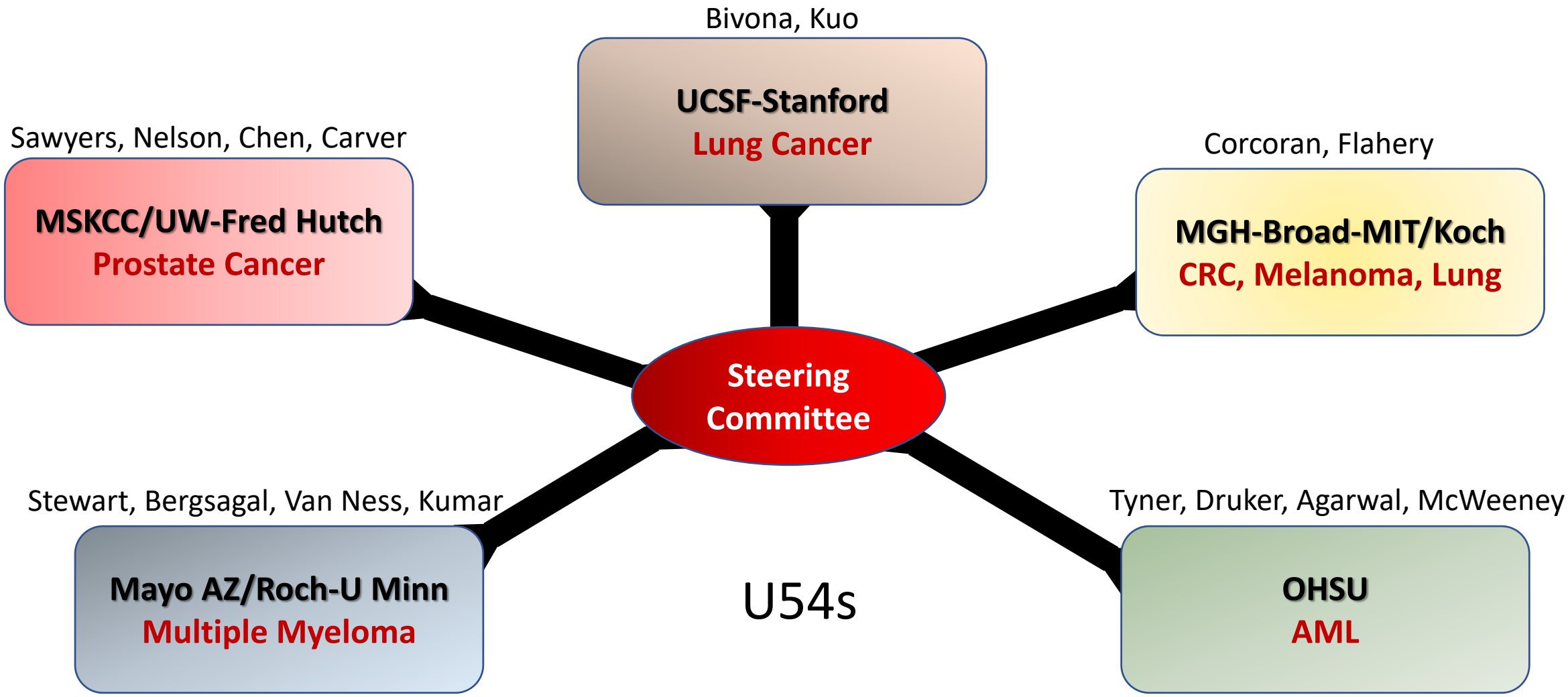
NCI DRUG RESISTANCE & SENSITIVITY NETWORK

CANCER MOONSHOT



DRSN

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NCI DRUG RESISTANCE & SENSITIVITY NETWORK

CANCER MOONSHOT

- Preference given to DRSN studies involving NCI CTEP IND agents
- NCI-IND agents (n= >60) include a wide variety of small molecule and antibody inhibitors that impact classic oncogenic signaling & checkpoint targets

UCSF-Stanford (Lung) TKI and αPD-1checkpoint; evolution of response, acquired resistance

