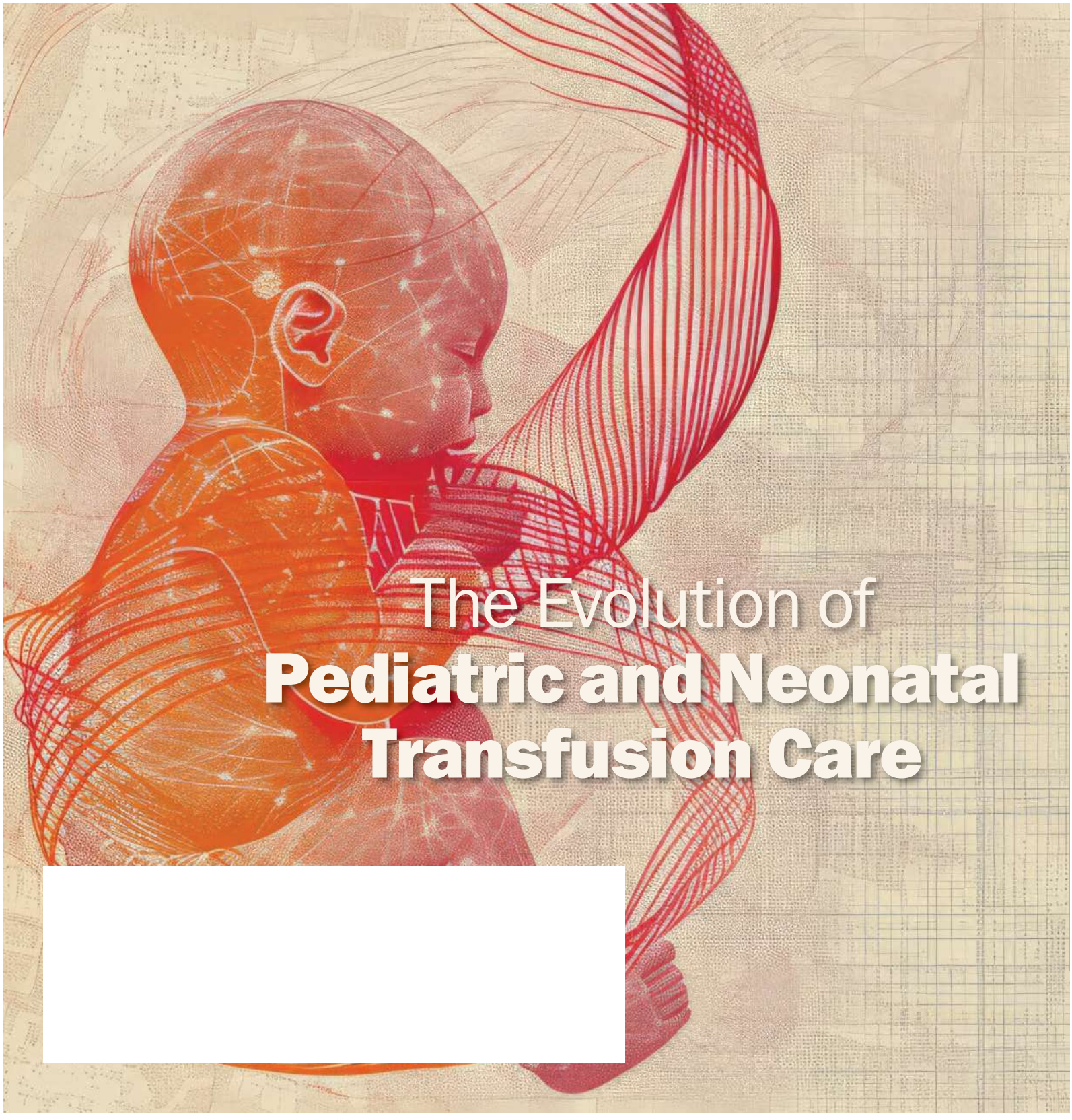
JULY 2024
Vol. 26 No. 7

AABB News



The Evolution of Pediatric and Neonatal Transfusion Care

aabb™ Foundation
Fueling Innovative Research

NEW GRANT OPPORTUNITY:

Apply now for up to $100,000!

