Note: We are updating the program weekly. Stay tuned!

2018 Annual Meeting
Cincinnati, OH September 23-25, 2018
ACE Extended Program Agenda

Applying Epidemiology Across the Lifespan to Improve Health Care, Inform Health Policy and Enhance Population Health

Life course epidemiology has been defined as "the study of long term effects on later health or disease risk of physical or social exposures during gestation, childhood, adolescence, young adulthood and later adult life." This broad theoretical framework encompasses the well-known 'fetal origins of adult disease' hypothesis, but also recognizes that exposures, periods of susceptibility and modifiable causal pathways along the lifespan offer opportunities for effective interventions in the community (to remove or mitigate exposures) and in the health care system (to improve treatment effectiveness and prevent downstream adverse health outcomes). This work requires a large concerted effort that must connect epidemiologic research with the basic sciences and with clinical and translational research. The deployment of strategies that will result in better population health also needs to be supported by policies that influence how we manage the environment, how we provide health care and how we promote healthy consumer behavior and provide market incentives for positive change. The goal of this ACE meeting is to highlight priority areas across the lifespan where epidemiology can advance population health using translational approaches and discuss experiences that can serve as models for intervention

Program Agenda

Saturday, September 22

12:00 pm – 5 pm	ACE MAC Workshop: **The role of equity in shaping precision public health** *Location: University of Cincinnati, Medical Sciences Building (MSB), Room: E-255*

Chair: Bertha Hidalgo, PhD, Assistant Professor, Department of Epidemiology, Associate Scientist, Nutrition Obesity Research Center, Chair, Minority Affairs Committee, American College of Epidemiology, University of Alabama at Birmingham

Abstract:

Brief Biography:

Bertha A. Hidalgo, PhD, MPH is an Assistant Professor in the Department of Epidemiology, Associate Scientist in the UAB Nutrition Obesity Research Center and Faculty Scholar in the Center for the Study of Community Health. She holds degrees from Stanford University, the University of Southern California and the University of Alabama at Birmingham. Her research focuses health disparities related to cardiometabolic diseases, with a special focus on Latino populations and genomics. She has received research funding from the Robert Wood Johnson Foundation New Connections Program to investigate whether genetic and epigenetic differences exist between subgroups of Latinos for cardiometabolic diseases (e.g. obesity, cardiovascular disease, type-2 diabetes) by first investigating differences in subgroups of Latino children and obesity in an epidemiologic study. She has also received the 2014 Back of the Envelope award to create a multi-ethnic biorepository for cardiometabolic diseases. Recently, Dr. Hidalgo became the principal investigator of Epigenomics of Cardiometabolic Disease in Mexican American, a K01 award focused on better understanding the genetic and environmental contributors to cardiometabolic diseases in a cohort of Mexican Americans. She is also co-investigator on the UAB Strategically Focused Research Network center grant in Transgenerational Obesity to investigate the epigenetics of obesity across the lifespan. In addition to that work, Dr.

Hidalgo is site PI of the TOPMED Glycemic Traits and T2D analysis grant awarded to The Broad by NIDDK. Dr. Hidalgo has also been a diversity supplement recipient, sponsored by UNC Chapel Hill and the Hispanic Community Health Study/Study of Latinos (HCHS/SOL), to explore genetic heterogeneity in Hispanic/Latinos with T2D and metabolic syndrome. Her research interests include cardiometabolic diseases, genetic epidemiology, health disparities and Latino health. Dr. Hidalgo is an active member of several epidemiology and public health professional societies – including current chair of the Minority Affairs Committee for the American College of Epidemiology - and active in organizations in and around UAB.

Sunday, September 23

7:15 am – 5:00 pm	**Registration:** *Location 1: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium* *Location 2: Cincinnati Children's Hospital Medical Center (CCHMC), Location D1 across from cafeteria/Outside of Sabin Auditorium*
8:00 am – 5:00 pm	**ACE Board Meeting** (by invitation only) *Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-261*
8:00 am – 12:00 pm	**Concurrent Education Workshops – Morning** Workshop 1- **Joint Modeling of Longitudinal and Survival Data: Tools to Evaluate Exposures and Predict Outcome Across the Lifespan (Part I)** *Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-255*

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Co-Chairs: Eleni-Rosalina Andrinopoulou, PhD, Department of Biostatistics, Erasmus, MC, & Rotterdam Ophthalmic Institute, Rotterdam, The Netherlands, and Rhonda Szczesniak, PhD, Associate Professor, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Description: Studies in life course epidemiology often involve different types of outcomes and exposures being collected on individuals, who are followed as early as gestation and onward into later adult life. The data include longitudinally measured responses (e.g., biomarkers), and the time until an event of interest occurs (e.g., death, intervention). In many epidemiologic studies, these outcomes are separately analysed, although it may be of public health interest to study their association while including key exposures. To that end, it is desirable to employ methods that examine the associations of exposures with longitudinal measurement outcomes simultaneously. This method is referred to in the statistical literature as 'joint modelling of longitudinal and survival data.' The idea behind joint modelling of longitudinal and survival data is usually to couple linear mixed effects models for longitudinal measurement outcomes and Cox models for censored survival outcomes.

Abstract: This workshop is aimed at applied epidemiologic researchers and will provide a comprehensive introduction to this modelling framework. During the workshop it will become clear when these models should be used in practice, what are their key assumptions, and how they can be utilized to extract relevant information from the data and for the purposes of prediction. Recent extensions of these models, motivated by studies of chronic disease epidemiology, will be presented. Emphasis

will be given on applications involving data from life course epidemiology, where we will use the package JMbayes in R. After the end of the course participants will be able to define appropriate joint models to answer their research questions of interest.

Brief Biographies:

Eleni-Rosalina Andrinopoulou, PhD received her Doctorate in Biostatistics from Erasmus Medical Center in the Netherlands in 2014 and has studied as a post-doctoral fellow with Dr. Dimitris Rizopoulos in the Department of Biostatistics, where she now has a permanent position. Her research was motivated by joint modeling of longitudinal and survival data arising from heart valve studies. She has received awards for her work in this area, including funding from the International Society for Clinical Biostatistics. Dr. Andrinopoulou collaborates with researchers both locally and abroad on epidemiological studies in cardiovascular and lung diseases. She teaches quantitative research courses regularly through the NIHES MSc Program at Erasmus. She has provided workshops and other extended courses in advanced longitudinal data analysis to numerous fellows and biomedical faculty. Most recently, she gave a statistics seminar at the Institute of Statistics, Biostatistics and Actuarial Sciences in Belgium on joint modeling of longitudinal survival data.

Rhonda Szczesniak, PhD is an Associate Professor of Biostatistics at Cincinnati Children's Hospital and University of Cincinnati. Her work focuses on development and application of statistical methods to analyze medical monitoring data as functional data. She collaborates with researchers around the world to improve how large longitudinal databases are utilized to forecast periods of rapid disease progression. Her epidemiologic areas of research focus on chronic lung diseases and disorders with active projects involving the US Cystic Fibrosis Foundation Patient Registry and translation of prediction models into point of care. Other active projects include trans-generational research of diabetes in pregnancy and ambulatory blood pressure monitoring.

Workshop 2- **Reproducible Research in R: Geoinformatics, Epidemiology, and Publicly Available Health and GIS Data (part I)**

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-161

This symposium is supported by the Geospatial Research Accelerator for Precision Population Health (GRAPPH) at Cincinnati Children's Hospital Medical Center (CCHMC).

Chair: Cole Brokamp, PhD, Assistant Professor, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Abstract: This workshop is designed for R beginners who wish to conduct reproducible research using geoinformatics and epidemiology methods with publicly available health and geospatial data. Participants will gain a general understanding of the software tools available and learn how to explore and learn them further on their own. Additionally,

participants will gain applied experience through a "hands on" session using R. Over the course of one day, we will cover:

1.Brief introduction/refresher to R and the tidyverse

2.Why to use R for reproducible research, including R Markdown and integrated data import, analysis, and reporting

3.Introduction to using R for geoinformatics and GIS, including data import/export, interactive mapping, and GIS feature extraction

4.How to access and use publicly available health, GIS, and remote sensing data in R

The course will culminate in an applied example in which attendees will analyze the relationship between a geospatial measure and health outcome of their choosing. The entire project, including data import, exposure assessment, exploratory data analysis, mapping, statistical analysis, and reporting, will be conducted within R.

Brief Biography:

Cole Brokamp, PhD is an Assistant Professor at Cincinnati Children's Hospital Medical Center and the University of Cincinnati working in geoinformatics, environmental health, statistical computing, and statistical inference for machine learning algorithms. His publications, talks, and software can be found at https://colebrokamp.com/.

Workshop 3- **Data Matters: Improving Your Study through Professional Data Management**

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-161

Co-Chairs: Katherine Howard, MS, CCDM, Clinical Data Interchange Standards Consortium (CDISC) and Richard Ittenbach, PhD, Professor, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Description: The purpose of this session will be to describe the science of clinical data management and identify the skill sets and knowledge base needed by today's clinical data managers. We will identify points in the research life cycle where data management can be most helpful as well as principles for selecting an appropriate data management strategy for your institution.

