



**CALA**  
CHINESE-AMERICAN LUNG ASSOCIATION



# 2020 CALA Happy Friday Seminar

April 17<sup>th</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: **998-9099-1991**

Password: **397500**

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

**Mitochondria and NLRP3  
inflammasome in cigarette  
smoke associated acute lung  
injury/ARDS**

10:30-11:00 am EST



**Dr. Qing Lu**

Associate Professor, Brown University

**Lab research focus and  
relevance to COVID-19**

11:00-11:30 am EST



**Dr. Jianwen Que**

Associate Professor, Columbia University



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# 2020 CALA Happy Friday Seminar

April 24<sup>th</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: **998-9099-1991**

Password: **397500**

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

**Cigarette smoke-initiated  
autoimmunity in COPD:  
mechanisms and applications**

10:30-11:00 am EST



**Dr. Zhihua Chen**

Professor, Zhejiang University

**Molecular Insights into COPD  
learned from GWAS**

11:00-11:30 am EST



**Dr. Xiaobo Zhou**

Assistant Professor, Harvard University



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# 2020 CALA Happy Friday Seminar

May 1<sup>st</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

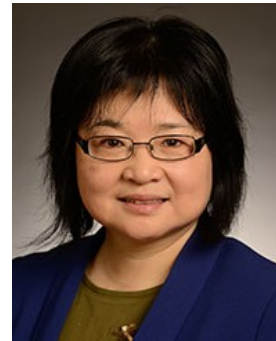
Meeting ID: 998-9099-1991

Password: 397500

Time: EST 10:00 am; PST: 7:00 am; Beijing time: 10:00 pm

**Identification of the  
lymphangiomyomatosis cell  
and its uterine origin**

10:00-10:45 am EST

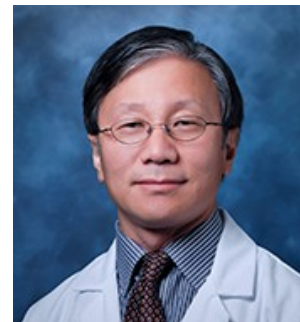


**Dr. Yan Xu**

Professor, Cincinnati Children's Hospital

**Every Scar Tells a Story: Current  
Understanding and Critical  
Issues of Lung Fibrosis**

10:45-11:30 am EST



**Dr. Dianhua Jiang**

Professor, Cedars Sinai Medical Center



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# 2020 CALA Happy Friday Seminar

May 8<sup>th</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: **998-9099-1991**

Password: **397500**

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

## Host microenvironment associated antibiotic resistance and novel antimicrobial development

Multi-drug resistant (MDR) bacterial infection has substantially increased in recent years and causes enormous concerns to public health. This talk will focus on the antibiotic resistance mechanisms and how host-pathogen interactions also contribute to the development of drug resistance. Novel antimicrobials with lower toxicity, superior to polymyxin E will be presented.

Dr. Peter Di has long standing interest in investigating the effects of environmental exposure including pathogenic microorganisms and toxic chemicals on the pathogenesis of pulmonary diseases. He has reviewed manuscripts for more than 60 different journals and grant applications for multiple funding agencies including more than 20 times of NIH study sections.



**Dr. Peter Di**

**Associate Professor,  
University of Pittsburg**



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# 2020 CALA Happy Friday Seminar

May 15<sup>th</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: 998-9099-1991

Password: 397500

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

## Respiratory viral infection: from acute morbidity to chronic sequelae.

Acute respiratory viral infections including influenza and SARS-CoV2 infections impose great challenges to the public health. The disease pathogenesis associated with respiratory viral infections results from a combination of the deleterious effects of virus replication and the host innate and adaptive immune responses associated with control and, ultimately, clearance of virus.