MSKCC/Fred Hutch-U Washington (Prostate) targeting chromatin and kinase signaling PDOs/PDXs; AR resistance

MGH-Broad-MIT/Koch Institute (CRC, Lung, Mel) MAPK, RTK, Immune Checkpoint; HTS drug screening platform

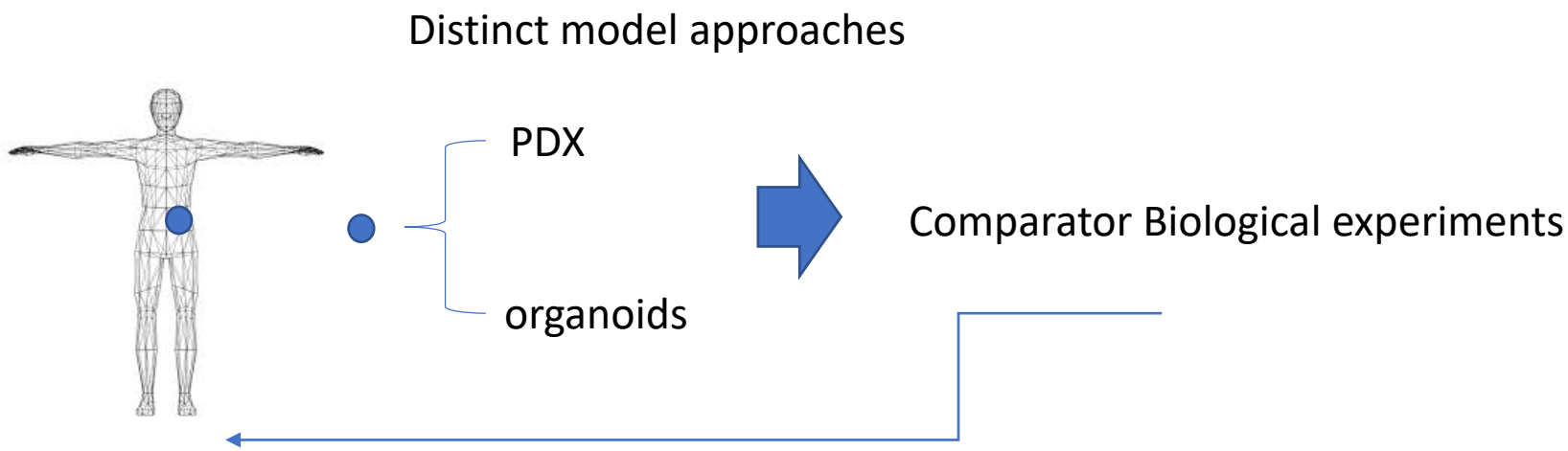
Mayo-U Minnesota (Mult Myelo) immunomod. agents, proteasome; HTS mutation screening platform

OHSU (AML) simultaneously target tumor-intrinsic and microenvironmental (extrinsic) pathways; CRISPR screens

Patient-derived Models Consortium (PDMC)

