

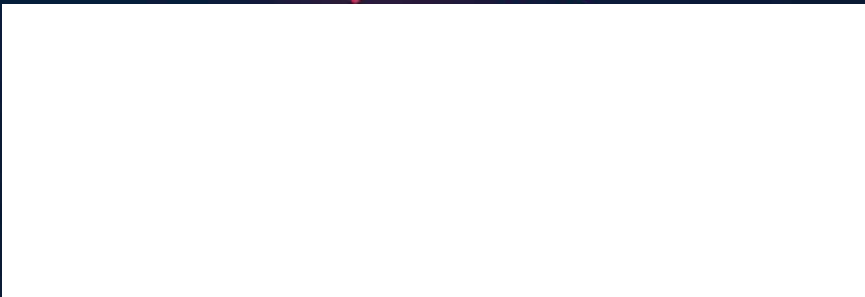
SEPTEMBER 2024
Vol. 26 No. 9

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- 14 Psychosocial Support for Sickle Cell Warriors



Navigating the New Era for **Sickle Cell Disease Treatments**



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Sickle Cell Gene Therapies Have Arrived

How operationalizing the delivery of treatment can improve patient outcomes.

10

An Answered Prayer

Warrior Victoria Gray shares her journey as the first person treated with CRISPR for sickle cell disease.



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Psychosocial Support in the Era of Gene Therapy

Providing holistic care for patients with sickle cell disease matters.



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Changing the Landscape for Patients With Sickle Cell Disease

Sickle cell disease (SCD) affects more than 100,000 individuals in the United States and seven million people worldwide. Although SCD is the most common inherited blood disorder in the U.S., the life-threatening disease has been historically overlooked and neglected compared with many other chronic illnesses, affecting African Americans in this country at a disproportionate rate.

Fortunately, the treatment landscape for SCD has evolved over the past decade, bringing more visibility to the disease and novel therapeutic options to patients with SCD. New FDA-approved drugs and emerging gene therapies are changing the way providers treat and manage SCD. It's a rapidly evolving and exciting time for the field as we explore uncharted territory and address challenges—including equitable access to treatment—in this new era. As our first feature article, beginning on page 6, highlights, developing a gene therapy program will require investing in the infrastructure to ensure successful outcomes.

Recognizing Sickle Cell Awareness Month

Every September, we recognize and celebrate National Sickle Cell Awareness Month to shine a spotlight on this inherited bleeding disorder, highlight transformative therapies and research, promote the importance of a diverse blood supply and advocate for patients with SCD. This issue's second feature story, beginning on page 14, highlights a growing (and often overlooked) need for ongoing advocacy and psychosocial support for this patient population be-

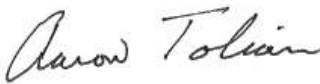
fore, during and after gene therapy. In addition, this issue features sickle cell warrior Victoria Gray—the first patient to receive CRISPR gene-editing therapy for SCD—and her brave and inspiring journey as a gene therapy transplant recipient.

Register for the AABB Annual Meeting

The premier event in our field is rapidly approaching, and we are counting down the days to the 2024 AABB Annual Meeting, to be held Oct. 19-22 in Houston, Texas. AABB's 2024 Annual Meeting will bring together a global community of blood and biotherapies professionals in this diverse city that is known for fantastic food, great museums and the NASA Johnson Space Center.

The 2024 AABB Annual Meeting features more than **100 education sessions** on the most critical topics in blood banking, transfusion medicine and biotherapies. This year's Annual Meeting will also include myriad new and innovative sessions on cutting-edge topics, the new AABB Learning Theater, the return of the popular abstract "spotlight sessions," curated poster tours, Biotherapies Pavilion and much more!

There's still time to register for the 2024 AABB Annual Meeting. You won't want to miss this year's event. I look forward to seeing you in Houston. ■



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

President

Aaron A.R. Tobian, MD, PhD

Chief Executive Officer

Debra BenAvram, FASAE, CAE

Chief Communications and Engagement Officer

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Director of Marketing and Communications

Jay Lewis, MPH

Managing Editor

Kendra Y. Applewhite, MFA

Senior Communications Manager

Drew Case

Design and Production

V Studio

Advertising

Contact Karl Franz

+1.603.416.0364

kfranz@wiley.com

Change of Address:

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+1.301.907.6977

Email: news@aabb.org

Website: www.aabb.org

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AABB Foundation Announces 2024 Hall of Fame Inductees and Award for Innovative Research Recipient

By AABB Foundation Staff
Contributing Writers

The AABB Foundation's mission of fueling innovative research is achieved through grant making, education, industry leadership engagement, and recognition opportunities that highlight excellence and important scientific contributions. The AABB Foundation's Hall of Fame, introduced in 2007, recognizes a prestigious and select group of Foundation grant recipients who leveraged their early-career grant funding into successful careers in transfusion medicine or biotherapies and who demonstrated exemplary leadership within the field.

