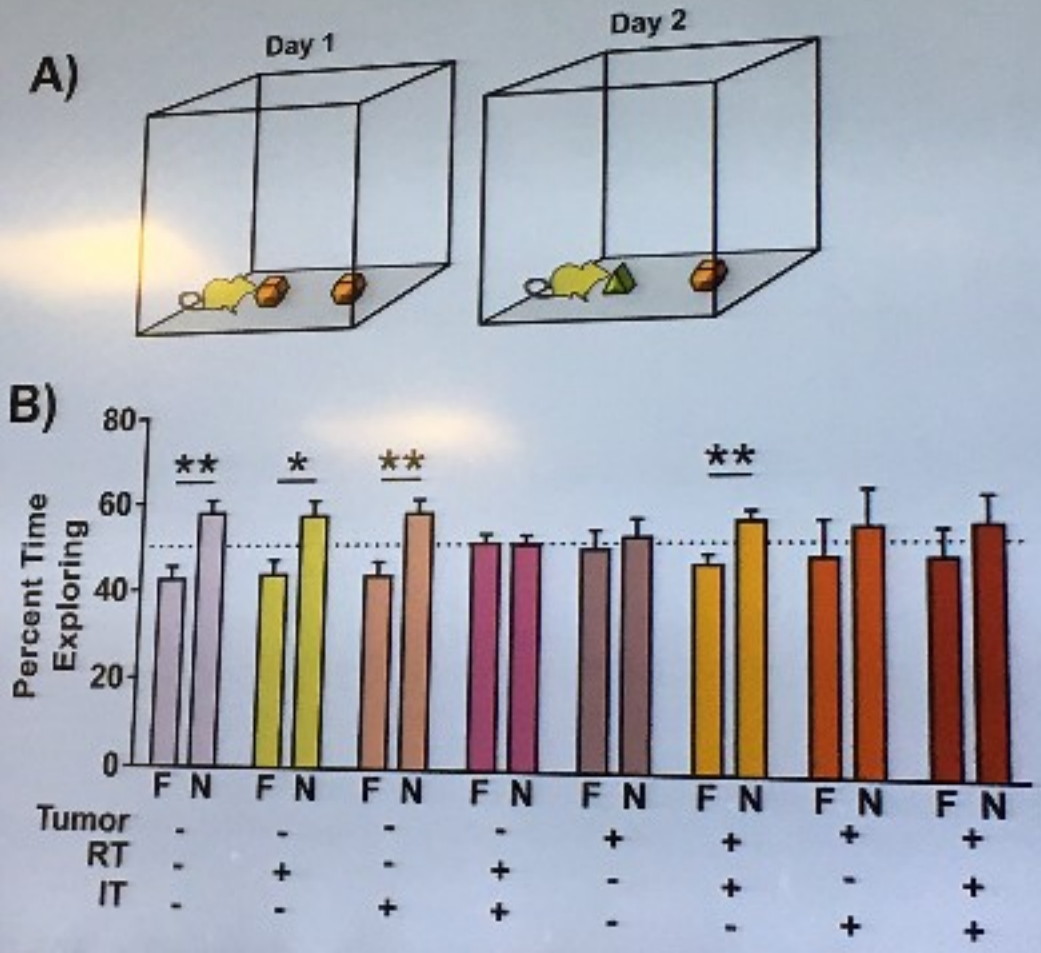

MIRROR POND
PALE ALE

Combined treatment (CT) and presence of a peripheral tumor impair memory



Acknowledgements

Mentorship & Mouse Project Development

Jacob Raber, PhD
Michael Gough, PhD
Charles Thomas, MD

Mentorship & Human Project Development

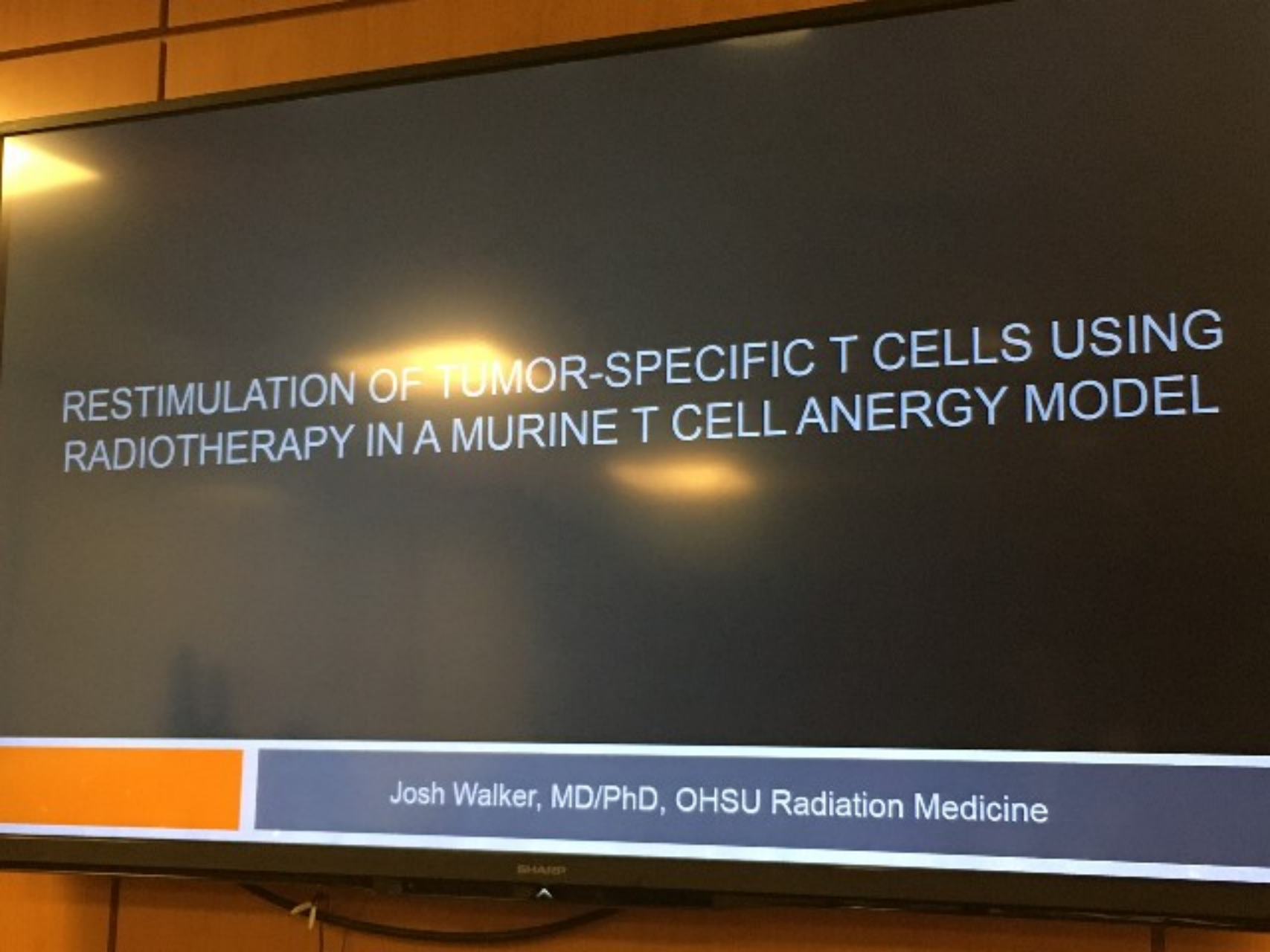
Jacob Raber, PhD
Kerri Winters, PhD
Betty Yu
Charles Thomas, MD

Additional support

Kristina Young, MD, PhD
David Friedman
Eileen Torres
Sydney Weber
Blair Stewart
Tessa Marzulla
Damian Zuloaga PhD

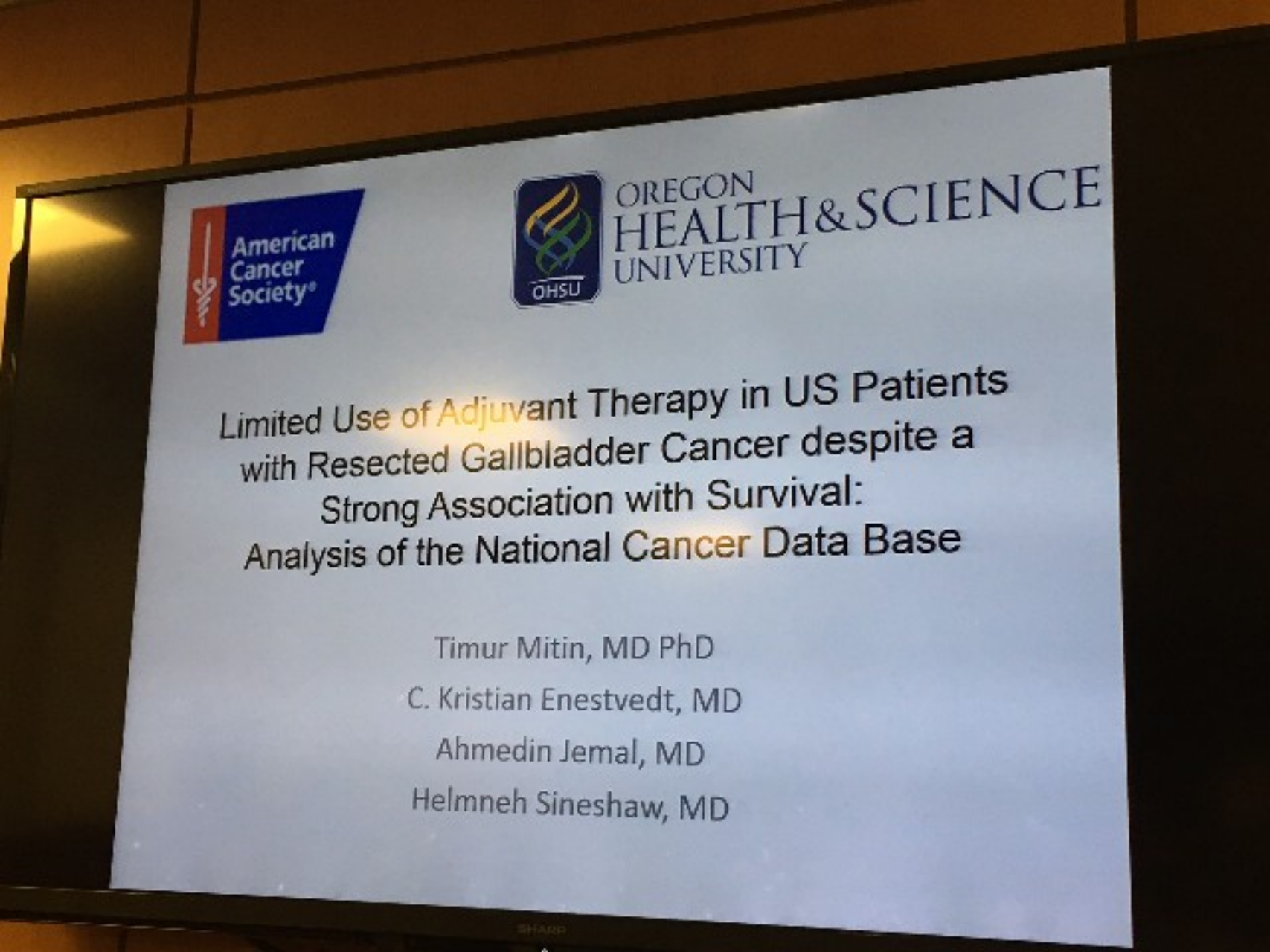
Funding:

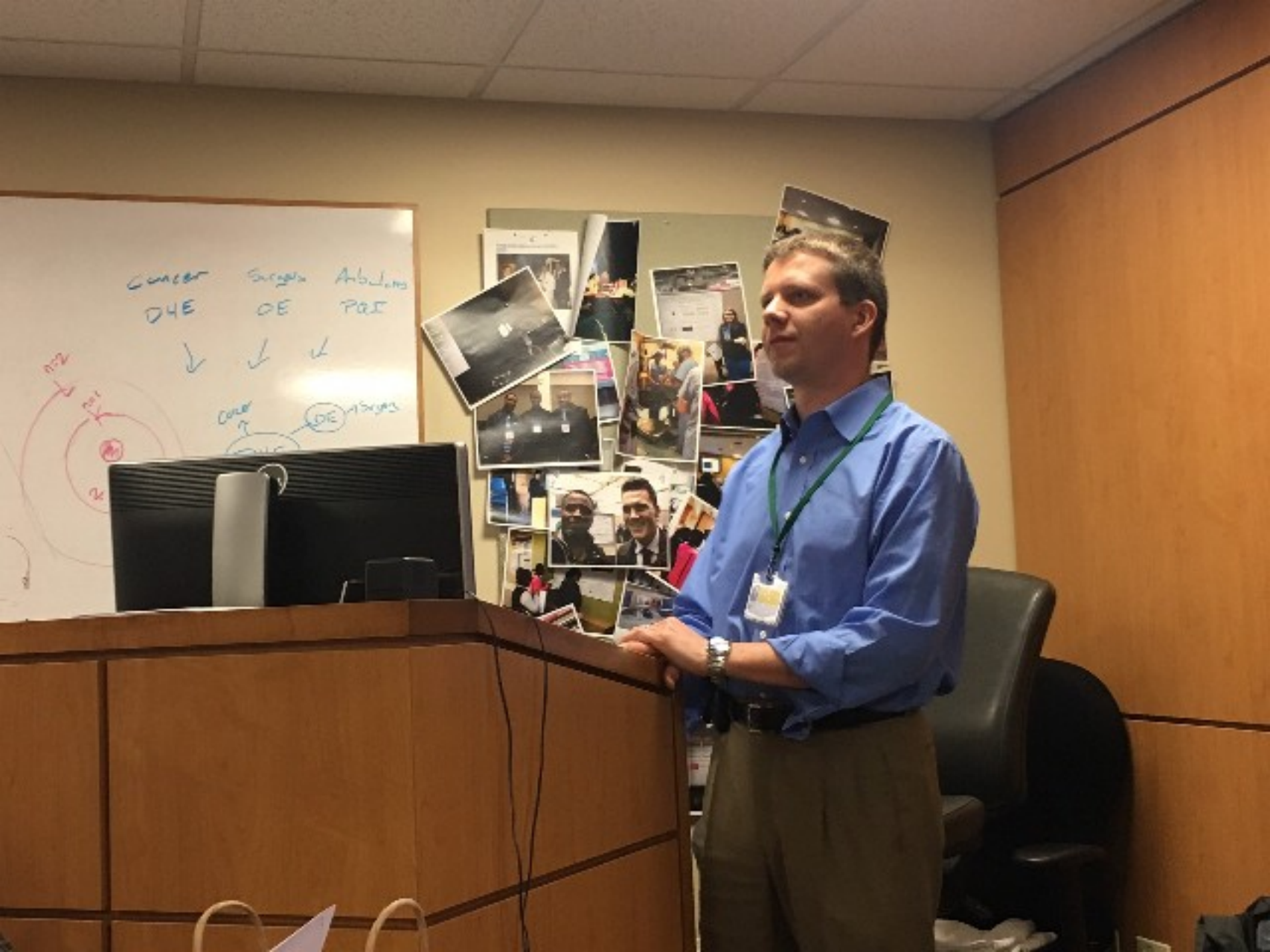
HHMI Medical Research Fellowship
Collins Medical Trust
RSNA Medical Student Research Grant
Tartar Research Fellowship
OSLER TL1 Short Term Research Grant
OHSU Student Senate Funding
Moss-Stevens Radiation Medicine Fund
Development account J. Raber

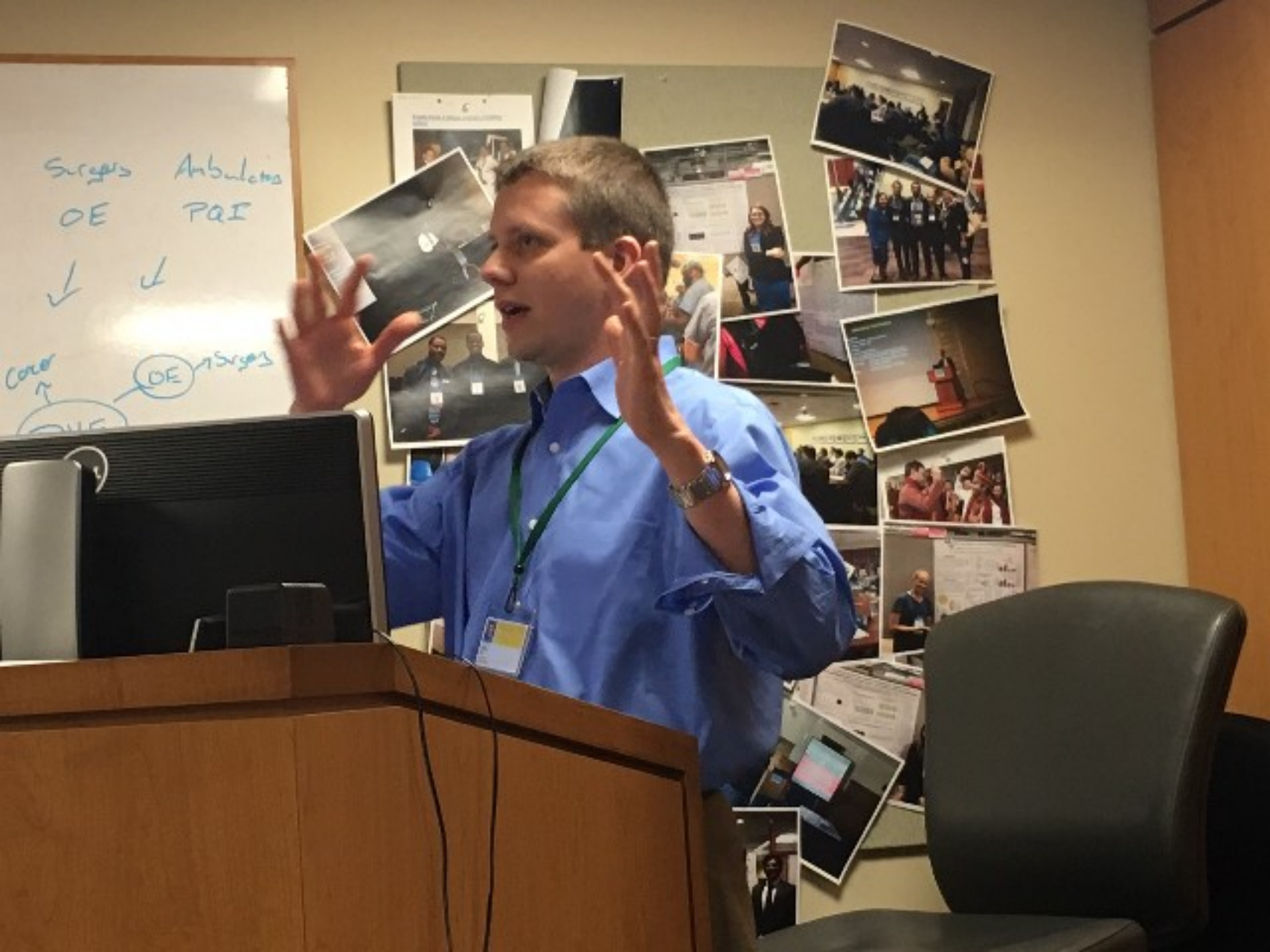

RESTIMULATION OF TUMOR-SPECIFIC T CELLS USING RADIOTHERAPY IN A MURINE T CELL ANERGY MODEL
Josh Walker, MD/PhD, OHSU Radiation Medicine


PQI
OE


Ambulatory
PQI
OE
Surgery


American Cancer Society
OHSU
OREGON HEALTH & SCIENCE UNIVERSITY
Limited Use of Adjuvant Therapy in US Patients with Resected Gallbladder Cancer despite a Strong Association with Survival: Analysis of the National Cancer Data Base
Timur Mitin, MD PhD
C. Kristian Enestvedt, MD
Ahmedin Jemal, MD
Helmneh Sineshaw, MD


