



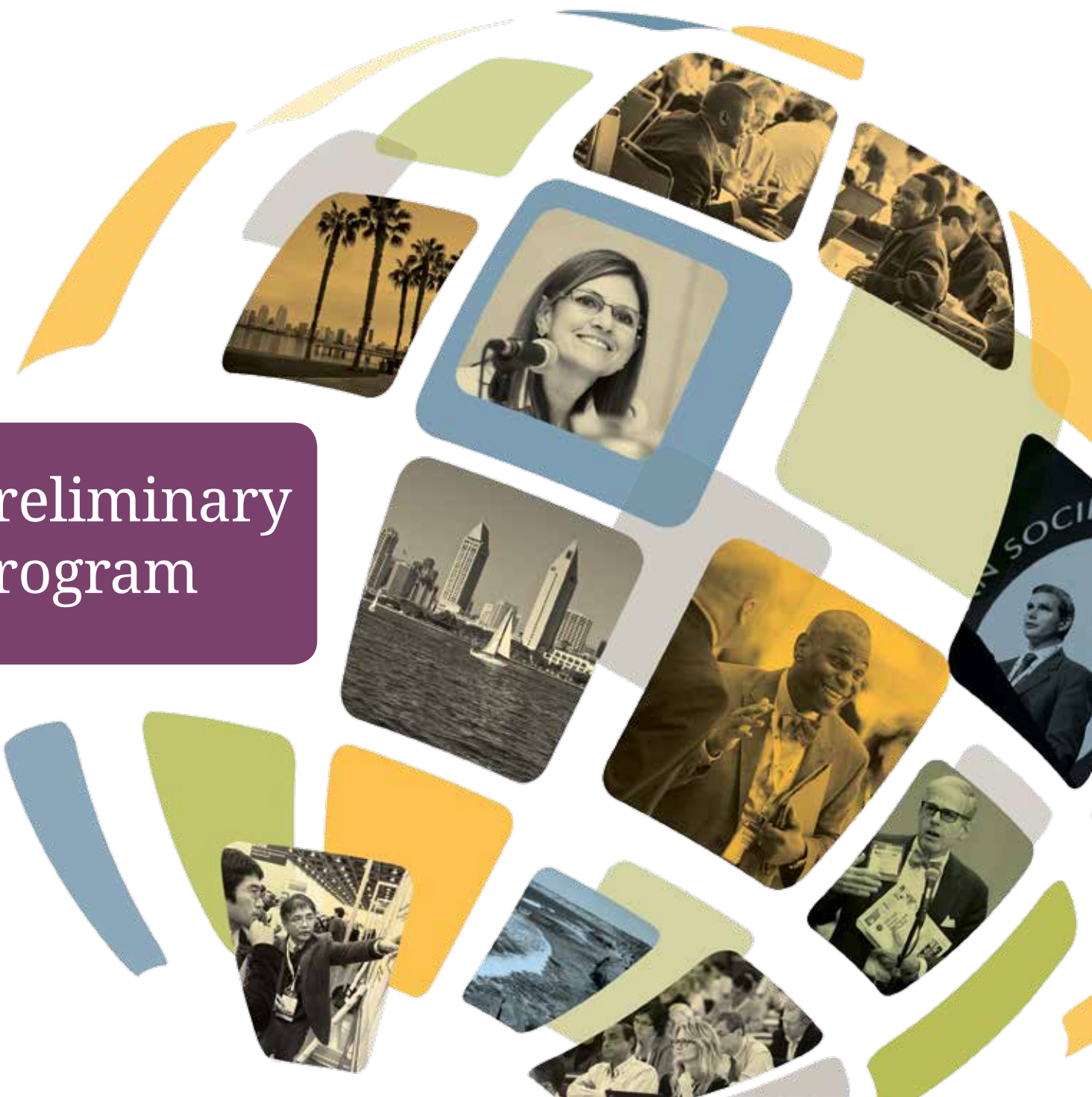
58th ASH[®] Annual Meeting and Exposition

San Diego Convention Center • San Diego, California

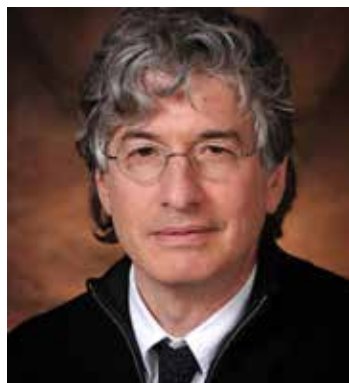
MEETING: DECEMBER 3-6, 2016

EXPOSITION: DECEMBER 3-5, 2016

Preliminary
Program



Greetings From the President



Charles S. Abrams, MD
President

It is an absolute honor to invite you to join me in San Diego for the 58th American Society of Hematology (ASH) Annual Meeting and Exposition, the premier event for physicians, scientists, educators, trainees, and industry professionals in hematology. The ASH annual meeting is internationally distinguished for its unparalleled educational programming, high-caliber science, and diversity in covering the full spectrum of malignant and non-malignant hematology. Additionally, the meeting's program is designed to encourage networking and collaboration.