The new AABB Foundation Process Development Grant aims to enhance the efficiency and effectiveness of blood- and biotherapies-related processes and operations in donor and patient care settings.

Applications will be accepted through Dec. 1, 2024.

Funding will support improvements to business operations through the development, implementation and outcomes analysis of innovative processes, techniques or technologies.

Examples include:

- Models to streamline operations, maximize financial performance and improve decision-making
- Strategy and frameworks for optimizing donor engagement, retention or management
- Research in new diagnostic tools or to optimize existing diagnostic tools
- Process validation to optimize quality, potency or safety
- Pilot clinical studies or IND-enabling studies

For more information and to apply:

aabb.org/pdg

Contents

President's Message

Improving Outcomes for Pediatric Patients

Red blood cell transfusions are a common life-saving procedure for neonates and children with anemia due to a wide range of conditions. Transfusion decisions for this patient population require special considerations, and there is not a one-size-fits-all approach in pediatric transfusion medicine.

In 2016, I had the privilege of publishing a paper in *Transfusion Medicine Reviews* with Ruchika Goel, MD, and Melissa M. Cushing, MD, that discussed indications and thresholds for transfusion in children and assessed key elements necessary for a successful pediatric patient blood management (PBM) program that addresses pediatric specific challenges. Although recognized as a standard of care for adult patients, PBM programs are uncommon in the pediatric setting. Our findings revealed there is little epidemiologic data on the prevalence and incidence of transfusion-related adverse events, as well as guidance for indication, dosing and transfusion triggers for pediatric patients.

To that end, it is essential to design PBM programs specific for children. This critically important initiative can reduce unnecessary blood transfusions and expand the scope for high-quality collaborative research. A key component of pediatric PBM programs is monitoring pediatric blood utilization. By investing in research that supports the implementation of multidisciplinary and interdepartmental pediatric PBM programs, we can improve clinical outcomes and optimize neonatal and pediatric transfusion care.

AABB has an extensive catalog of PBM resources and community networks to help centers build and strengthen their knowledge and skill set. Information can be found at www.aabb.org/PBM.

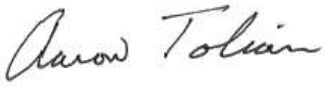
Pediatric Transfusion Medicine

In this issue of *AABB News*, we delve into pediatric transfusion medicine, from cord blood banking to pediatric apheresis. Our first feature explores intrauterine transfusion (IUT), a unique and rare procedure to treat fetal anemia. In this article, experts provide a multidisciplinary perspective and discuss the extensive amount of preparation undertaken at blood centers to select and process the donor blood required for IUT.

The second story addresses the challenges of performing apheresis in pediatric patients, including common adverse events and management. In addition, this issue features cord blood expert Frances Verter, MD, and stem cell pioneer Joanne Kurtzberg, MD, in honor of Cord Blood Awareness Month.

Save the Date

Registration for the 2024 AABB Annual Meeting is open for this year's premiere event, to be held Oct. 19-22 in Houston, Texas. Register by the July 24 early-bird deadline to save $280+ off the full-meeting registration rate. I hope to see many of you in Houston. ■



Aaron A. R. Tobian, MD, PhD
AABB President

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AABB News
(ISSN 1523939X) is published monthly, except for the combined November/December issue for the members of AABB; 4550 Montgomery Avenue; Suite 700 North Tower; Bethesda, MD 20814.

AABB is an international, not-for-profit association representing individuals and institutions involved in transfusion medicine, cellular therapies and patient blood management. The association is committed to improving health by developing and delivering standards, accreditation and educational programs that focus on optimizing patient and donor care and safety.

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Email: news@aabb.org
Website: www.aabb.org

Periodicals postage paid at Bethesda, MD, and at additional mailing offices.

Views and opinions expressed in *AABB News* are not necessarily endorsed by AABB unless expressly stated.

Publications Mail Agreement No. 41248513.