DHE
OE
PCI


Surgery
Ambulatory
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PQI
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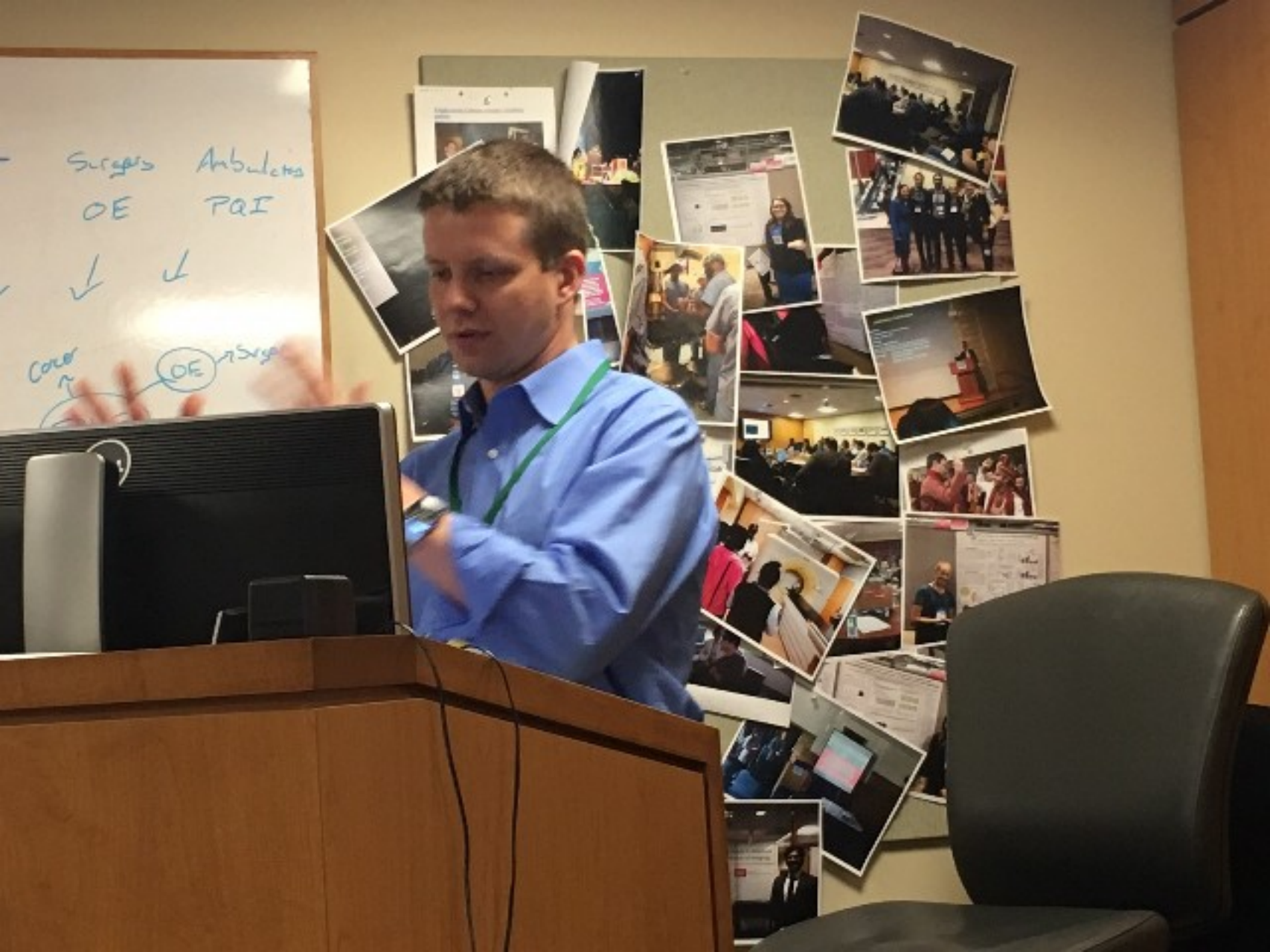
Surgery


Surgery
Ambulatory
OE
PQI
OE

NUMBER 13 MAY 1 2006

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Prediction Model for Estimating the Survival Benefit of Adjuvant Radiotherapy for Gallbladder Cancer

Samuel J. Wang, C. David Fuller, Jeng Sang Kim, Dean F. Sittig, Charles R. Thomas Jr, and Peter M. Ravdin

J Gastrointest Surg (2010) 14:1578–1591
DOI 10.1007/s11605-010-1315-3

2010 SSAT PLENARY PRESENTATION

National Trends in the Management and Survival of Surgically Managed Gallbladder Adenocarcinoma Over 15 years: A Population-Based Analysis

Skye C. Mayo · Andrew D. Shore · Harf Nathan · Harish Edil · Christopher L. Wolfgang · Kenzo Hirose · Joseph Herman · Richard D. Schulick · Michael A. Choti · Timothy M. Pawlik

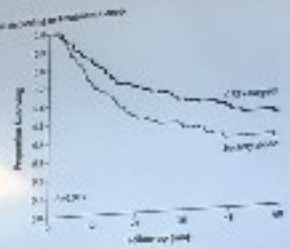
JOURNAL OF CLINICAL ONCOLOGY ORIGINAL REP

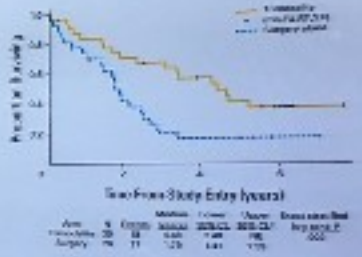
Nomogram for Predicting the Benefit of Adjuvan Chemoradiotherapy for Resected Gallbladder Ca

Samuel J. Wang, Andrew Lemieux, Jayashree Kalpathy-Cramer, Celine B. Ord, Gary V. W C David Fuller, Jeng-Sang Kim, and Charles R. Thomas Jr

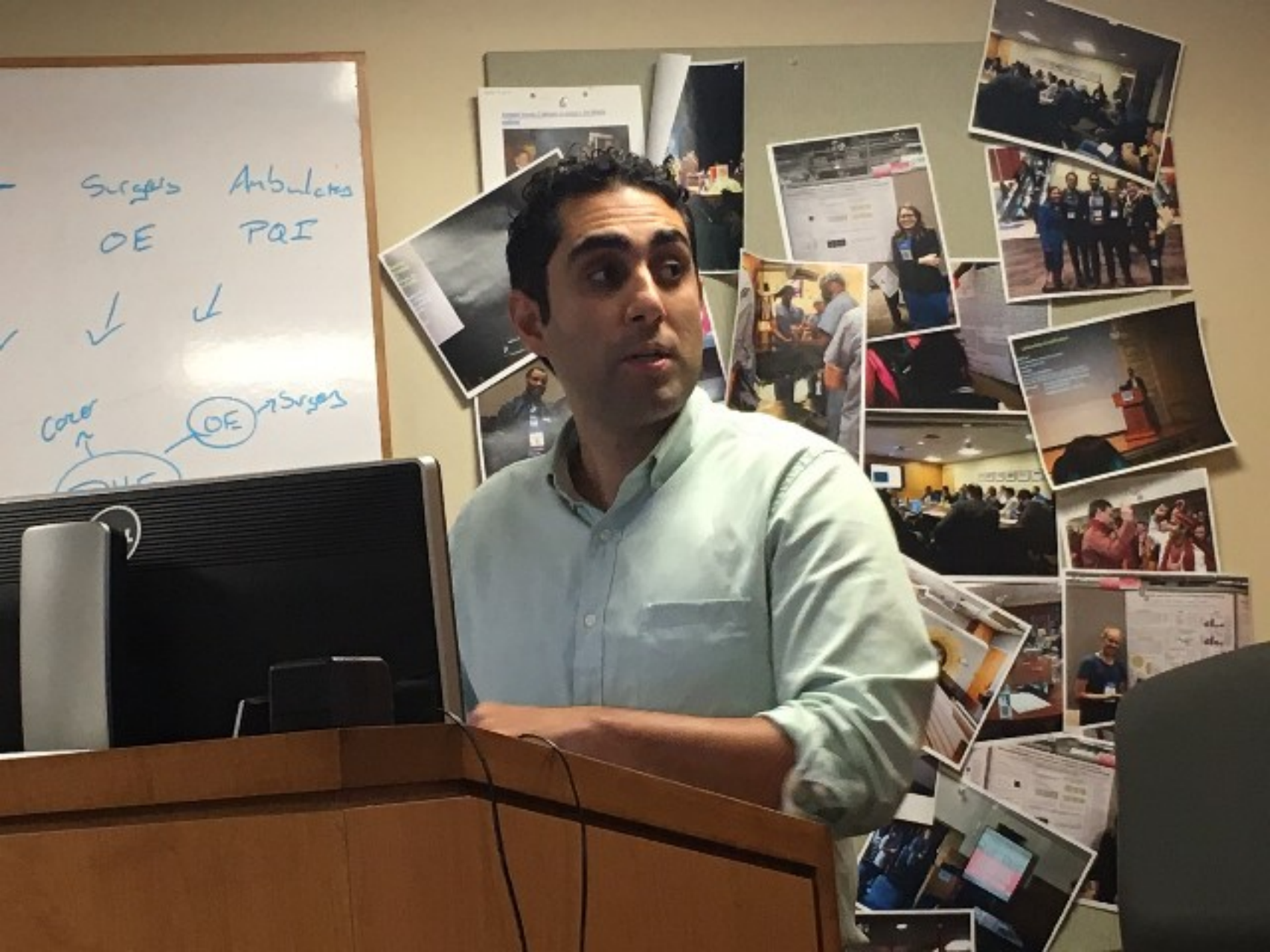
Multi-modality therapy for locally-advanced esophageal cancer

- Surgery has been the cornerstone of definitive therapy
- Multiple studies have tested the value of the addition of chemoradiation to improve LC and OS
- Multimodality therapy has rapidly become the standard of care
  - Multiple RCT and meta-analyses showing better OS





Tepper, JCO, 2008.
Van Hagen, NEJM, 2012.

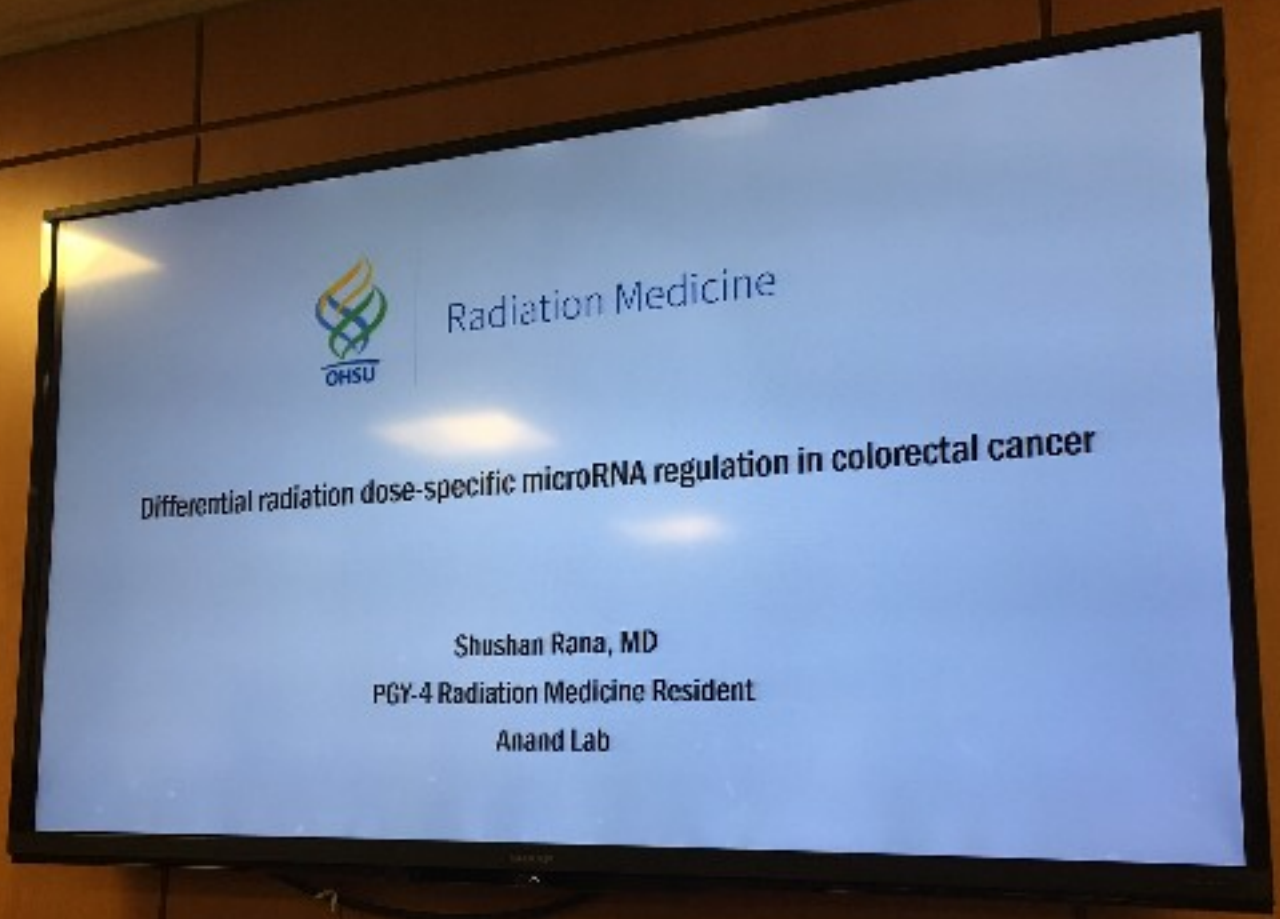

OE
PQI
OE

Funding sources and acknowledgements

- ASCO Young Investigator Award
- Radiological Society of North America (RSNA) Seed Grant
- Daira Melendez
- Carol Halsey
- Patrick McLaren
- Sharlene D'Souza
- Brintha Enestvedt
- Radiation Medicine nurses

CONQUER CANCER FOUNDATION of the American Society of Clinical Oncology
YOUNG INVESTIGATOR AWARD

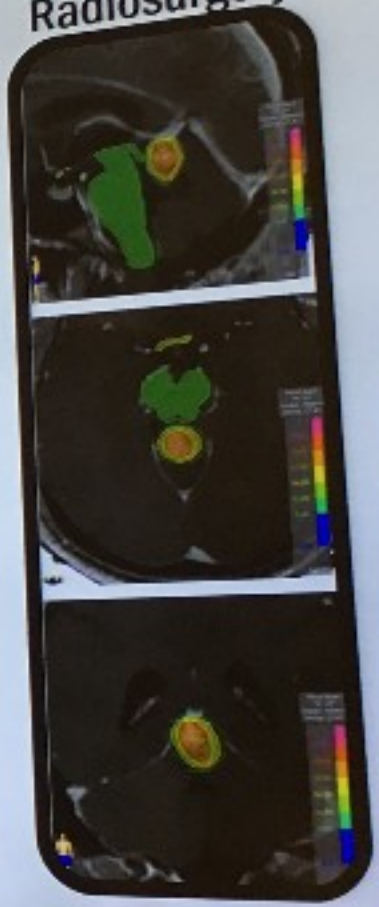
INSPIRE · INNOVATE · INVEST
RSNA R&E FOUNDATION

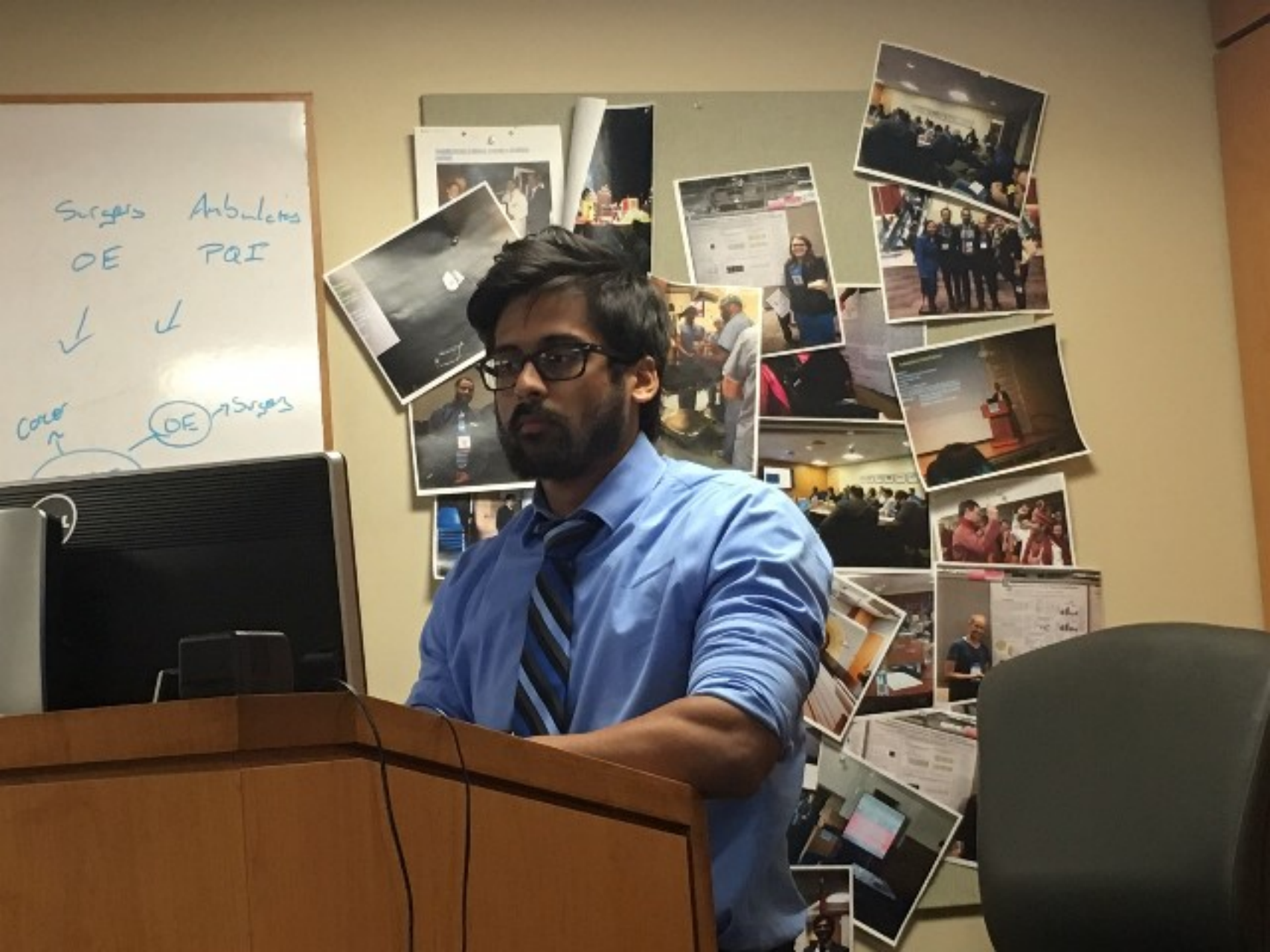

OHSU
Radiation Medicine
Differential radiation dose-specific microRNA regulation in colorectal cancer
Shushan Rana, MD
PGY-4 Radiation Medicine Resident
Anand Lab

