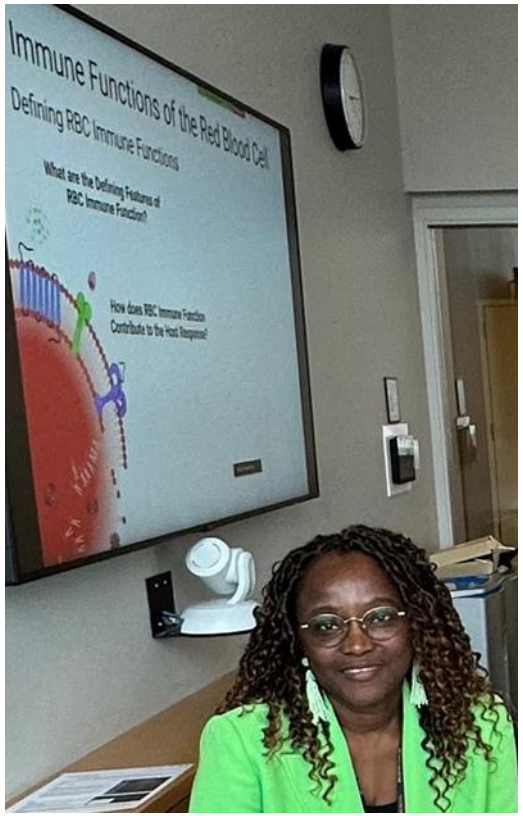
Thoracic Oncology (Lung Cancer) Translational Center of Excellence

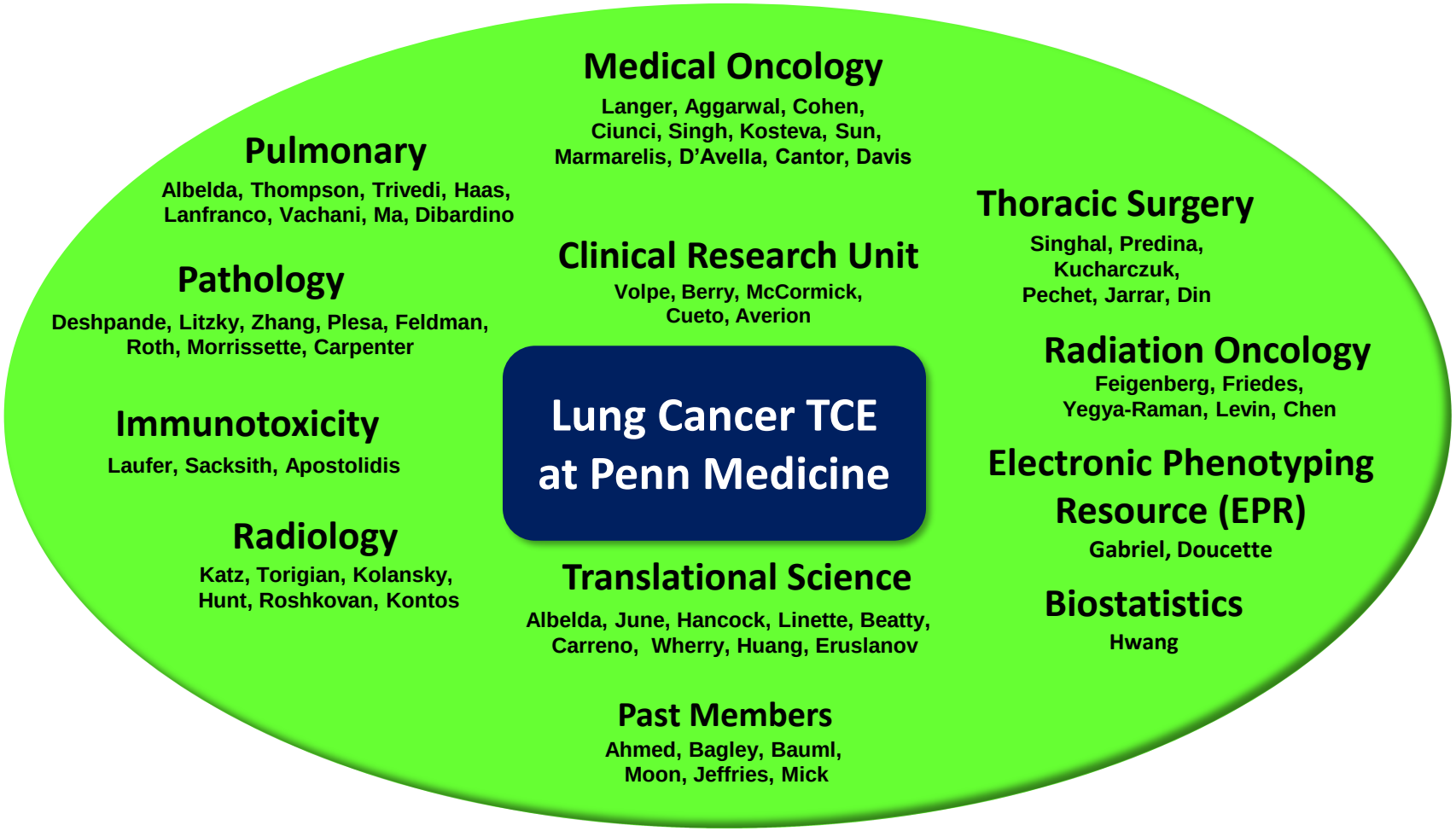
Steven M. Albelda, MD
William Maul Measey Professor of Medicine
Translational Director, Lung Cancer TCE