Abstract: The purpose of this workshop will be to introduce epidemiologists to the science of clinical data management as both a profession and a developing subspecialty of clinical research. The workshop will be divided into four discrete parts: (a) description of clinical management and its evolution over the years, (b) knowledge base and skills needed to meet good clinical data management guidelines and practices, (c) points in the lifecycle of a research study in which data management can be most influential, and (d) recommended strategies to help learners optimize data management practices within their own institution. The workshop will be four hours in length and contain formal presentations as well as small group discussions to enhance learning.

Brief Biographies:

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Kit Howard, MS, CCDM has over 30 years of experience in many areas of clinical research, including bench research, pre-clinical research, data management, programming, and developing data and process standards for exploratory through post-marketing clinical trials. She is the Director of Education for CDISC, and serves as co-leader of CDISC's Medical Device Standards Development team. She also serves on the CDASH (data capture standard) Leadership team, the Medical Device Controlled Terminology team, and the CDISC Global Governance Group. She has been a member of the Society for Clinical Data Management for 16 years, serves on SCDM's Academic Task Force, and has been a contributing author and editorial board member of SCDM's '*Data Basics*.' She was also one of the early members to earn the SCDM Certified Clinical Data Manager (CCDM) certification. Kit earned her graduate degree from the University of Michigan's School of Public Health in Clinical Research Design and Statistical Analysis.

Richard Ittenbach, PhD, PSTAT is a Professor of Pediatrics, in the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital and the University of Cincinnati College of Medicine. He is a professionally certified statistician through the American Statistical Association (PSTAT) and has been actively involved in clinical data management at the local and national levels for more than 15 years, with a particular interest in training the next generation of clinical data managers. Dr. Ittenbach is actively involved in the Society for Clinical Data Management, its Academic Task Force, and has served as a consultant to academe and industry, as well as a data management content area expert for the U.S. Department of Labor. Areas of research interest include mixed methods study designs as well as the development and refinement of pediatric measures for children with chronic and life-

threatening conditions. His articles have appeared in *Academic Medicine*, *American Journal of Bioethics*, *Journal of Medical Ethics*, and *Medical Decision Making*.

Workshop 4- **Quality Improvement Methods and Statistical Process Control**

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-155

Co-Chairs: David Purcell, PhD, and Melody Siska, Cincinnati Children's Anderson Center for Health Systems Excellence

Abstract:

Brief Biographies:

12:00 pm – 1:00 pm **Lunch** (available for purchase)

1:00 pm – 5:00 pm **Concurrent Education Workshops - Afternoon**

Workshop 1- **Joint Modelling of Longitudinal and Survival Data: Tools to Evaluate Exposures and Predict Outcome Across the Lifespan (part II)**

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-255

Workshop 2- **Reproducible Research in R: Geoinformatics, Epidemiology, and Publicly Available Health and GIS Data (part II)**

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-161

Workshop 5- **Introduction to Effective Clinical Graphics in SAS**

Location: University of Cincinnati, Medical Sciences Building (MSB), Room (E-801 or 6051)

Chair: Jesse Pratt, MS, MA Research Database Programmer, Cincinnati Children's Hospital Medical Center

Description: The workshop begins with a general discussion of best practices for graphics, then basic syntax for PROC SGPLOT and PROC SGPANEL are covered, along with some customization options and examples. Principles and precise SAS syntax to meet journal requirements and standards, including labeling, fonts, formats, and DPI, will be covered. Specific examples of commonly used graphs (including but not limited to spaghetti plots, box plots, bar charts, and forest plots) will be given in great detail. The course will conclude with a glimpse into more advanced graphical capabilities within SAS. Time at the end will be reserved for questions and answers. Attendees are highly encouraged to bring a laptop with SAS installed in order to follow along. Version 9.4M3 will be used.

Abstract: Effective data displays are crucial in the analysis of patterns, causes, and effects in healthcare. This course covers principles and properties of effective graphics, how to implement said principles in SAS, meeting requirements for journals, and detailed examples of plots used in Epidemiological studies. The course will conclude with a preview of advanced graphical capabilities and time will be set aside for an interactive question and answer session.

Brief Biography:

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Jesse Pratt, MS, MA is an experienced SAS user of 10 years, with the past 8 having a focus in the clinical research setting. He has co-authored multiple clinical research manuscripts, presents regularly at SAS conferences, and is also an author with SAS Press. His focus and specialization is effectively displaying data.

5:15 pm – 7:00 pm	**Poster Presentation Setup** *Location: University of Cincinnati, Medical Sciences Building (MSB)*
5:15 pm – 6:00 pm	**Speed Networking** (registration required) *Location: University of Cincinnati, Medical Sciences Building (MSB)* Sponsored by the Career Mentoring and Associate Member Committees Open to ACE Members and Associate Members Meet and Greet ACE Fellows
6:15 pm – 7:00 pm	**Welcome Reception** *Location: University of Cincinnati, Medical Sciences Building (MSB)* Hosted by the ACE Research Epidemiology Foundation **Job Fair Opening** *Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-152 outside corridor area*

7:00 pm - 9:00 pm	**ACE Board of Directors Dinner** (by invitation only) *Location TBD: Options Taste of Belgium, Mecklenburg Gardens, Cactus Pear*
Monday September 24	
7:00 am – 7:45 am	**Associate Member breakfast with ACE President** Pauline Mendola, PhD, FACE *Location: University of Cincinnati, Medical Sciences Building (MSB), Room 3051*
8:00 am – 8:15 am	Call to order by Pauline Mendola, PhD, FACE, ACE President Welcome by local host and Program Committee Chair, Maurizio Macaluso, MD, DrPH, FACE, Professor of Pediatrics, University of Cincinnati College of Medicine, Director, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center *Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium*
8:15 am – 9:40 am	**Keynote Presentation: "The *Repressed* Role of Adverse Childhood Experiences in Adult Well being, Disease, and Premature Death: *Turning gold into lead"*** *Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium* Vincent Felitti, M.D., Kaiser Permanente Medical Care Program, Clinical Professor of Medicine, University of California - San Diego

Abstract: The Adverse Childhood Experiences (ACE) Study is a long-term collaborative study by Kaiser Permanente and CDC of over 17,000 middle-class adult Americans. It demonstrates a powerful and graded relationship between 10 categories of adverse experience in childhood and some of life's most common health risks, chronic diseases, and social problems from adolescence to old age.

The ACE Study documents how failed parenting manifested by childhood experiences such as abuse, neglect, and exposure to major household dysfunction eventually turns into organic disease and public health and social problems in adults. ACEs are unexpectedly common in the general population, have a profound effect on adult health, well-being, and life expectancy, influencing the prevalence of the most common causes of adult death in the US, and some of the more difficult public health and social problems including obesity and addiction, mental health, job performance, and healthcare costs.

The implications of these findings should be of interest to those involved with family function, social planning, medical practice and public health. Our task is to figure out how to use this information routinely and productively.

Brief Biography:

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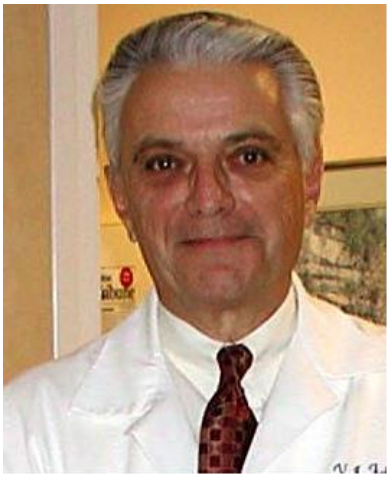

Vincent J. Felitti, MD, is a co-Principal Investigator of the Adverse Childhood Experiences (ACE) Study, ongoing collaborative research between Kaiser Permanente and the Centers for Disease Control. A 1962 graduate of Johns Hopkins Medical School, Dr. Felitti is an internist who started as an infectious disease physician in 1968 at Kaiser Permanente in San Diego and then founded the Department of Preventive Medicine in 1975; he served as Chief of Preventive Medicine until 2001. Under Dr. Felitti's leadership over the years, the Department provided comprehensive, biopsychosocial medical evaluation to assess the health risks and disease burden of over one million individual adults. Major health-risk abatement programs were developed for obesity, smoking, and stress, as well as, population-based screening for the genetic disease, Hemochromatosis. He is a Clinical Professor of Medicine at the University of California and a Fellow of The American College of Physicians.

10:00 am – 12:00 pm	Poster Presentation Set-Up *Location: University of Cincinnati, Medical Sciences Building (MSB)*
9:40 am – 10:10 am	Student Prize Paper Presented by the Publications Committee *Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium*
10:10 am – 10:25 am	Beverage Break *Location: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium*
10:25 am – 11:45 am	**Plenary Session**

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

The Role of Epidemiology in Precision Public Health

Chair: Lilliam Ambroggio, PhD, Assistant Professor, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, University of Cincinnati College of Medicine

Description?

