



CHANGING MEDICINE.
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INTERNATIONAL ENVIRONMENTAL LUNG DISEASE SYMPOSIUM

FRIDAY AND SATURDAY
JULY 12–13, 2019

URMILA SAHAI SEMINAR ROOM
2117 MEDICAL EDUCATION AND RESEARCH FACILITY (MERF)
375 NEWTON ROAD
IOWA CITY, IA

JOINTLY PROVIDED BY: The University of Iowa Roy J. and Lucille A. Carver College of Medicine, Department of Radiology, Korea Environmental Industry & Technology Institute, Department of Radiology, Seoul National University, and the UI Environmental Health Sciences Research Center



GENERAL INFORMATION

Intended Audience

Physicians, researchers, fellows, residents, practitioners, mid-level providers, radiology technologists, and graduate students.

Purpose

It is our intent that participants will be able to understand the importance of the environmental lung diseases such as asthma, COPD, pneumoconiosis, and the effects of dust or micro-dust and will be able to apply updated knowledge for the prevention, diagnosis, and treatment of environmental lung disease.

Participants will receive an overview of the laboratory, animal, and translational research from the University of Iowa and Korean environmental lung disease research groups. Additionally, we will discuss opportunities for cooperative research between the University of Iowa and Seoul National University.

Educational Objectives

Upon completion of this program, the participant should be able to

- Describe occupational and environmental exposures
- Discuss the role of imaging for the investigation of the environmental lung diseases
- Discuss the methods to measure micro-dust or particulate air pollution
- Describe the interstitial lung diseases caused by environmental exposures
- Explain the humidifier disinfectant-associated lung disease pathology and CT findings
- Define the role of environmental endotoxin exposure in asthma
- Identify innovative approaches to prevent environmental lung disease
- Evaluate ambient air pollution and mechanisms of respiratory infection
- Describe the methods to assess PM_{2.5} for epidemiological studies
- Assess the inhalation toxicology of engineered nanomaterials
- Analyze biomass exposure and lung functional impairment
- Outline the effects of air pollution and DNA methylation
- Describe the application of lung organoids
- Interpret CT findings of hypersensitivity pneumonitis
- Describe CFD modeling for particle transportation and environmental lung diseases

Registration

This symposium and associated CME credits are provided at no charge courtesy of the Korea Environmental Industry & Technology Institute. Please register by **June 28, 2019**.

Location and Parking

The symposium will be held in the Urmila Sahai Seminar Room, second floor of the Sahai Medical Education Center in the Medical Education and Research Facility (2117 MERF), 375 Newton Road, Iowa City, IA 52242.

Parking is available in the Newton Road Ramp, 360 Newton Road at a cost of \$20 per day. The MERF building is located across from the Newton Road Parking Ramp.

Directions may be found at the following website: maps.uiowa.edu/merf

Credit

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the University of Iowa Carver College of Medicine, the Korea Environmental Industry & Technology Institute, and the UI Environmental Health Sciences Research Center. The University of Iowa Carver College of Medicine is accredited by the ACCME to provide continuing medical education for physicians.

The University of Iowa Roy J. and Lucille A. Carver College of Medicine designates this live activity for a maximum of 6.75 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

PROGRAM SCHEDULE

Friday, July 12, 2019

Urmila Sahai Seminar Room (2117 MERF)

12:00 PM Registration and Light Lunch

1:00 Welcome and Introductions

Changhyun Lee, MD, PhD, Peter S. Thorne, MS, PhD, and Colin P. Derdeyn, MD

Session 1: General

Chair: Changhyun Lee, MD, PhD

1:10 Human Burden and Policy Translation: Occupational and Environmental Exposure to Public Health Threats

Eun-Kee Park, PhD

1:30 The Role of Environmental Endotoxin Exposure in Asthma

Peter S. Thorne, MS, PhD

1:50 Non-Tobacco Exposures Contributing to COPD Morbidity

Nadia N. Hansel, MPH, MD

2:20 Development of Receptor-Based Environment-Induced Diseases Prevention and Management System Using Real-Time Collected Environment and Health Information