This year, our Program Committee has once again put together the very best agenda, which covers the hottest topics from every hematology subspecialty, and provides a variety of high-quality educational, career-development, and networking opportunities for hematologists at all stages of their careers. I am especially excited to highlight the following offerings:

- **Presidential Symposium.** This year's Presidential Symposium (page 10) will focus on the worldwide impact of sickle cell disease. It will also present three viable and novel methods that we can employ in our effort to cure this devastating disease. This symposium will demonstrate how we can harness our current knowledge of the human genome to treat a vast array of genetic disorders.
- **ASH Choosing Wisely® Champions initiative.** A new Special-Interest Session (page 13) will recognize the efforts of practitioners who are working to eliminate costly and potentially harmful overuse of common tests and procedures. Three individuals will present on successful utilization strategies that they have developed and implemented at their institutions, which attendees can apply in their own practices.
- **Joint Scientific Program sessions.** For the first time, the Scientific Program includes two sessions that have each been jointly organized by two Scientific Committees. This is in an effort to cover the full breadth of two very hot topics: repairing erythroid disorders by gene regulation, and using single cell analysis to study differentiation and clonal development of hematopoietic stem cells (page 31).
- **Special-Interest Sessions.** A new Special Education Session on Precision Medicine (page 17) will highlight recent developments in precision medicine and in the rapidly evolving area of clinical genomics. In addition, two Special Education Sessions on Newly Approved Drugs (page 13) will cover the selection and use of hematologic drugs that were approved in 2016. These sessions will feature participation from the U.S. Food and Drug Administration.
- **First look at the new ASH journal.** *Blood Advances* is the first journal to join the *Blood* family in 70 years, and it will officially launch in San Diego. Don't miss remarks from the founding Editor-in-Chief, Robert S. Negrin, MD, at the Plenary Scientific Session on Sunday, December 4 (page 6).

I encourage you to browse the pages of this exciting program to discover the other exceptional content that we have in store for this year's meeting. I look forward to seeing you all in San Diego!

A handwritten signature in black ink that reads "Charles S. Abrams". The signature is fluid and cursive, with the first name "Charles" and last name "Abrams" clearly legible.

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For the latest program information and details on registration, hotel, travel, attendee services, CME and MOC credit, and much more, visit www.hematology.org/annual-meeting.



New
This Year



Ticketed
Session



Cross-Cutting
Themes



Precision
Medicine

Meeting Overview

The ASH annual meeting is the premier event in malignant and non-malignant hematology, celebrating the latest research and clinical advances in the field through activities and educational programming relevant to the unique interests of practicing hematologists, scientists, educators, and trainees from around the world. The 58th ASH Annual Meeting will provide countless opportunities for participants to advance their research, improve their practice, and connect with colleagues.



Important Dates

June 1 – August 4, 11:59 p.m. Pacific Time	Abstract Submission Website Available
July 20, 11:00 a.m. Eastern Time – August 10	ASH Member-Only Early-Bird Registration Available
July 20, 11:00 a.m. Eastern Time	ASH Foundation Run/Walk Registration Opens
August 10, 11:00 a.m. Eastern Time – November 2, 11:59 p.m. Pacific Time	ASH Member and Non-Member Advance Registration Available
September 30, 5:00 p.m. Eastern Time	Group Room Block Request Deadline
October 21 – 31, 11:59 p.m. Pacific Time	Late-Breaking Abstract Submission Website Available
November 2, 11:59 p.m. Pacific Time	Individual Hotel Reservation Deadline
November 4, 11:59 p.m. Pacific Time	Child-Care Registration Deadline (Space is limited. Registration must be made by this date in order to secure child care.)
November 22, 11:59 p.m. Pacific Time	Meeting Registration Cancellation Deadline

New This Year

Each year, the ASH annual meeting introduces new, cutting-edge science and educational programming. In addition, the Society has added the following new sessions and offerings:

- Special-Interest Session: “Special Education Session on Precision Medicine” – **page 17**
- The ASH Choosing Wisely® Campaign: 2016 ASH Choosing Wisely Champions – **page 13**
- Joint Scientific Program sessions, organized by two scientific committees, covering the full breadth of a particular hot topic – **page 31**
- ASH membership expanded to include International Associate category, making the annual meeting more accessible to international trainees – **page 44**



Schedule-at-a-Glance

The following schedule is preliminary and subject to change. Please visit www.hematology.org/annual-meeting to view the latest updates to program information and the program schedule. Final schedule and meeting room assignments will be provided in the program materials distributed at the annual meeting.



Registered attendees can obtain continuously updated information by downloading the annual meeting mobile app beginning in mid-to-late November. You will be able to find the app by searching "2016 ASH Annual Meeting" in your smartphone's app directory.