Standard Fractionated Radiation Therapy

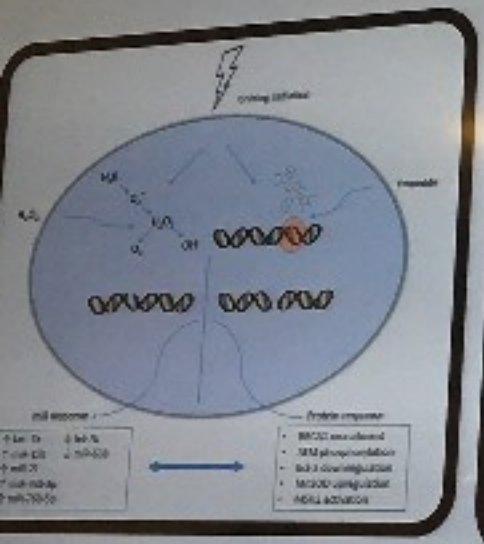
Stereotactic Body Radiation Therapy

Stereotactic Radiosurgery

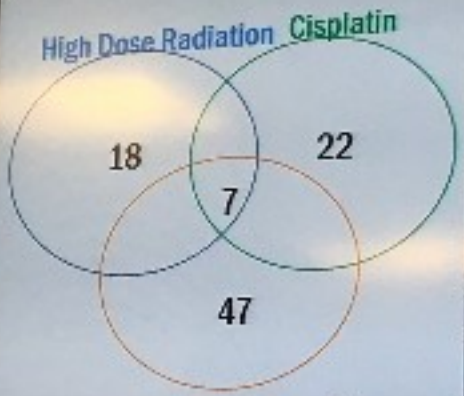



Surgery
Ambulatory
OE
PQI
Cancer
OE
Surgery

microRNAs and radiation



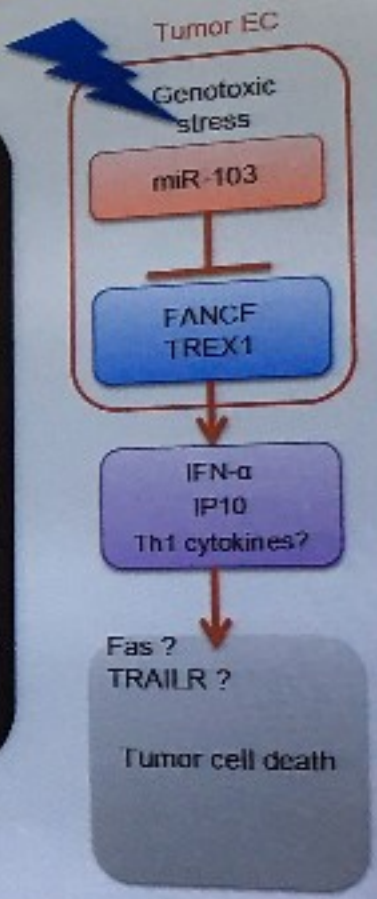
Wright et al. Front Oncol 2014

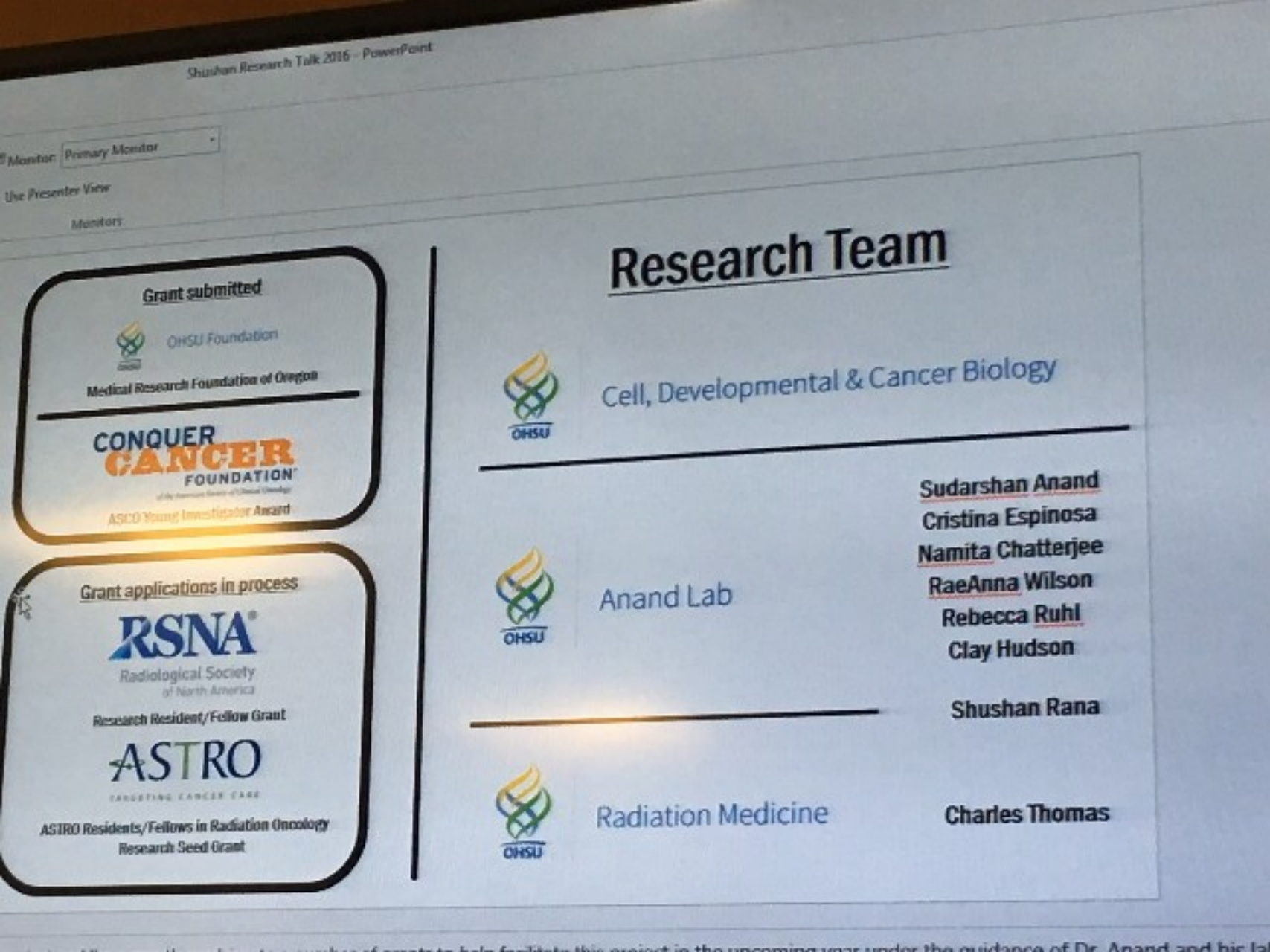


Rank	miR
1	hsa-miR-103
2	hsa-miR-99b
3	hsa-miR-21
4	hsa-miR-494
5	hsa let-7a
6	hsa-miR-224
7	hsa-miR-92a

Anand Lab 2014

Wilson...Anand. Nature Comm 2016




Shushan Research Talk 2016 - PowerPoint
Monitor: Primary Monitor
Use Presenter View
Monitors
Grant submitted
OHSU Foundation
Medical Research Foundation of Oregon
CONQUER CANCER FOUNDATION
ASCO Young Investigator Award
Grant applications in process
RSNA
Radiological Society of North America
Research Resident/Fellow Grant
ASTRO
ASTRO Residents/Fellows in Radiation Oncology Research Seed Grant
Research Team
Cell, Developmental & Cancer Biology
OHSU
Anand Lab
Sudarshan Anand
Cristina Espinosa
Namita Chatterjee
RaeAnna Wilson
Rebecca Ruhl
Clay Hudson
Shushan Rana
Radiation Medicine
Charles Thomas

Enhanced delivery of antisense oligonucleotides into cancer cells using sublethal dose of radiation to silence MGMT

NAME	:Prakash Ambady, M.D.
DEPARTMENT	:Neurology, :Blood brain barrier & Neuro-Oncology program, OHSU
TITLE	:Assistant Professor
DEGREE, INSTITUTION AND YEAR	:MBBS, Pondicherry University, 2003
SPECIALTY TRAINING	:Neurology; Drexel University College of Medicine,2012 :Neuro-Oncology; Johns Hopkins University, 2013 National Institutes of Health, 2014
CURRENT AREAS OF EXPERTISE	: Neuro-Oncology

Applications of Inorganic Nanoparticles in Radiation Medicine

October 1st, 2016

10th Annual Research Retreat Department of Radiation Medicine

Anna Brown, Post Doctoral Scholar
Ph.D. Portland State University 2013

PI: Conroy Sun, Assistant Professor

Oregon State University/Oregon Health and Science University
College of Pharmacy

Future Directions

- **Biological clearance metal nanoparticles**
- Radiation dose enhancement effects
- Radiation responsive materials
- Spectral Molecular Imaging (SMI) contrast agents

Fellowships applied for:

PhRMA (DSPE-PEG biocomatability)

Burroughs Wellcome Fund (heavy metal nanoparticles)

Manuscripts: Anna Brown, Marc Kai, Allison DuRoss, Conroy Sun

Synthesis and biocompatibility of DSPE-PEG micellular platinum nanoparticles *in preparation*

Oregon State University OSU College of Pharmacy

OHSU OREGON HEALTH & SCIENCE UNIVERSITY

Precision Oncology
A Road Map, In Brief…

Annual Research Retreat (10/1/16)

Reid F. Thompson

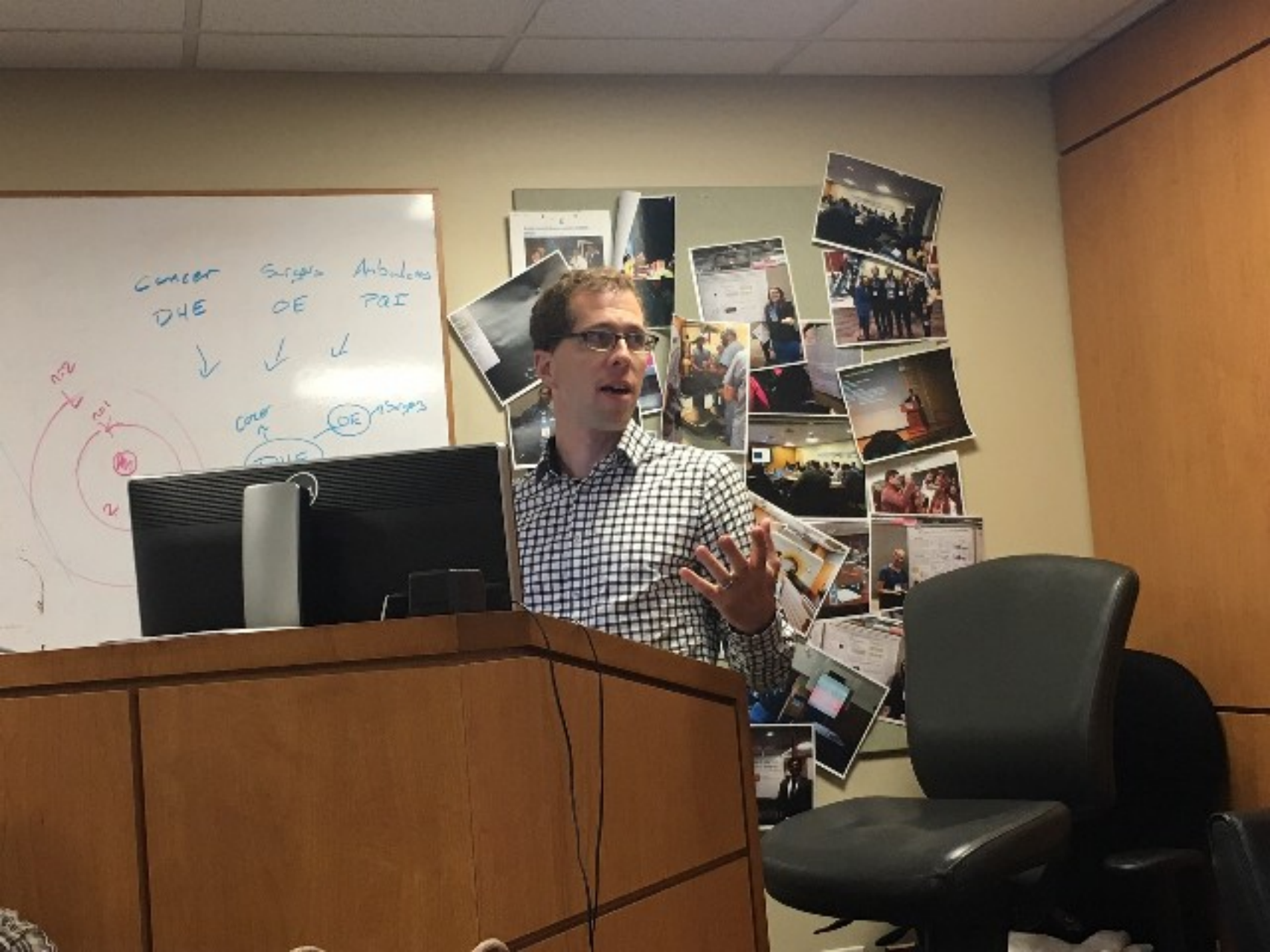
(MD PhD @ Einstein, 2011; RadOnc residency @ Penn 2016)

Oregon Health & Science University / Portland VA Medical Center

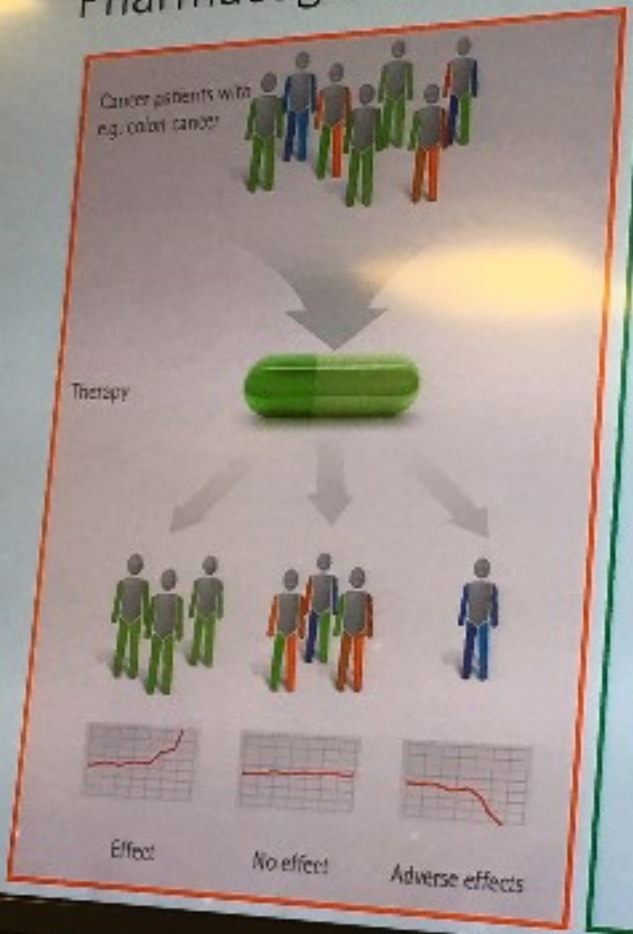
Assistant Professor

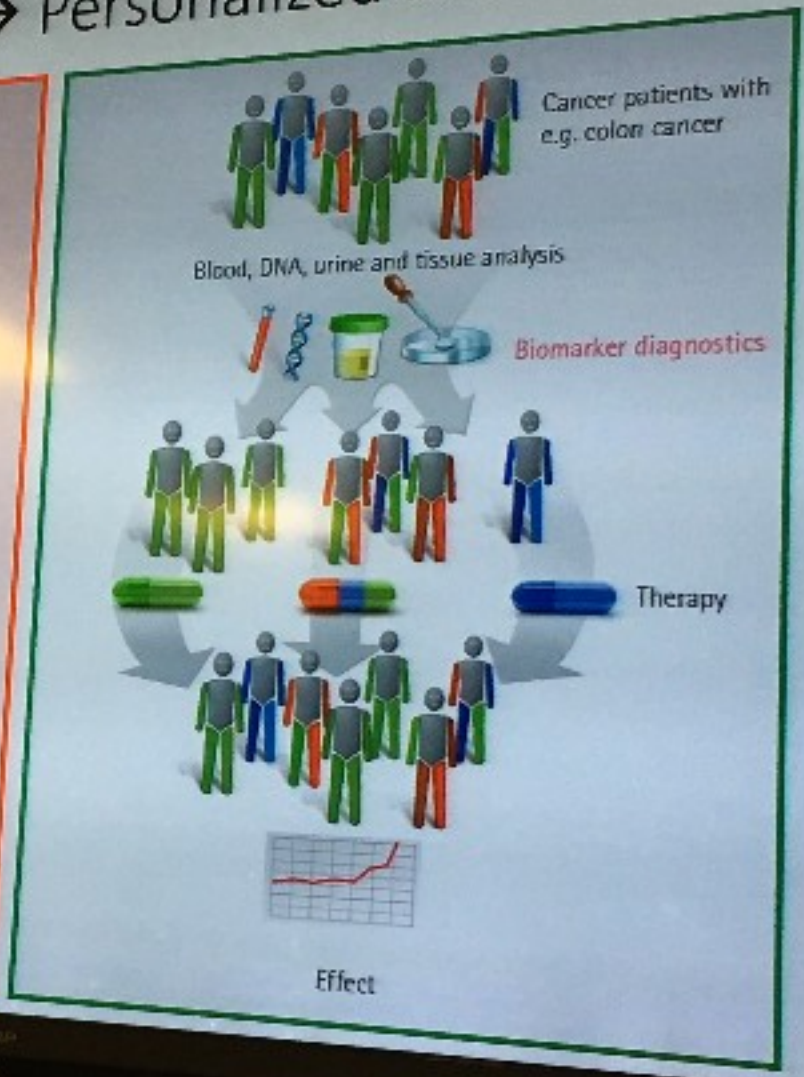
Dept. of Radiation Medicine, Computational Biology


