Approved by the Regents
May 19, 2011

PROMOTION RECOMMENDATION
The University of Michigan
School of Public Health
Department of Environmental Health Sciences

John D. Meeker, assistant professor of environmental health sciences, Department of Environmental Health Sciences, School of Public Health, is recommended for promotion to associate professor of environmental health sciences, with tenure, Department of Environmental Health Sciences, School of Public Health.

Academic Degrees:

Sc.D.	2004	Harvard University School of Public Health, Exposure, Epidemiology & Risk Boston, MA
M.S.	2001	Harvard University School of Public Health, Environmental Science and Engineering Boston, MA
B.S.	1999	Iowa State University, Industrial Technology, Ames, IA

Professional Record:

2005-present	Assistant Professor; Department of Environmental Health Sciences, University of Michigan School of Public Health, Ann Arbor, MI
2004-2005	Postdoctoral Research Fellow; Harvard University School of Public Health, Environmental & Reproductive Epidemiology, Boston MA
2002-2004	Graduate Research Associate; Harvard University School of Public Health, Exposure, Epidemiology and Risk, Boston, MA
2000-2002	Research Industrial Hygienist, Harvard University School of Public Health, Exposure, Epidemiology and Risk, Boston, MA
1999-2000	Research Assistant; Environmental Chemistry Lab, Harvard University School of Public Health, Exposure, Epidemiology and Risk, Boston, MA
2002-present	Center for Construction Research and Training (CPWR), Environmental Science and Industrial Hygiene Consultant Washington, DC
2000-2002	Graduate Research Associate, Harvard Injury Control Research Center, Boston, MA
1999	Environmental, Health, and Safety Intern, Liebert Corporation, Columbus, OH
1989-1999	Environmental and Occupational Health & Safety Consultant, Townsend Associates, Inc., Ames, IA

Summary of Evaluation:

Teaching: Professor Meeker has taught EHS 657, "Advanced Exposure Assessment;" EHS 658, "Physical Hazards;" and EHS 668, "Professional Seminar in Occupational Health" all since 2006. His overall course and overall instructor ratings have averaged over 4.0 for each one of these courses taught over the years. The first ("Advanced Exposure Assessment") was a brand new course offering. He has guest lectured in a number of additional courses, including lectures on pesticides, on reproductive health, on reproductive epidemiology, and on environmental endocrine disruption. He has bought out of three credit hours with extramural research funding in each of the past four years, though due to sabbaticals by senior faculty in the current year (2010-2011), he has been asked to also take over as lead instructor for EHS 507, "Principles of Exposure Assessment" Professor Meeker is also one of four EHS faculty who are spending the 2010-2011 year creating an innovative new core EHS curriculum that combines the learning objectives and competencies of what had previously been addressed in six separate lecture-format courses into a single two-course sequences that is fully integrated and largely based on case studies.

Professor Meeker supervises the work of four students for whom he is primary Ph.D. research advisor. Two are working on "Maternal Exposure to Secondhand Tobacco Smoke and Early Pregnancy Loss" and "Exposure to Brominated Flame Retardants and Reproductive Health." The others are studying "Exposure to Nonpersistent Insecticides and Altered Neurodevelopment and Child Behavior" and "Exposure to Electromagnetic Fields and Reproductive Health Outcomes." Professor Meeker has also served on six other student doctoral committees, chaired or been a member of three masters of science thesis committees, mentored a postdoctoral fellow, mentored several Ph.D. lab rotations, served as faculty advisor to numerous students in our MPH program, and has supervised a series of masters degree students employed in his lab.

Research: The overall theme of Professor Meeker's research agenda is the conduct of cross-disciplinary approaches to improving our understanding of human exposure to environmental contaminants and associated adverse health effects. His research is focused in two separate yet complementary areas of interest: 1) Exposure science/assessment and 2) Environmental epidemiology, with a focus on reproductive and developmental endpoints in relation to emerging contaminants of concern, particularly environmental endocrine disrupting compounds (EDCs). EDCs include a wide variety of chemicals used in plastics, home furnishings, food-related applications, personal care products, pesticides, and other consumer items to provide beneficial qualities. Emerging evidence indicates that these compounds may also disrupt endocrine function leading to adverse reproductive and developmental effects at low and environmentally-relevant exposure levels. Concerns have been further fueled by recent evidence for increasing trends in endocrine-related dysfunction and disease among the general population over the last several decades.

Since joining the University of Michigan in 2005, Professor Meeker's work has been highly productive, with six active grants and over 50 peer reviewed articles and book chapters published or in press (over 35 as first or sole author). The work has also been high-impact, having already been cited over 430 times in the peer reviewed literature according to searches on Web of Science and Scopus, and several are beginning to appear in EPA, OSHA, and NIOSH risk assessment and/or standard-setting background and review documents. In terms of exposure science, Professor Meeker has focused on validating and applying new exposure biomarkers related to commonly encountered environmental chemicals such as pesticides and understudied compounds found in consumer products (i.e. flame retardants, phthalates, bisphenol A, perfluorinated compounds, parabens, etc.). In terms of environmental epidemiology, he has then worked to apply these biomarkers and state-of-the-art molecular epidemiology techniques to provide information on biological mechanisms and individual susceptibility factors involved in the associations between environmental exposures and adverse health outcomes. His work on reproductive and developmental endpoints have been ideal for exploring exposure biomarker utility, since the exposure windows of interest may be of short or long duration, recent or historic, and can occur in adulthood, childhood or *in utero*, or even date back to previous generations.