Thursday, December 1

3:00 p.m. – 7:00 p.m. Registration

Friday, December 2

7:00 a.m. – 6:00 p.m. Registration

7:00 a.m. – 11:00 a.m. Friday Satellite Symposia

12:00 noon – 5:00 p.m. Trainee Day
(Open only to trainees wearing a blue badge)

12:30 p.m. – 4:30 p.m. Friday Satellite Symposia

1:00 p.m. – 5:00 p.m. Training Program Directors' Workshops

1:00 p.m. – 6:00 p.m. Friday Scientific Workshops

2:00 p.m. – 5:00 p.m. American Board of Internal Medicine Maintenance of Certification Learning Session 

5:00 p.m. – 7:00 p.m. Trainee Welcome Reception
(Open only to trainees wearing a blue badge)

6:00 p.m. – 10:00 p.m. Friday Satellite Symposia

Saturday, December 3: 58th ASH Annual Meeting Begins

7:00 a.m. – 6:00 p.m. Registration

7:30 a.m. – 9:00 a.m. Education/Scientific Program

7:30 a.m. – 9:00 a.m. Simultaneous Oral Sessions

9:00 a.m. – 9:30 a.m. Coffee Break (Poster Hall)

9:00 a.m. – 7:30 p.m. Poster Viewing

9:30 a.m. – 11:00 a.m. Education/Scientific Program

9:30 a.m. – 11:00 a.m. Simultaneous Oral Sessions

9:30 a.m. – 11:00 a.m. Special Scientific Symposium


11:00 a.m. – 12:30 p.m. Open Time for Lunch

11:00 a.m. – 5:00 p.m. Exhibits Open

11:15 a.m. – 12:15 p.m. Career-Development Lunch Sessions
(Open only to trainees wearing a blue badge)

11:15 a.m. – 12:15 p.m. Continuing Conversations with the Speakers

11:15 a.m. – 12:15 p.m. Grassroots Network Lunch

11:15 a.m. – 12:15 p.m. How I Treat: Bringing Science to Clinical Dilemmas 

11:15 a.m. – 12:15 p.m. How to Get Published in a Peer-Reviewed Journal

11:15 a.m. – 12:15 p.m. Meet the Scientist 

11:30 a.m. – 12:30 p.m. Product Theaters Open in Exhibit Hall

12:00 noon – 1:30 p.m. Simultaneous Oral Sessions

12:30 p.m. – 1:30 p.m. Ham-Wasserman Lecture

1:30 p.m. – 2:00 p.m. Coffee Break (Exhibit Hall)

2:00 p.m. – 3:30 p.m. Education/Scientific Program

2:00 p.m. – 3:30 p.m. Simultaneous Oral Sessions

2:00 p.m. – 3:30 p.m. Special Scientific Symposium

2:00 p.m. – 3:30 p.m. Special Symposium on Quality

3:30 p.m. – 4:00 p.m. Coffee Break (Exhibit Hall)

4:00 p.m. – 5:30 p.m. Education/Scientific Program

4:00 p.m. – 5:30 p.m. Simultaneous Oral Sessions

5:30 p.m. – 7:30 p.m. Poster Presentations



5:30 p.m. – 7:30 p.m. Welcome Reception (Poster Hall)

6:30 p.m. – 9:00 p.m. Promoting Minorities in Hematology Presentations and Reception

Schedule-at-a-Glance



Sunday, December 4

7:00 a.m. – 5:00 p.m.	Registration
7:00 a.m. – 9:00 a.m.	Hematology Course Directors' Workshop
7:30 a.m. – 9:00 a.m.	ASH Foundation Run/Walk
7:30 a.m. – 9:00 a.m.	Education/Scientific Program
7:30 a.m. – 9:00 a.m.	Simultaneous Oral Sessions
9:00 a.m. – 8:00 p.m.	Poster Viewing
9:00 a.m. – 9:30 a.m.	Coffee Break (Poster Hall)
9:30 a.m. – 11:00 a.m.	Education/Scientific Program
9:30 a.m. – 11:00 a.m.	Simultaneous Oral Sessions
10:00 a.m. – 5:00 p.m.	Exhibits Open
11:15 a.m. – 12:15 p.m.	Continuing Conversations with the Speakers
11:15 a.m. – 12:15 p.m.	Featured Topic Discussion
11:15 a.m. – 12:15 p.m.	How I Treat: Bringing Science to Clinical Dilemmas 
11:15 a.m. – 12:15 p.m.	Meet the <i>Blood</i> Editors
11:15 a.m. – 12:15 p.m.	Meet the Scientist 
11:15 a.m. – 12:15 p.m.	Social Media and Clinical Trials: Physicians, Pharma, and Patients
11:15 a.m. – 12:15 p.m.	Trainee Simultaneous Didactic Sessions (Open only to trainees wearing a blue badge; lunch will be provided)
11:15 a.m. – 12:30 p.m.	ASH Practice Partnership Lunch
11:00 a.m. – 12:30 p.m.	Complimentary Light Lunch Available in Exhibit Hall
11:30 a.m. – 12:30 p.m.	Product Theaters Open in Exhibit Hall
12:00 noon – 1:30 p.m.	Simultaneous Oral Sessions
12:30 p.m. – 1:30 p.m.	ASH-EHA Joint Symposium
1:30 p.m. – 2:00 p.m.	Announcement of Awards (Mentor Award, Outstanding Service Award, Public Service Award, and Wallace H. Coulter Award for Lifetime Achievement in Hematology)
2:00 p.m. – 4:00 p.m.	Plenary Scientific Session
4:00 p.m. – 4:30 p.m.	Coffee Break (Exhibit Hall)
4:30 p.m. – 6:00 p.m.	Blood and Beyond Blood: An Epic History of Medicine and Commerce
4:30 p.m. – 6:00 p.m.	Simultaneous Oral Sessions
4:30 p.m. – 6:00 p.m.	Education Spotlight Sessions
4:30 p.m. – 6:00 p.m.	Scientific Spotlight Sessions
6:00 p.m. – 8:00 p.m.	Poster Hall Reception
6:00 p.m. – 8:00 p.m.	Poster Presentations