Dr. Jie Sun is an associate professor in the Departments of Medicine and Immunology at the Mayo Clinic Alix School of Medicine. He has been reviewers for many Immunology and Pulmonary Medicine journals, and served as standing or *ad hoc* members on a number of NIH or DoD grant review panels. The primary research goals of Dr. Jie Sun are to develop novel ideas and methods for the induction of strong antiviral immunity, while minimizing collateral tissue damage and the development of chronic lung sequelae following respiratory viral infections.



**Dr. Jie Sun**

**Associate Professor**

**Mayo Clinic**



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# 2020 CALA Happy Friday Seminar

May 22<sup>nd</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: **998-9099-1991**

Password: **397500**

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

## Interaction between alveolar epithelial stem cells and niches during lung repair

Type II alveolar epithelial cells are described as facultative stem cells based on their ability to proliferate and differentiate into type I cells. However, the signals sent by surrounding niches that activate the stem cell phenotype of type II cells during alveolar repair remain unclear. Using combinatorial approaches including mouse genetic lineage tracing analysis, tissue specific inducible gene targeting techniques, and 2D and 3D *in vitro* culture, we will demonstrate importance of Notch and YAP pathways regulating cell-cell communication and alveolar repair.

Dr. Liu is an associate professor in Department of Pharmacology, University of Illinois at Chicago. Her research is focused on lung injury and repair, especially alveolar repair mediated by type II cells. Her group have used mouse lung injury models to define sub-population of type II cells for the progenitor cell function.



**Dr. Yuru Liu**

**Associate Professor**

**University of Illinois at Chicago**



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# 2020 CALA Happy Friday Seminar

May 29<sup>th</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: **998-9099-1991**

Password: **397500**

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

## Generation of a three-dimensional lung organoid from human pluripotent stem cells and its applications

Recapitulation of lung development from human pluripotent stem cells (hPSCs) in three dimensions (3D) would allow deeper insight into human development, as well as the development of innovative strategies for disease modeling, drug discovery and regenerative medicine. In this talk, she will show how she systematically differentiates hPSCs to lung organoids and their applications to study human lung development, diseases, and regenerative medicine.

Dr Chen's research works were published in *Nature Cell Biology* and *Protocol Exchange* in 2017. Dr. Chen had post-doc training with Dr. Hans-Willem Snoeck in Columbia University, a leader in the stem cell biology field. She started her own independent lab in last year in the University of Southern California.



**Dr. Ya-Wen Chen**

**Assistant Professor**  
**University of Southern**  
**California**



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# 2020 CALA Happy Friday Seminar

June 5<sup>th</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: 998-9099-1991

Password: 397500

Time: EST 10:30 am; PST: 7:30 am; Beijing time: 10:30 pm

## Novel Mechanisms and Targets in Pulmonary Arterial Hypertension

Dr. Zhiyu Dai

Assistant Professor

University of Arizona

Abstract: Pulmonary artery hypertension (PAH) is characterized by progressive increase in pulmonary vascular resistance and obliterative pulmonary vascular remodeling that results in right heart hypertrophy and failure and premature death. Recently, we have reported the first mouse model of PAH [*Egln1<sup>Tie2Cre</sup>* mice] with progressive obliterative vascular remodeling including vascular occlusion and plexiform-like lesion and right heart failure, which recapitulates many features of clinical PAH. Using this unique model, we defined several novel molecular and cellular pathways (including smooth muscle cell hyperproliferation, augmentation of oxidative stress, dysregulation of lipid metabolism) that mediate the obliterative vascular remodeling of PAH, and identified several therapeutic targets (HIF-2a, FoxM1) that potentially treat the patients with PAH. Dr. Dai graduated from Sun Yat-sen University, China, and completed his postdoctoral training at University of Illinois at Chicago and Northwestern University. The lab is funded by NHLBI Pathway to Independence Award (Parent K99/R00) and ATS Foundation Research Program.







