

NCI Small Cell Lung Cancer Consortium

State of the state

2018

Charles Rudin MD PhD



Memorial Sloan Kettering
Cancer Center

Goals of the Center

- Facilitation of data exchange and meetings among investigators
- Centralized database support for SCLC research
- Characterization of and access to relevant preclinical models

Aim 1: Communication

Website

Monthly WebEX

Annual meeting: (NCI, IASLC, alternating years)

Aim 2: Analytics

cBioPortal (omic data)

Vanderbilt CQS
(clinical correlates)

Aim 3: Models

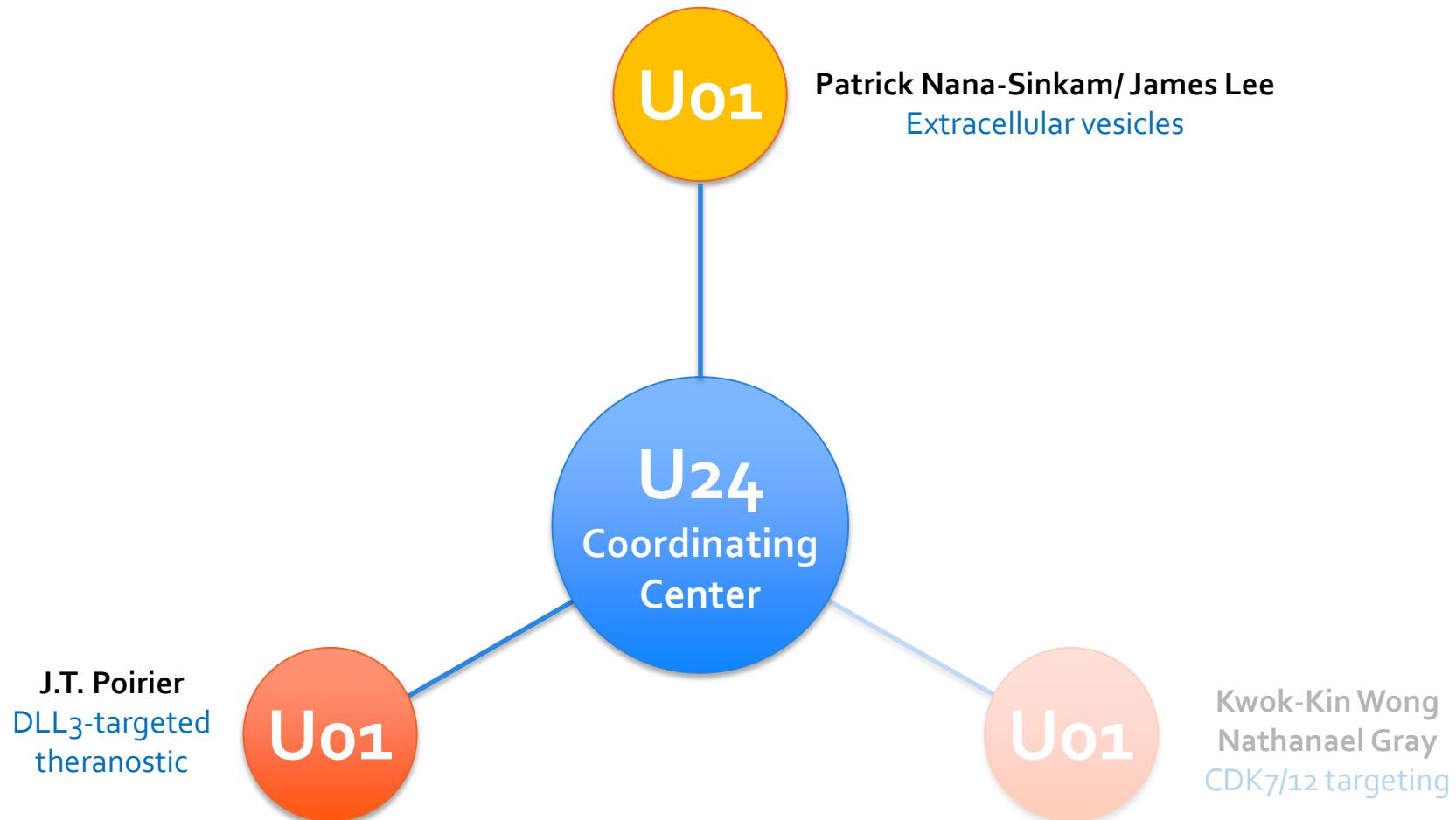
GEMMs

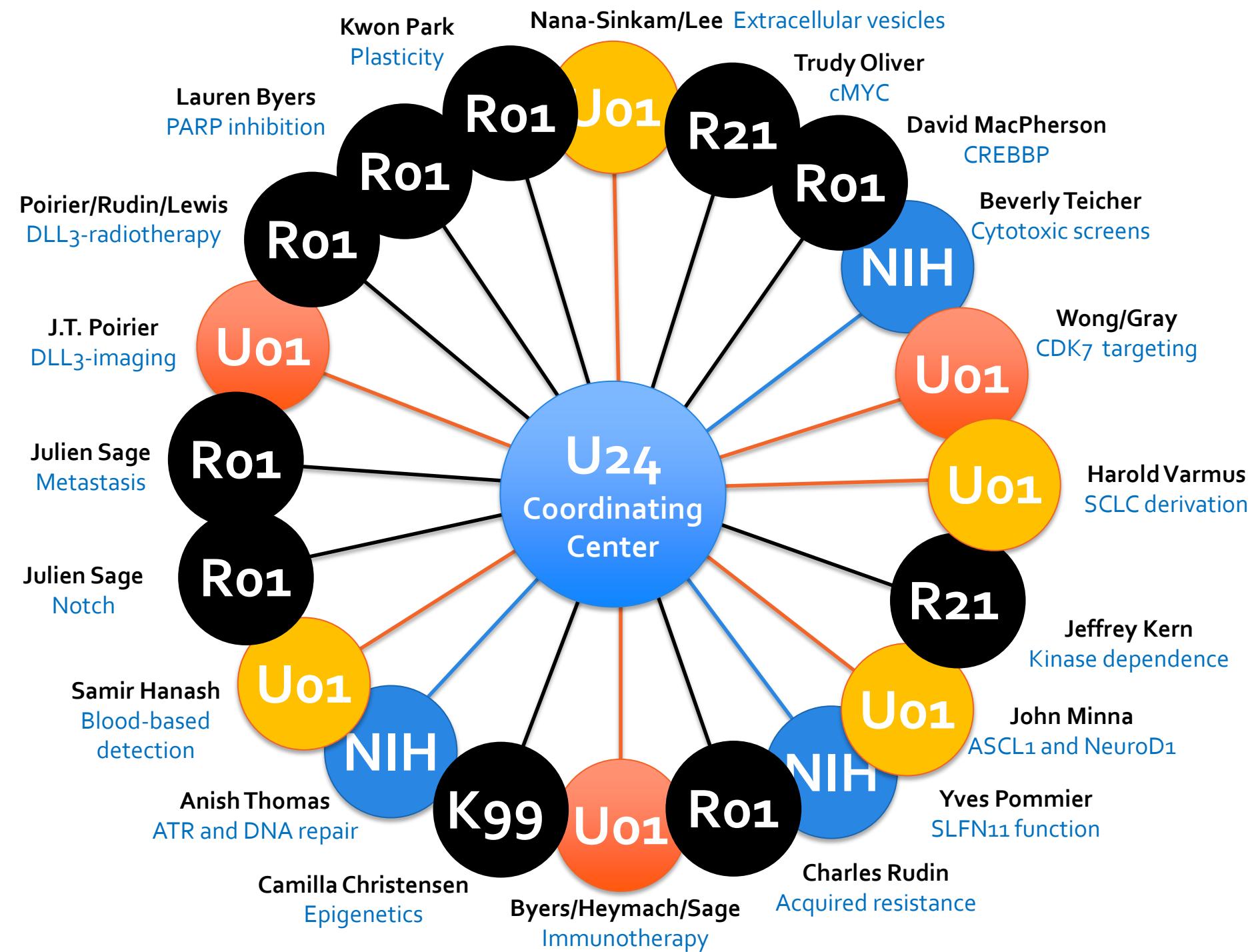
Cell lines

TMAs

PDX/CDX

NCI SCLC “Consortium”