Brief Biography:

Speakers:

Valerie Maholmes, PhD, CAS, Eunice Kennedy Shriver National Institute of Child Health and Human Development, **"The Enrollment of Children in the NIH *All of Us* Research Program: Opportunities to Apply Epidemiology Across the Lifespan to Improve Population Health"**

Description: This presentation will elaborate on life course research enabled through the NIH *All of Us* Research Program and will discuss the ways in which enrolling children in the *All of Us* Research Program can help improve population health across the lifespan.

Abstract: The mission of the *All of Us* Research Program is to accelerate health research and medical breakthroughs, enabling individualized prevention, treatment, and care for all of us. The overall objective of the program is to build a robust research resource that can facilitate the exploration of biological, clinical, social, and environmental contributors to health and disease. The enrollment of children in the *All of Us* Research program has the potential to facilitate life

course research to help understand the onset and progression of disease, but also inform preventive interventions and treatments tailored for a particular disease susceptibility.

Toward that end, this presentation will address how the Program proposes to enroll children to: (a) enable science to disentangle the complex relationships that shape outcomes in childhood and subsequently into adulthood, (b) widen the lens on disease prevention and optimizing health across the lifespan, (c) utilize a family-based approach for enrolling children to help understand the complex relationships among genetics and the social and physical environments on pediatric health, (d) to enroll multiple individuals from the same family with known relationships to assess family functioning, family aggregation of disease and also transmission of health and disease to new families and (e) to help fill major gaps in our knowledge base by addressing a range of key questions about diseases that manifest in childhood, as well as the childhood antecedents of adult diseases.

Brief Biography:

Valerie Maholmes, PhD, CAS is the Chief of the newly formed Pediatric Trauma and Critical Illness Branch at the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) at the National Institutes of Health. The Branch was established to encourage collaborative inquiry in basic, clinical, and translational research to promote discoveries, new treatment paradigms, and interventions that improve the quality of life for children and families who have experienced all forms trauma, life-threatening injury, or critical illness. In her capacity as Branch Chief, Dr. Maholmes sets the vision and priorities for research that addresses the

continuum of psychosocial, behavioral, biological, and physiological influences that affect child health outcomes in trauma, injury, and acute care.

Before joining the NICHD, Dr. Maholmes was a faculty member at the Yale Child Study Center in the Yale School of Medicine and was named the Irving B. Harris Assistant Professor of Child Psychiatry in 1999. In 2003, she was awarded the prestigious Science Policy Fellowship sponsored by the Society for Research in Child Development (SRCD) and the American Association for the Advancement of Sciences (AAAS). She earned a Ph.D. in Educational Psychology from the Graduate School of Arts and Sciences at Howard University and a sixth-year degree in School Psychology from Fairfield University.

Dr. Maholmes is the author of numerous peer reviewed journal articles, book chapters and edited book volumes. Notably, Dr. Maholmes edited a text titled Applied Research in Child and Adolescent Development: A Practical Guide (Taylor and Francis, Psychology Press, 2010) which was based on an NICHD research training institute on child and adolescent development. She also co-edited a comprehensive volume based on the NICHD supported Science and Ecology of Early Development (SEED) initiative which examined the impact of poverty on children's development. This volume titled the Oxford Handbook of Child Development and Poverty was published by Oxford University Press in April 2012.

Matthew Gillman, MD, SM, National Institute for Child Health and Human Development, **"The Environmental influences on Child Health Outcomes (ECHO) Program"**

Abstract:

Brief Biography:

Matthew W. Gillman, MD, SM joined the National Institutes of Health in 2016 as the inaugural director of the Environmental influences on Child Health Outcomes (ECHO) Program. Dr. Gillman came to NIH from Harvard Medical School, where he was a professor of population medicine and director of the Obesity Prevention Program, and Harvard School of Public Health, where he was a professor of nutrition. With background in the fields of internal medicine, pediatrics, and epidemiology, he has led cohort studies and randomized controlled trials and published widely in prevention of chronic disease across the life course. Dr. Gillman won mentoring awards at Harvard Medical School and Harvard School of Public Health, and has served in several national and international leadership positions, including on the United States Preventive Services Task Force and for the International Society for Developmental Origins of Health and Disease, from which he won the David Barker Medal in 2017. His clinical experience includes primary care for children and adults, and preventive cardiology among children.

Donna Arnett, PhD, MSPH University of Kentucky,
"Precision Medicine and Precision Public Health"

Panel Discussion

Abstract:

Brief Biography:

Donna Arnett, PhD, MSPH, is Dean of the University of Kentucky College of Public Health. A Kentucky native, Dr. Arnett obtained her bachelor of science degree in nursing and master of science in public health from the University of South Florida. She went on to earn her doctorate in epidemiology at the University of North Carolina Chapel Hill. Prior to her appointment at UK in 2016, Dr. Arnett was associate dean and chair of the Epidemiology department at the University of Alabama, Birmingham. She is also a former president of the American Heart Association. During Dr. Arnett's tenure as Epidemiology department chair at UAB the department grew to one of the top ten research programs in the nation. As Associate Dean for Academic and Strategic Programs at UAB, she helped expand the school's innovative four-year joint MD/MPH degree and played an important role in the development of an online MPH degree. An NIH-funded researcher for 20 years, Dr. Arnett studies genes related to hypertensive disorders and organ damage that results from hypertension. She has published more than 450 peer-reviewed papers and two books.

11:45 am – 12:00 pm

Transition/Travel Time

Location 1: University of Cincinnati, Medical Sciences Building (MSB), Rooms 3051, 5051, 6051

Location 2: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Rooms D2.20, D2.27, D2.40, D2.44

12:00 pm – 1:00 pm

Luncheon Roundtables

1. "Gender Equity in Epidemiology"

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 3051

Sponsor: Policy Committee

Discussants: Lorna Thorpe, PhD, Professor and Director, Division of Epidemiology, Vice Chair, Strategy and Planning, Department of Population Health, NYU School of Medicine **Pauline Mendola, PhD**, Investigator, Epidemiology Branch, Division of Intramural Population Health Research at the Eunice Kennedy Shriver National Institute of Child Health and Human Development

Abstract: Females represent the majority of epidemiology trainees and make up the majority of epidemiologic scientific society memberships but appear less likely to be full professors and their publications have arguably less impact. We are not alone. Similar stories are heard across disciplines as noted by the Association for Women in Science. A recent National Academy of Sciences report on sexual harassment of women in science is drawing attention to this unfortunately fairly pervasive concern. Drs. Thorpe and Mendola will outline recent data on women in epidemiology and discuss broader issues of gender equity with attendees. They will also invite discussion regarding experiences and concerns from roundtable attendees. This conversation effects our discipline broadly with considerations for all gender identities. All are welcome to attend and join the discussion.

Brief Biographies: still need Lorna's bio

Dr. Pauline Mendola, **PhD** is a Senior Investigator in the Epidemiology Branch, Division of Intramural Population Health Research at the Eunice Kennedy Shriver National Institute of Child Health and Human Development. She earned a PhD in Epidemiology and Community Health from the University at Buffalo. Her research focuses on environmental factors that impact reproductive health, particularly pregnancy outcomes. Her current work addresses immune function during pregnancy and environmental factors that can be used to predict whether maternal asthma symptoms will worsen or improve during pregnancy. She is the current ACE President.

2. "TBD" (sponsor: Ethics Committee)

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 5051

3. **"Careers in environmental epidemiology and making your research impactful for risk assessment and decision making"**

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 6051

Sponsor: Mentoring Committee

Discussants: Carol Burns, PhD, MPH, Fellow ACE and Susan M. Pinney, PhD

Description: Quality epidemiology data is taking on increased importance for human health decision making. Opportunities to both generate and evaluate these data will be discussed.

Abstract: Enrollment in specialized degree programs in environmental epidemiology is declining. However, regulators and policy makers are increasingly looking to epidemiology data on which to make decisions.

This is balanced with a shift away from traditional laboratory animal studies toward more mechanistic analyses and sophisticated modeling. Understanding the needs of regulators can help epidemiology researchers make an impactful contribution. Careers in sectors of industry, government and academia will be discussed in an open round table forum.

Brief Biographies:

Carol Burns, PhD, is president of Burns Epidemiology Consulting and an adjunct professor of epidemiology at the Central Michigan University College of Medicine, having previously worked in occupational and environmental epidemiology at The Dow Chemical Company for 21 years. She holds a doctorate degree in epidemiology from the University of Michigan and a master's degree from Tulane University School of Public Health and Tropical Medicine. Carol's primary areas of focus are assessing exposure in epidemiology studies and improving the use of epidemiology for use in risk assessment. She is passionate about communicating the role of epidemiology in decision making to colleagues, community members and government regulators. Active in the epidemiology community, she was the newsletter editor of the American College of Epidemiology for many years and currently chairs the ACE Career and Mentoring committee. She serves on the editorial board of the journal Advances of Public Health. Also active locally, she is a trustee for Alma College, a board member of Adoption Option, Inc., and serves on a health panel for the United Way.