Monday, December 5

7:00 a.m. – 5:00 p.m.	Registration
7:00 a.m. – 8:30 a.m.	Education Program
7:00 a.m. – 8:30 a.m.	Simultaneous Oral Sessions
7:00 a.m. – 11:30 a.m.	Consultative Hematology Course TICKETED SESSION
9:00 a.m. – 10:00 a.m.	E. Donnal Thomas Lecture and Prize
10:00 a.m. – 10:30 a.m.	Coffee Break (Exhibit Hall)
10:00 a.m. – 2:00 p.m.	Exhibits Open
10:00 a.m. – 8:00 p.m.	Poster Viewing
10:30 a.m. – 12:00 noon	Education Program
10:30 a.m. – 12:00 noon	Simultaneous Oral Sessions
10:30 a.m. – 12:00 noon	Education Spotlight Sessions
10:30 a.m. – 12:00 noon	Scientific Spotlight Sessions
10:30 a.m. – 12:00 noon	Special Education Session on Precision Medicine
12:00 noon – 1:30 p.m.	Complimentary Light Lunch Available in Exhibit Hall
12:15 p.m. – 1:15 p.m.	The ASH Choosing Wisely® Campaign: 2016 ASH Choosing Wisely Champions
12:15 p.m. – 1:15 p.m.	Featured Topic Discussion
12:15 p.m. – 1:15 p.m.	Global Hematology Symposium
12:15 p.m. – 1:15 p.m.	Meet the <i>Blood</i> Editors
12:15 p.m. – 1:15 p.m.	Product Theaters Open in Exhibit Hall
12:15 p.m. – 1:15 p.m.	Trainee Simultaneous Didactic Sessions (Open only to trainees wearing a blue badge; lunch will be provided)
1:30 p.m. – 2:30 p.m.	Ernest Beutler Lecture and Prize
2:30 p.m. – 2:45 p.m.	Coffee Break (Poster Hall)
2:45 p.m. – 4:15 p.m.	Education Program
2:45 p.m. – 4:15 p.m.	Simultaneous Oral Sessions
2:45 p.m. – 4:15 p.m.	Education Spotlight Sessions
2:45 p.m. – 4:15 p.m.	Scientific Spotlight Sessions
4:30 p.m. – 6:00 p.m.	Simultaneous Oral Sessions
4:30 p.m. – 6:00 p.m.	Special Symposium on the Basic Science of Hemostasis and Thrombosis
6:00 p.m. – 8:00 p.m.	Poster Hall Reception
6:00 p.m. – 8:00 p.m.	Poster Presentations
6:15 p.m. – 7:45 p.m.	Simultaneous Oral Sessions
7:30 p.m. – 9:00 p.m.	ASH Networking Reception for Female Faculty

Tuesday, December 6

7:00 a.m. – 1:30 p.m.	Registration
7:30 a.m. – 9:00 a.m.	Late-Breaking Abstracts Session
9:30 a.m. – 9:45 a.m.	Announcement of Awards (William Dameshek Prize and Henry M. Stratton Medal)
9:45 a.m. – 11:15 a.m.	Presidential Symposium
11:15 a.m. – 11:30 a.m.	Business Meeting
11:30 a.m. – 1:00 p.m.	Best of ASH



General Sessions

The General Sessions are geared toward all attendees and include signature sessions such as the prestigious Plenary Scientific Session, Best of ASH, and the Presidential Symposium. These sessions also honor distinguished leaders in the field through awards and special lectures.

SATURDAY

Ham-Wasserman Lecture

Inherited Thrombophilia: How Does a Double-Edged Sword Fit into Clinical Practice?

Saturday, December 3
12:30 p.m. – 1:30 p.m.

This lectureship was named in honor of two past presidents of ASH, the late Thomas Hale Ham, MD, and the late Louis R. Wasserman, MD, distinguished hematologists who contributed extensively to the Society. The Ham-Wasserman lecture is traditionally given by an individual from outside the United States who has made a major contribution to our understanding of an area that relates to hematology.



SPEAKER:

Saskia Middeldorp,
MD, PhD, University of
Amsterdam, Amsterdam,
Netherlands

The term thrombophilia is generally used for a laboratory abnormality, most often in the coagulation system, which increases the risk of venous thromboembolism. In the past half-century, thrombophilia has evolved from a very rare genetic disorder to a highly prevalent trait. Today, some form of thrombophilia can be identified in about half of the patients presenting with venous thromboembolism. Testing has increased tremendously for various indications, including unexplained arterial thrombosis and complications in pregnancy, but whether the results of such tests help in the clinical management of patients has not been settled. In fact, not to test patients with venous thrombosis for thrombophilia is an item on the Choosing Wisely® list endorsed by multiple specialty societies, including ASH.