Cancer
DHE
Surgery
OE
Ambulatory
PAI


Cancer
DHE
Surgery
OE
Ambulatory
PAI

Pharmacogenomics → Personalized Medicine





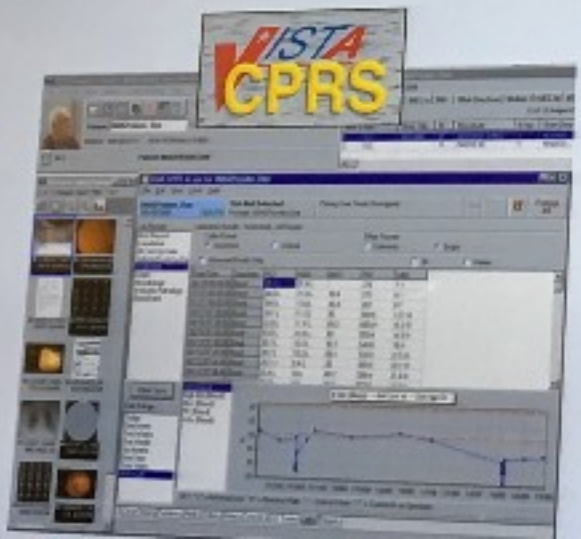
Opportunities @ the VA

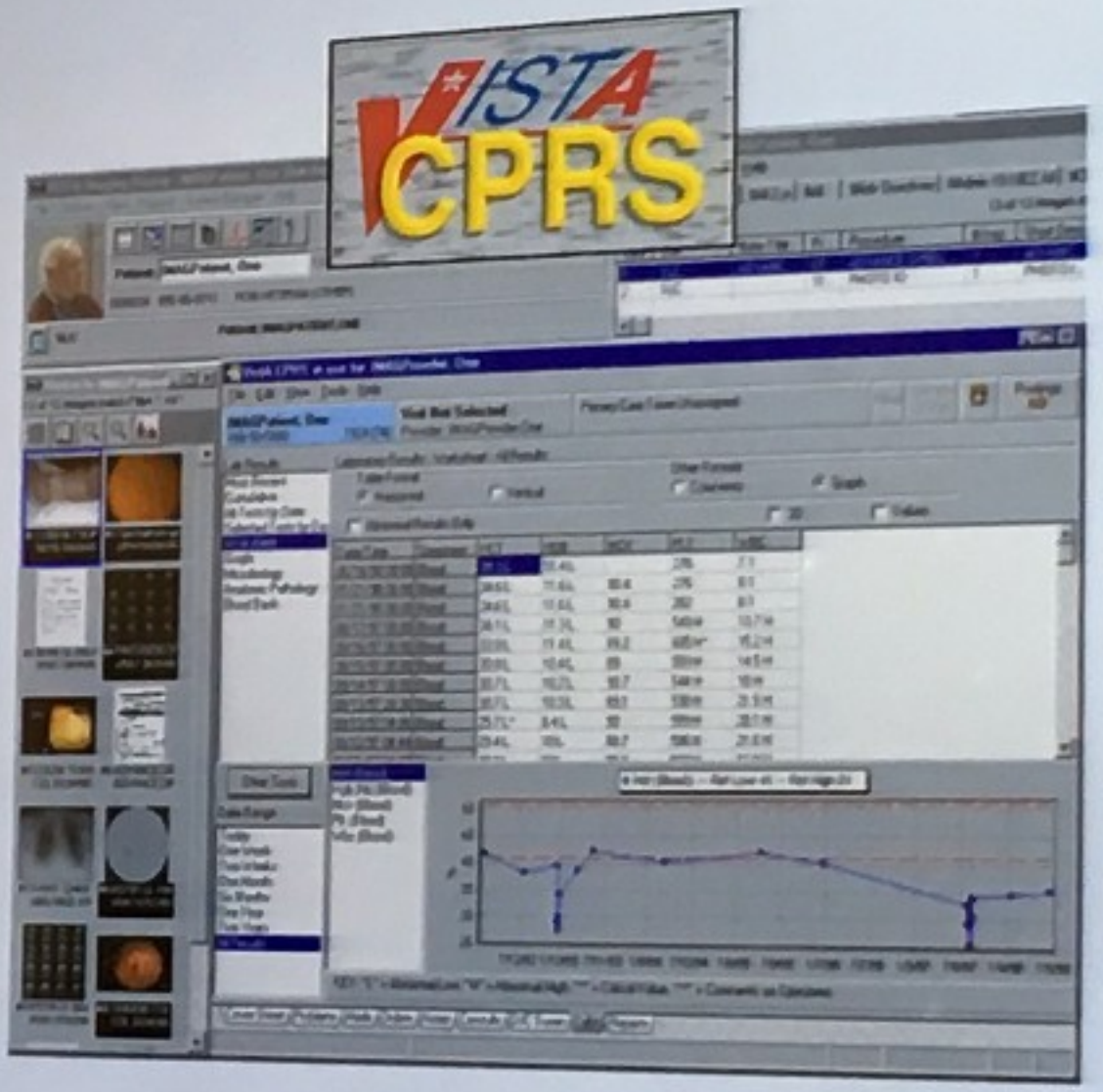
Enormous, integrated clinical database

- >8 million veterans
- >150 hospitals, ~1000 clinics
- >20 years of EMR data
- Comprehensive health information
  - Labs, imaging, medications, procedures, diagnoses, observations/outcomes

Million Veterans Program (MVP)

- Massive biorepository
- Genome-scale genetic data
- Extensive phenotypic data
  - VistA
  - Questionnaires (e.g. lifestyle)
- Re-contact potential (follow-up)




VISTA
CPRS

VA

Million Veterans Program (MVP)

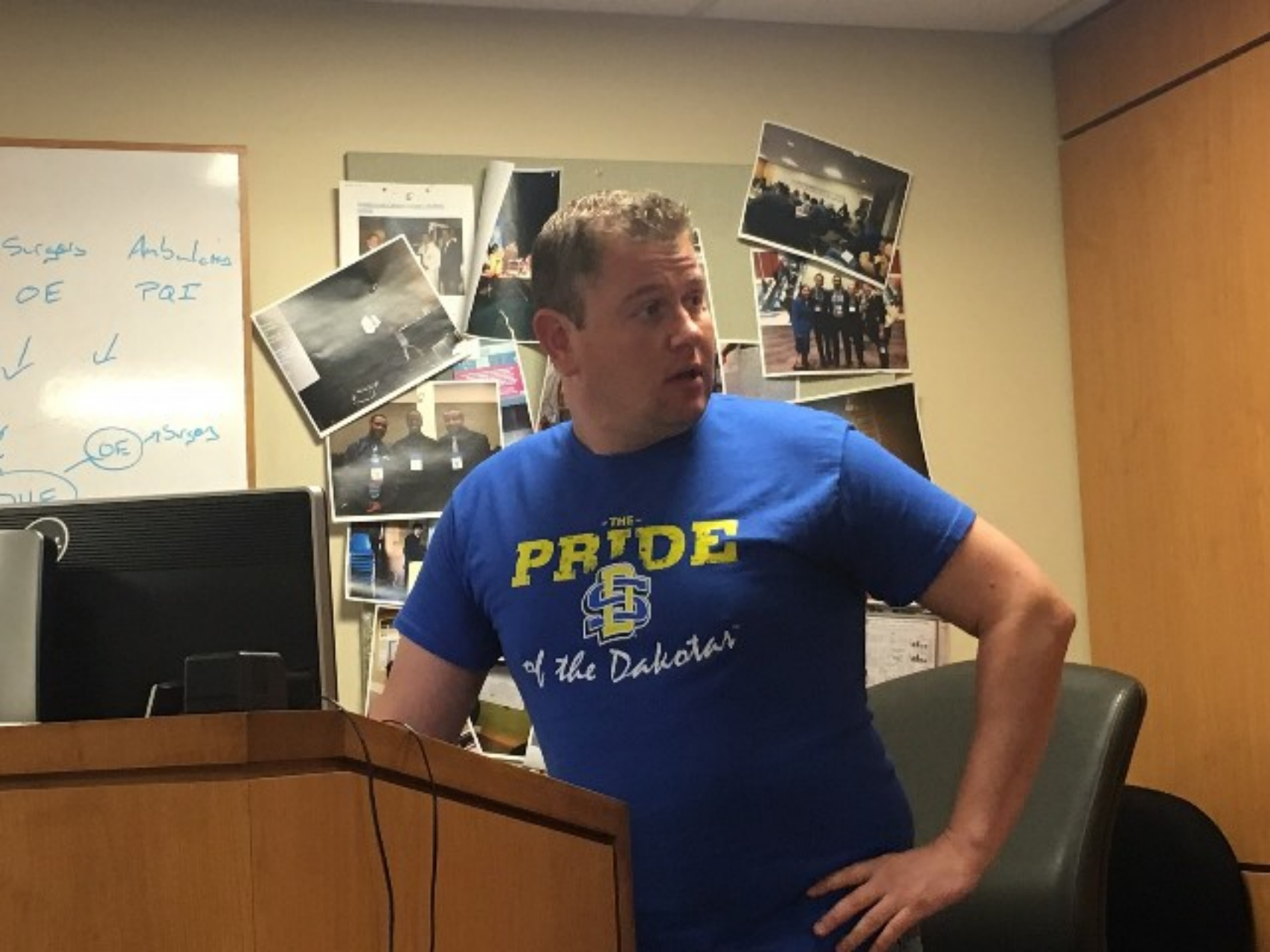
- Massive biorepository
- Genome-scale genetic data
- Extensive phenotypic data
  - VistA
  - Questionnaires (e.g. lifestyle)

Re-contact potential (follow-up)

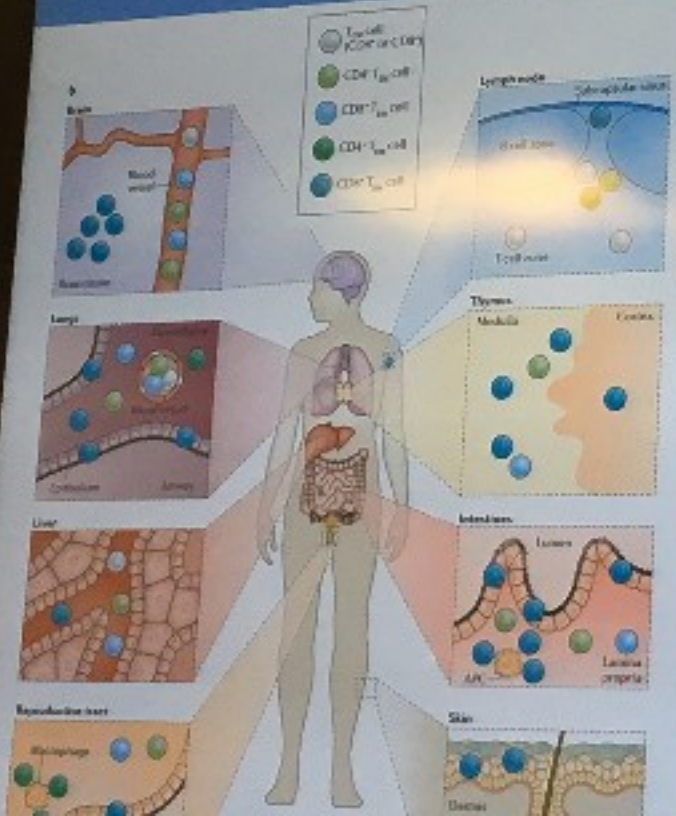
Local Antigen in Non-Lymphoid Tissue Promotes Resident Memory CD8^{+} T cell Formation During Viral Infection

Jeff Nolz

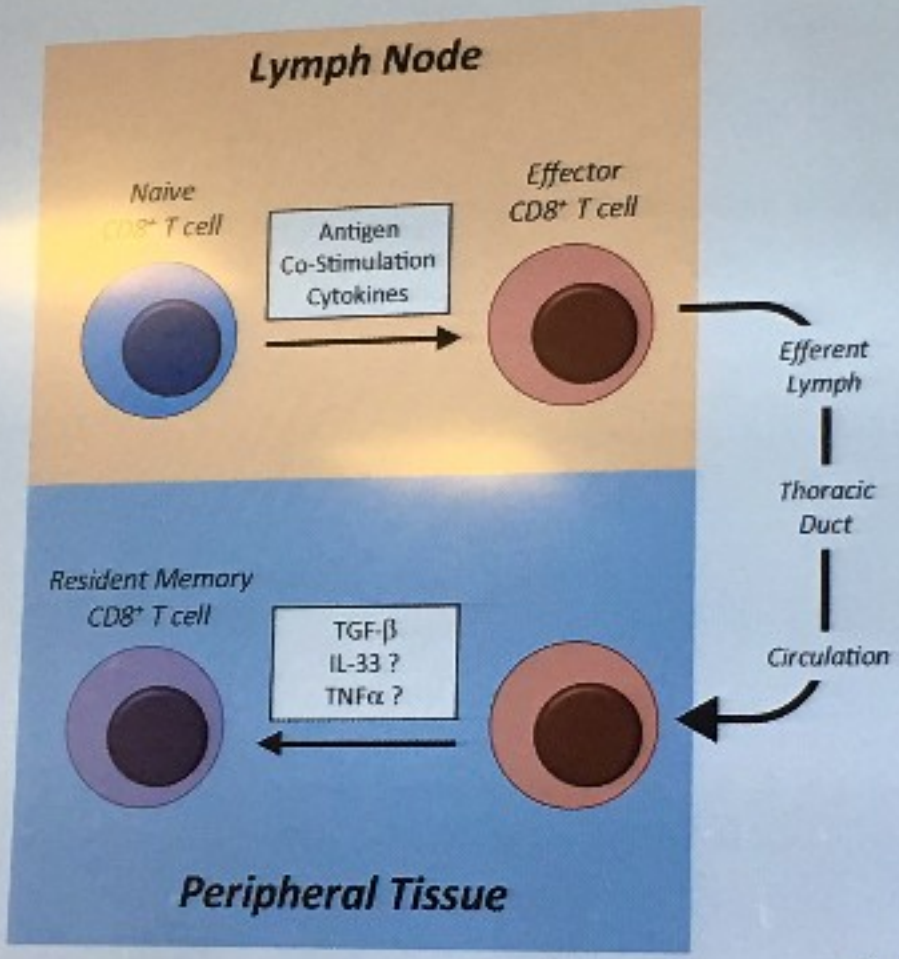
Department of Molecular Microbiology and Immunology


Surgery
Ambulatory
OE
PQI
OE
Surgery
THE
PRIDE
of the Dakotas

Tissue-Resident Memory CD8$^+$ T cells



- Have been identified in a number of non-lymphoid tissues such as the skin, gut, lung, and female reproductive tract
- Do Not re-enter the circulation following the resolution of infection
- Provide robust protection against re-infection
- Vaccines, Host Defense, Atopic Dermatitis and Contact Hypersensitivity



Nolz, Cell Mol Life Sci, 2015

Acknowledgements

Neltz Lab

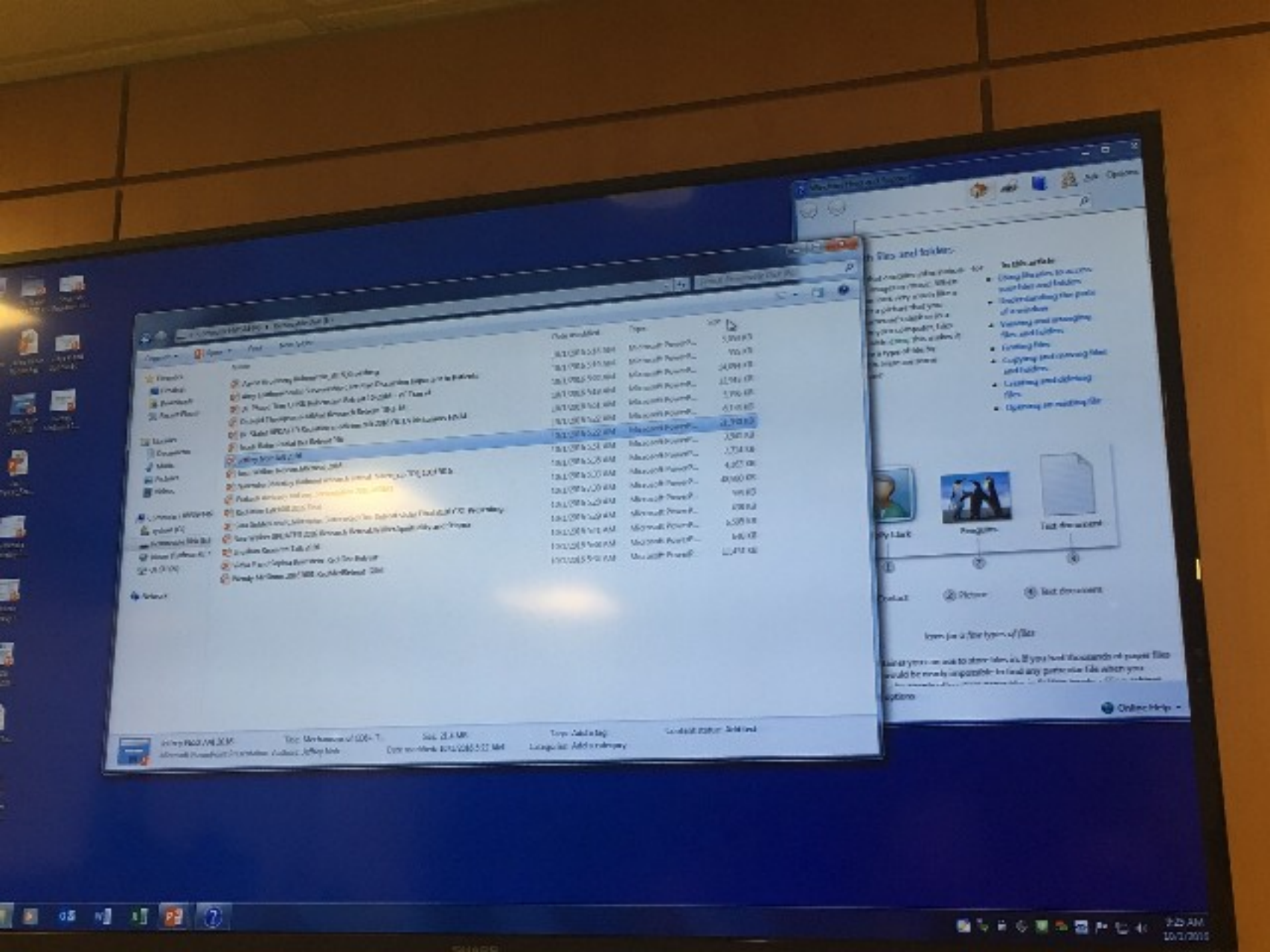
Present Members
Jana Mouster
Josef Osborn

Past Members
Tahsin Khan
Gus Kilgore

National Institutes of Health

Knight Cancer Institute
Oregon Health & Science University

Medical Research Foundation



tection of Novel Circulati umor Cell Populations in Cancer Patients

Vidya Perera

Bornstein Lab

Department of Radiation Medicine

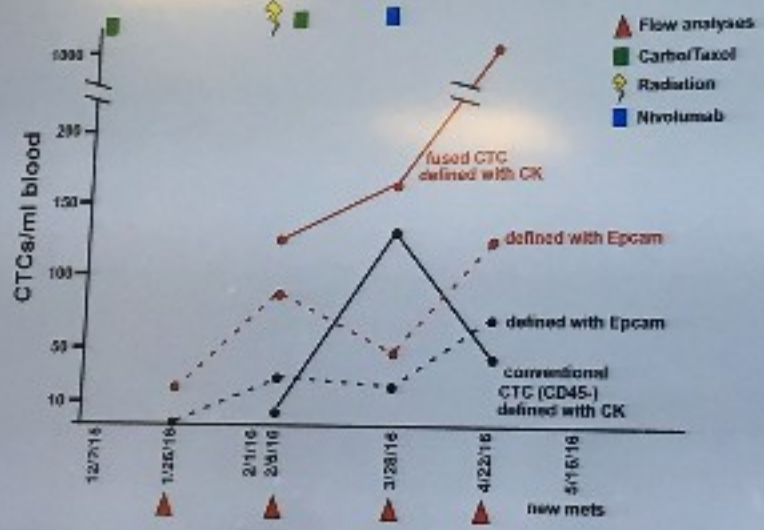
Portland State University 2015 (MSc)