Susan M. Pinney, PhD is a Professor in the Department of Environmental Health in the College of Medicine, University of Cincinnati, the Deputy Director of the Center for Environmental Genetics, and the Cancer Risk, Control and Prevention Program Leader for the Cincinnati Cancer Center. Dr. Pinney has conducted research in the area of environmental epidemiology for the last 25 years. She has conducted studies incorporating exposure biomarkers of radiation, uranium, cotinine, phenols, phthalates, phytoestrogens, organochlorides, and most recently, the perfluoroalkyl chemicals (PFCs) including perfluorooctanoate (PFOA), and has developed methods for incorporating environmental biomarker measurements into models for estimating exposure.

4. **"Annals of Epidemiology: New Leadership, New Vision, and New Ways to Engage ACE Membership"**

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Level 2, Room 20

Sponsor: ACE Publications Committee in conjunction with the Annals of Epidemiology

Discussants: Patrick Sullivan, DVM, PhD, Editor-in-chief, Annals of Epidemiology; Cory Woodyatt, BSN,RN, Managing Editor, Annals of Epidemiology

Abstract: Annals of Epidemiology is the official journal of the American College of Epidemiology (ACE), and this roundtable is an opportunity for members of ACE to engage with Editor-in-Chief Dr. Patrick Sullivan and Managing Editor Cory Woodyatt. We will discuss our vision for the journal, and how to increase the journal's impact in the field. Sullivan will also present the ways in which ACE members can get involved in the journal, including the advantages of submitting to the journal as an ACE member or fellow.

The session will finish off with an open-floor discussion on how the journal can be of more value to ACE members and their research efforts.

Brief Biographies:

Patrick Sullivan, DVM, PhD is the Editor-in-Chief of Annals of Epidemiology. Dr. Sullivan currently serves as a Charles Howard Candler Professor of Epidemiology at Emory University's Rollins School of Public Health. Prior to joining Emory, Dr. Sullivan spent 12 years at the Centers for Disease Control and Prevention (CDC), including five years as Chief of the Behavioral and Clinical Surveillance Branch. He is a Co-Director of the Emory CFAR Prevention Sciences Core and in this role, he supports NIH-funded investigators in ways to integrate Internet-based and mobile technologies into HIV research and prevention. Dr. Sullivan was the founding editor of JMIR Public Health and Surveillance and has served in guest editor roles for The Lancet, Public Health Reports, and Open AIDS.

Cory Woodyatt, BSN, RN is the Managing Editor of Annals of Epidemiology. Mr. Woodyatt currently serves as an Emergency Room nurse at Emory Healthcare. Prior to joining Emory Healthcare, he spent 5 years at Emory University's Rollins School of Public Health as a Project Manager for AIDSVu.org, an interactive online map illustrating the prevalence of HIV in the United States. Cory also served as a Project Officer for 3 years at the Public Health Agency of Canada where he assisted in the development of national STI and HIV prevention programs and guidelines. Cory has published on public health topics including transgender health, intimate partner violence, sexual agreements, and HIV non-disclosure laws.

5. Dept. of Epidemiology Chairs Luncheon (by invitation only)

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Level 2, Room 27

6. **"Developing Healthy People 2030: Exploring Data Issues and Needs"**

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Level 2, Room 40

Sponsor: Leda Gurley, NCHS, – Centers for Disease Control and Prevention

Discussants: CDR David T. Huang, PhD, MPH, CPH, Chief, Health Promotion Statistics Branch, CDC/National Center for Health Statistics, Leda Gurley, MSM, MPH, Supervisory Team Lead, Health Promotion Statistics Branch, CDC/National Center for Health Statistics, Debbie Hoyer, MPH, Public Health Advisor, Office of Disease Prevention and Health Promotion, US Department of Health and Human Services

Description: This Healthy People 2030 roundtable session will provide an overview of the Healthy People initiative and discuss the importance of current data and data tools to track and measure progress throughout the decade. Additionally, the session will explore data issues and needs related to the development of the new iteration of Healthy People, Healthy People 2030.

Abstract: Since 1979, the Healthy People Initiative has served as a roadmap to advance the nation's health by developing a new set of science-based, 10-year national objectives each decade. As part of the user-driven process for developing the next iteration of the initiative, Healthy People 2030 (HP2030), this

roundtable session will provide an opportunity for attendees with expertise in public health data, policy, and epidemiology to participate in an interactive discussion on how data can be used to inform the development and selection of HP2030 objectives. This session will explore issues related to both national and subnational data, as well as potential opportunities to engage stakeholders through supplemental indicators and data linkages. Finally, the session will give participants an opportunity to engage in discussions on data issues related to Healthy People outreach and dissemination, including providing technical assistance to stakeholders and making data accessible and user friendly to website users.

Brief Biographies:

CDR David T. Huang, PhD, MPH, CPH is the branch chief for the Health Promotion Statistics Branch, leading a staff of 18 who provide data and statistical support to the national Healthy People initiative at the CDC's National Center for Health Statistics (NCHS). He holds a PhD in Industrial Engineering from the Georgia Institute of Technology and an MPH in quantitative methods from the Harvard T. H. Chan School of Public Health. CDR Huang is a member of the charter class of Certified in Public Health (CPH) professionals and has authored scientific articles and charts appearing in the Journal of the American Medical Association (JAMA), American Journal of Public Health, Annual Review of Public Health, American Journal of Epidemiology, Journal of Public Health Management and Practice, and Morbidity and Mortality Weekly Report (MMWR).

Leda Gurley, MSM, MPH is a supervisory epidemiologist at the Centers for Disease Control and Prevention, National Center for Health Statistics, Health Promotion Statistics Branch (HPSB), which provides data and statistical expertise to the Department of Health and Human Services' national health goals as outlined in the Healthy People initiative. She provides expertise and leadership to the analysts within HPSB in the collection, analysis and reporting of statistical data related to Healthy People. She also serves on working committees of the Department of Health and Human Services dealing with the development of these goals. Ms. Gurley has over 17 years' specialized experience in public health. She holds a Master of Science in Management from Wilmington University and a Master of Public Health with a dual concentration of Epidemiology and Biostatistics and Social and Behavioral Sciences from Boston University.

Debbie Hoyer, MPH is a Public Health Advisor for the Department of Health and Human Service's Office of Disease Prevention and Health Promotion. She works closely with the National Center for Health Statistics on issues and information related to Healthy People data. She earned an MPH from the University of Washington.

7. "TBD" Associate Member Committee

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Level 2, Room 44

1:00 pm – 1:15 pm Transition/Travel Time

Location: University of Cincinnati, Medical Sciences Building (MSB)

1:15 pm – 2:45 pm

Concurrent Sessions 1

Concurrent Session 1a

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Biosocial Determinants of Obesity and Its Consequences Across the Lifecourse

Co-chairs: Bertha Hidalgo, PhD, University of Alabama at Birmingham and Russ Kirby,

Speakers:

Kaori Fujishiro, PhD, Senior Epidemiologist, National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), **"Investigating obesity risk among working-age adults: The role of job characteristics and what a life-course approach can illuminate"**

Description: Work is relevant for many decades in adult life, during which major life events take place. Using a life-course approach, this talk will discuss how work can contribute to obesity and also how it may facilitate obesity prevention.

Abstract: A life-course approach—with its emphasis on human development as a life-long process, timing in life events, and human agency within social contexts—can provide unique insights into the social determinants of obesity. The first part of the talk highlights findings from two studies using the Nurses' Health Study II data. The first study showed that stress-related weight gain depended on baseline BMI: job stress may contribute to weight gain in the first

place, but overweight and obesity may also make the person more vulnerable to job stress. The second study revealed that durations of working on rotating night shift before and during the 4-year study period had different associations with weight gain: previous shiftwork had a dose-response relationship with weight gain; concurrent shiftwork had an inversed-U shape. The timing of first exposure along with life changes outside work may be important in middle-aged working women's weight gain. The second half of the talk will focus on human agency in social contexts and the role of job quality in encouraging healthier behaviors. Obesity prevention efforts have aimed to increase knowledge (e.g., serious consequences of obesity) and to change environments (e.g., availability of healthy foods). For knowledge and environment to lead to actual action, self-efficacy (i.e., self-confidence in taking desired action) must be cultivated. A study using Gallup data suggested that certain work characteristics may help strengthen self-efficacy, which increases the chance of making healthier choices. When researchers investigate either risk factors for obesity or facilitators of healthy behavior, they gain better understanding by incorporating the complexities of life as a process, the timing of life events, and the social contexts surrounding individuals.

Brief Biography:

Kaori Fujishiro, PhD, is a social epidemiologist at the National Institute for Occupational Safety and Health (NIOSH). Her research investigates health as a consequence of the dynamic interactions among individuals, their work environment, and their social contexts. This perspective goes beyond the traditional exposures-disease framework and instead moves toward a complex systems approach. In her recent publications, Dr. Fujishiro argues that work plays an important role in creating and perpetuating

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health inequalities across racial/ethnic groups as well as socioeconomic positions.