In this lecture, Dr. Saskia Middeldorp will provide an overview of the way thrombophilia came into clinical practice, which was an immediate consequence of increasing insight into the blood coagulation system. She will also cover genetic research possibilities that made it possible to search for specific candidate abnormalities in the coagulation proteins and their encoding genes. Furthermore, she will discuss the association of inherited thrombophilia with reproductive issues in both men and women, some findings that were the result of serendipity, to speculate about the double-edged sword called inherited thrombophilia.

SUNDAY

Plenary Scientific Session

Sunday, December 4
2:00 p.m. – 4:00 p.m.

During this highlight of the annual meeting, attendees will hear the presentations of the highest-caliber scientific abstracts selected by the Program Committee from among the thousands submitted from around the world. Plenary Scientific Session speakers and topics will be announced in early November at www.hematology.org.

ASH-EHA Joint Symposium

Pluripotent Stem Cells: Will They Be of Clinical Utility?

Sunday, December 4
12:30 p.m. – 1:30 p.m.

CO-CHAIRS:

Charles S. Abrams, MD, President, American Society of Hematology (ASH), University of Pennsylvania, Philadelphia, PA

Anthony R. Green, PhD, President, European Hematology Association (EHA), Cambridge Institute for Medical Research, Wellcome Trust – Medical Research Council Cambridge Stem Cell Institute, Cambridge, United Kingdom

SPEAKERS:

George Q. Daley, MD, Boston Children's Hospital, Boston, MA

Oliver Brüstle, PhD, Institute of Reconstructive Neurobiology, University of Bonn, Bonn, Germany

Pluripotent stem cells have been considered promising for therapeutics since they were first described several years ago. Since they are derived from the patient's own cells, they are genetically matched with the recipient. Yet, the process of generating these cells carries the risk of introducing new mutations and causing cancer. This symposium will update the audience on this topic and provide expert opinions on whether pluripotent stem cells will ever be therapeutically viable.

Announcement of Awards

Sunday, December 4
1:30 p.m. – 2:00 p.m.

Wallace H. Coulter Award for Lifetime Achievement in Hematology

Wallace H. Coulter was a prolific inventor, innovator, and entrepreneur. His Coulter Principle pioneered the development of flow cytometry, defined particle characterization, and made possible automated hematology, thus revolutionizing laboratory medicine. The Coulter Counter led to major breakthroughs in science, medicine, and industry. This award, in his name, recognizes an individual who has demonstrated a lasting commitment to the field of hematology through outstanding contributions to education, research, and practice.



The 2016 Wallace H. Coulter Award for Lifetime Achievement in Hematology will recognize Thalia

Papayannopoulou, MD, of the University of Washington in Seattle, WA, for her seminal research accomplishments, high-impact contributions to the field of stem cell biology, and outstanding leadership and mentorship in the field of hematology. Her research accomplishments within the realms of hemoglobin switching and erythroid cell biology helped tackle fundamental mechanistic problems, establish powerful new systems, and transition basic insights into pre-clinical studies, long before the concept of bench-to-bedside was common terminology. Dr. Papayannopoulou has made significant contributions to the field of stem cell biology and was among the first to describe the generation of functional red cells from human embryonic stem cells and induced pluripotent cells. She has demonstrated stellar leadership by guiding scientific activity, molding the careers of trainees and junior faculty, and carving out fundamental policies that have had a broad impact on hematology practice. Dr. Papayannopoulou was awarded the William Dameshek Prize in 1990.

ASH Mentor Award

The ASH Mentor Award was established to recognize hematologists who have excelled in mentoring trainees and colleagues. Each year, the Society recognizes two outstanding mentors drawn from the areas of basic science, clinical investigation, education, or clinical/community care, who have had a significant, positive impact on their mentees' careers and who, through their mentees, have advanced research and patient care in the field of hematology.



Ralph Nachman, MD, recently retired after 47 years on the faculty of Weill Cornell Medical College, will be

presented with a 2016 ASH Mentor Award for his profound influence on the careers of trainees at all levels of experience. Throughout his distinguished scientific career in the field of hemostasis and thrombosis, Dr. Nachman has maintained close interaction with his mentees, many of whom have had a profound impact themselves in the field of hematology. His mentees include two medical college deans, three associate deans, three chairs of medicine, two chairs of basic science departments, three vice chairs of medicine, an institute director, numerous professors, two individuals elected to the Institute of Medicine, eight in the Association of American Physicians, and 10 in the American Society of Clinical Investigation. Dr. Nachman has actively advanced the careers of women in his department and has been influential in the recruitment of house staff and faculty from minority backgrounds. He is frequently cited as a transformational role model by his mentees.



Laurence (Larry) Boxer, MD, Professor Emeritus at the University of Michigan Medical School, will be

presented with a 2016 ASH Mentor Award for helping to train and mentor more than 35 fellows who have gone on to become leaders in their field, including five division heads, one department chair, and five leaders of blood and marrow transplantation programs. Dr. Boxer spearheaded the inception and support for the Pediatric Physician Scientists Development Program sponsored by the National Institutes of Child Health Development, which aims to train MDs who show promise in basic research. Through this program, he has mentored numerous trainees at his own institution and others, and he has opened up research opportunities for many other trainees across the country. Through his mentoring, Dr. Boxer is recognized as a critical yet insightful mentor who challenges his mentees to think outside the box.