PAR 16-344

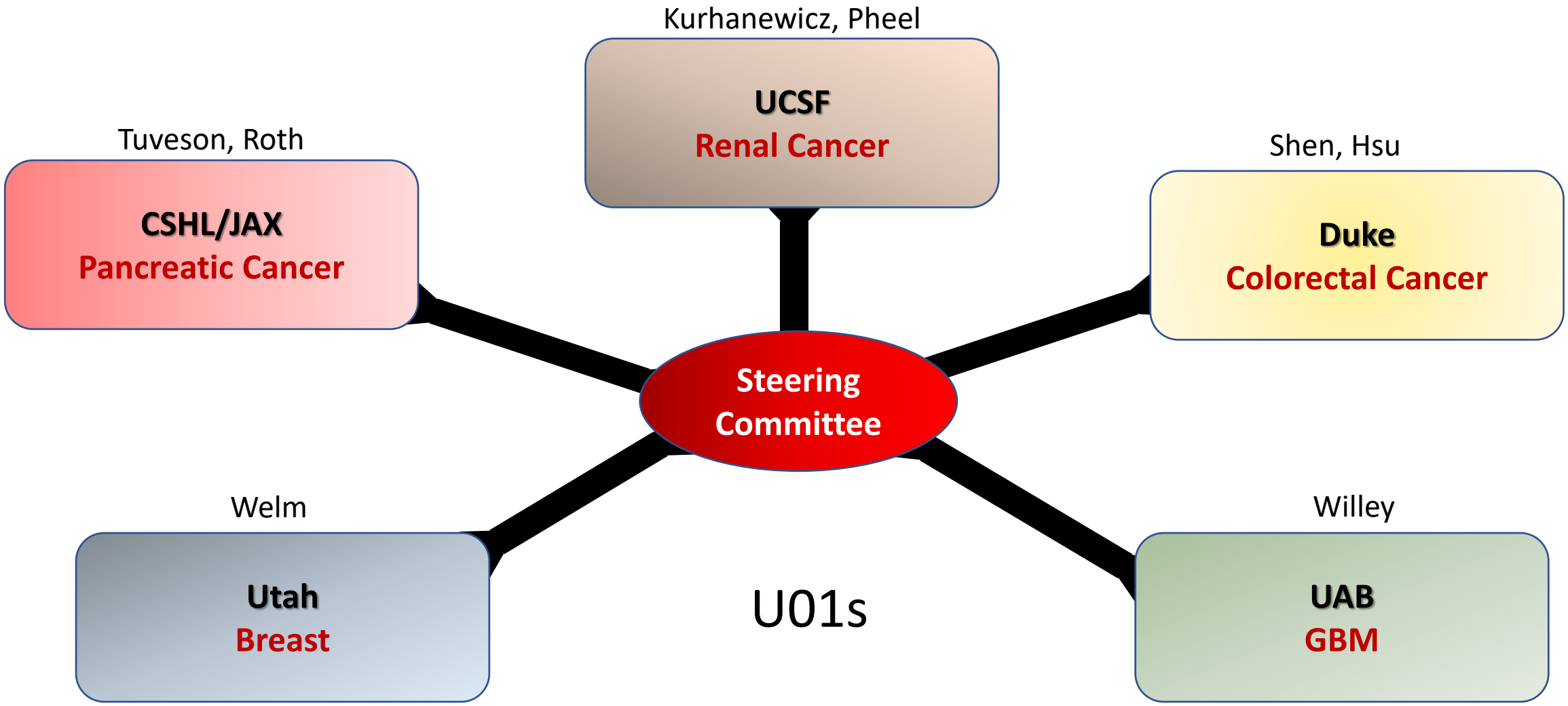
Delineate and compare the similarities and differences in the underlying biological mechanisms that drive cancer phenotype and response to perturbations in patient-derived models of cancer originating from a common patient sample.



PDMC Contact: Michael Graham Espey

Patient-derived Models Consortium (PDMC)

PAR 16-344



Patient-derived Models Consortium (PDMC)

PAR 16-344

UCSF Metabolic imaging comparisons of Patient-derived Models of renal cell carcinoma.

CSHL-JAX Patient-derived Models of pancreatic cancer as systems for investigating Tumor Heterogeneity.

Duke Epigenomic Reprogramming in Patient-derived Models of colorectal cancer.

Utah Longitudinal models of breast cancer for studying mechanisms of Therapy response and Resistance.

UAB Biological Comparisons among three Derivative Models of glioma patient cancers under Microenvironmental Stress

Potential partnerships between IMAT and DRSN or PDMC

- DRSN and PDMC accrue and annotate patient-derived materials from a variety of cancers;
- DRSN and PDMC have deep expertise in models & generate significant multi-scale data;
- Opportunities for demonstration/leverage of IMAT technologies in multiple areas:
    - HTS drug screening (what defines sensitivity/resistance?)
    - molecular SC techniques for tracking selection & evolution dynamics
    - -omics meets advanced imaging (organoids & PDX)
    - delineation of cancer cell intrinsic versus extrinsic (microenvironment) processes

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