Thursday, December 1

OPEN SESSION

9:00 Welcome, Goals of the Study and Open Meeting Sessions
Joan Wennstrom Bennett, Committee Chair

9:10 Effect of Cleaning on the Indoor Microbiome
Richard Shaughnessy, University of Tulsa

9:45 Biofilm Control and Antimicrobial Surfaces
Phil Stewart, Montana State University

10:20 Break

10:40 Existing Bioinformatics Pipelines/Databases - Their Similarities, Differences, and Assumptions
Jonathan “Kirk” Harris, University of Colorado, Denver
Charles Robertson, University of Colorado, Boulder

11:15 Dermal Uptake of Organics from Air and Surfaces
Charles Weschler, Rutgers University

12:15 Lunch

1:15pm End of Open Session - Speakers and Public Depart
DISCLAIMER FOR PUBLIC SESSION

- As chair of the National Academies’ Committee on Microbiomes of the Built Environment: From Research to Application, I would like to welcome those of you in the room and those joining us through the webcast.

- As part of the Academies’ process – I am asked to let everyone know that this is an open, on-the-record information-gathering session.

- The committee is in the process of collecting information and materials that it will examine and discuss in the course of developing its findings, conclusions, and recommendations. Therefore, I ask everyone to be mindful of the fact that the committee has made no conclusions, and that it would be a mistake for anyone to leave here today thinking otherwise. Comments made by individuals, including members of the committee, should not be interpreted as positions of the committee or of the National Academies.

- In addition, committee members typically ask probing questions that may or may not be indicative of their personal views. The comments of any given committee member may not necessarily reflect the position he or she may actually hold on the subject under discussion, to say nothing of that person’s future position as it may evolve in the course of the study.

- The committee will deliberate thoroughly before writing its draft report. Moreover, once the draft report is written, it must go through a rigorous peer review process. We expect to release our report in 2017.
SPEAKER BIOGRAPHIES

Jonathan Kirk Harris, University of Colorado, Denver
J. Kirk Harris, PhD, is an Assistant Professor at the University of Colorado, Denver’s School of Medicine in the Department of Pediatrics and Pulmonary Medicine. He is also the Co-Director of the UC Denver Microbiome Research Consortium (MiRC). Dr. Harris’s research focuses on respiratory microbiota and model system microbiota.

Richard Shaugnessy, University of Tulsa
Richard J. Shaughnessy, Ph.D., has served as Director of the University of Tulsa’s Indoor Air Quality Research Program (TUIAP) in the Chemical Engineering Department since 1987. His studies have focused on particulate research, air cleaner evaluation, indoor chemistry, school studies, asthma/housing research, and resolution and remediation of bioaerosol-related problems. He is experienced in field research in homes and schools, and associated measurements/tools related to characterization of IAQ and moisture. He is currently furthering research studying associations between IAQ parameters in classrooms and student health/performance, and is actively working toward defining a basis for “clean” in schools which applies to both performance and health of students. He is Principal Investigator on an ongoing EPA STAR grant, designed to improve health of tribal children (Cherokee, Navajo, and Nez Perce) in homes and schools in three tribal regions of the US, with a focus on built environment and influences impacting indoor microbiology. In addition, he is PI on a HUD grant to define what constitutes “normal” background fungal ecology in homes. He was a primary member of the ACGIH Bioaerosols Committee and contributing author to the 1999 ACGIH book on Bioaerosols: Assessment and Control, and contributing author and section editor to the AIHA 2008 document on Recognition, Evaluation, and Control of Indoor Mold. Dr. Shaughnessy was a contributor and member of technical review work group for the 2014 Healthy Housing Standard (American Public Health Association 2014). Through 2009 - 2012, he also served as President of The International Society of Indoor Air Quality and Climate (ISIAQ), and continues to work with the Society to translate science into practice.

Phil Stewart, University of Montana
Dr. Stewart is a Professor of Chemical and Biological Engineering at the Center for Biofilm Engineering at Montana State University. He received his B.S. (1982) from Rice University, and M.S. (1985) and Ph.D (1988) degrees from Stanford University, all in chemical engineering. After finishing his doctoral studies, he was a NATO postdoctoral fellow at the Institut Jacques Monod in Paris, France and a senior chemical engineer at Bechtel Environmental in San Francisco, California. He joined the faculty of Chemical Engineering at Montana State in 1991. Dr. Stewart has also been integrally involved with the Center for Biofilm Engineering since his arrival on the Montana State campus, serving as director from 2005-2015. Dr. Stewart’s research focuses on the control of detrimental microbial biofilms. He has authored or co-authored more than 170 technical publications and has directed projects for eighteen industrial sponsors. He is the recipient of an NSF Career Award and has been honored at Montana State University with both of that institution’s top faculty awards for excellence in research and scholarship.
Charles Robertson, University of Colorado, Boulder
Charles Robertson, PhD has been heavily engaged in the creation of hardware and software systems since 1968. He completed a bachelor’s degree in electrical engineering and computer science in 1982 from the University of Colorado School of Engineering and spent the next 25 years in positions of ever increasing responsibility in engineering and business management in the Electronics Design Automation field (hardware description languages, analog and digital simulation, placement and routing technologies) at companies such as Cadnetix, Mentor Graphics, and Intergraph Corporation. Under the mentorship of Dr. Norman Pace at the University of Colorado, he completed a PhD in Molecular, Cellular, and Development Biology in 2008, on the topic of ecology, phylogenetics, and ultrastructure of Archaea. Dr. Robertson is currently in the Division of Infectious Diseases within the University of Colorado School of Medicine, Anschutz campus with his research focus on high performance parallel software for microbiome analysis.

Charles Weschler, Rutgers University
Professor Weschler is a member of the Environmental and Occupational Health Sciences Institute (EOHSI) at Rutgers University and Visiting Professor at the Technical University of Denmark and Tsinghua University (China). His research areas include chemicals present in indoor air, their sources and their fate; factors that influence the concentrations, transport and surface accumulations of indoor pollutants; human exposure to these pollutants, including the contribution of indoor pollutant exposures to total pollutant exposures and the consequent health effects; chemical reactions among indoor pollutants with an emphasis on ozone-initiated chemistry, the production of secondary organic aerosols, and ozone reactions with skin oils; semi-volatile organic compounds (SVOCs); gas/particle and gas/surface partitioning of SVOCs indoors. He served as a researcher at Bell Laboratories and its successor institutions before accepting positions at EOHSI and the International Centre for Indoor Environment and Energy, Technical University of Denmark. Dr. Weschler has served as a member of four National Academy of Sciences’ committees and, from 1999-2005, was a member of the US EPA’s Science Advisory Board. He has published over 140 peer-reviewed papers and has an h-index of 51 (Web of Science). He is an elected member of the International Academy of Indoor Air Sciences and has received the Pettenkofer Award, its highest honor. Dr. Weschler earned his Ph.D. in Chemistry from the University of Chicago and did Postdoctoral research in Chemistry at Northwestern University. http://eohsi.rutgers.edu/eohsi-directory/name/charles-weschler/
STUDY COMMITTEE

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Rutgers University

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