Microbiology, Molecular Biology

Future Directions

- Correlate Number of CTCs (CD45+ and CD45-) with treatment outcome

Longitudinal study



Acknowledgments

Wong Lab

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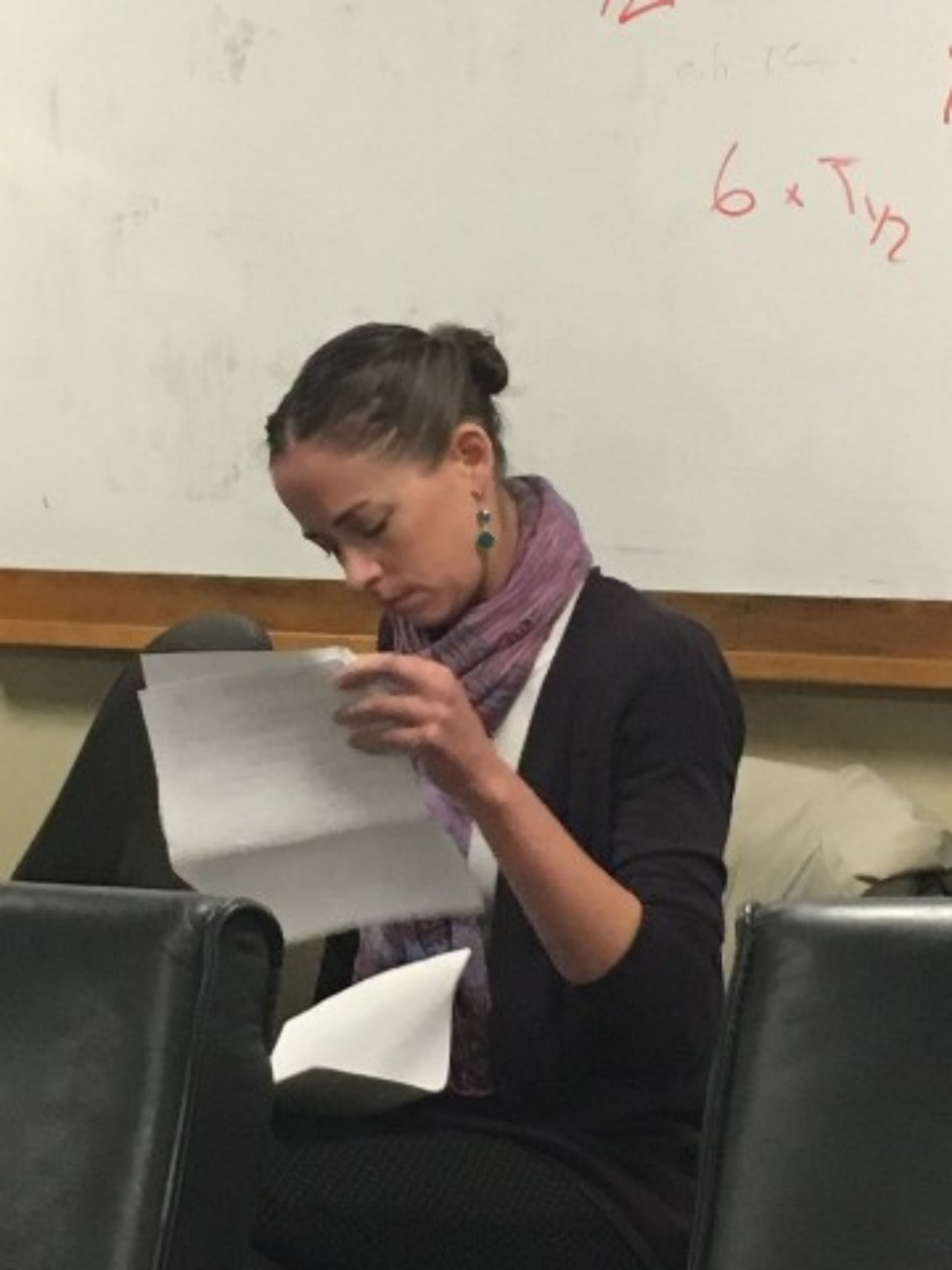
- Charlie Gast
- Laura Riegler
- Mark Schmidt
- Nick Smith
- John Swain
- Luai Zarour

Bornstein Lab

- Sophia Bornstein
- Joanna Filopoulos

Department of Radiation Medicine

- Dr. Charles R Thomas Jr
- Arthur Hung, MD
- Charlotte Kubicky MD PhD
- John Holland MD
- Jerry Jaboin MD PhD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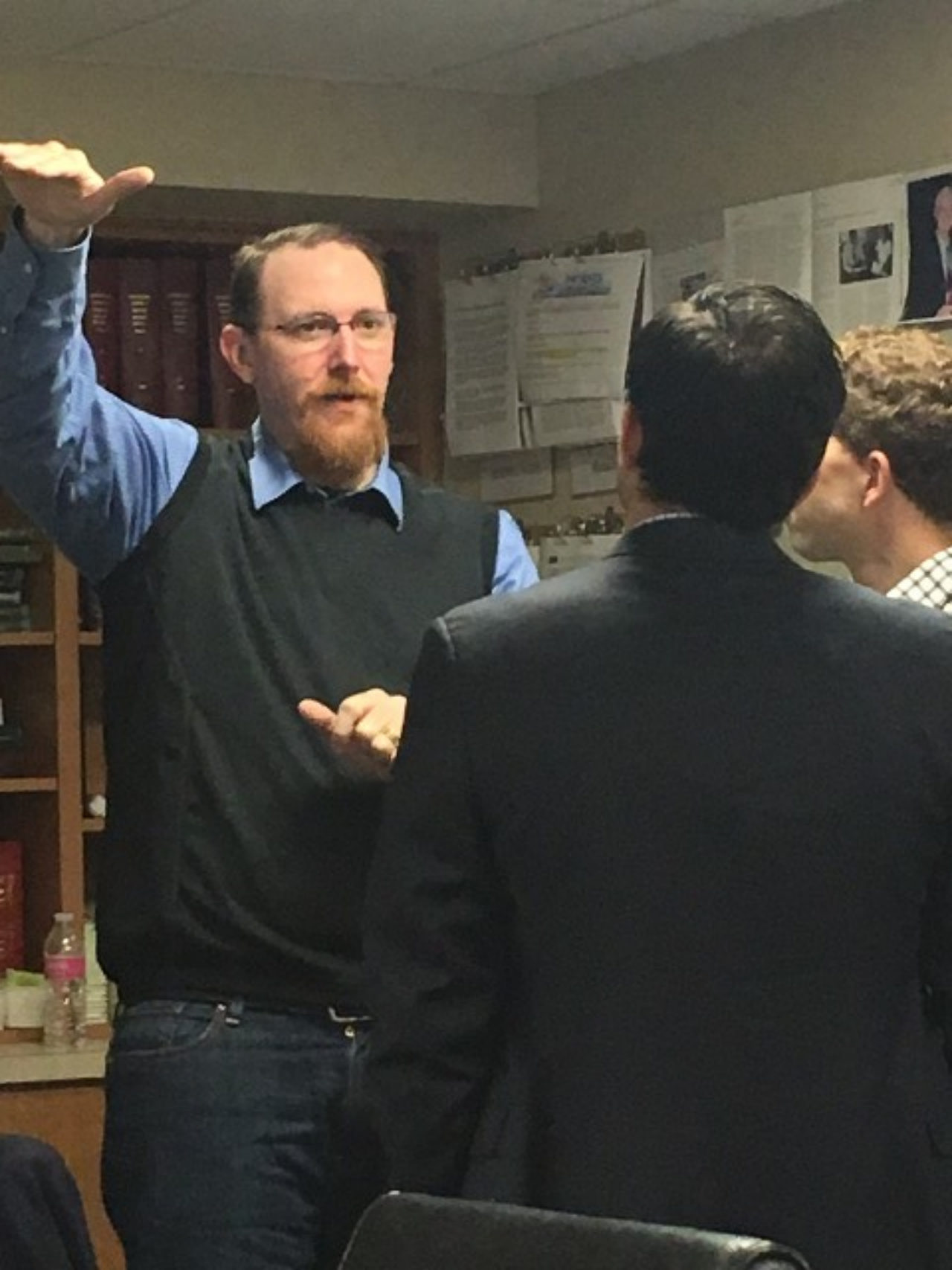
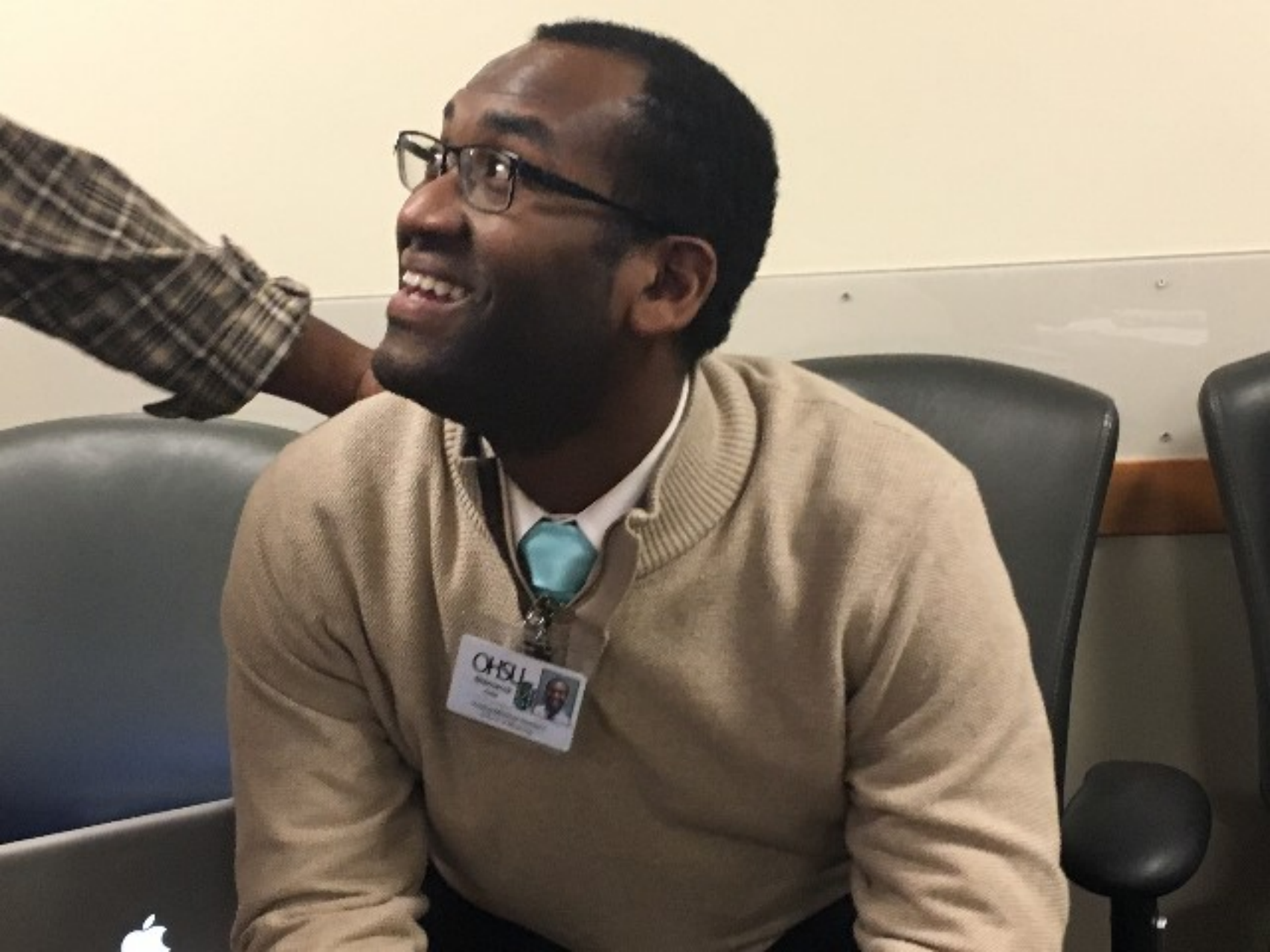
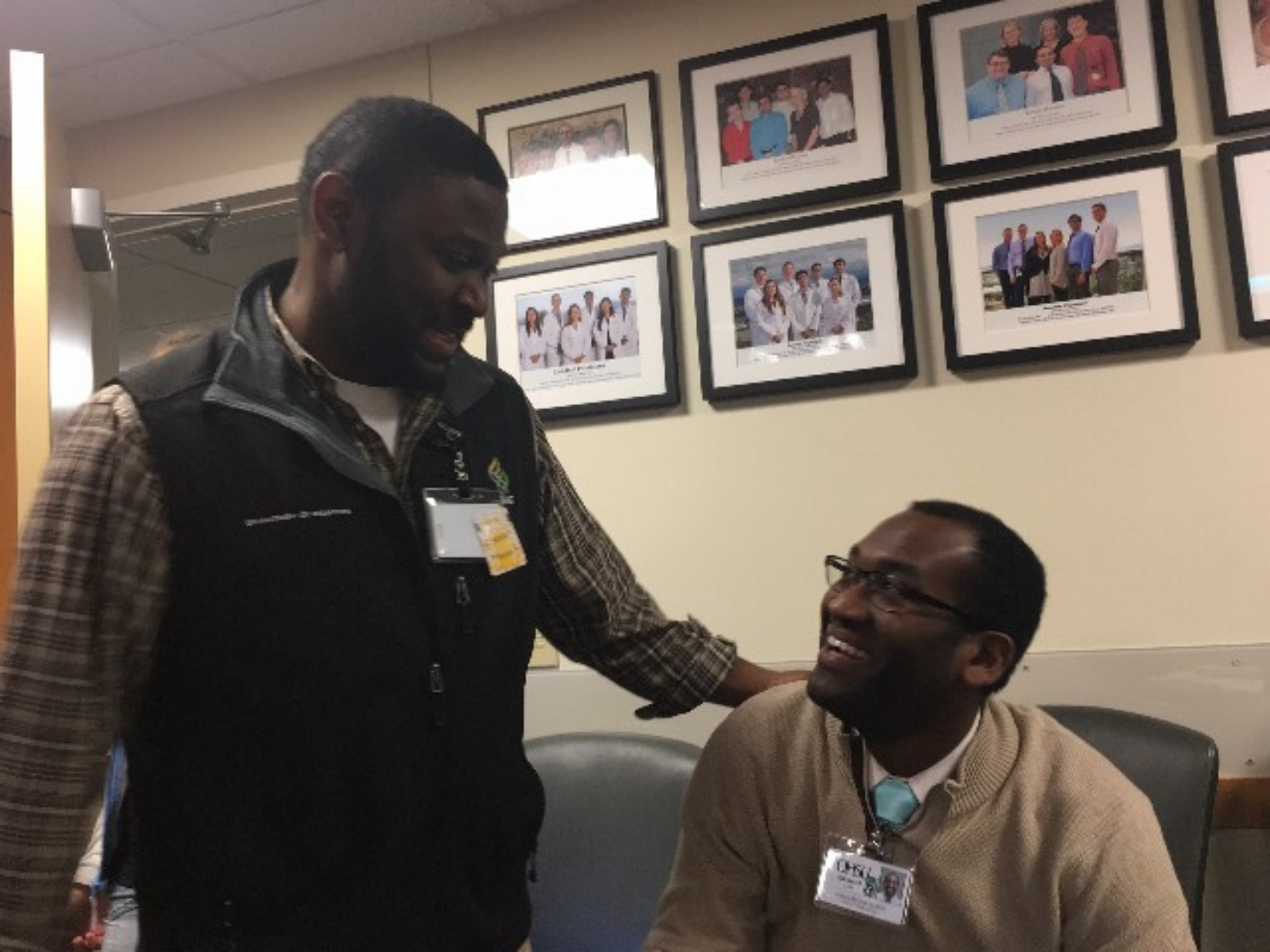
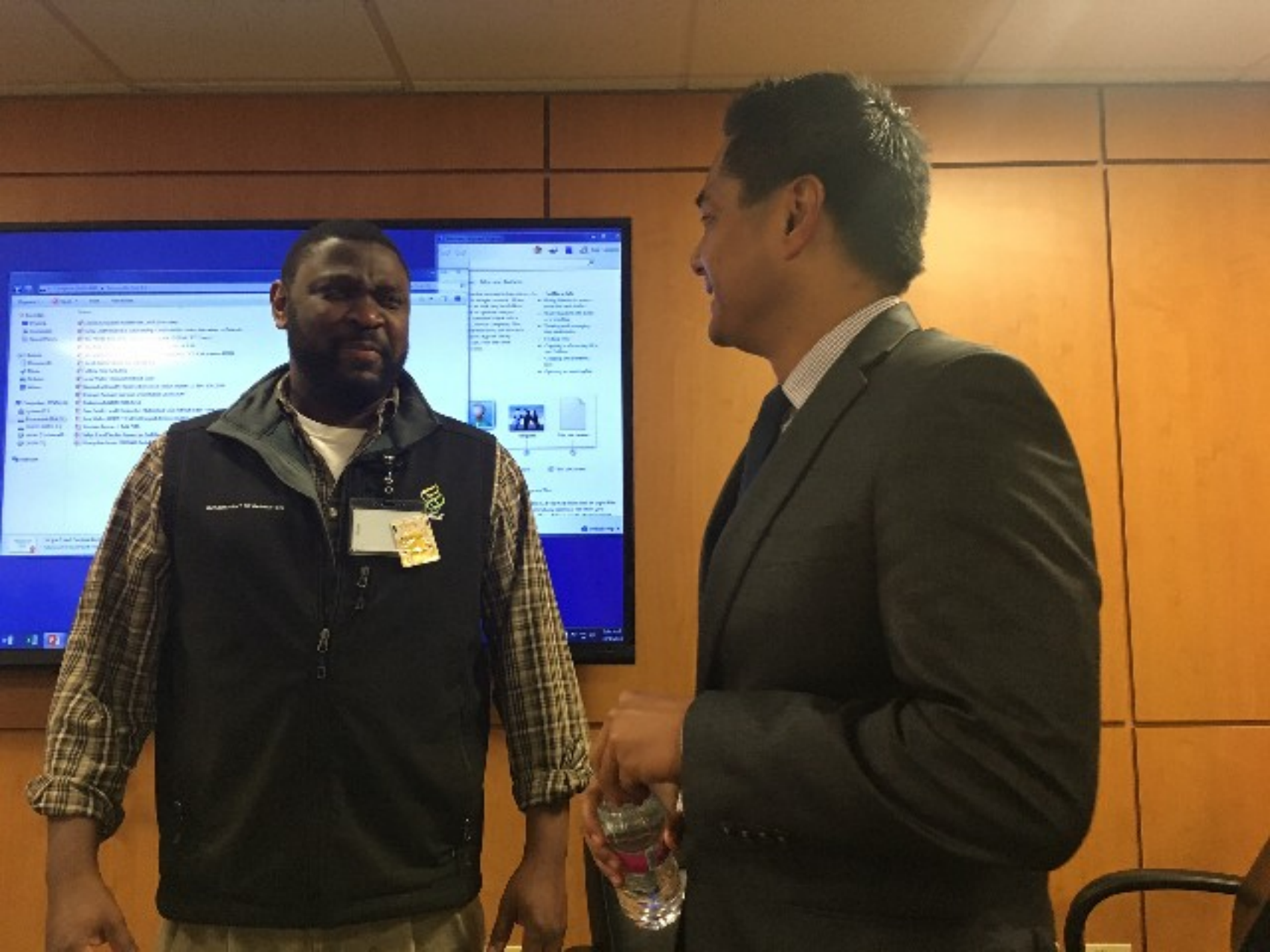