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# 2020 CALA Happy Friday Seminar

June 12<sup>th</sup>, 2020

Join Zoom Meeting: <https://zoom.us/join>

Meeting ID: 998-9099-1991

Password: 397500

Time: EST 10:30 am; PST: 7:30 am; Beijing time: 10:30 pm

## Multi-omics Approach to Childhood Asthma

Asthma is the most common chronic respiratory disease in children. Despite the success of genome-wide association studies, reported asthma-susceptibility loci can explain only ~3.5% of asthma heritability, supporting a strong contribution of environmental exposures to asthma causation. In this talk, Dr. Chen will describe recent advances of large-scale omics studies of asthma and relevant phenotypes including whole-genome transcriptomic and epigenetic studies. He will discuss how bioinformatic and statistical tools can help provide insight of asthma biology and prioritize candidate genes for downstream functional experiments.

Dr. Chen received BS in Mathematics from Nanjing University and PhD in Biostatistics from the University of Michigan. Dr. Chen's research focuses on developing statistical and computational methods for analyzing high-throughput genomics data. He has served as PI on multiple NIH grants and published over 100 peer-reviewed papers in *Nat Genet*, *Nat Comm*, *Nat Mach Intell*, *Lancet Respir Med*, *PNAS*, *AJRCCM*, *JACI*, and *ERJ*.



**Dr. Wei Chen**

Associate Professor

University of Pittsburgh



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# 2020 CALA Happy Friday Seminar

June 19<sup>th</sup>, 2020

Join Zoom Meeting:

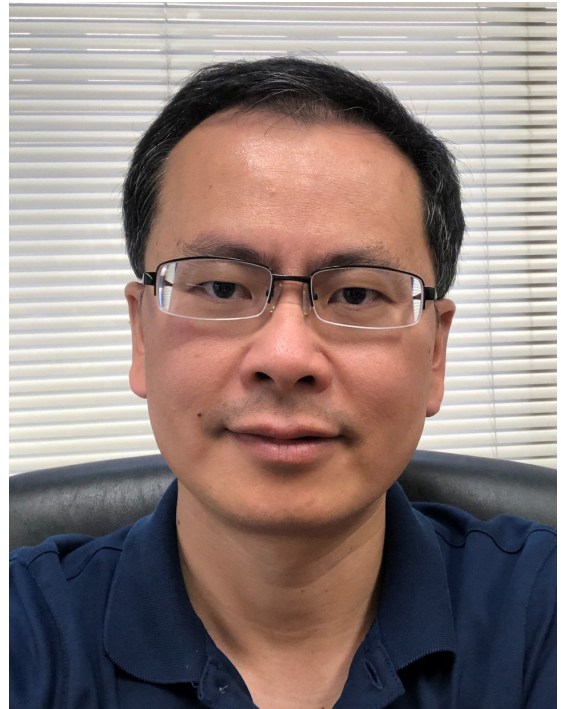
<https://bit.ly/3e9uN8z>

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

## Lung injury and fibrosis from the metabolic viewpoint

The role of cellular metabolism in pulmonary diseases has been increasingly recognized in recent years. In this presentation, Dr. Liu will guide you through how glycolysis, glutaminolysis and de novo amino acid synthesis regulate lung injury and fibrosis.

Dr. Liu is a Professor and Principal Investigator at the Division of Pulmonary, Allergy and Critical Care Medicine, The University of Alabama at Birmingham (UAB). Dr. Liu went to Wuhan University for his Ph.D. degree, followed by postdoctoral training in Cell Biology at Medical College of Georgia and UAB. He joined UAB faculty in 2006. Dr. Liu's laboratory is currently supported by grants from NIH and DoD.