Corey J. Langer, MD, FACP
Professor of Medicine
Clinical Director, Lung Cancer TCE



Christiana W. Davis, MD
Project Manager, Lung Cancer TCE

Lung Cancer TCE - A Multidisciplinary Team



It Takes a Village!!!!

Selected Multidisciplinary Initiatives (1)

Oncology/Surgery (Aggarwal/Singhal)

- Previous Phase I Trial of Intrapleural AdV.TK and Oral Valacyclovir in Patients with Malignant Pleural Effusions (including malignant pleural mesothelioma)

Oncology/Translational (Bauml/Marmarelis/Huang)

- Impact of chemotherapy, chemoimmunotherapy and immunotherapy on treatment outcome and T-cell immunity in patients with NSCLC; Factors associated with long-term response to immunotherapy.

Pulmonary-Nodule Clinic (Thompson/Vachani)

- Over 500 patients seen annually.

Pulmonary (Thompson)

- Development of tissue-based gene signatures to predict response to CPIs in lung cancer.

Head & Neck Cancer (Trivedi)

- Identifying predictive biomarkers in patients with Head & Neck cancer.

Small Cell Lung Cancer (Thompson)

- Identifying tumor markers that predict response to immunotherapy in small cell lung cancer patients.

Selected Multidisciplinary Initiatives (2)

Nucleai, Tel Aviv, Israel/Penn Pathology (Zelichov/Litzky)

- PD-L1 and AI algorithms to determine outcomes in lung cancer patients treated with immunotherapy.

Rheumatology (Laufer)

- Prospective analysis of immune-related adverse events with checkpoint blockade.

Radiology (Katz/Roshkovan/Kontos)

- Predictive and diagnostic radiomic signatures in lung cancer patients treated with first-line immunotherapy.

Radiation Oncology (Friedes/Yegya-Raman/Feigenberg)

- Oligoprogression in metastatic NSCLC patients treated with immunotherapy.

Oncology (Aggarwal/Carpenter/Thompson)

- Liquid Biopsy for diagnosing and monitoring of lung cancer.