Components of the U24 Coordinating Center

UT Southwestern
Medical Center

Cell line resources

Minna
Gazdar

VANDERBILT UNIVERSITY

Clinical correlates database

Shyr
Berry

NIH NATIONAL CANCER INSTITUTE

Coordination

Forry
Szabo
Ujhazy

CASE WESTERN RESERVE
UNIVERSITY EST. 1826

Tissue microarrays

Dowlati



Memorial Sloan Kettering
Cancer Center

PDX models

Rudin
Poirier

cBioPortal
for Cancer Genomics

Molecular profiling

Berger
Taylor
Schultz
Shen

GEMMs

Ventura
Lowe



MASSACHUSETTS
GENERAL HOSPITAL

GEMM models

Jacks

PDX/CDX models

Farago

Aim 1: Communication

1. Website

For Research Scientists / Research Programs / Extramural Collaborations

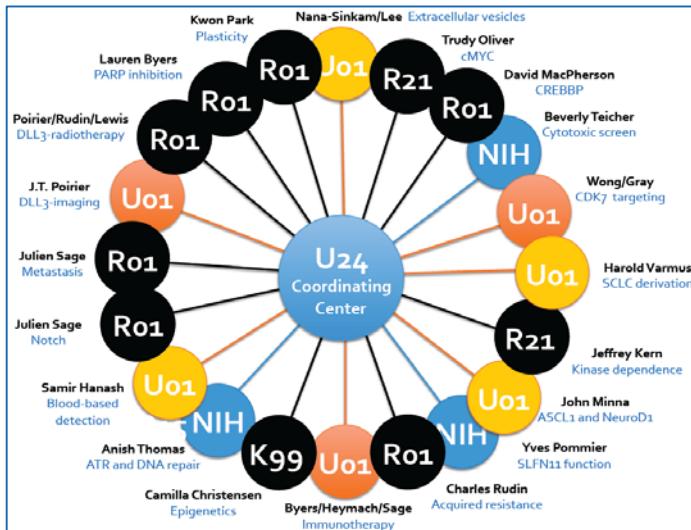
NCI Small Cell Lung Cancer Consortium



The goals of this Coordinating Center include facilitating information exchange among investigators in the NCI Small Cell Lung Cancer (SCLC) Consortium, supporting data integration and data analysis, and serving as a central resource for characterization and distribution of model systems. By providing these resources, and by coordinating frequent data-sharing opportunities and leading annual face-to-face meetings among SCLC investigators, we believe this Center can substantially accelerate progress against this deadly disease.

MSK Thoracic Oncology Service Chief Charles Rudin leads the NCI Small Cell Lung Cancer Consortium.

3. Monthly WebEx



2. Annual meeting

SMALL CELL LUNG CANCER RESEARCH CONSORTIUM MEETING

Meeting Agenda
March 15 - 16, 2018
NCI - Shady Grove Campus
9609 Medical Center Drive
Room TE 406/408/410

Thursday, March 15, 2018

OPENING SESSION

Welcome and Introductions
Coordinating Center - Year 1
SCLC Consortium cBioPortal
Vanderbilt COS
DISCUSSION

Suzanne Forry, Eva Szabo, Peter Ujhazy
Charles Rudin
Nikolaus Schultz
Yu Shyr
9:00 - 9:15
9:15 - 9:30
9:30 - 9:45
9:45 - 10:00
10:00 - 10:15

BREAK

MOLECULAR PATHOLOGY

Cell Line Genomic Profiling and Molecular Signature
Biologic Subsets of Disease
Extrapulmonary Small Cell Genomics
DISCUSSION

LUNCH

DETECTION

Tumor RNA in Extracellular Vesicles
Protein-based Detection in Blood
Imaging and Targeting DLL3 Imaging
DISCUSSION

BREAK

ONCOGENESIS AND TUMOR

Precursor Transformation Assays
Intamural Heterogeneity
Targeting ASCL1 and Stem Cells
NE Negatives and CDK4/6 Targeting
DISCUSSION