Return undeliverable Canadian addresses to PO Box 503; RPO West Beaver Creek; Richmond Hill, ON L4B 4R6.

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RAJIV KUMAR
Senior Manager of Quality Assurance at Cryoviva Singapore Pte Ltd.
AABB Assessor

AABB Foundation Congratulates the 2024 Early-Career Scientific Research Grant Recipients

By AABB Foundation Staff
Contributing Writers

AABB and the AABB Foundation are thrilled to recognize the esteemed recipients of the 2024 Early-Career Scientific Research Grants. Each of this year's six recipients will receive a monetary award – now reaching up to $100,000 per grant thanks to the generous financial support from many individual and corporate donors to the Foundation – to boost their research projects.

The AABB Foundation proudly supports investigator-initiated original research spanning all facets of blood banking, transfusion medicine and biotherapies. Since its establishment in 1983, the AABB Foundation has disbursed more than $11 million to promising early-career investigators through its Scientific Research Grants Program. Many past recipients of AABB Foundation grants have spearheaded groundbreaking research, propelling them to prominent leadership roles in the blood and biotherapies field.

Below, we present this year's deserving recipients and their cutting-edge research projects, accompanied by reflections from each awardee on the significance of this grant. AABB and the AABB Foundation extend heartfelt congratulations to the talented scientists funded this year and sincere gratitude for the generosity of our financial donors who make this grant funding possible.

Ryan P. Jajosky, MD

Research Fellow, Pathology, Blood Bank
Brigham and Women's Hospital
Boston, Mass.

Ryan P. Jajosky, MD

PROJECT TITLE: Defining the Mechanisms of KEL RBC Alloimmunization Using a Transgenic Mouse Model

"The AABB Foundation grant will allow me to continue my transfusion medicine research under the mentorship of Sean Stowell, MD, at Brigham and Women's Hospital. My short-term goals will be (1) to acquire robust data related to the mechanisms of KEL RBC alloimmunization; (2) present the findings at national/international conferences; (3) publish the findings in a respected peer-reviewed journal; (4) develop essential skills for overseeing an independent research laboratory, including crafting compelling grant proposals, navigating regulatory guidelines and managing a research team; and (5) submit an NIH K08 career development award. Ultimately, I hope to define the mechanisms of RBC alloantibody formation and then develop interventions to prevent alloimmunization."

Elizabeth F. Stone, MD, PhD

Elizabeth F. Stone, MD, PhD

Assistant Professor of Pathology & Cell Biology
Attending Physician in Transfusion Medicine and Cellular Therapy
Columbia University Irving Medical Center
New York, N.Y.

PROJECT TITLE: Efficacy of Platelet Transfusion in a Mouse Model of Intracerebral Hemorrhage

"Your support is instrumental in advancing the careers of budding scientists in this important field, and it is truly appreciated. Your donation serves as a powerful affirmation of the value and importance of basic, translational and clinical transfusion medicine research. This grant enables early-career investigators like myself to pursue innovative research in transfusion medicine and, in particular, allows me to pursue pre-clinical studies investigating the potential role for my novel mouse platelet transfusion model in a murine model of intracerebral hemorrhage (ICH). The specific role for platelets in ICH remains unknown, and your support will help provide me with the time to investigate different scenarios for which platelet transfusion may be helpful or harmful."

Tamar P. Feldman, PhD

Scientist II, Transfusion Innovation Department
American Red Cross
Washington, D.C.

Tamar P. Feldman, PhD

PROJECT TITLE: Platelet Labeling for In Vivo Platelet Kinetics Evaluation: Alternative Labeling Approaches

"Your contribution provides the financial resources necessary to pursue development of innovative methods to understand the therapeutic efficacy of novel platelet products. Platelet transfusion is a cornerstone of prevention and treatment of severe bleeds in cancer and surgical patients and a life-saving measure in cases of massive hemorrhage from traumatic injury. This grant is more than just funding for research. It is an opportunity for me to build a presence in the scientific community, grow my network of collaborators and compete effectively for future funding. It is an encouragement to pursue my research with dedication and creativity and a steppingstone to an impactful career in blood banking and transfusion medicine. Your support is making a difference for me and the scientific community as a whole."