Professor Meeker is currently leading a number of high-profile research projects, including, for example, one of the three projects of the new University of Michigan NIEHS/EPA P20 Children's Formative Center entitled, "Perinatal Exposures, Epigenetics, Child Obesity & Sexual Maturation" and one of the five projects of a large, $10 million NIEHS-funded P42 Superfund Research Program Grant entitled, "Puerto Rico Testsite for Exploring Contamination Threats (PRoTECT)." He is also the PI of a new R01 from NIEHS, "Bisphenol A and Phthalate Exposure in Relation to Fetal Growth and Preterm Birth." His future research will concentrate on using this outstanding base of on-going research to continue advancing our knowledge of exposures and related impacts through both applied and methodological research in the ongoing studies described above as well as in new cohorts.

Recent and Significant Publications:

Meeker JD, Stapleton HM. (2010) House dust concentrations of organophosphate flame retardants in relation to hormone levels and semen quality parameters. *Environ Health Perspect*, 118(3):318-323.
Meeker JD, Susi PL, Flynn MR. Hexavalent chromium exposure and control in welding tasks. (2010) *J Occup Environ Hyg*, 7(11):607-615.
Meeker JD, Ehrlich S, Toth TL, Wright DL, Calafat AM, Trisini AT, Ye X, Hauser R. (2010) Semen quality and sperm DNA damage in relation to urinary bisphenol A among men from an infertility clinic. *Reprod Toxicol*, 39(4):532-9.
Meeker JD, Hu H, Cantonwine DE, Lamadrid-Figueroa H, Calafat AM, Ettinger AS, Hernandez-Avila M, Loch-Caruso R, Téllez-Rojo MM. (2009) Urinary phthalate metabolites in relation to preterm birth in Mexico City. *Environ Health Perspect*, 117(10):1587-92.
Meeker JD, Rossano MG, Protas B, Diamond MP, Puscheck E, Daly D, Paneth N, Wirth JJ. (2008) Cadmium, lead and other metals in relation to semen quality: Human evidence for molybdenum as a male reproductive toxicant. *Environ Health Perspect*, 116(11):1473-9.
Meeker JD, Missmer SA, Vitonis AF, Cramer DW, Hauser R. (2007) Risk of spontaneous abortion in women with childhood exposure to parental cigarette smoke. *Am J Epidemiol*, 166(5):5.

Service: Professor Meeker has served as a peer reviewer for over 30 different scientific journals and was recently named as one of the associate editors for *Environmental Health Perspectives*. At the University of Michigan, he has been the faculty advisor for the University of Michigan Industrial Hygiene Student Association (UMIHSA) and served on the Department's Admissions and Recruitment Committee, the Curriculum and Degree Committee, and Executive Committee. He has also served on a faculty search committee and participated in the peer review of a number of internal University of Michigan pilot research grant or fellowship competitions. He is serving as the acting director of the Occupational Exposures/Industrial Hygiene Program (one of the six such programs in the Environmental Health Department) and the Industrial Hygiene Core of the University of Michigan NIOSH Education and Research Center (while Professor Edward Zellers is on sabbatical) and will be tapped for additional leading responsibilities (e.g., chairing departmental committees) as his position advances.

External Reviewers:
Reviewer (A): "John's work is of the highest quality. His scholarly output over the past decade has been outstanding, both in quantity and in impact. John is an outstanding young scientist and will clearly be a leader in environmental health for many years to come."

Reviewer (B): "Dr. Meeker has been first author of over 31 articles … in some of the most respected peer-reviewed journals …. Dr. Meeker has achieved national recognition. Such high levels of finding and publication are unusual in a young professional."

Reviewer (C): "… in Dr. Meeker, we have a scientific colleague with impressive academic credentials. Both the quality and the quantity of his research output are excellent. He is easily in the top tier of researchers in his field in this country …. In summary, Dr. Meeker is a well-respected researcher with national renown and with a proven track record of publishing high quality research papers in good journals."

Reviewer (D): "I must say, I am greatly impressed with both the quality and quantity of Dr. Meeker's work … I believe Dr. Meeker's application to be one of the best I have seen."

Reviewer (E): "Dr. Meeker has been a remarkably productive researcher who has built an outstanding body of published work, funded projects, and a substantial identity in the research community in a very

short period of time. Dr. Meeker shows every sign of being a rising star in the field whose trajectory could not be more favorable."

Reviewer (F): "Dr. Meeker has a national and international reputation in his field .... His research is of very high quality, interdisciplinary, translational and innovative."

Reviewer (G): "Overall, his record of accomplishment is exceptional in its depth and breadth, and in its quantity and quality. Dr. Meeker is an outstanding [junior] exposure scientist."

Reviewer (H): "He is a clear thinker, excellent writer and he evidences admirable research methodologies."

Summary of Recommendation: Professor Meeker is an outstanding researcher and a dedicated teacher. His productivity has provided research and training opportunities to numerous students. I enthusiastically recommend Professor John D. Meeker for promotion to associate professor of environmental health sciences, with tenure, Department of Environmental Health Sciences, School of Public Health.

Martin A. Philbert
Dean, School of Public Health

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