Approved by the Regents
May 20, 2021

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PEDIATRICS

Mary Dahmer, Ph.D., associate professor of pediatrics, without tenure, Department of Pediatrics, Medical School, is recommended for the granting of tenure to be held with her title of associate professor of pediatrics, Department of Pediatrics, Medical School.

Academic Degrees:

Ph.D.	1983	University of Michigan
B.S.	1977	University of Michigan

Professional Record:

2013-present	Associate Professor of Pediatrics, without tenure, University of Michigan
2012-2013	Associate Professor of Biochemistry, Medical College of Wisconsin
2006-2013	Associate Professor of Pediatrics, Medical College of Wisconsin
2000-2006	Associate Professor of Molecular Sciences, University of Tennessee
2000-2000	Visiting Scientist of Tumor Cell Biology, St. Jude Children's Research Hospital
1996-2000	Associate Professor of Biochemistry, University of Tennessee
1990-1996	Assistant Professor of Biochemistry, University of Tennessee

Summary of Evaluation:

Teaching: Dr. Dahmer has had a sustained commitment to teaching throughout her career. Since arriving at the University of Michigan, Dr. Dahmer's teaching role has primarily involved acting as a mentor for fellows and overseeing the research component of the fellowship training in the Pediatric Critical Care Fellowship Program where she acts as the associate fellowship director of research. She organizes the research conference curriculum and has also presented in the Departmental Fellow Core Curriculum series for the last three years. Dr. Dahmer has mentored numerous fellows over the past six and a half years, both as a member of Pediatric Critical Care Fellows' Scholarship Oversight Committee, and as a primary mentor or primary co-mentor to three fellows. Eight of the 12 fellows that entered and completed their training presented their research findings at national meetings, six fellows have received recognition for their research projects internally at the Annual Pediatric Research Symposium, or at the regional Wayne State University/Michigan State University Research Day and Pediatric Critical Care Midwest Regional Meeting, or at the national level, at the Pediatric Academic Society and American Thoracic Society. The three fellows directly mentored by Dr. Dahmer all received recognition for their research at the regional or national level, and all have, or will have peer reviewed journal publications, one in the *ASAIO Journal*, one in *Critical Care Medicine*, with the last currently working on a draft of the manuscript. Dr. Dahmer receives high praise from former fellows who regard her as an excellent educator. She has mentored an undergraduate student in the Undergraduate Research Opportunity Program, and has been involved in national teaching through the Pediatric Acute Lung Injury and Sepsis Investigators Network which represents approximately 80 institutions.

Research: Dr. Dahmer's research focuses on studies to evaluate whether genetic variants are associated with acute lung injury in children. She has also examined whether plasma biomarkers are associated with risk of developing/outcome of pediatric acute respiratory distress syndrome (PARDS). This work stemmed from a preceding study, Genetic Variation and Biomarkers in Children with Acute Lung Injury, for which Dr. Dahmer was one of the principal investigators. In that study, Dr. Dahmer and her colleagues demonstrated an unexpected association of interleukin-1 receptor antagonist with ARDS/PARDS, and additional analyses showed that interleukin-8 and surfactant protein-D are associated with poor outcome in this population. Her current NIH R01 grant will enable Dr. Dahmer to integrate the analysis of clinical, demographic and biomarkers (plasma and gene expression) to determine whether there are subgroups in children with PARDS which differ in underlying pathophysiology and response to treatment, in conjunction with an ongoing PARDS clinical trial. This research has the potential to substantially influence pediatric clinical care and ultimately improve health outcomes. Dr. Dahmer has a robust publication record with 53 peer-reviewed articles, multiple book chapters, over 50 abstracts, and several review articles. She is a co-principal investigator on an R21, and an NIH R01grant. Dr. Dahmer has been invited to present her research on numerous occasions nationally and internationally.

Recent and Significant Publications:

Yehya N, Harhay MO, Klein MJ, Shein SL, Piñeres-Olave BE, Izquierdo L, Sapru A, Emeriaud G, Spinella PC, Flori HR, Dahmer MK, Maddux AB, Lopez-Fernandez YM, Haileselassie B, Hsing DD, Chima RS, Hassinger AB, Valentine SL, Rowan CM, Kneyber MCJ, Smith LS, Khemani RG, Thomas NJ: Pediatric Acute Respiratory Distress Syndrome Incidence and Epidemiology (PARDIE) V1 Investigators and the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) Network: Predicting mortality in children with Pediatric Acute Respiratory Distress Syndrome: a Pediatric Acute Respiratory Distress Syndrome Incidence and Epidemiology Study. *Crit Care Med* 48(6): e514-e522, 2020. PM32271186

Kohne JG, Dahmer MK, Weeks HM, Kaciroti N, Quasney MW, Sapru A, Curley MAQ, Matthay M, Flori H: Impact of bilateral infiltrates on inflammatory biomarker levels and clinical outcomes of children with oxygenation defect. *Crit Care Med* 48(6): e498-e504, 2020. PM32317601

Flori H, Sapru A, Quasney MW, Gildengorin G, Curley MAQ, Matthay MA, Dahmer MK: BALI and RESTORE Study Investigators, Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) Network: A prospective investigation of interleukin-8 levels in pediatric acute respiratory failure and acute respiratory distress syndrome [*subject of a letter to the editor and authors' response, Critical Care 23, 233*] *Crit Care* 23(1): 128, 2019. PM30995942/PMC6471952