ASH Outstanding Service Award

The ASH Outstanding Service Award is presented annually to an individual who has worked tirelessly to raise public awareness and increase research funding for hematologic diseases. The 2016 recipient will be announced at the meeting.

ASH Public Service Award

The ASH Public Service Award is presented annually to an elected public official who has demonstrated unparalleled leadership on issues of importance to hematology research and/or practice. The 2016 recipient will be announced at the meeting.

MONDAY

E. Donnell Thomas Lecture and Prize

*Bone Marrow: Structure and Function
of the Blood Cell Foundry*

Monday, December 5
9:00 a.m. – 10:00 a.m.

This lectureship and prize was created in 1992 and named after the late Nobel Prize laureate and past president of ASH E. Donnell Thomas, MD. The award recognizes pioneering research achievements in hematology that represent a paradigm shift or significant discovery in the field.



SPEAKER:

David T. Scadden, MD,
Massachusetts General
Hospital, Harvard Stem
Cell Institute, Boston, MA

All mammals make blood
in their bones. Indeed,

in the two hundred million years since fish diverged from our evolutionary tree, animals with blood and bones have made blood in their bone marrow. This lengthy co-evolution has made the bone marrow a special place where multiple non-hematopoietic cells contribute to the orderly regulation of blood cell production. Defining the cellular elements that comprise what was historically called “stroma” has provided evidence that hematopoiesis has input from mesenchymal, endothelial, neural, and hematopoietic cells to transmit regulatory signals down to the level of single stem and progenitor cells. It has also become evident that regions within stroma are specialized in their function. Some stromal cells affect stem cells while others affect more mature, lineage-restricted cells including those that specify T-lineage commitment. Finally, it is apparent that stromal sub-populations participate in the malignant process. Mesenchymal cells can be the primary driver of hematopoietic neoplasia or they can be sculpted by it, modifying their function for the preferential support of mutant hematopoietic cells. Collectively, studies of bone marrow have provided insight into how a complex tissue executes its function dynamically and in response to physiologic or pathophysiologic challenges. This lecture will discuss where we are in understanding the components of bone marrow, the logic that underlies bone marrow function, and how bone marrow contributes to blood diseases and their treatment.

Ernest Beutler Lecture and Prize

*Acute Promyelocytic Leukemia:
A Model for Precision Medicine
and Cure by Targeted Therapies*

Monday, December 5
1:30 p.m. – 2:30 p.m.

The Ernest Beutler Lecture and Prize, named for the late Ernest Beutler, MD, past president of ASH and physician-scientist for more than 50 years, is a two-part lectureship that recognizes major advances related to a single topic. This award honors two individuals, one who has enabled advances in basic science and another for achievements in clinical or translational science.



SPEAKERS:

Zhu Chen, MD, PhD,
Shanghai Institute of
Hematology, Ruijin
Hospital, Shanghai, China

Hugues de Thé, MD, PhD,
University of Paris Hospital
Saint-Louis, Paris, France



Acute promyelocytic
leukemia (APL) is not
only a model for precision
medicine, but also the first
example of a malignancy
largely cured by targeted
therapies. APL is driven

by the promyelocytic leukemia (PML)-retinoic acid receptor-alpha (RARA) fusion, a potent

oncoprotein that deregulates transcription and perturbs nuclear organization. Clinical studies initiated in China demonstrated that all *trans* retinoic acid (ATRA) and arsenic trioxide (ATO) exert extraordinary potent and selective anti-APL effects, yielding complete remission rates of 90 percent. Molecular analyses aimed at understanding the basis for these effects unexpectedly demonstrated that both drugs bind PML/RARA arsenic to its PML moiety and retinoic acid to the RARA one. Either drug initiates PML/RARA degradation by the proteasome, while also modulating the function of normal PML and RARA. The synergistic targeting of PML/RARA by either ATRA or ATO results in APL cell differentiation, apoptosis, and senescence. Studies performed in patients, as well as in mouse models, have allowed an unprecedented understanding of the basis for therapy response *in vivo*. These studies provided the rationale for ATRA/ATO-based treatment protocols. The initial protocols only used these agents in combination with standard chemotherapy. This combination yielded up to 95 percent definitive cures in standard-risk APL without adding any additional long-term toxicity. In recent trials, the combination of ATRA and ATO without any DNA-damaging chemotherapy achieved similar results in patients with standard-risk APL. This means that APL cure should now be achievable anywhere in the world.

Dr. Zhu Chen will review the conceptual development and clinical advances in APL therapy.

Dr. Hugues de Thé will review the pathogenesis of APL and the molecular basis for its response to therapy.



TUESDAY

Late-Breaking Abstracts Session

Tuesday, December 6
7:30 a.m. – 9:00 a.m.

This highly anticipated session highlights the Program Committee's selections of the highest-impact abstracts, featuring substantive, novel, and groundbreaking data that were not available by the general abstract submission deadline and would otherwise not be presented at the ASH annual meeting. Late-Breaking Abstracts will be announced in late November at www.hematology.org.