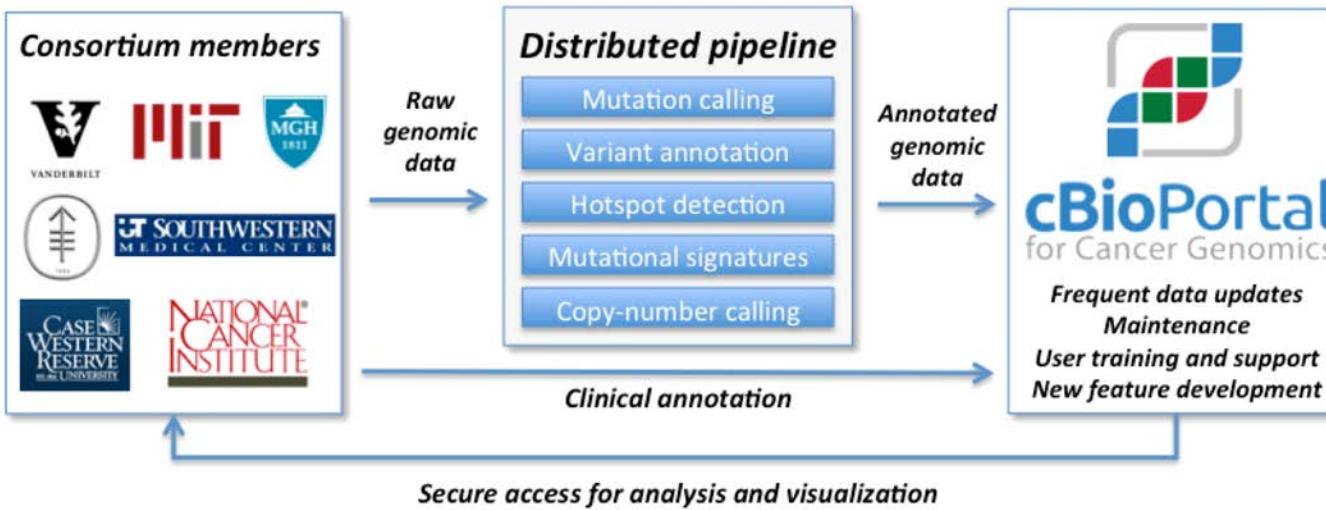


IASLC
INTERNATIONAL ASSOCIATION FOR THE STUDY OF LUNG CANCER

Small Cell Lung Cancer Workshop
March 15-17, 2017 | New York

Memorial Sloan Kettering Cancer Center
www.iaslc.org | pia.hirsch@iaslc.org

Aim 2: Analytics



Current SCLC resources in cBioPortal

- www.cbiportal.org/sclc

Lung Neuroendocrine Tumor

→ SMALL CELL LUNG CANCER

<input type="checkbox"/> MSK Clinical Sequencing Cohort of Small Cell Lung Cancer Cases (MSKCC, Canc...	175 samples	  
<input type="checkbox"/> Paired chemosensitive and chemoresistant SCLC PDX (MSKCC, Canc...	20 samples	  
<input type="checkbox"/> Small Cell Lung Cancer (CLCGP, Nat Genet 2012)	29 samples	  
<input type="checkbox"/> Small Cell Lung Cancer (Johns Hopkins, Nat Genet 2012)	42 samples	  
<input type="checkbox"/> Small Cell Lung Cancer (U Cologne, Nature 2015)	110 samples	  
<input type="checkbox"/> Thoracic PDX - Rudin (CMO CR_lupdx [Subset])	27 samples	  

- Coming soon –
 - WES data from MSKCC
 - CDX models from MGH
 - Cell line data from UTSW
 - TMA tumors from CWRU

Aim 3: Models

- Cell line repository at UTSW
 - Over 105 SCLC lines
 - Mutational, expression, and proteome profiling
 - Comprehensive drug sensitivity screen (Teicher)
- PDX and CDX models at MSKCC and MGH (and elsewhere)
 - Rapidly emerging resource with CDX at MGH (Farago/Drabkin/Dyson)
 - Chemosensitive and chemoresistant pairs
 - Additional models (MDACC, U Manchester)
- GEMM models
 - Recent informative models from UTSW (Johnson), Utah (Oliver), and Stanford (Sage)
 - Multiple models being generated by others

Where we might invest some resources/effort (among other areas)

- Improving human data collection/annotation/display
 - Incorporation of additional datasets – tumors and models
 - Consistent clinical annotation
 - Gene expression / Methylome / Proteome...
- Mouse model database
 - A GEMM working group
 - Annotation of existing/emerging models
 - A cBioPortal for GEMMs
 - Genomic/RNA/proteomic datasets
- Please, let's think about this over the next couple days