Leslie replacement:

Sara E. Luckhaupt ?

Leslie MacDonald, MS, ScD, Captain, United States Public Health Service, Senior Scientist Officer, National Institute for Occupational Safety and Health, **"Obesity and Comorbid Conditions in a National Sample of Employed Black and White Men and Women aged ≥45 Years: The REasons for Geographic and Racial Differences in Stroke (REGARDS) Study"**

Description: Reaching middle age with an ideal weight and a favorable cardiovascular risk factor profile is known to substantially reduced lifetime risk of cardiovascular disease (CVD), yet half of CVD occurs among those less than 60 years old, and poor health is a leading cause of premature retirement in the United States. This presentation addresses adulthood, the domain of work life, the occupational patterning of obesity and comorbid cardiovascular conditions, and implications for primary and secondary prevention.

Abstract: The identification of groups with obesity and other cardiovascular risk factors can inform where and how to direct primary and secondary prevention efforts. National prevalence estimates of cardiovascular health (CVH) were derived for clinical (blood glucose (BG), total cholesterol (TC), blood pressure (BP)) and behavioral (body mass index (BMI), diet quality, physical activity (PA), smoking) factors among 6,282 employed black and white men and women aged ≥45 years enrolled in the national population-based REasons for Geographic And Racial Differences in Stroke study from 2003-2007. A

physical exam entailed a standardized protocol for the data collection and the handling, storage, and shipment of blood to a central laboratory for the measurement of BG and TC; after being seated for 5 minutes, participants' BP was taken twice, and mean values for systolic and diastolic BP were used in analyses. Participants' BMI was computed from body weight and height measured during the exam. Physical activity and smoking were self-reported during a computer assisted telephone interview, and diet quality was assessment from participant responses on a self-administered Block Food Frequency Questionnaire. Each CVH factor was scored as ideal (2), intermediate (1), or poor (0) according to American Heart Association criteria. Baseline occupational data were collected by computer assisted telephone interview and coded to Census 2002 major and broad occupation categories. Prevalence data were weighted by the inverse probability of sampling to account for oversampling of blacks and those residing in the south eastern United States known as the stroke belt region. Prevalence ratios were computed using weighted proportional hazards regression and adjusted for age, race, sex, and region. Only 14% met ideal criteria for all three clinical health factors, while none met ideal criteria for all four behavioral health factors. Sales and low status office workers had a low prevalence of optimal CVH. Service workers in protective services and the food preparation and serving occupations had a low prevalence of optimal clinical health, while computer and healthcare support workers had a low prevalence of optimal behavioral health. The prevalence of optimal CVH among middle-age and older workers in the United States is low, but considerable differences exist by occupation. Implications for primary and secondary prevention will be discussed.

Brief Biography:

CAPT Leslie MacDonald, MS, ScD is a Senior Scientist Officer at the National Institute for Occupational Safety and Health within the Centers for Disease Control and Prevention. Dr. MacDonald is principal investigator for the Occupational Ancillary Study to the REasons for Geographical and Racial Differences in Stroke Study, which is a population-based cohort study investigating the association between occupational factors (job stress, long work hours, shiftwork, physical work load) and cardiovascular risk factors, and incident heart disease and stroke. Her research also centers on examining associations between the separate and joint effects of physical job demands and workplace psychosocial conditions and other chronic health conditions, including musculoskeletal disorders and adverse reproductive health outcomes. She has published provisional guidelines for lifting at work during pregnancy that is currently undergoing policy development.

Michele R. Forman, Ph.D, FACE, Distinguished Professor and Department Head, Department of Nutrition Science, College of Health and Human Science, Purdue Center for Cancer Research, Purdue University, **"Life course of Preeclampsia: Facing obesity and comorbidity in mothers and offspring"**

Description: This presentation compares the health and development of a cohort of offspring with and without exposure to preeclampsia who were followed through the first 18 years and also addresses the long-term effects of preeclampsia on the index mother. Repeated measures of growth and health illustrate the long-term effects of in utero exposures on mother-offspring dyads.

Abstract: Women who develop preeclampsia (PE), a comorbidity characterized by hypertension and

proteinuria in pregnancy, are at increased risk of cardiovascular disease. Indeed the American Heart Association (AHA) Guidelines 2011 states that a pregnancy history of PE is an integral part of preventive cardiology assessments for women. PE is diagnosed in 3-8% of pregnancies annually, is a disease of unknown etiology, and varies by severity and by gestation age at diagnosis. In a longitudinal nested case-control study within birth cohorts in Norway, we report that women diagnosed with PE in pregnancy are at higher risk for hypertension and for metabolic syndrome (higher glucose and insulin levels) 11 years postpartum than women not exposed to PE in pregnancy; but duration of lactation in the index pregnancy can modify this risk. Also women with PE exposure are at reduced risk of breast cancer than their non-PE peers. Importantly offspring of PE pregnancy have an almost double risk of stroke in adulthood with preclinical evidence apparent by childhood. We report that offspring of PE pregnancy have elevated systolic blood pressure (SPB) in early adolescence (aged 11 y), and higher body mass index compared to age-sex matched peers unexposed to PE in utero. Girls of PE pregnancies delay breast development but have accelerated pubic hair development compared to girls without PE exposure. Thus the life course of mother-offspring dyads with exposure to PE is dramatically different than comparable dyads without exposure. These differences reveal a profile of pathways and perils to chronic disease prevention that is triggered by PE.

Brief Biography:

Michele R. Forman, Ph.D, FACE has a career focuses on nutritional epidemiology and clinical nutrition research across the globe with an emphasis on early life exposures and risk for chronic disease as well as the role of nutrition in growth and health across the life course. As her research foci have shifted from low birth-weight to chronic disease, the still point of the compass has remained fixed; she examines the developmental origins of disease. Much of her research is designed either as a longitudinal prospective cohort study that spans the peri-conceptional period through adulthood or dietary interventions in the free-living state or under controlled feeding conditions or randomized clinical trials. Her laboratory addresses nutritional assessment of individuals from infancy through adulthood; and tests dietary interventions amongst high risk groups such as chronic renal disease patients. She has over 180 peer reviewed publications, numerous invited presentations nationally and internationally, is on many institutional committees, advisory boards. She has mentored over 80 postdoctoral fellows, graduate and undergraduate students.

Concurent Session 1b

Location: University of Cincinnati, Medical Sciences Building (MSB), Room E-351

Applications of Infectious Disease Epidemiology from the Micro to the Macro

Chair: Stephanie Donauer, PhD, Xavier University, Department of Health Services Administration

Abstract: Among the many challenges to health across our lifespan, infectious diseases are unique in terms of their potential for explosive global impact, ability to adapt against pressures aimed at their

destruction, and potential for prevention. The successes we have made toward the control of infectious disease have stemmed from a wide range of approaches, and this session will highlight a few key epidemiological approaches, from the molecular perspective to improving vaccine uptake.

Brief Biography:

Stephanie Donauer, PhD is an Assistant Professor in the Department of Health Services Administration at Xavier University. Dr. Donauer received her undergraduate degree in Biology from the University of Dayton, and her PhD in Epidemiology from the University of Cincinnati. Prior to joining Xavier University, Dr. Donauer completed a general academic pediatric fellowship at Cincinnati Children's Hospital Medical Center. Dr. Donauer's research interests include environmental health, immunotoxicity, and vaccine effectiveness.

Speakers:

Sharon G. Humiston, MD, MPH, FAAP, Department of Pediatrics/ Division of Emergency Medicine, Children's Mercy Kansas City, Professor of Pediatrics, UMKC School of Medicine, **"HPV vaccination: Data is the new bacon"**

Description: This presentation will highlight the epidemiology of HPV burden and HPV vaccination, as well as efforts to improve coverage using quantitative and qualitative data.

Abstract: This presentation will highlight the epidemiology of HPV burden and HPV vaccination, and show how these facts are being used to design interventions to improve coverage. We'll discuss how scientific explanations of encouraging data can, perversely, fuel vaccine hesitancy. And, in this

presentation on The New Bacon, lettuce not forget the important contribution of qualitative data in improvement efforts.

Brief Biography:

Sharon Humiston, MD, MPH, FAAP is Professor of Pediatrics at University of Missouri –Kansas City, School of Medicine and Children's Mercy. She is a clinician and health services researcher; her research focuses on innovative and practical approaches to improve vaccine delivery. She works on HPV vaccination initiatives for the Academic Pediatric Association and the American Academy of Pediatrics. She has served on the Steering Committee of the American Cancer Society's HPV Vaccination Roundtable and is the Associate Director for Research for the Immunization Action Coalition. In her glory days she was a Medical Epidemiologist in the CDC's National Immunization Program (now the National Center for Immunization and Respiratory Diseases).