Announcement of Awards

Tuesday, December 6
9:30 a.m. – 9:45 a.m.

William Dameshek Prize

The William Dameshek Prize, named for the late William Dameshek, MD, a past president of ASH and the original editor of *Blood*, recognizes an individual, no more than 50 years of age at the time of nomination, who has made a recent outstanding contribution to the field of hematology.



The 2016 William Dameshek Prize will be awarded to Charles Mullighan, MBBS (Hons), MD, of St. Jude Children's

Research Hospital in Memphis, TN, for his internationally acclaimed research on the pathogenesis and biology of acute lymphocytic leukemia (ALL). Dr. Mullighan is a world leader in ALL. Beginning with his post-doctorate work with James R. Downing, MD, who pioneered the field, Dr. Mullighan has led much of the scientific discovery work in the genomic basis of ALL and now leads the charge into targeted therapeutic strategies for poor prognosis of genetically defined subsets in children and adults. His studies have had profound implications for our understanding of the genetic basis of ALL and have led to multiple new diagnostic and therapeutic approaches.

Henry M. Stratton Medal

The Henry M. Stratton Medal is named after the late Henry Maurice Stratton, co-founder of Grune and Stratton, the medical publishing house that first published ASH's journal *Blood*. The prize honors two senior investigators whose contributions to hematology in both basic and clinical/translational research are well recognized and have taken place over a period of several years.



The 2016 Henry M. Stratton Medal for Basic Research will be awarded to J. Evan Sadler, MD, PhD, of Washington

University School of Medicine in St. Louis, MO, for his important contributions to basic hematology research. Over his 30-year career, Dr. Sadler has made discoveries of great relevance to the understanding of human hemorrhagic and thrombotic disorders. He is distinguished in his ability to translate basic science findings to improve understanding of pathophysiology of important human disease, as well as in the development of novel diagnostic and therapeutic strategies. His contributions to the field include the study of a number of blood coagulation factors which have led to many seminal molecular, genetic, and biochemical insights, as well as to the development of diagnostic guidelines and rational approaches to treatment for von Willebrand disease and thrombotic thrombocytopenic purpura. Dr. Sadler was awarded the William Dameshek Prize in 1998.



The 2016 Henry M. Stratton Medal for Clinical/Translational Research will be awarded to Ayalew

Tefferi, MD, of Mayo Clinic College of Medicine in Rochester, MN, for his outstanding contributions as a clinician and investigator. Dr. Tefferi is a nationally recognized expert in myeloproliferative neoplasms, with accomplishments in defining their pathogenesis and prognostic features and in testing new treatments. He was a pioneer in the discovery and characterization of pathogenic mutations, such as JAK2V617F, leading to development of JAK inhibitors for treatment of these diseases. Dr. Tefferi's prolific publication record includes more than 630 peer-reviewed reports and numerous invited reviews on myeloproliferative syndromes. Notably, he was the first author of the 2007 "Proposals and rationale for revision of the World Health Organization diagnostic criteria for polycythemia vera, essential thrombocythemia, and primary myelofibrosis: recommendations from an ad hoc international panel," indicating his leadership in the field.

Program Guide

General Sessions

Presidential Symposium

*Sickle Cell Disease: New Biology,
New Therapeutics*

Tuesday, December 6
9:45 a.m. – 11:15 a.m.

CHAIR:

Charles S. Abrams, MD, President, American Society of Hematology, University of Pennsylvania, Philadelphia, PA

SPEAKERS:

Kwaku Ohene-Frempong, MD, President, Sickle Cell Foundation of Ghana, Kumasi, Ghana

Introduction on the Global Perspective of Sickle Cell Disease

Gerd A. Blobel, MD, PhD, The Children's Hospital of Philadelphia, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA

Remodeling Chromatin Architecture to Regulate Beta-Globin Gene Expression

Daniel E. Bauer, MD, Boston Children's Hospital, Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA

Genome Editing: BCL11a and Transcriptional Regulators of Hemoglobin

Giuliana Ferrari, PhD, San Raffaele Telethon Institute for Gene Therapy, Milan, Italy

Gene Therapy: The Challenge of Correcting Hemoglobinopathies

Sickle cell anemia is the most common inherited blood disorder. Although the molecular basis for this disorder was first described over 65 years ago, our ability to definitively correct this gene defect has remained elusive. During the 2016 ASH Presidential Symposium, the global burden of this disorder will first be discussed, and then, three experts will present novel and promising approaches to permanently remedy this genetic disease. These gene-modifying approaches not only have capability to cure sickle cell anemia, but also serve as a paradigm on how we can harness our current knowledge of the human genome to treat a vast array of genetic disorders.

Dr. Kwaku Ohene-Frempong will describe the worldwide impact of this disorder.

Dr. Gerd A. Blobel will explain how the remodeling of the chromatic architecture of the β -globin locus can enhance the production of hemoglobin F, and thereby modify this disease.



Dr. Daniel E. Bauer will discuss how BCL11A is an important regulator of hemoglobin F production, and he will demonstrate how harnessing gene editing can selectively regulate the expression of BCL11A and hemoglobin F.