To be selected, individuals must meet the following criteria: completion of AABB Foundation-funded research; service on a minimum of three or more AABB committees or workgroups (including AABB Board of Directors, AABB Foundation Board of Directors and *Transfusion* Editorial Board); exemplary leadership through a successful career demonstrating commitment, foresight and contributions to the field; and current membership in AABB.

The AABB Foundation is pleased to induct two new members into the Hall of Fame this year. The honorees will be formally recognized during the AABB Annual Meeting in Houston, Texas. Congratulations to this year's inductees.

2024 Hall of Fame Inductees

Chance John Luckey, MD, PhD

Associate Professor of Pathology
Medical Director of Cell Therapy Collections and Processing
University of Virginia School of Medicine



Chance John Luckey, MD, PhD

Early-Career Scientific Research Grant Funded: 2010

Project Title: "Directed differentiation of embryonic stem cells by regulated caspase9 cleavage of zona-occludens2"

Grant Led To: A better understanding of how alternative splicing can regulate key cell fate decisions early on in embryogenesis.

Jo-Anna Reems, PhD, MT(ASCP)SBB

Retired
Professor of Medicine
Scientific Director, Cell Therapy and Regenerative Medicine
University of Utah



Jo-Anna Reems, PhD, MT(ASCP)SBB

Early-Career Scientific Research Grant Funded: 2000

Project Title: "Ex Vivo Expansion of Human Umbilical Cord Blood Hematopoietic Progenitor Cells: Evaluation of their Function in a Mouse Transplant Model"

Grant Led To: The formulation of a 2-step manufacturing approach. This process entailed maximizing the in vitro production of megakaryocytes from umbilical cord blood CD34+ cells and then generating platelets in a second bioreactor.

2024 AABB Foundation Award for Innovative Research

The AABB Foundation congratulates the 2024 recipient of the Award for Innovative Research who will be formally recognized at the AABB Annual Meeting in Houston, TX. This award was established in 2016 to recognize a scientist whose original research resulted in an important contribution to the body of scientific knowledge in transfusion medicine or biotherapies. The recipient is selected by the AABB Foundation Scientific Grants Review Committee with formal approval by the AABB Foundation Board of Directors.

Vijay Bhoj, MD, PhD

Assistant Professor of Pathology and Laboratory Medicine at the Hospital of the University of Pennsylvania
Perelman School of Medicine at the University of Pennsylvania
Philadelphia, Pa.

Project Title:

Dissecting the Humoral Response to FVIII for Therapeutic Applications

The project stemmed from the development of CAR T therapies in patients with cancer that set the stage for purposeful development of such therapies for antibody-mediated diseases such as autoimmunity and, in this case, for hemophilia A with anti-drug antibodies. These cellular immunotherapies may extend to other conditions with the hopes of finding curative solutions for diseases currently managed with suboptimal long-term immunosuppressive therapies.

Creating these therapies for non-cancer application has required creativity with regard to various aspects of CAR design, and safety and efficacy evaluation as the model and "rules" that guided anticancer CART development often do not apply.

Since the completion of his AABB Foundation grant in 2020, Bhoj has coauthored 17 scientific papers, of which he is senior (last) author on six. ■



Vijay Bhoj, MD, PhD

Annual Meeting Events

Here are just a few of the AABB Foundation's events that attendees can look forward to at the 2024 AABB Annual Meeting:

AABB Foundation Reception – A Party with a Purpose!

Friday, Oct. 18 | 6:00pm – 7:30pm

Hilton-Americas Houston Hotel

Sponsorship provided by American Red Cross and HemoCue America

Attend this fun networking event that celebrates and honors the newest Foundation research grant and award recipients – and all those who made it possible!

Your 2024 donation is your ticket; attendees can register for this event through the annual meeting registration process.

AABB Foundation Research Symposium

Saturday, Oct. 19 | 12:30 pm – 2:00 pm

George R. Brown Convention Center

This premier showcase brings science into an interactive symposium program where the AABB Foundation grant and award recipients are featured among those presenting on their research work.

Registration is limited and pre-registration is required.

AABB Foundation Run for Research

Sunday, Oct. 20 | 7:00 am – 8:30 am

Sponsorship provided by Abbott, Fresenius Kabi, and Johnson & Johnson

Lace up your sneakers for the annual AABB Foundation Run for Research. Participants receive an official souvenir t-shirt with the selection of one of the Run for Research options:

- **In-Person:** The race will occur outdoors at the designated course near the George R. Brown Convention Center on Sunday, October 20, at 7:00 am. Grab & Go breakfast will be provided.
- **Virtual:** Complete your own 5K or 1-mile race anytime and anywhere between October 19 and October 22.
- **Sleep-In:** Hit the pillow instead of the pavement!

Attendees can register via annual meeting registration or separately.

AABB Foundation Research & Development Summit

Monday, Oct. 21 | 8:30 am – 11:00 am

George R. Brown Convention Center

Sponsorship provided by HemoCue America.

The Foundation R&D Summit will delve into various aspects of artificial intelligence (AI), exploring its current state, future possibilities, and the implications it holds across the blood & biotherapies field.

Registration is limited and pre-registration is required.

For questions about attending an AABB Foundation event, please contact foundation@aabb.org.