Betsy Foxman, PhD, Hunein F. and Hilda Maassab Professor of Epidemiology, University of Michigan School of Public Health, **"Does the microbiome mediate risk of viral infection?"**

Description: I will present results of studies exploring the interactions between the composition and structure of commensal bacteria found in the nasal pharynx and respiratory infection.

Abstract: Applications of high throughput 'omics technologies to the microbes living in and on humans (the microbiota) are rapidly changing our perspectives of the importance of microbiota to human health. If microbiota enhance or reduce the effects of viral infection on the host, we might manipulate the microbiota for our benefit. Alternatively, or in addition,

microbiota might respond to exposure-induced changes in host functions, and thus microbiota characteristics could be used as a diagnostic or prognostic tool. I will provide examples of ongoing epidemiologic studies examining whether the composition and structure of commensal bacteria mediate risk of respiratory infection.

Brief Biography:

Betsy Foxman, PhD is the Hunein F. and Hilda Maassab Professor of Epidemiology at the University of Michigan School of Public Health, where she directs the Center for Molecular and Clinical Epidemiology of Infectious Disease, the Integrated Training Program in Microbial Systems, and the Certificate program in Healthcare Infection Prevention and Control. Her research focuses on the transmission, pathogenesis, ecology and evolution of infectious agents, with an emphasis of transmission. She has over 250 publications in the scientific literature, is author of a textbook, Molecular Tools and Infectious Disease Epidemiology, and recently edited a special issue of the Annals of Epidemiology on the “Microbiome and Epidemiology”.

Todd Jusko, PhD, University of Rochester School of Medicine and Dentistry, Department of Public Health Sciences, Division of Epidemiology, Department of Environmental Medicine, **"Environmental Toxicants: The New Anti-Vaxxers?"**

Description: This presentation will give a brief overview of what is known about infectious outcomes in relation to early life chemical exposures. The state of infectious disease outcome assessment in this context will also be discussed.

Abstract: Many environmental chemicals are well-studied in terms of their potential effects on

reproductive and neurobehavioral outcomes, but immune outcomes have received considerably less attention. Animals studies demonstrate that these exposures can lead to immune suppression, resulting in an increased risk of infection. To overcome some of the limitations inherent in measuring infection risk in human cohorts, antibody “responses” to scheduled childhood vaccinations have been a convenient endpoint with which to interrogate potential immunotoxicity in developmental studies of environmental exposures. An overview of what is known about the increased risk of infection in relation to these chemical exposures will be reviewed, and the limitations of these approaches considered. Next steps, particularly as they relate to measuring infection and morbidity, will also be discussed.

Brief Biography:

Todd Jusko, PhD is an environmental epidemiologist and assistant professor at the University of Rochester School of Medicine and Dentistry in Rochester, NY. His research focuses on how environmental chemicals contribute to adverse immunological development over the entire lifespan. He is interested in the immune system as both a disease endpoint (e.g., infection, lowered vaccine response, development of autoimmunity), and as a mechanism of susceptibility for other disease outcomes, such as neurobehavioral development. Dr. Jusko trained at the University of Washington and completed a postdoctoral fellowship in biomarker-based epidemiology at NIEHS, NIH.

2:45 pm – 3:00 pm | Beverage Break

Location: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium, E-351

3:00 pm – 4:15 pm | **Plenary Session**

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

The Epidemiology of Addiction and the Opioid Use Epidemic

Co-Chairs: Maurizio Macaluso and Russ Kirby

Speakers:

Steve Sussman, PhD, FAAHB, FAPA, Professor of Preventive Medicine, Psychology, and Social Work, Institute for Health Promotion and Disease Prevention Research, University of Southern California,
"Addiction as a Dysregulation of Appetitive Motivation"

Description: I argue that understanding the definition and breadth of addiction leads one to consider any number of substances and behaviors that can become dysregulated. I also discuss what may lead to one addiction but not another (addiction specificity), the notion of an "addiction class", and suggest implications for health policy.

Abstract: Addiction often is described without being well-defined. In this presentation, the definition of addiction is presented, which involves engaging in behaviors, including imbibing of substances that achieve a subjective appetitive effect, then lead to preoccupation and loss of control, and to undesired consequences. In this presentation I suggest that up to 48% of the adult population suffers from one or more of 11 focal addictions (nicotine, alcohol, other drugs, food, gambling, electronic media, love, sex, shopping, exercise, and work). Based on Latent Class Analysis data I suggest that, considering these focal addictions, there exists an "addiction class" of persons, and a non-addiction class, and that both

classes are quite stable over a year's period. Within the addiction class the specific addiction harnessed is not stable and may fluctuate based on pragmatics, attraction of the behavior, communication expertise regarding the behavior, and meeting expectations (PACE). Lifestyle (including social pushes and pulls), associative learning, along with neurobiological vulnerability impact the tendency to develop an addictive pattern. Health policy should consider the need to grapple with the addiction process to halt the development of negative substitute addictions, while maintain realistic coverage of persons.

Brief Biography:

Steve Sussman, Ph.D., FAAHB, FAPA, received his doctorate in social-clinical psychology from the University of Illinois at Chicago in 1984. He is a professor of preventive medicine, psychology, and social work at the University of Southern California (USC), and he has been at USC for 34 years. He studies etiology, prevention, and cessation within the addictions arena, broadly defined, as well as translation research and program development. He has over 500 publications. His programs include Project Towards No Tobacco Use (young teen tobacco use prevention), Project Towards No Drug Abuse (older teen drug abuse prevention), and Project EX (older teen tobacco use prevention/cessation), which are considered evidence-based programs at numerous agencies (i.e., CDC, NIDA, NCI, OJJDP, SAMSHA, CSAP, Colorado and Maryland Blueprints, Health Canada, U.S. DOE and various State Departments of Education). He received the honor of Research Laureate for the American Academy of Health Behavior in 2005, and he was President there (2007-2008). Also, as of 2007, he received the honor of Fellow of the American Psychological Association (Division 50, Addictions). He is the current Editor of Evaluation & the Health

Professions (SAGE Publications). His newest text is: Substance and Behavioral Addictions: Concepts, Causes, and Cures (Cambridge, 2017).

Stephen Patrick, MD, MPH, MS, Vanderbilt University, **"The Impact of the Opioid Epidemic on Pregnant Women and Infants"**

Description: This talk will focus on the rise of opioid use in in the US, how it has affected pregnant women and infants and how public health systems have responded.

Abstract: Over the past two decades, there has been substantial growth in opioid consumption in pregnancy, diagnoses of opioid use disorder among pregnant women, and neonatal complications from in utero opioid exposure. By 2014, one infant was born on average every 15 minutes in the United States having signs of drug withdrawal after birth, also known as neonatal abstinence syndrome (NAS). The rapid rise of opioid use in pregnancy caught hospitals and public health systems off guard. This talk will describe the rise of opioid use in pregnancy and NAS and will focus on their implications for public health systems as well as state and federal policy.

Brief Biography:

Stephen W. Patrick, MD, MPH, MS, is the Director of the Vanderbilt Center for Child Health Policy, an Assistant Professor of Pediatrics and Health Policy at Vanderbilt University School of Medicine and an attending neonatologist at Monroe Carell Jr. Children's Hospital at Vanderbilt. He is a graduate of the University of Florida, Florida State University College of Medicine and Harvard School of Public Health. Dr. Patrick completed his training in pediatrics, neonatology and health services research

as a Robert Wood Johnson Foundation Clinical Scholar at the University of Michigan.

Dr. Patrick's National Institute on Drug Abuse-funded research focuses on improving outcomes for opioid-exposed infants and women with substance-use disorder and evaluating state and federal drug control policies. He previously served as Senior Science Policy Advisor to the White House Office of National Drug Control Policy. Dr. Patrick is a member of the American Academy of Pediatrics Committee on Substance Use and Prevention and has been a voting member on several US Food and Drug Administration Advisory Boards focused on opioid use in children. He has testified about the impact of the opioid epidemic on pregnant women and infants before committees in both the US House of Representatives and the US Senate. Dr. Patrick's awards include the American Medical Association Foundation Excellence in Medicine Leadership Award, the Academic Pediatric Association Fellow Research Award Tennessee Chapter of the American Academy of Pediatrics Early Career Physician of the Year and the Nemours Child Health Services Research Award. His research has been published in leading scientific journals including the New England Journal of Medicine, JAMA, Pediatrics and Health Affairs.