Sun L, Hult EM, Cornell TT, Kim KK, Shanley TP, Wilke CA, Agarwal M, Gurcynski SJ, Moore BB, Dahmer MK: Loss of myeloid-specific protein phosphatase 2A enhances lung injury and fibrosis and results in IL-10 dependent sensitization of epithelial cell apoptosis. *Am J Physiol Lung Cell Mol Physiol*. 316(6): L1035-L1048, 2019. PM30838865

Dahmer MK, Quasney MW, Sapru A, Gildengorin G, Curley MAQ, Matthay MA, Flori H: BALI and RESTORE Study Investigators and Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) Network: Interleukin-1 receptor antagonist is associated with Pediatric Acute Respiratory Distress Syndrome and worse outcomes in children with acute respiratory failure [*selected as a Feature Article with accompanying editorial PMID 30281466*] *Pediatr Crit Care Med* 19(10): 930-938, 2018. PM30095747/PMC6170680

Service: At the University of Michigan, Dr. Dahmer's major service role has been in the Pediatric Critical Care Fellowship Program and includes oversight of the research/scholarly activities of nine to ten fellows per year. She also serves on the Scholarship Oversight Committee to make sure that fellows stay focused on their projects and complete the necessary research training required by the America Board of Pediatrics. Nationally, Dr. Dahmer is a member of the Society for Critical Care, American Society for Biochemistry and Molecular Biology, and the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) network. She has been an invited reviewer for multiple journals, including the *Journal of Pediatrics* and *Critical Care Medicine*, where she was on the editorial board from 2014-2017. Since 2013, Dr. Dahmer has served on the Scientific Steering Committee for the Pediatric Acute Lung Injury and Sepsis Investigators, an international consortium of researchers representing over 80 institutions. She is also a member of the Research Committee of the Virtual PICU Systems which is a large collaborative clinical database dedicated to data sharing and benchmarking of pediatric ICUs. In addition, Dr. Dahmer served as a member of the NIH Special Emphasis Panel, Secondary Dataset Analyses in Heart, Lung, and Blood Diseases and Sleep Disorders from 2014-2016.

External Reviewers:
Reviewer A: "Dr. Dahmer's scientific rigor and publications are world class, and she is highly respected internationally in pediatric critical care. Her fame is mostly focused on PARDS work, but she has broad expertise in molecular biology that enables her to suggest additions to critical care trials involving organ dysfunction other than lung failure…There is no peer group for Dr. Dahmer. She is an outstanding basic scientist swimming in a large pool of pediatric critical care clinicians, enabling them to build clinical trials with excellent science."

Reviewer B: "Dr. Dahmer's *curriculum vitae* speaks to her excellence in scholarship, teaching, and service. She has a unique ability to bridge the domains of clinical and basic science with an unusually deep and long-standing affinity for applying these skills to important clinical problems…She has successfully competed for extramural funding including current R01 and R21 awards...She is equally impressive in her commitment to mentorship and to teaching the next generation of investigators."

Reviewer C: "Research is clearly a major part of her faculty expectations and from my perspective she has excelled in this category. Her work in biomarkers in both cystic fibrosis and PARDS is well accepted in both national and international circles. She has acquired respectable NIH research funding as a Principal Investigator or Co-investigator and I could only wish that most of my colleagues could be anywhere near as productive in this area."

Reviewer D: "Dr. Dahmer has contributed substantially to our understanding of acute lung injury in children. She has been federally funded for many years. She has played an important role in the largest pediatric critical care clinical research network in the country (actually, in the world) as an investigator in critical multi-institutional studies, mentor of countless junior faculty and fellows, and has clearly demonstrated excellence and an enduring commitment to education at all levels within academic medicine. She has published steadily and has contributed important new understanding of the impact of genetic variation to critical illness in children."

Reviewer E: "Dr. Dahmer is one of a very small group of funded, productive basic science/translational researchers in pediatric critical care and is clearly in the top 1% of the field. She has done her meticulous research while serving as a generous mentor and role model…Her scientific acumen, clear-thinking, wise perspective, and supportive approach benefit junior and senior investigators in all research domains…She is an outstanding scientist with impeccable professionalism and collegiality and well-earned international reputation and admiration."

Reviewer F: "With honesty and confidence, I would maintain that anyone engaged in pediatric critical care research, including myself, would confirm Dr. Dahmer's stellar national/international reputation that is based on substantial translational research achievements that are iteratively nudging in the field towards molecular-based personalized medicine. She has demonstrated continued excellence in teaching, research, and service throughout her professional career."

Summary of Recommendations

Dr. Dahmer has proven to be a successful scientific investigator. She is a dedicated mentor and scholar. She is recognized nationally and internationally for her expertise in pediatric acute respiratory distress syndrome and is making important discoveries in the critical care field. I am pleased to recommend Mary Dahmer, Ph.D. for the granting of tenure to be held with her title of associate professor of pediatrics, Department of Pediatrics, Medical School.

Marschall S. Runge, M.D., Ph.D.
Executive Vice President for Medical Affairs
Dean, Medical School

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