Aaron S. Hess, MD, PhD

Assistant Professor, Department of Pathology & Laboratory Medicine
University of Wisconsin-Madison
Madison, Wis.

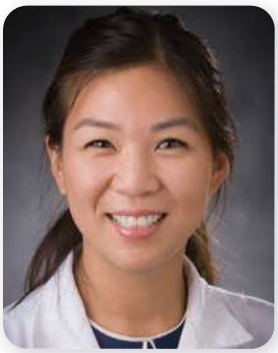
Aaron S. Hess, MD, PhD

PROJECT TITLE: Bedside Tissue Oxygenation Monitoring With Noninvasive Jugular Venous Oximetry

"Receiving an AABB Foundation Scientific Research Grant is probably the most exciting event in my research career to date. More than 10 million red blood cell units are transfused every year in the United States. Noninvasive arteriovenous oximetry could personalize most of those transfusions, improving outcomes, costs and conserving a precious resource. The support of donors like you to the AABB Foundation has provided critical resources to pursue projects that will benefit millions of patients. Thank you very much for your generosity."

Grace M. Lee, MD

Assistant Professor, Division of Hematology, Department of Medicine
Duke University
Durham, N.C.



Grace M. Lee, MD

PROJECT TITLE: Modulation of Neutrophil Function by Red Cell Exchange in SCD Patients

"I am a hematologist trained in hematology/oncology and transfusion medicine. When I took on the role of medical director for apheresis, I began to explore the impact of red cell exchange (RCE) on neutrophil function. Receipt of the AABB Foundation award will allow me to expand on these initial studies and generate sufficient preliminary data for a R01 application to examine the impact of RCE on neutro-

phil function and thrombo-inflammation in sickle cell disease (SCD) patients during both non-acute/outpatient and acute/inpatient settings, to determine if modulation of neutrophil function impacts clinical outcome, to identify functional biomarkers for high-risk patients and to perform expanded studies to understand the mechanism by which RCE is modulating the immune response. The AABB Foundation award will ensure I can retain my lab technician and maintain my lab to complete the necessary studies for a competitive R01 application, which I will submit during the award period."

Meenakshi Banerjee, PhD

Postdoctoral Research Associate, Molecular Medicine Program
University of Utah
Salt Lake City, Utah

Meenakshi Banerjee, PhD

PROJECT TITLE:
Elucidating the Role of IFITM3 in Hematopoietic Stem Cells During Inflammatory Stress

"Our understanding of how inflammation regulates hematopoietic stem cell (HSC) function is incomplete. My discovery and proposed studies, detailed in this AABB Foundation Early-Career Scientific Research Grant, of how an inflammation-sensitive gene, *IFITM3*, regulates stem cell proliferation and function might be leveraged to augment existing stem cell transplantation strategies and biotherapies in transfusion medicine. My findings through this grant will uncover molecular pathways and previously unrecognized checkpoint regulators in stem cells regulated by inflammation, which have the potential to become new therapeutic targets relevant to transfusion medicine. Therefore, I want to thank the AABB Foundation financial donors, whose generosity has helped provide the funding support and the platform to execute my proposed work. This grant offers me the opportunity to chart my independent career centered around stem cell therapy and its enormous impact on patients with either hematological cancers or stem cell disorders, including bone marrow failure syndromes. Therefore, this grant is a significant steppingstone in my career trajectory." ■

Thank You!

AABB and the AABB Foundation are grateful for the generous contributions from our Council on Research and Development (CORD) members and the many donors whose support helps to make the Early-Career Scientific Research Grants Program possible.

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- Santa Barbara Foundation
- Topeka Community Foundation
- Vitalant

Apply Today

The AABB Foundation encourages researchers worldwide to apply for the Early-Career Scientific Research Grants Program's 2025 cycle through Dec. 1. Foundation grant recipients each receive an award of up to $100,000 to further a one- or two-year research project in blood banking, transfusion medicine or biotherapies. Visit aabb.org/foundation for more information.