PEDIATRIC


OHSU



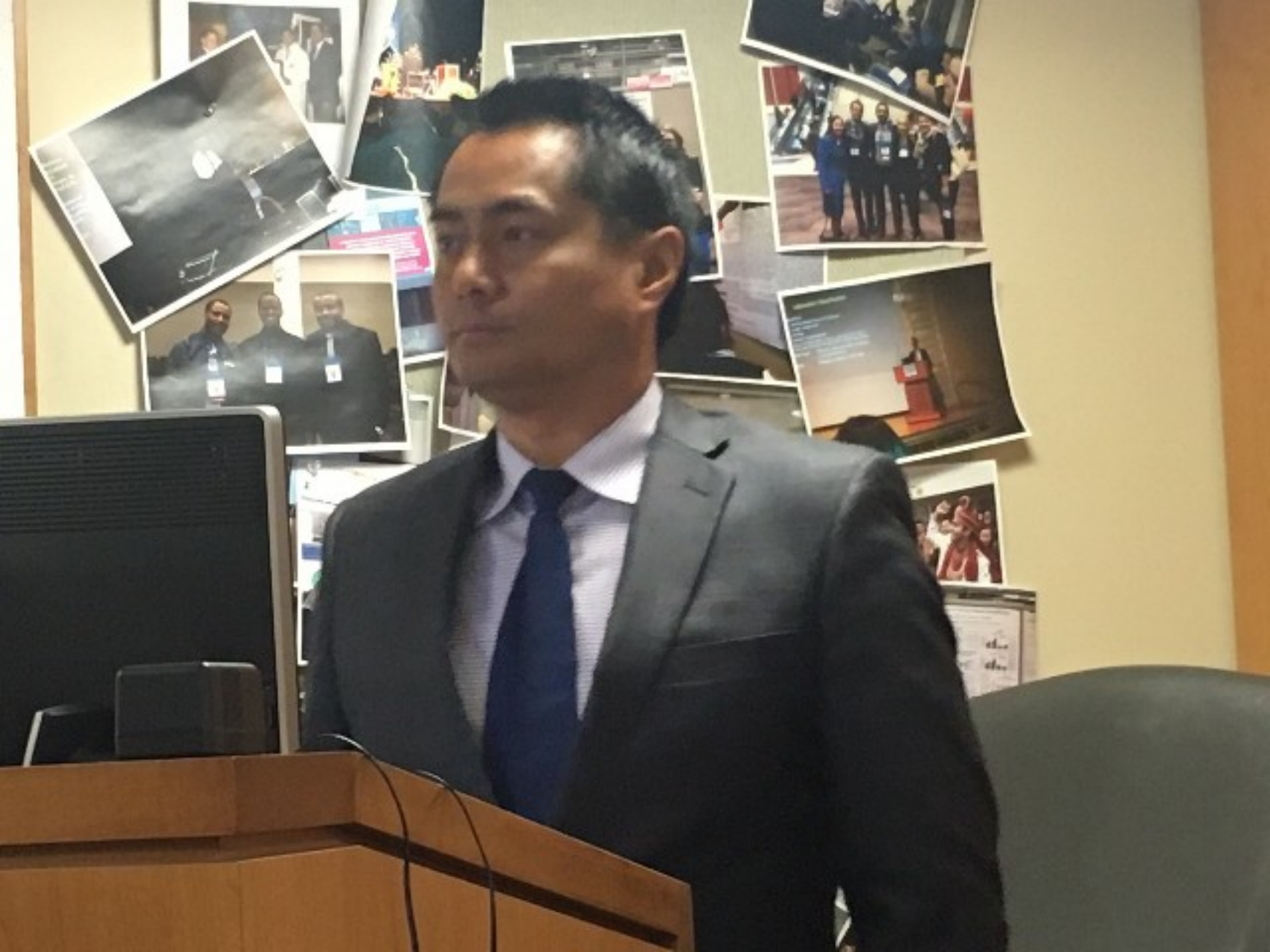


Genetically Engineered Mouse Models for Studying Radiation Biology

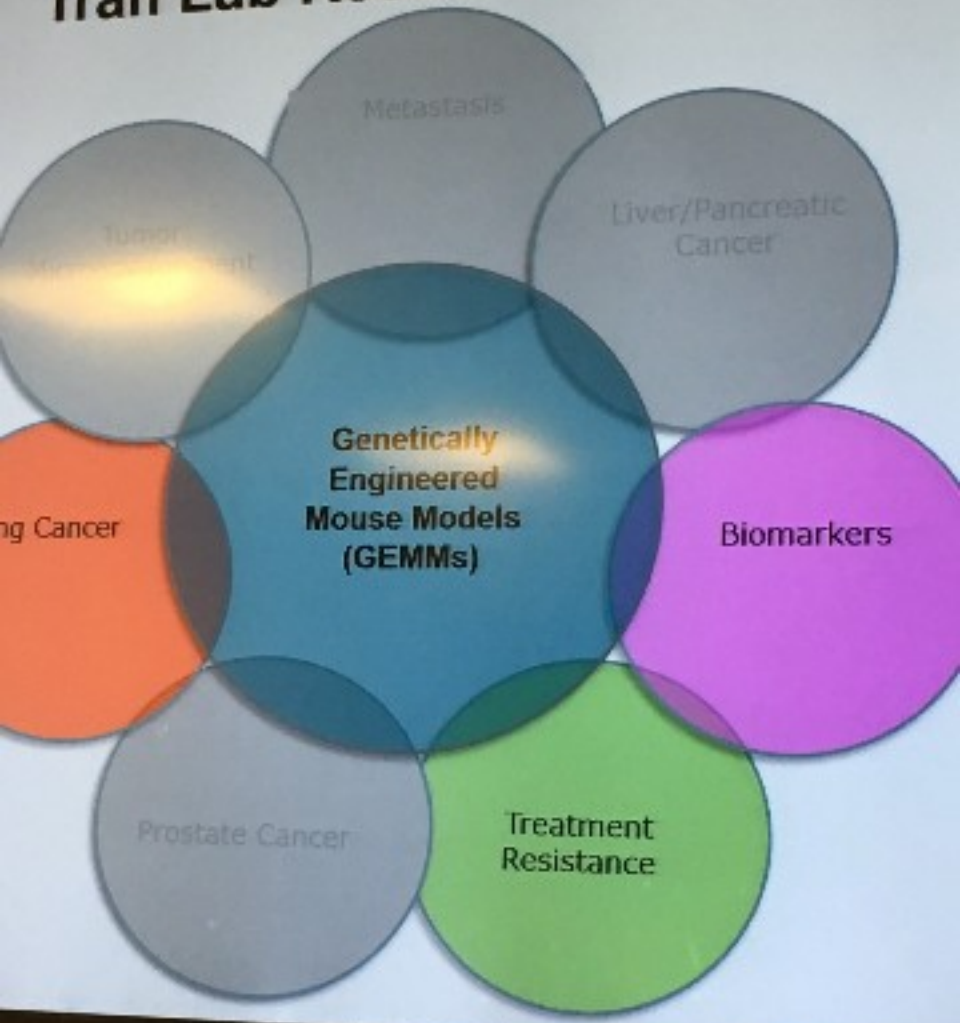
Phuoc T. Tran

October 1, 2016

JOHNS HOPKINS
MEDICINE
RADIATION ONCOLOGY &
MOLECULAR RADIATION SCIENCES



Tran Lab Research Program



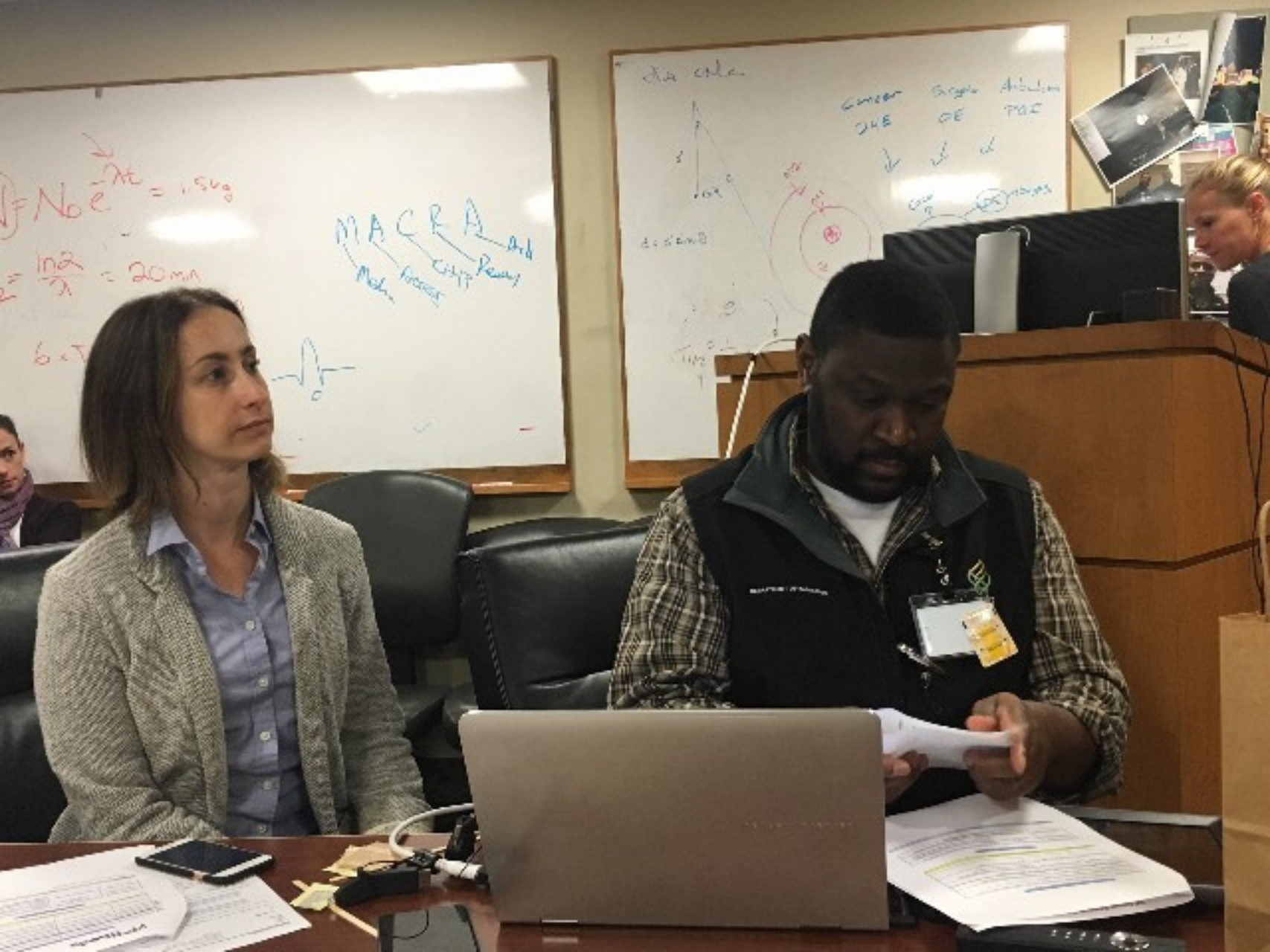

Results and Methods
KNIGHT CANCER INSTITUTE

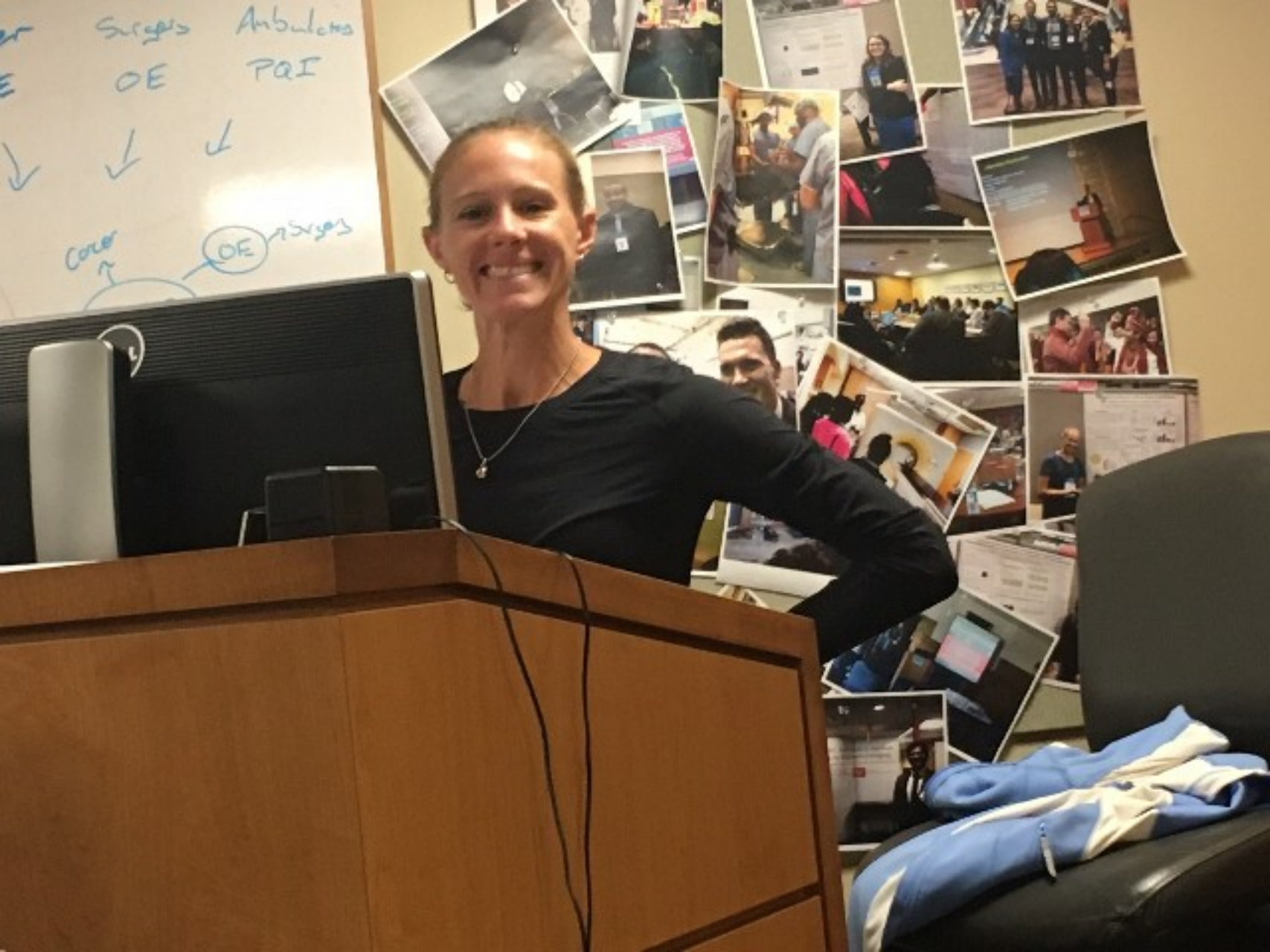
Christie Binder

Radiation Medicine

STUDY CONCEPT: Urine miRNA Biomarkers for HCC

MD, PhD, Tufts University, PGY-3

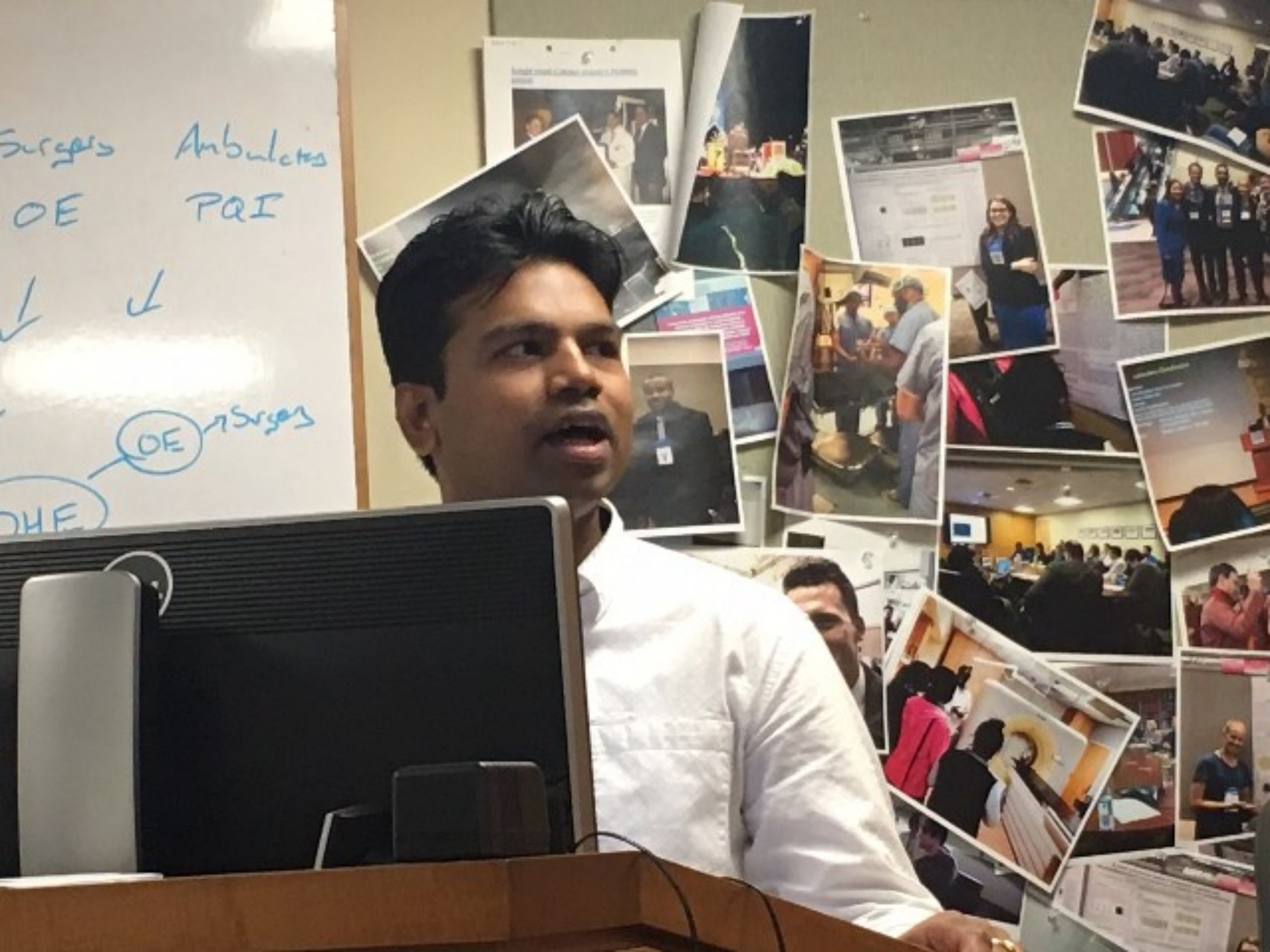



Surgeons
Ambulatory
OE
PQI
OE

Children's Cancer Therapy Development Institute

Checkpoint Adaptation in Rhabdomyosarcoma

NarendraBharathy
PhD, National University of Singapore, 2013
Specialty Training: Skeletal Muscle Biology
Current area of expertise: Pediatric Cancer Biology


Surgers
Ambulators
OE
PQI
OE
Surgers

Children's Cancer Therapy Development Institute

Checkpoint Adaptation in Rhabdomyosarcoma

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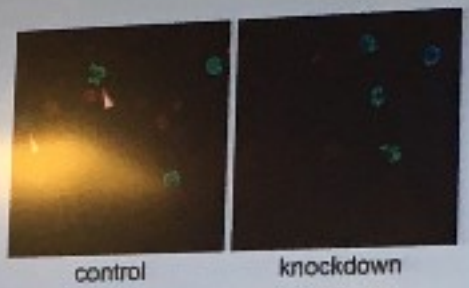
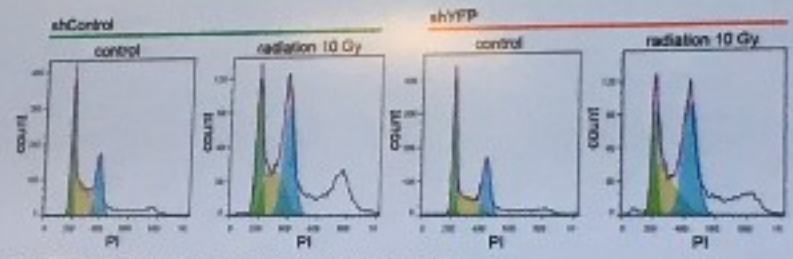
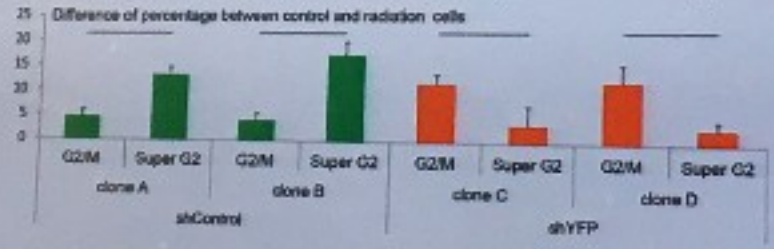
Pax3:Foxo1a facilitates G2/M checkpoint adaptation