Bill Miller, OSU, **"TBD"**

4:30 pm – 6:00 pm **Poster Viewing**

Location: University of Cincinnati, Medical Sciences Building (MSB)

5:30 pm – 6:15 pm ACE Business Meeting

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

6:15 pm – 8:15 pm	**Reception** *Location: Cincinnati Zoo and Botanical Gardens* Sponsor: Cincinnati Children's Hospital Medical Center
Tuesday September 25	
7:15 am – 8:15 am	**Breakfast Roundtables** *Location TBD: MSB 3051 and/or 6051* 1. Breakfast with the Abraham Lilienfeld Award winner 2. Breakfast with the Endowed Lecturer: Ross C. Brownson, PhD, FACE 3. Breakfast with the ACE President-elect: Russ Kirby, PhD, MS, FACE 4. Breakfast with the Minority Affairs Committee
8:15 am – 8:30 am	Beverage Break *Location: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium*
8:30 am – 9:00 am	**ACE Presidential Address,** Pauline Mendola, PhD, FACE, ACE President Introduced by Maurizio Macaluso *Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium*
9:00 am – 9:45 am	**Endowed Lecture**

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Ross C. Brownson, PhD, FACE, Bernard Becker Professor of Public Health, Director, Prevention Research Center, Washington University in St. Louis, MO, **"Linking epidemiology and implementation science: How to increase the impact of your research"**

Abstract: This presentation will explore the connections between epidemiology and implementation science. Participants will expand their understanding of how implementation science can improve the quality, relevance, and impact of their work. In particular, the session will explore the potential of implementation science, key contributions of epidemiology, and opportunities for practice- and policy-based research. The objectives are to: 1) describe the underpinnings of implementation research; 2) explore some research topics and gaps (illustrated with clinical and policy research); 3) consider the reciprocal relationship between epidemiology and implementation science; and 4) describe resources for building implementation science capacity (both individually and organizationally).

Brief Biography:

Ross Brownson, PhD, FACE, is the Bernard Becker Professor of Public Health at Washington University in St. Louis. He studies the translation of evidence to public health practice and policy, with a content focus on environmental and policy determinants of chronic diseases. Dr. Brownson is the author of 15 books and over 500 peer-reviewed articles. His books include Applied Epidemiology, Evidence-Based Public Health, and Dissemination and Implementation Research in Health. Dr. Brownson has received numerous awards for his work. Among these, he is the recipient of the Abraham Lilienfeld Award for outstanding contributions in teaching and mentoring (from the American Public Health Association) and the Charles C. Shepard Science Award (the highest award for science, from the Centers for Disease Control and Prevention). Dr. Brownson has been noted as one of the most productive public health scholars and was recently named by Thompson Reuters as one of the world's most influential scientific minds. Dr. Brownson is a former board member of the American Cancer Society and a former president of the National Association of Chronic Disease Directors. He is also active in the American College of Epidemiology, where he is a recent past-president.

9:45 am – 10:00 am

Beverage Break

Location: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium

10:00 am – 11:00 am

Concurrent Sessions 2

Concurrent Session 2a

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Epidemiology for the Learning Health System

Chair: Maurizio Macaluso

Speakers:

Peter Margolis, MD, PhD, Cincinnati Children's Hospital, **"Learning from the Healthcare System to improve population health"**

Description:

Abstract:

Brief Biography:

Speaker **"TBD"**

Speaker **"TBD"**

Concurrent Session 2b

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 5051

Oral Presentation of Best Abstracts

Chair: Melissa Adams and Maria-Graciela-Hollm Delgado

Jessica L Irwin, Alison J Yeates, Maria S Mulhern, Emeir M McSorley, JJ Strain, Gene E Watson, Katherine Grzesik, Sally W Thurston, Tanzy M Love, Tristram H Smith, Daniel W Mruzek, Conrad F Shamlaye, Catriona Monthy, Gary J Myers, Philip W Davidson, Edwin van Wijngaarden, University of Rochester School of Medicine and Dentistry.
"Maternal gestational immune response and autism spectrum disorder phenotypes at 7 years of age in the Seychelles Child Development Study"

Katherine Bowers, Hong Ji, Lili Ding, Robert Ammerman, Judith Van Ginkel, Kimberly Yolton, Alonzo (Ted) Folger, Cincinnati Children's Hospital Medical Center. **"Intergenerational effects of maternal early life adversity on infant DNA methylation of NR3C1"**

Sara A. Miller-Archie, Sungwoo Lim, Sarah Walters, Tejinder Singh, New York City Department of Health and Mental Hygiene, Division of Epidemiology, Bureau of Epidemiology Services**. "Impact of supportive housing on substance use healthcare utilization and treatment among homeless persons who are active substance users"**

11:00 am - 11:15 am — Beverage Break

Location: University of Cincinnati, Medical Sciences Building (MSB), Outside of Kresge Auditorium

11:15 am – 12:30 pm — **Plenary Session**

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Environmental Health

Chair: Susan Pinney, PhD

Brief Biography:

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Susan M. Pinney, PhD is a Professor in the Department of Environmental Health in the College of Medicine, University of Cincinnati, the Deputy Director of the Center for Environmental Genetics, and the Cancer Risk, Control and Prevention Program Leader for the Cincinnati Cancer Center. Dr. Pinney has conducted research in the area of environmental epidemiology for the last 25 years. She has conducted studies incorporating exposure biomarkers of radiation, uranium, cotinine, phenols, phthalates, phytoestrogens, organochlorides, and most recently, the perfluoroalkyl chemicals (PFCs) including perfluorooctanoate (PFOA), and has developed methods for incorporating environmental biomarker measurements into models for estimating exposure.

Speakers:

Patrick H. Ryan, PhD, Associate Professor of Pediatrics and Environmental Health, Division of Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center, University of Cincinnati, College of Medicine, **"Exposure to Air Pollution and Mental Health Outcomes in Children"**

Abstract: Exposure to air pollution has been consistently linked to adverse cardiovascular and pulmonary health outcomes in children and adults. Recent toxicological and epidemiologic evidence suggests some air pollutants may also be neurotoxic and affect the central nervous system. This presentation will describe epidemiologic evidence that exposure to traffic-related air pollutants and particulate matter during childhood is associated with both chronic and acute mental health outcomes.

Brief Biography:

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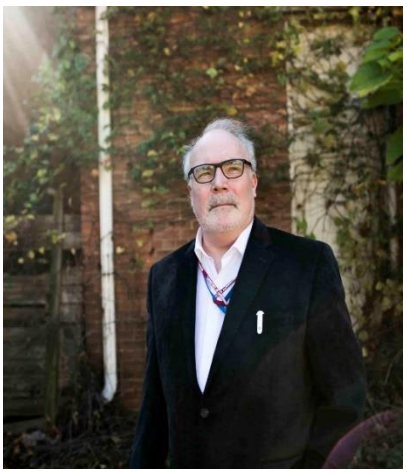
Patrick Ryan, PhD received his MS and PhD from the Department of Environmental Health at the University of Cincinnati. He is an Associate Professor in the Division of Biostatistics and Epidemiology at Cincinnati Children's Hospital where his research is focused on methods to characterize air pollution exposure and their application to epidemiologic studies. Currently, he leads the Cincinnati Childhood Allergy and Air Pollution Study (CCAAPS) cohort, a longitudinal study of children exposed to air pollution during early childhood and respiratory and neurobehavioral development. In addition, he is utilizing novel personal sensors to characterize real-time exposure to ultrafine particles and study their impact on adolescent health outcomes.

Kim N. Dietrich, M.A., Ph.D, Professor of Environmental Health and Epidemiology, Director, Molecular Epidemiology in Children's Environmental Health Training Program, The University of Cincinnati College of Medicine **"Lifespan Developmental Neurotoxicity: Cincinnati Lead Studies 1979-2018"**

Abstract: Lead research at the University of Cincinnati College of Medicine goes back to the turn of the last century. More recent investigations conducted by researchers in the Department of Environmental Health have shed light on a variety of important questions regarding sources of lead exposure and their impact on human development. These included research on the origins of lead exposure in urban childhood populations and investigations of the neurodevelopmental effects of lead exposure from conception to mid adulthood. Other Longitudinal studies conducted here have focused on the safety and efficacy of environmental and pharmacological interventions in youngsters exposed to higher levels of lead. This presentation will briefly review the history of this body of work over the last four decades and its impact on public health

policy regarding prevention and the medical treatment of patients burdened with this toxicant.

Brief Biographies:



Kim N. Dietrich, M.A., Ph.D. is a Professor of Environmental Health, former Director of the Division of Epidemiology and Biostatistics and currently Director of the Molecular Epidemiology in Children's Environmental Health training program at the University of Cincinnati College of Medicine, Department of Environmental Health. He has also served as Associate Director of the Cincinnati Children's Center for Environmental Health and Disease Prevention at the Children's Hospital Medical Center of Cincinnati. Dietrich has served as a consultant to numerous local, state, national and international agencies and organizations concerned with the impact of environmental chemical exposures on the health and development of young children. These agencies and geopolitical entities have included the National Institutes of Health (chartered membership on the NAME study section and NCEH/ATSDR Board of Scientific Counselors), National Academy of Sciences, the United States Environmental Protection Agency, the United States Centers for Disease Control and Prevention, including the Advisory Committee on Childhood Lead Poisoning and Prevention and its various subcommittees, the United States Agency for Toxic Substances and Disease Registry, Health and Welfare Canada, the European Economic Community, the Australian Government, the World Health Organization, the United States White House Office of Science and Technology, Physicians for Social Responsibility, Sierra Club, and Environmental Defense Fund. He also currently serves as an Associate Editor for Environmental Health Perspectives and on the editorial boards of Neurotoxicology and Neurotoxicology and Teratology.