SungChul Seo, PhD

2:35 Discussion

2:45 Break

Session 2: Clinical and Cohort Studies

Chair: Alejandro P. Comellas, MD

2:55 Biomass Exposure and Lung Impairment (India Experience)

Alejandro P. Comellas, MD

3:10 Introduction of Korean Cohort for the Project “CT Technique Development for Environmental Lung Disease”

Changhyun Lee, MD, PhD

3:25 Assessment of PM_{2.5} Exposure Levels in Epidemiological Studies

Kyoung-Nam Kim, MD, PhD

3:40 Discussion

3:50 Break

Session 3: Animal Research

Chair: Peter S. Thorne, MS, PhD

4:00 Micro-Dust Animal Studies

Sang-Hoon Jeong, PhD

4:15 Inhalation Toxicology Studies of Engineered Nanomaterials

Andrea Adamcakova-Dodd, PhD

4:30 Ambient Air Pollution and Mechanisms of Respiratory Infection (In Vitro and Translational Research)

Emma Stapleton, PhD

4:45 Discussion

4:55 Break

Session 4: Genetics and Cell Biology

Chair: Woo Jin Kim, MD

5:05 Ambient Air Pollution and Blood DNA Methylation

Mi Kyeong Lee, MSPH, PhD

Friday, July 12, 2019 continued

Urmila Sahai Seminar Room (2117 MERF)

- 5:35 Effects of Air Pollution on Lung Function and CT Measurements in a Korean COPD Cohort**
Woo Jin Kim, MD
- 5:50 Application of Human Pluripotent Stem Cell-Delivered Lung Organoids**
Eun-Mi Kim, PhD
- 6:05 Discussion**
- 6:15 Adjourn**
- 6:15 – 9:00 PM Dinner and Reception**

Saturday, July 13, 2019

Urmila Sahai Seminar Room (2117 MERF)

Session 5: New Technology and Engineering

Chair: Eric A. Hoffman, PhD

- 9:00 AM Deep Learning CT Image-Based Analysis of COPD**
Ching-Long Lin, PhD
- 9:15 Differentiation of Airway Structure and Lung Function in Korean Asians vs. White Americans via Quantitative Computed Tomography**
Sanghun Choi, PhD
- 9:30 CT Image Matching and CFD Modeling for Regional Lung Responses to Environmental Exposure**
Jiwoong Choi, PhD
- 9:45 Discussion**
- 9:55 Break**

Session 6: Science in Radiology

Chair: Ki Yeol Lee, MD, PhD

- 10:05 Role of Vascular Dysfunction in Response to Parenchymal Inflammation**
Eric A. Hoffman, PhD
- 10:20 Gender Equality in the CT Evaluation of Pulmonary Disease**
Jessica C. Sieren, PhD
- 10:35 Environmental Lung Disease Imaging—Interstitial Lung Disease Update**
Archana T. Laroia, MD
- 10:50 Humidifier Disinfectant-Associated Lung Injury: Past and Present Concerns**
Hongseok Ko, MD
- 11:05 Generation-Based Airway Remodeling in Korean Smokers with Normal-Looking CT**
Kum-Ju Chae, MD
- 11:20 Discussion**
- 11:30 CME Adjourns**

Workshop and Lab Tour

- 11:40 Workshop**
- 12:40 PM Lunch and Lab Tour**
- 3:00 Adjourn**

PROGRAM FACULTY

Guest Faculty

Kum-Ju Chae, MD

Clinical Assistant Professor
Department of Radiology
Institute of Medical Science
Research Institute of Clinical Medicine
Chonbuk National University Medical School
and Hospital

Sanghun Choi, PhD

Assistant Professor
School of Mechanical Engineering
Kyungpook National University

Nadia N. Hansel, MD, MPH

Professor and Associate Dean for Research
Director of Pulmonary and Critical Care Medicine
Johns Hopkins University School of Medicine

Sang-Hoon Jeong, PhD

Research Professor
Department of Biomedical Science
Korea University College of Medicine