Selected Lung Cancer TCE Databases

- **Lung Cancer Patients Treated with Immunotherapy**
  - Nivolumab, Pembrolizumab, Atezolizumab, Durvalumab
- **Lung Cancer Patients Treated with First-line Pembrolizumab**
  - Treatment-naïve patients and first-line for metastatic disease
- **Small Cell Lung Cancer Patients (SCLC) Treated with Immunotherapy**
  - SCLC patients with outcomes data
- **Nivolumab Neutrophil-to-Lymphocyte Ratio (NLR) in Non-small Cell Lung Cancer (NSCLC)**
  - Pretreatment NLR as a marker of outcomes in nivolumab-treated patients with advanced NSCLC
- **NSCLC Patients with Brain Mets**
  - NSCLC patients with Brain Mets treated with pembrolizumab
- **PD-L1 Outcomes Database**
  - Lung cancer patients tested and resulted for PD-L1 expression
- **Long-term Surgically Treated Lung Cancer Survivors (Up to 8 Years Post-surgery):**
  - Outcomes, follow-up and molecular data
- **Long-term Responders to Immunotherapy**
  - Lung cancer patients with optimal duration of immunotherapy
- **Tissue Biobank**
  - Supports acquisition of remnant (“left-over”) lung tissue and lymph node samples

COVID-19 Related Registries

ASCO Survey on COVID-19 in Oncology Registry (ASCO/Aggarwal)

- Mortality risk for patients undergoing cancer treatment who acquire SARS-CoV-2; Data from 38 practices nationwide (12 physician-owned practices, 7 academic, and 19 health systems).

TERAVOLT - Thoracic cancERs international coVid 19 cOLlaboraTion (Italian Sponsor/Marmarelis)

- Global registry of COVID-19 positive thoracic cancer patients (Non-small cell lung cancer, Small cell lung cancer, Malignant pleural mesothelioma and Thymic epithelial tumors)

COSERCA COVID-19 (Sun/DeMichele/Mamtani)

- COSERCA - COvid-19 SERoprevalence in CAncer patients: A longitudinal surveillance study of COVID-19 antibody seroprevalence, seroconversion, and outcomes in patients with cancer.

Selected Projects for Funding (1)

- We aim to identify the tumor markers that will differentiate those who are destined to respond to immunotherapy from those who do not.
- We plan to validate our transcriptomic signatures in patients treated with front-line checkpoint inhibitors, alone or in combination with chemotherapy
- We are exploring immunohistochemical markers relating to EMT and antigen presentation
- We are developing CAR T cells that attack tumors by targeting fibroblasts within the tumors, CARs that use Natural Killer cells instead of T cells, and are designing and testing new CAR T cells that will specifically attack T-regulatory cells and allow better immune system killing of tumors.
- The process of making CAR T cells outside the body is very time consuming, expensive, and does not always work, so to make CAR T cells inside the body, we are partnering with Professor Drew Weissman at Penn, an expert in mRNA therapeutics who was instrumental in developing the technology used in the mRNA COVID vaccine.