Dietrich's research has focused on the developmental effects of prenatal and early postnatal exposure to lead in infants, toddlers, school-age children, adolescents, and young adults. He is presently examining the relationship between early exposure to lead, genetic factors, and adult criminality in a longstanding prospective longitudinal birth cohort study. His other studies include an examination of the developmental benefits of chelation therapy with succimer in a multi-center clinical trial and investigations of the effects of prenatal exposure to prevalent developmental toxicants including lead, manganese, pesticides, mercury, PCBs, tobacco smoke, drugs and alcohol in several birth cohorts. Recently he helped launch a developmental study of health effects related to primitive e-waste recycling in rural China. He has also recently launched an NIH-funded study of the relationship between early environmental chemical exposures and bone health outcomes in African-American women. Dietrich uses a wide range of neuroassessment tools and biomarkers in his studies. Neurodevelopmental assessments include standardized psychometrics, measures of neuromotor functions, and advanced neuroradiological techniques including volumetric and functional magnetic resonance imaging, magnetic resonance spectroscopy, and diffusion tensor imaging. Biomarkers of environmental exposure have included analyses of a wide range of metals and other environmental toxicants in a variety of tissues including blood, meconium, urine, hair, nails, teeth, and in vivo bone.

Mary Beth Terry, PhD, Professor, Columbia University, **"Wag the Dog: Can High Risk Populations Provide Critical Evidence on the Role of the Environment in Breast Cancer Causation"**

Abstract: Laboratory evidence supports that many common environmental exposures are mammary carcinogens but epidemiologic studies have been inconsistent. A key hypothesis for this inconsistency is that exposures are measured outside of windows of susceptibility. We examine this important critique and expand the investigation to considering enriched cohorts based on family history. Family studies have been essential to identify many important cancer genes that are relevant to all women not just women with a breast cancer family history. In a similar way, enriched family-cohorts can be used to identify environmental factors which may have a stronger signal with breast cancer than in average risk cohorts.

Brief Biography:

Mary Beth Terry, PhD, focuses her research on breast cancer and in the molecular epidemiology and lifecourse methods of the disease, in particular. She is a cancer epidemiologist with over 17 years of leading studies of breast cancer etiology specifically focused on the role of genetics, epigenetics, and other biomarkers play in modifying the effects of environmental exposures. Dr. Terry currently leads family-based studies that focus on studying environmental exposures during key windows of breast susceptibility. She is also leading prospective studies to validate and extend breast cancer risk assessment models. She is also funded through the Breast Cancer Research Foundation. In addition to her doctorate in epidemiology, Dr. Terry has a Master's degree in economics and previously worked as an econometrician and program evaluator for a number of government-sponsored programs. Dr. Terry teaches introductory and advanced epidemiologic methods.

12:30 pm – 12:45 pm Transition/Travel Time

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, Level 1, Sabin Auditorium

12:45 pm – 2:15 pm

Awards Luncheon: Abraham Lilienfeld Award and Annals Best Paper Award

Location: Cincinnati Children's Hospital Medical Center (CCHMC), Location D, level 1, Sabin Auditorium, room 23

2:15 pm – 2:30 pm

Transition/Travel Time

Location: University of Cincinnati, Medical Sciences Building (MSB)

2:30 pm – 4:00 pm

Concurrent Sessions 3

Concurrent Session 3a

Location: University of Cincinnati, Medical Sciences Building (MSB), Kresge Auditorium

Dynamic Prediction Methods to Advance Precision Epidemiology

Chair: Rhonda Szczesniak, PhD, Division of Biostatistics & Epidemiology, Cincinnati Children's Hospital Medical Center & Department of Pediatrics, University of Cincinnati, Cincinnati, Ohio

Abstract:

Brief Biography:

Rhonda Szczesniak, PhD is an Associate Professor of Biostatistics at Cincinnati Children's Hospital and University of Cincinnati. Her work focuses on development and application of statistical methods to analyze medical monitoring data as functional data. She collaborates with researchers around the world to improve how large longitudinal databases are utilized to forecast periods of rapid disease progression. Her epidemiologic areas of research focus on chronic lung diseases and disorders with active projects involving the US Cystic Fibrosis Foundation Patient Registry and translation of prediction models into point of care. Other active projects include trans-generational research of diabetes in pregnancy and ambulatory blood pressure monitoring.

Speakers:

Ruth Keogh, DPhil, London School of Hygiene & Tropical Medicine, London, United Kingdom,
"Landmarking for Dynamic Predictions of Outcome: Examples from Patient Registries"

Abstract: The focus of this talk will be on how to develop dynamic prediction models using the 'landmarking' approach to provide personalised estimates of a patient's life expectancy given their current health status. Examples will be given using longitudinal data from national registries for patients with cystic fibrosis in the US and UK.

Brief Biography:

Ruth Keogh, DPhil joined the Medical Statistics Department at the London School of Hygiene and Tropical Medicine (LSHTM) in 2012 as faculty of Epidemiology and Population Health. She studied Mathematics and Statistics at the University of Edinburgh and received an MSc and a DPhil in Applied Statistics at the University of Oxford. Prior to joining LSHTM she worked at the MRC Biostatistics Unit in Cambridge and the Cancer Epidemiology Unit at

Eleni-Rosalina Andrinopoulou, PhD, Erasmus, MC, & Rotterdam Ophthalmic Institute, Rotterdam, The Netherlands**, "Making Dynamic Predictions Flexible: Monitoring Post-Surgical Outcomes"**

Abstract: Dynamic predictions obtained by the joint modelling of longitudinal and survival framework assuming a time-varying effect for the association parameter will be presented. The motivation comes from a study which includes patients who received a human tissue valve in the aortic position and the main focus is to investigate whether the effect of the echocardiographic measures on survival varies in time.

Brief Biography:

Eleni-Rosalina Andrinopoulou, PhD received her Doctorate in Biostatistics from Erasmus Medical Center in the Netherlands in 2014 and has studied as a post-doctoral fellow with Dr. Dimitris Rizopoulos in the Department of Biostatistics, where she now has a permanent position. Her research was motivated by joint modeling of longitudinal and survival data arising from heart valve studies. She has received awards for her work in this area, including funding from the International Society for Clinical Biostatistics. Dr. Andrinopoulou collaborates with researchers both locally and abroad on epidemiological studies in cardiovascular and lung diseases. She teaches

quantitative research courses regularly through the NIHES MSc Program at Erasmus. She has provided workshops and other extended courses in advanced longitudinal data analysis to numerous fellows and biomedical faculty. Most recently, she gave a statistics seminar at the Institute of Statistics, Biostatistics and Actuarial Sciences in Belgium on joint modeling of longitudinal survival data.

Brandie Wagner, PhD, University of Colorado, Denver, Colorado, **"Dynamic Predictions using Longitudinally Collected Antibodies—Who is at Risk for Rheumatoid Arthritis?"**

Abstract: The focus of this talk will be the application of a joint model to longitudinal antibody measurements and time to develop rheumatoid arthritis. The dataset consists of multiple antibody measures, with a non-linear functional form over time and few measurements per subject, all of which complicate the application of common joint model software. The talk will discuss the caveats of the dynamic predictions from the joint model and comparison to a survival analysis with time varying covariates.

Brief Biography:

Brandie Wagner, PhD enjoys helping clinical and epidemiologic investigators make sense of their data and the ability to contribute to health-related science. She loves that she is able to work on a wide range of projects and collaborate with investigators in many different research areas. As an Associate Professor in the Department of Biostatistics and Informatics, Colorado School of Public Health at the University of Colorado, she has worked closely with investigators both on and off campus in many different application areas. These collaborations have been successful as evidenced by continued grant funding and co-

authored publications, some of which have had a large impact on the field. Her methodological research represents a sustained and focused contribution in the areas of proteomics/biomarker development, microbiota data analysis and joint models with many different areas of application. The unique data characteristics of microbiome data have resulted in her familiarity with zero-inflated and joint models. She has been active in longitudinal analysis for non-normal outcomes and development of joint models for the purpose of assessing longitudinal associations for outcomes with mixed distributions.

Concurrent Session 3b

Location: University of Cincinnati, Medical Sciences Building (MSB), Room 5051

Health Transitions into Adulthood (Growing up with chronic diseases of the childhood)

Chair: Brad Pollock

Speakers:

Brad Pollock, PhD, University of California Davis, **"The challenges of childhood cancer survivors"**

Dr. Lori Crosby, **"TBD"** problems faced by sickle cell anemia survivors and the transition from pediatric to adult care

Panel of young adults who are cancer survivors, have autism spectrum disorders or sickle cell anemia and have a panel discussion led by the patients after the individual presentations.

Dr. Paul Shattuck at Drexel, **"TBD"**

4:00 pm **Conference Ends**

5:00 pm – Late	Annals of Epidemiology Board meeting *Location: University of Cincinnati, Medical Sciences Building (MSB), TBD*

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