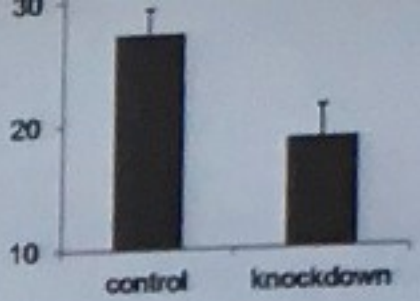


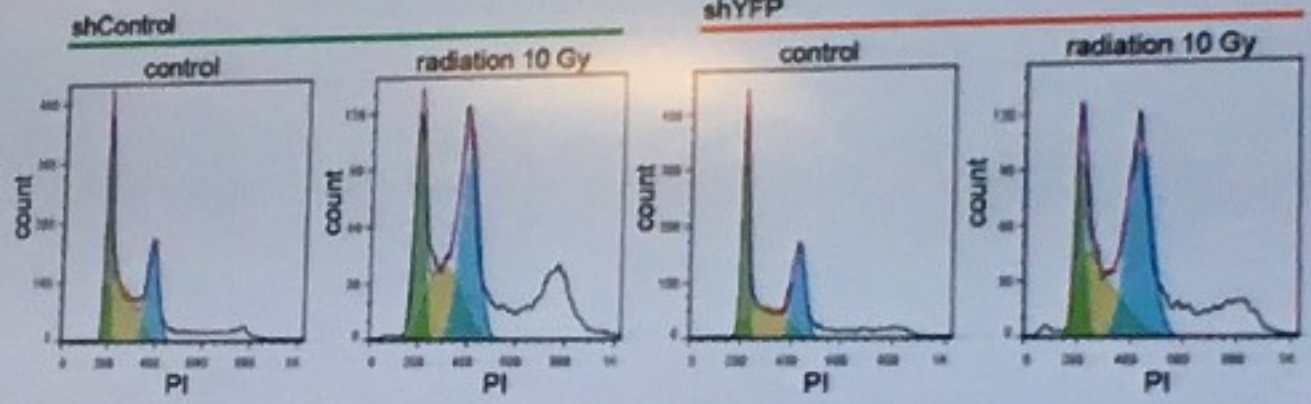


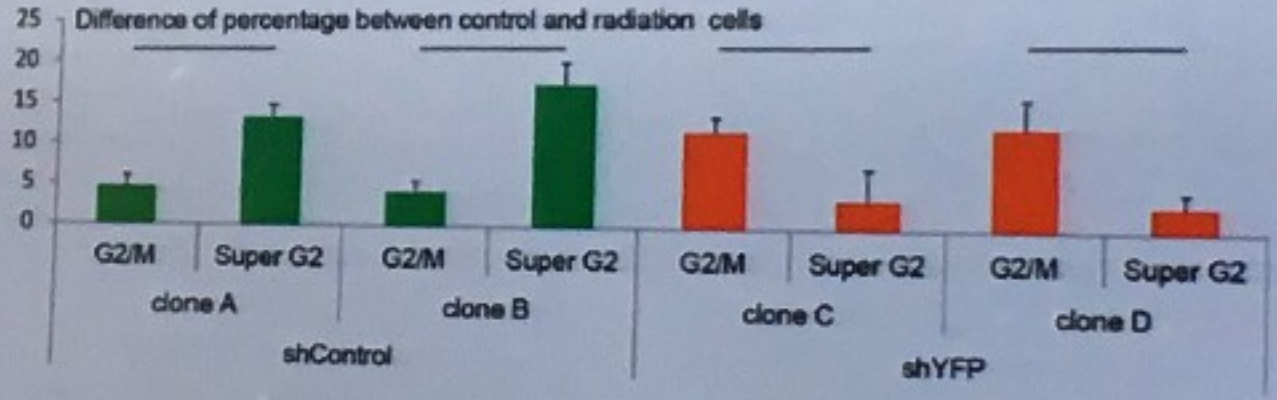
Cancer Therapy

Kikuchi *et al*, 2014

control knockdown







rapy

empowering phase II: avatar army

ENT 1, 2.5 or 5 mg/kg po QD
VCR .5, .75, or 1 mg/kg IP Q7D

RMS Model	Alias	Histology	Harvest site	Disease stage	Diagnosis	Age	Gender
CTG-1400	POS-14107	Alveolar	abdomen	IV	recurrent	14	male
CTG-1213	POS-13712	Embryonal	vagina	not available	first diagnosis	2	female
CTG-1116	POS-13166	Embryonal	neck	not available	first diagnosis	6	male
CTG-1419	POS-14094	mesenchymal	orbit	not available	recurrent	9	male
CTG-1528	POS-15168	not available	neck	not available	recurrent	7	male
CTG-0800	POS-10074	Pleiomorphic	hip	IV	first diagnosis	38	male
CTG-0329	POS-10009	Pleiomorphic	lung	III	first diagnosis	47	male

Children's Cancer Therapy Development Institute

Prognostic implications of skeletal muscle mass depletion in head and neck cancer

Aaron Grossberg, MD, PhD
Resident Physician, PGY-4
Department of Radiation Oncology
MD Anderson Cancer Center
Adjunct Research Instructor
Department of Radiation Medicine
Oregon Health & Science University

KNIGHT RESEARCH APP?: None
KNIGHT SHARED RESOURCES: None
DEGREE, INSTITUTION AND YEAR: MD, PhD OHSU 2013
SPECIALTY TRAINING: Radiation Oncology
CURRENT AREAS OF EXPERTISE: Cachexia, Sarcopenia, Fatigue, Neuroinflammation

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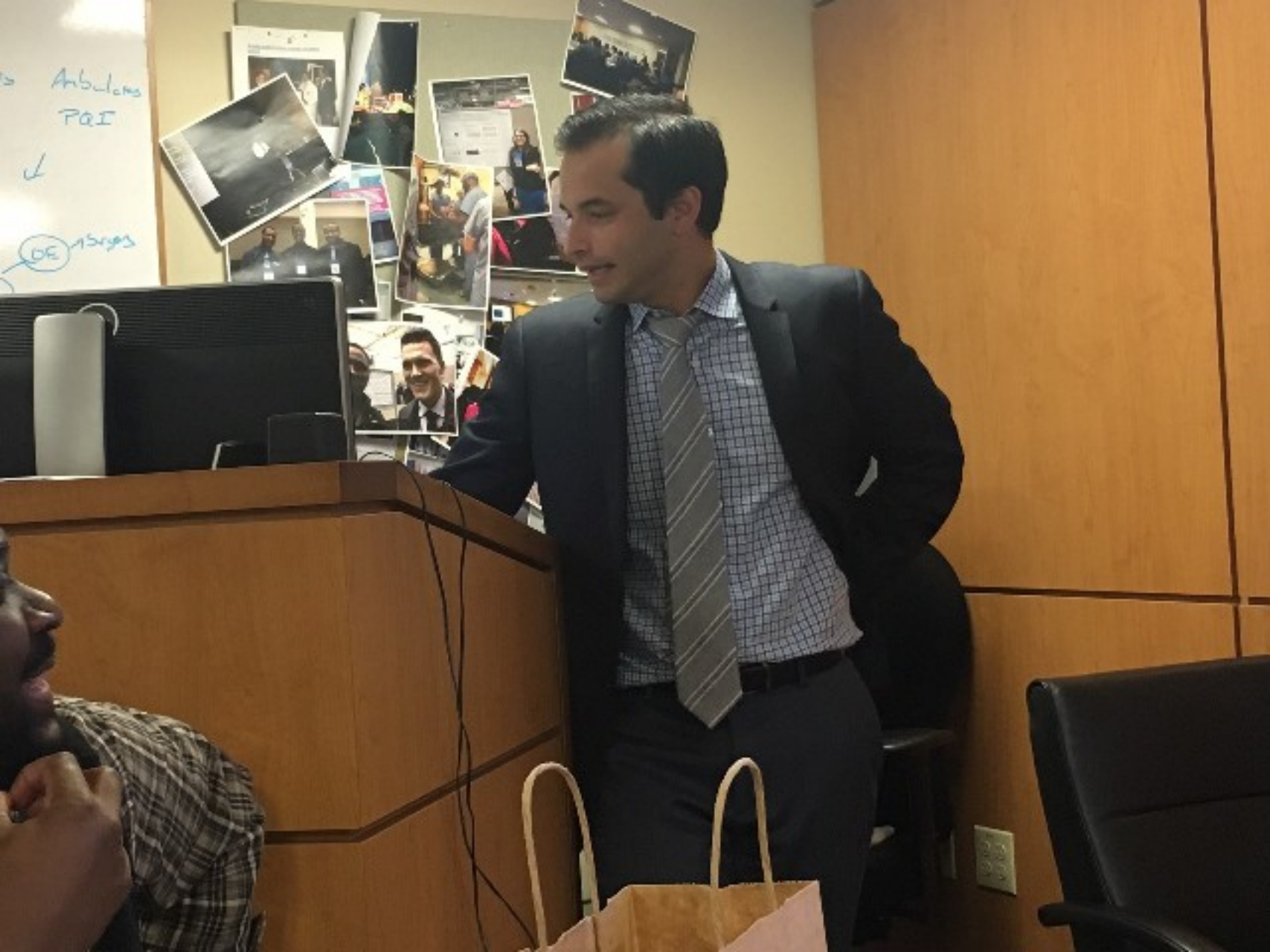
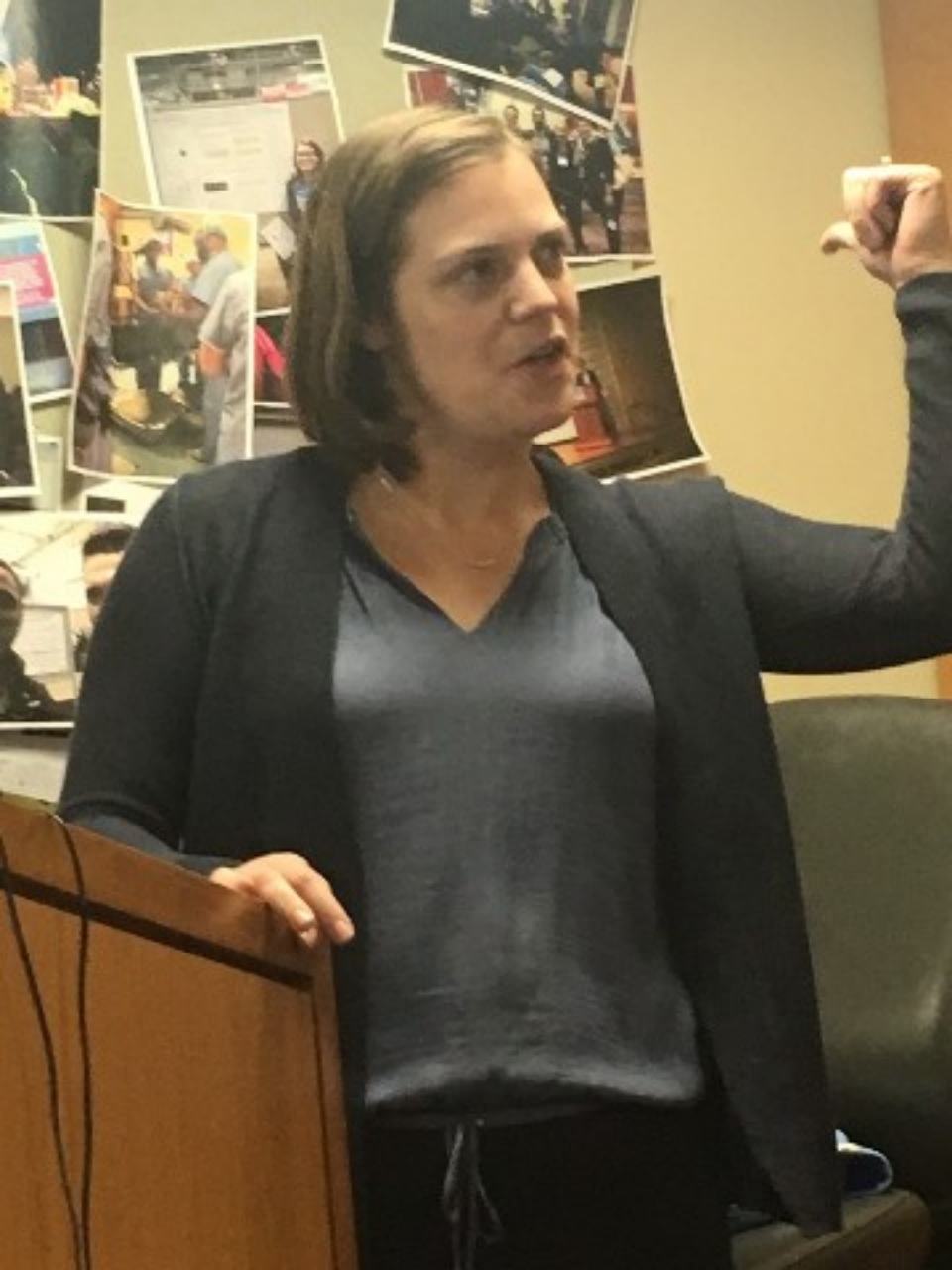


Optical Coherence Tomography Angiography (OCTA) for eyes with intraocular tumors

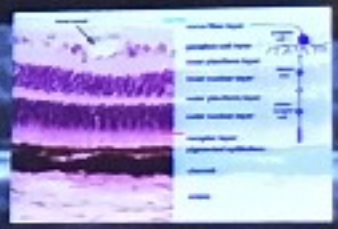
Alison H. Skalet, MD PhD
Assistant Professor of Ophthalmology
Adjunct Assistant Professor of Radiation Medicine

University of Pennsylvania School of Medicine, MSTP, 2006

Ocular oncology and pathology



Optical Coherence Tomography



Collaborators

- COOL Lab
  - David Huang, Yan Li, Yali Jia, Liang Liu
  - http://www.coollab.net
- Radiation medicine: Charles Thomas, Arthur Hung
- Ophthalmology: David Wilson

CREDITS AND FUNDING

Collaborating investigators:

Charles R. Thomas, Jr, MD

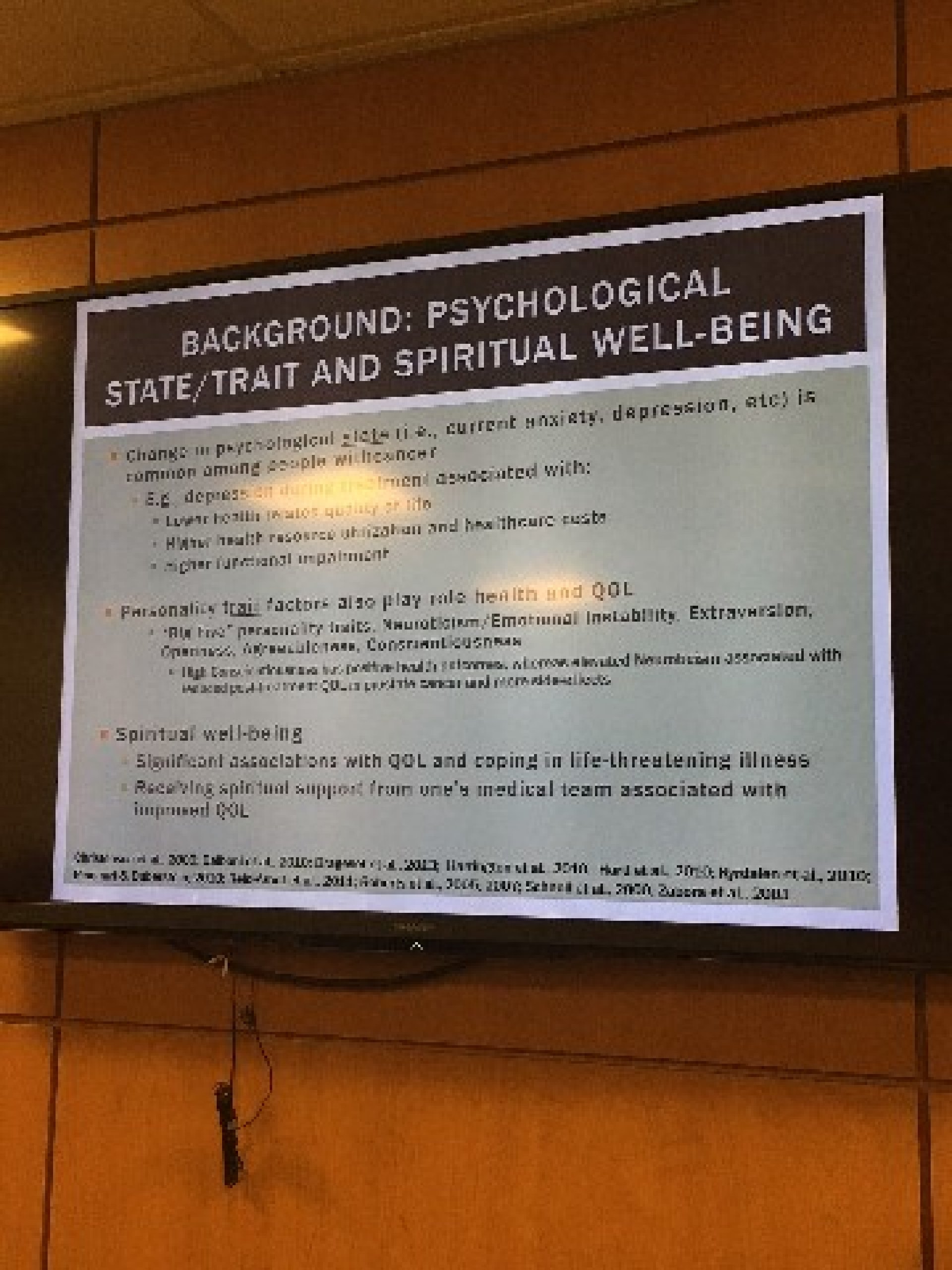
Sara J. Walker, PhD

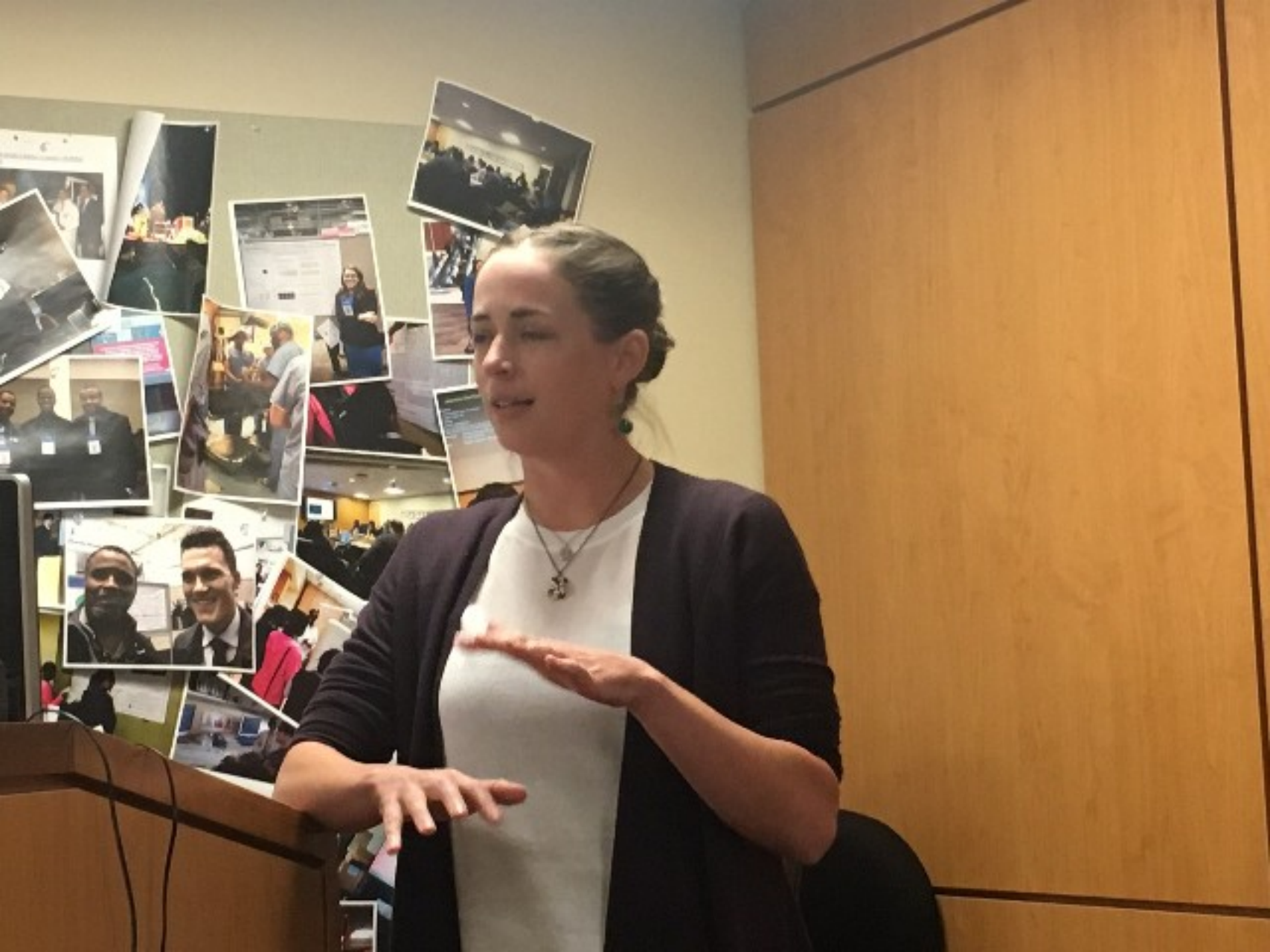
Funding:

Time and other resources for this project are funded by the OHSU Department of Radiation Medici

Resources:

1. NCI Website: http://www.cancer.gov/about-cancer/what-is-cancer/statistics
2. McCabe et al, 2013
3. Salz, McCabe, Onstad et al, 2013


BACKGROUND: PSYCHOLOGICAL STATE/TRAIT AND SPIRITUAL WELL-BEING
Change in psychological state (i.e., current anxiety, depression, etc) is common among people with cancer
Personality trait factors also play role health and QOL
Spiritual well-being
Significant associations with QOL and coping in life-threatening illness
Receiving spiritual support from one's medical team associated with improved QOL



CO-INVESTIGATORS AND ACKNOWLEDGEMENTS

- Study supported by Departments of Radiation Medicine and Psychiatry

- Charles Thomas, Jr., MD
  Professor & Chair, Department of Radiation Medicine
  OHSU Knight Cancer Institute

- Jeffrey Robinson, PhD
  Professor & Chair, Department of Communications
  Portland State University

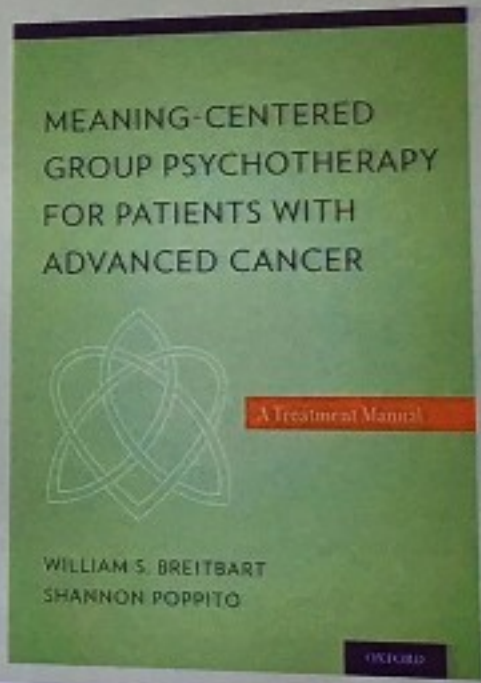
- Biostatistician: Yiyi Chen, PhD
  Assistant Professor, Department of Public Health Admin.
  OHSU Knight Cancer Institute

Acknowledgement and many thanks also to:

Jenn Lockhart	Scott Madsen	Alexis Fields
Jo Price	KJ Paik	Amy Leatherwood
Daphne Baracena	Carrie North	Feather Coates
Ramon Sison	Bonnie Luedloff	Sole Avila

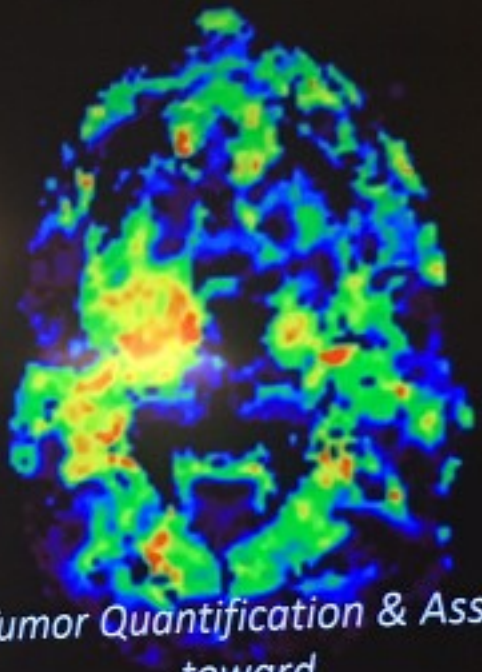
FUTURE DIRECTIONS

- Abstracts to be submitted for poster/presentation:
  - ASCO Cancer Survivorship Symposium, January 2017
- Manuscripts in preparation:
  - Pre-treatment state/trait associations with illness-related stigma
  - Role of pre-treatment depression and anxiety on post-treatment QOL
- Collaborations with survivorship investigations
  - Effect of premorbid PTSD on post-treatment service utilization and QOL
- Long-term goals:
  - Investigate/understand/address the role of cognitive functioning in QOL, treatment satisfaction, adherence
  - Investigate/understand/address the spiritual needs
  - PCORI mechanism, foundation funding



DSC

OHSU Retreat 2016



From Tumor Quantification & Assessment
toward
Minimization of Normal Tissue Injury

Clifton (Dave) Fuller, MD, PhD

Assistant Professor
Head & Neck Section

Assoc. Director,
MR Programmatic Development
Dept. of Radiation Oncology

THE UNIVERSITY OF TEXAS
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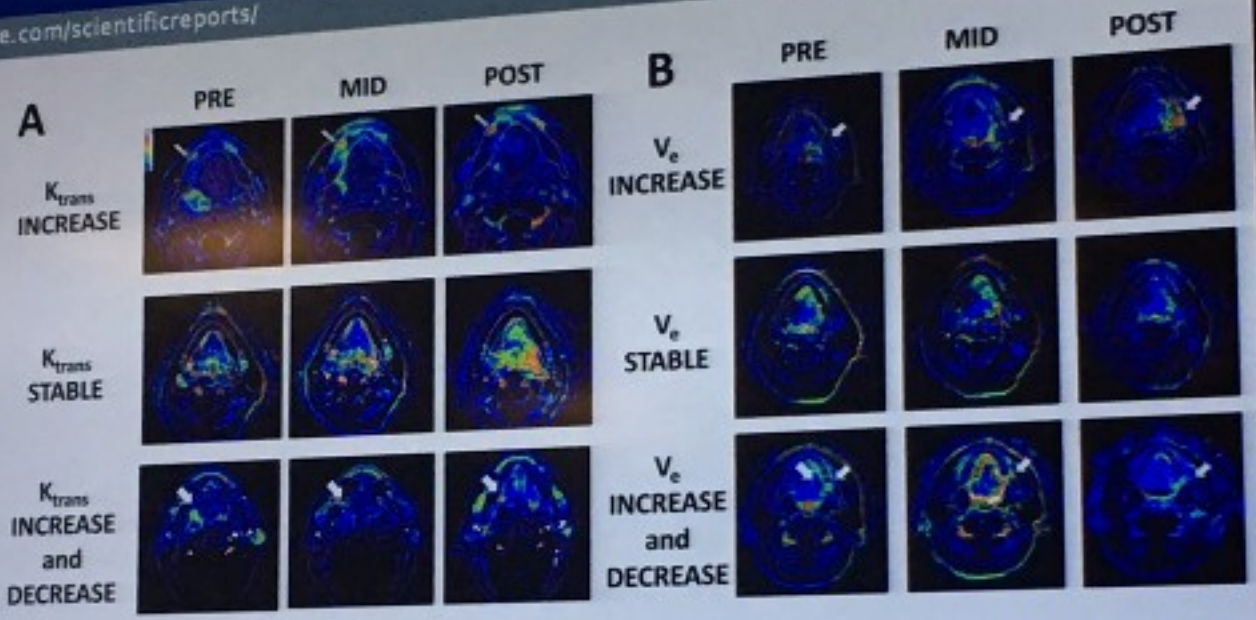
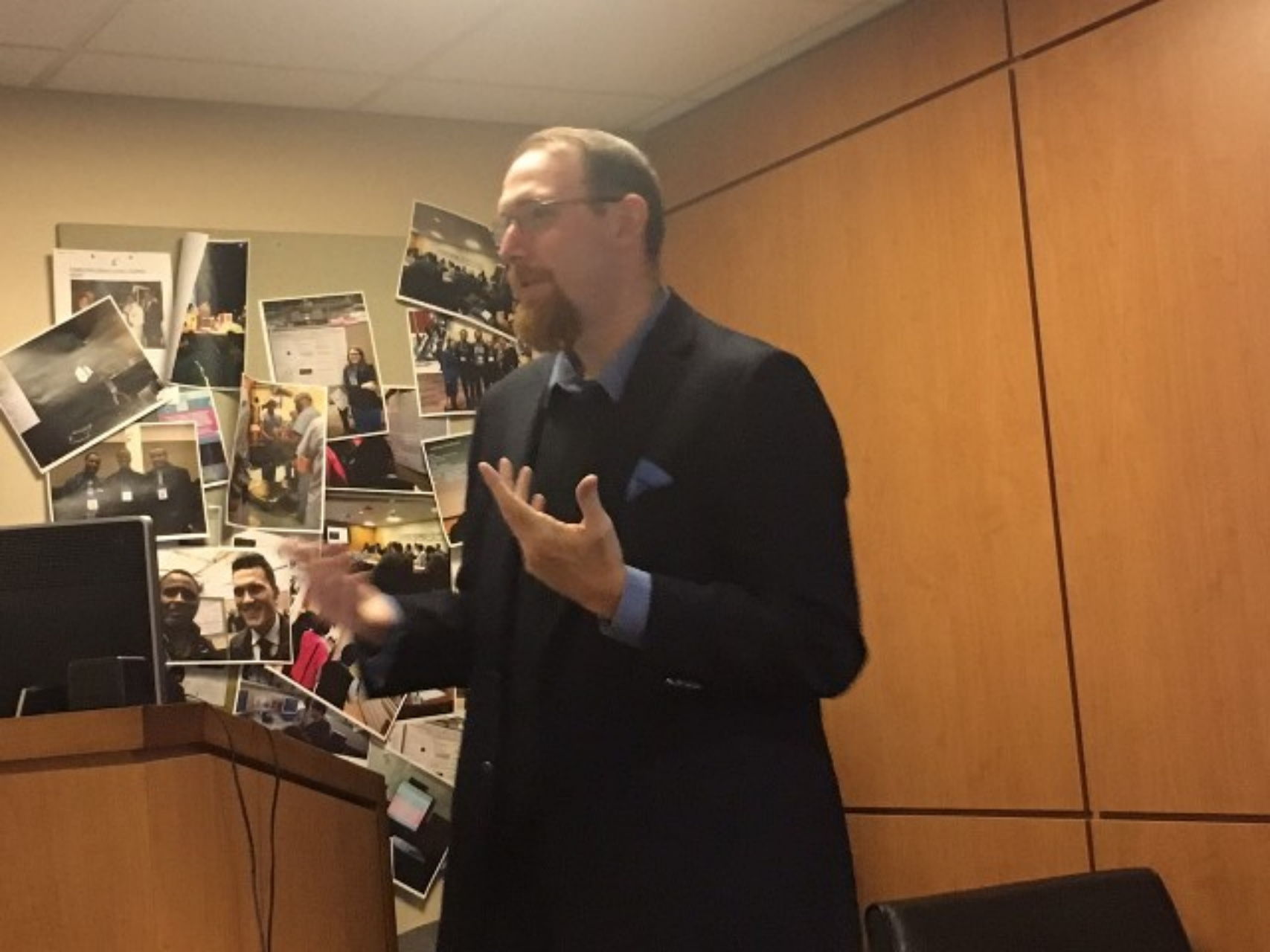
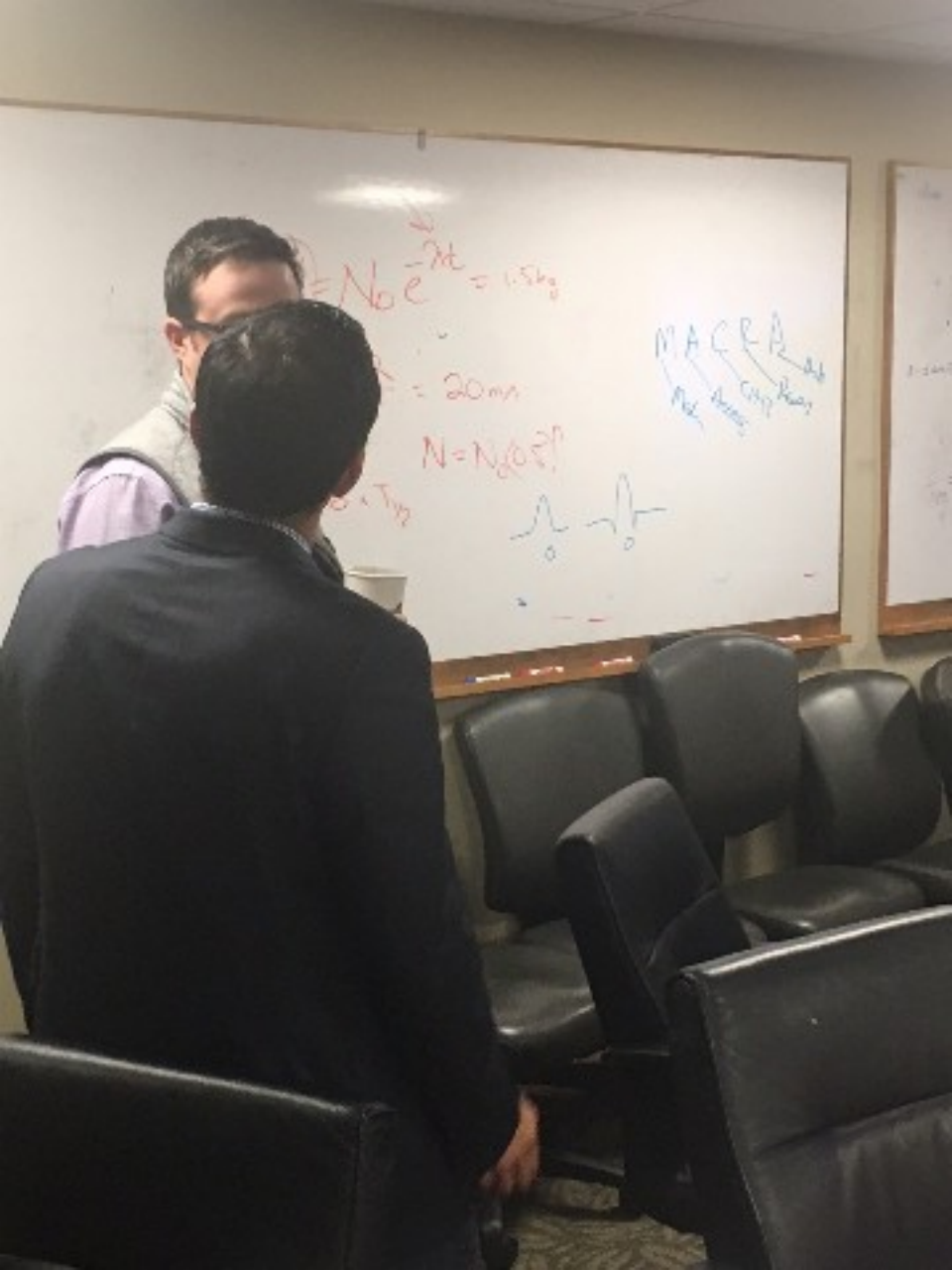
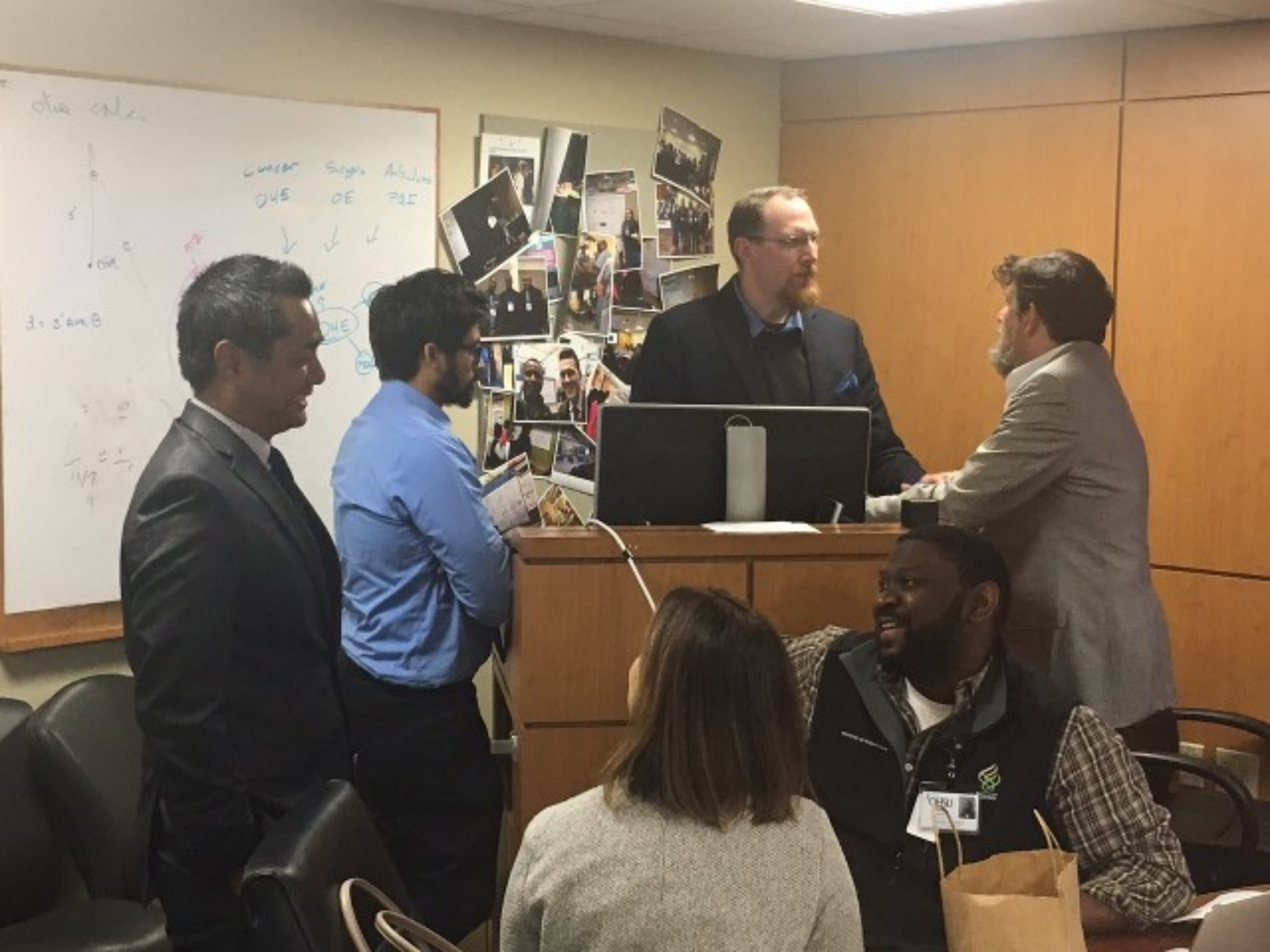


Figure 2. DCE-MRI Detects Focal Vascularity Changes During EBRT. Evaluation of DCE-MRI acquired K_{trans} across the entire mandibular volume allows for identification of geographically distinct perturbations which can then be correlated to the dosimetric map for each individual patient. **(A)** Arrows in top and bottom rows identify the area of altered K_{trans}. Middle row demonstrates no appreciable change in K_{trans} across the entire mandibular volume regardless of administered EBRT dose. **(B)** Arrows in top and bottom rows identify the area of altered V_e. Middle row demonstrates no appreciable change in V_e across the entire mandibular volume regardless of administered EBRT dose. Panels A and B represent distinct patients.




MACRA

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OR
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