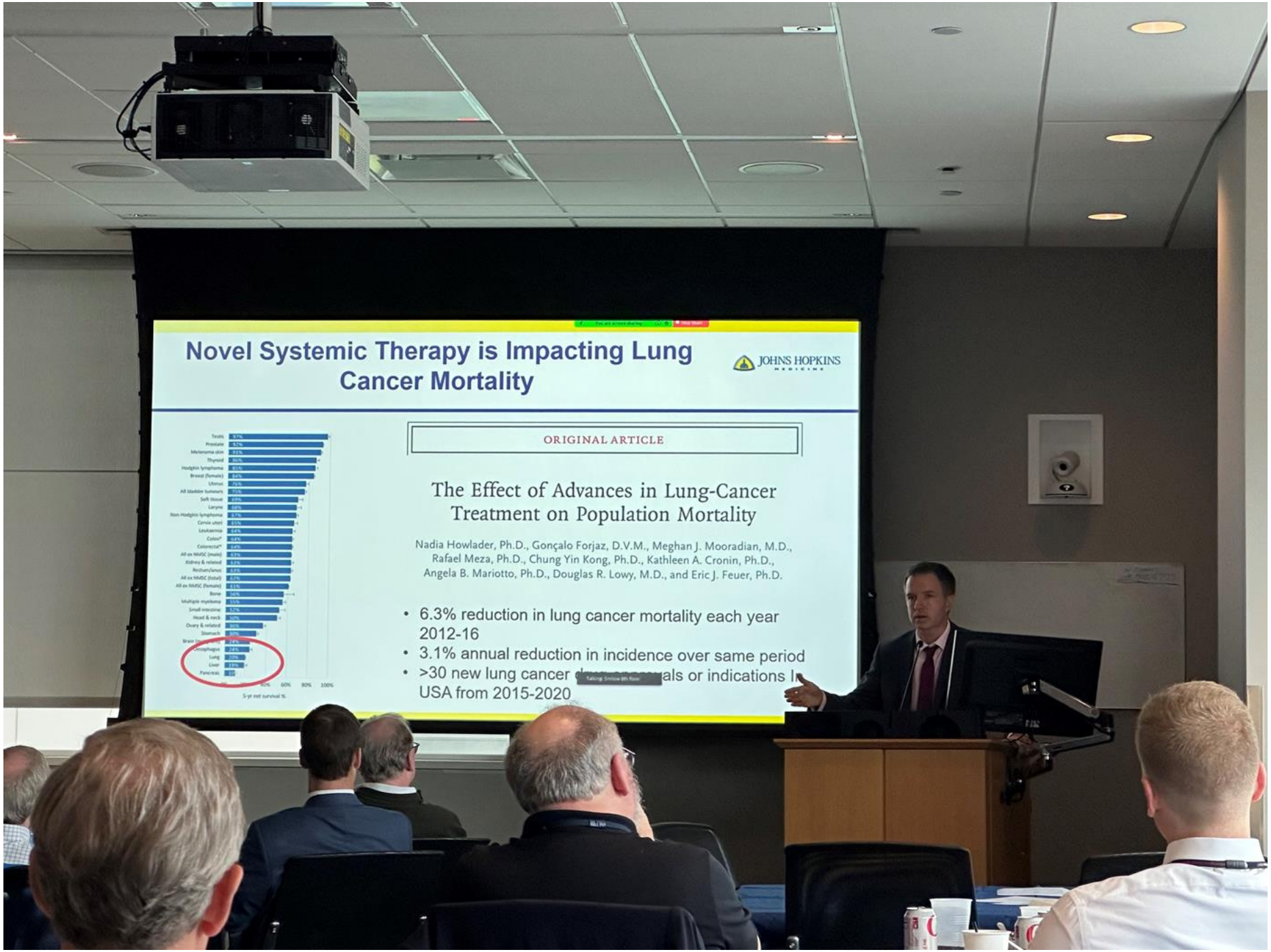
Selected Projects for Funding (2)

- We are prospectively enrolling patients who develop immune-related adverse events to find ways to predict and hopefully prevent these complications.
- We plan to update OS and PFS of a phase 2 trial, pembrolizumab after locally ablative therapy for oligometastatic NSCLC.
- We are retrospectively enrolling lung cancer patients with optimal duration of immunotherapy, to determine factors and biomarkers underlying long-term response.
- We plan to do a long term follow-up study of patients who have received pembrolizumab and the JAK inhibitor itacitinib on the phase II trial evaluating these two agents.
- We aim to evaluate NSCLC patients with node only or regional recurrences treated with definitive chemo-XRT +/- consolidative IO.

2023 Lung Cancer TCE Retreat MediaSite for all Talks

https://mediasite.med.upenn.edu/mediasite/Channel/tce-retreat-2023


Enjoy
Enjoy


Novel Systemic Therapy is Impacting Lung Cancer Mortality
JOHNS HOPKINS MEDICINE
ORIGINAL ARTICLE
The Effect of Advances in Lung-Cancer Treatment on Population Mortality
Nadia Howlader, Ph.D., Gonçalo Forjaz, D.V.M., Meghan J. Mooradian, M.D., Rafael Meza, Ph.D., Chung Yin Kong, Ph.D., Kathleen A. Cronin, Ph.D., Angela B. Mariotto, Ph.D., Douglas R. Lowy, M.D., and Eric J. Feuer, Ph.D.
• 6.3% reduction in lung cancer mortality each year 2012-16
• 3.1% annual reduction in incidence over same period
• >30 new lung cancer
als or indications I
USA from 2015-2020
5-yr rel survival %


zoom
The host ended this meeting
OK
Perelman
School of Medicine
University of Pennsylvania

Thank you for visiting our website

Perelman Center for Advanced Medicine

University of Pennsylvania, Philadelphia, PA