**Dr. Gang Liu. M.D,  
Ph.D.**

**Professor**  
*University of Alabama*



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# 2020 CALA Happy Friday Seminar

June 26<sup>th</sup>, 2020

Join Zoom Meeting:

<https://bit.ly/3e9uN8z>

Time: EST **10:30** am; PST: **7:30** am; Beijing time: **10:30** pm

## The driving force of alveolar development, regeneration, and fibrosis

The coordinated influences of both mechanical forces and growth factors during tissue development and regeneration is extremely important. With an integrated combination of mouse genetics, live imaging, lineage tracing, and quantitative cell biology, we demonstrate that alveolar development and regeneration are controlled by both mechanical forces and a local growth factor. We have also established a direct mechanistic link between impaired alveolar regeneration, mechanical tension, and progressive lung fibrosis.

Dr. Tang obtained her Ph.D from UCSD, followed by a post-doctoral training at UCSF. She joined NIBS faculty in 2012 and has numerous high-impact publications ever since in *Lancet*, *Cell*, *Dev Cell* and *PNAS* et al.



**Dr. Nan Tang. M.D,  
Ph.D.**

*Associate Investigator,  
National Institute of  
Biological Sciences*



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# 2020 CALA Happy Friday Seminar

July 7<sup>th</sup>, 2020

Join Zoom Meeting: <https://bit.ly/3e9uN8z>

Time: EST 10:30 am; PST: 7:30 am; Beijing time: 10:30 pm

## Stem Cell Approach to small Cell Lung Cancer and COVID-19

ABSTRACT: Current cancer research is hindered by the limitations of existing experimental systems, which fall short in demonstrating concordance with human studies. In this way, we aim to develop models for studying mechanisms that initiate and progress carcinogenesis, focusing initially on Small Cell Lung Cancer (SCLC), the most aggressive type of lung cancer. My currently developed cell culture models based on directed differentiation of human pluripotent stem cells (hPSC) reveal why certain constellations of genetic changes drive carcinogenesis in specialized human cell lineages. These tractable experimental systems enable studying cancer in great depth, using genetically defined human cells that can be characterized at the single cell level. I will also describe our recent work in studying COVID-19 using the cells derived from hPSCs.



**Huanhuan Joyce Chen**  
**PharmD. PhD.**

**Assistant Professor**  
**University of Chicago**

Dr. Chen graduated with PhD at Cornell University, and did post-doctoral training with Dr. Harold Varmus at Weill Cornell Medicine. She joins University of Chicago as assistant professor in 2020 as a K99/R00 awardee and has many papers published in Nature Biotech, Nature Med, Cell Stem Cell, JEM and JCI etc.



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# 2020 CALA Happy Friday Seminar

July 17<sup>th</sup>, 2020

**Join Zoom Meeting:**

**<https://arizona.zoom.us/j/97032505774> (Password: 654321)**

**Time: EST 10:30 am; PST: 7:30 am; Beijing time: 10:30 pm**

## **Zinc Metabolic Defect of Aging Alveolar Progenitors in IPF**

**ABSTRACT:** Idiopathic pulmonary fibrosis (IPF) is a fatal form of interstitial lung disease and aging has been identified as a risk factor to the disease. We recently reported that there was a significant loss of alveolar progenitors (AEC2s) in the lungs of patients with IPF. In our current study, we performed single cell RNA-seq of AEC2s from patients with IPF and healthy donors as well as AEC2s from old and young mouse lungs with bleomycin injury. We identified a defect of zinc metabolism in AEC2s from IPF lungs and bleomycin-injured old mouse lungs. We further demonstrated that a specific zinc transporter ZIP8 is associated with AEC2 renewal through sirtuin signaling in aging and in IPF. Targeted deletion of Zip8 in murine AEC2 compartment leads to reduced AEC2 renewal capacity, and impaired AEC2 recovery after bleomycin injury. In summary, we have identified novel metabolic defects of AEC2s during aging and in IPF which contribute to the pathogenesis of lung fibrosis. Therapeutic strategies to restore critical components of these metabolic programs could improve AEC2 progenitor activity and mitigate ongoing fibrogenesis.



**Carol Jiurong Liang**  
**Assistant professor**  
**Cedars-Sinai Medical Center**