Eun-Mi Kim, PhD

Senior Researcher Scientist
R&D center for Advanced Pharmaceuticals
& Evaluation
Korea Institute of Toxicology (KIT)

Kyounge-Nam Kim, MD, PhD

Assistant Professor
Seoul National University Hospital
Department of Preventive Medicine
Seoul National University College of Medicine

Woo Jin Kim, MD

Professor
Department of Internal Medicine and
Environmental Health Center
Kangwon National University

Hongseok Ko, MD

Radiologist
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National Medical Center, Korea

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Department of Radiology
Korea University Ansan Hospital
Korea University College of Medicine

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Epidemiology Branch
National Institute of Environmental Health
Sciences (NIEHS)

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Kosin University College of Medicine

SungChul Seo, PhD

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Eulji University College of Health Industry

University of Iowa Faculty

Andrea Adamcakova-Dodd, MS, PhD

Assistant Research Scientist
Department of Occupational and Environmental
Health
College of Public Health

Jiwoong Choi, PhD

Assistant Research Scientist
IIHR-Hydrosience & Engineering; Department
of Mechanical Engineering

Alejandro P. Comellas, MD

Associate Professor of Internal Medicine
Director of the ICTS Clinical Research Unit

Eric A. Hoffman, PhD

Director, Advanced Pulmonary Physiomic
Imaging Laboratory
Professor of Radiology
Professor of Internal Medicine
Professor of Biomedical Engineering (BME)

Archana T. Laroia, MD

Clinical Associate Professor of Radiology
Division of Cardiovascular and Pulmonary Imaging
University of Iowa Hospitals and Clinics

Changhyun Lee, MD, PhD

Professor
Department of Radiology
University of Iowa Hospitals and Clinics
University of Iowa College of Medicine

Ching-Long Lin, PhD

Professor, Chair
Department of Mechanical Engineering

Jessica C. Sieren, PhD

Assistant Professor of Radiology
Advanced Pulmonary Physiomic
Imaging Laboratory
Assistant Professor of Biomedical Engineering (BME)

Emma Stapleton, PhD

Postdoctoral Fellow
Department of Occupational and
Environmental Health
College of Public Health

Peter S. Thorne, MS, PhD

Professor and Head
Department of Occupational and
Environmental Health
College of Public Health
Director
Environmental Health Sciences Research Center

Planning Committee

Changhyun Lee, MD, PhD, *Course Director*

Peter S. Thorne, MS, PhD

Eric A. Hoffman, PhD

Alejandro P. Comellas, MD

Archana T. Laroia, MD

Jiwoong Choi, PhD

Print clearly Name _____

Address _____

City _____

Degree(s) _____

State/ Zip _____

Specialty _____ Business _____ Home _____

Phone _____

E-mail _____

Affiliation _____

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Registration is free. Please register online by June 28, 2019. Registration will close at this time and walk-in registration will not be available the day of the symposium. Lunch and souvenirs will be provided to those who pre-register online.

TWO WAYS TO REGISTER



Online: medicine.uiowa.edu/cme and click on Upcoming Programs



University of Iowa Carver College of Medicine
Continuing Medical Education Division
100 Medicine Administration Building
Iowa City, Iowa 52242-1101

Determination of educational content for this program and the selection of speakers are responsibilities of the program director. Firms providing financial support did not have input in these areas.

DISCLOSURE POLICY: Everyone in a position to control the content of this educational activity will disclose to the CME provider and to attendees all relevant financial relationships with any ACCME-defined commercial interest.

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Individuals with disabilities are encouraged to attend all University of Iowa sponsored events. If you are a person with a disability who requires an accommodation in order to participate in this program, please contact the Continuing Medical Education Division in advance at 319-335-8599.

The University of Iowa requests this information for the purpose of processing your registration. No persons outside the University of Iowa are routinely provided this information.

For additional information on this program and other upcoming CME events at the UI Carver College of Medicine, please visit medicine.uiowa.edu/cme.