Dr. Giuliana Ferrari will describe the recent advances in gene therapy and how they can be applied to hemoglobinopathies including sickle cell anemia.

Business Meeting

Tuesday, December 6
11:15 a.m. – 11:30 a.m.

At least one month prior to the annual meeting, reports on ASH's financial status, awards, and journal, *Blood*, as well as information about the Society's leadership nominations, are made available online for review by ASH members. The Business Meeting will offer a forum for members to discuss the information presented in these documents and will conclude with the traditional passing of the gavel to the new ASH president.

Best of ASH

Tuesday, December 6
11:30 a.m. – 1:00 p.m.

CO-CHAIRS:

Robert A. Brodsky, MD, The Johns Hopkins University School of Medicine, Baltimore, MD

Ross L. Levine, MD, Memorial Sloan-Kettering Cancer Center, New York, NY

Before heading home, make time to attend this 90-minute session for a review of the key themes from this year's meeting. Led by the 2016 Annual Meeting Scientific Program Co-Chairs, Best of ASH is your opportunity to hear about the biggest breakthroughs from the meeting's abstract presentations.

Special-Interest Sessions

The Special-Interest Sessions provide the opportunity for ASH's various communities to gather for smaller sessions on specific topics, ranging from quality of care in the era of health information technology, to using social media for clinical trial recruitment, to advocating for increased research funding for the National Institutes of Health.



New
This Year



Ticketed
Session



Cross-
Cutting
Themes



Precision
Medicine

FOR SCIENTISTS

How to Get Published in a Peer-Reviewed Journal

Saturday, December 3
11:15 a.m. – 12:15 p.m.

CHAIR:

Bob Löwenberg, MD, PhD, Editor-in-Chief, *Blood*, Erasmus University Medical Center, Rotterdam, Netherlands

The ability to communicate one's work effectively by publication in high-impact journals is a benchmark for success in academic medicine. Even high-quality work may not be accepted if not presented in a well-crafted manuscript. This talk will provide insight into the elements of a high-quality manuscript worthy of publication in *Blood* and tips on avoiding common errors that might result in rejection.

Meet the *Blood* Editors

These sessions will provide attendees the opportunity to meet with the associate editors of *Blood* and discuss recent changes to the journal as well as submission and peer-review processes and policies, with each session giving a unique focus. Seating is limited and available on a first-come, first-served basis.

Sunday, December 4
11:15 a.m. – 12:15 p.m.

SPEAKERS:

David M. Bodine, PhD, National Institutes of Health, Bethesda, MD
What Makes a Great Scientific Paper?

Mario Cazzola, MD, University of Pavia, Pavia, Italy
Pitfalls in Publishing

Monday, December 5
12:15 p.m. – 1:15 p.m.

SPEAKERS:

Jose Cortes, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
What Makes a Great Clinical Research Paper?

Nance Berliner, MD, Deputy Editor, *Blood*, Brigham and Women's Hospital, Boston, MA
Rules for Reviewers

FOR PRACTICING HEMATOLOGISTS

American Board of Internal Medicine Maintenance of Certification Learning Session

Friday, December 2
2:00 p.m. – 5:00 p.m.

CHAIR:

Anita Rajasekhar, MD, MS, University of Florida – Shands Hospital, Gainesville, FL

SPEAKERS:

Anita Rajasekhar, MD, MS, University of Florida – Shands Hospital, Gainesville, FL

William A. Wood, MD, The University of North Carolina at Chapel Hill, Chapel Hill, NC

Carla Casulo, MD, University of Rochester, Rochester, NY

This Maintenance of Certification (MOC) Learning Session is intended for those who are enrolled in the MOC process and due to recertify in the next few years. The Learning Session will be conducted in an interactive group setting led by American Board of Internal Medicine (ABIM)-certified physicians. The three-hour session will cover the 30 multiple-choice questions in the "2016 Update in Hematology" ABIM module. At the conclusion of the session, participants will transfer their answers to their online module and submit the module to ABIM for scoring to receive MOC credit. Enrolled participants can order a copy of the module(s) online at www.abim.org.

Please note that this is not a board review activity; the workshop is designed to facilitate completion of ABIM's Self-Evaluation of Medical Knowledge MOC requirement.

Ticket Prices

(Purchase tickets during online meeting registration process.)

Active, International, or Emeritus Member:	\$85
Associate or International Associate Member:	\$50
Non-Member in Training:	\$85
Non-Member:	\$135

Program Guide

Special-Interest Sessions

Special Symposium on Quality

*Quality of Care in the Era of Health
Information Technology*

Saturday, December 3
2:00 p.m. – 3:30 p.m.

CO-CHAIRS:

Anita Rajasekhar, MD, MS, University of
Florida – Shands Hospital, Gainesville, FL

Vishal Kukreti, MD, The Princess Margaret
Cancer Centre, Toronto, Canada

SPEAKERS:

Hardeep Singh, MD, U.S. Department of
Veteran Affairs, Washington, DC
*Do EMRs Promote or Prevent Improvement
in Quality of Health Care Delivery Across
Various Health Care Settings?*

Douglas Blayney, MD, Stanford University,
Stanford, CA
How to Utilize HIT Effectively in Research

Doris Howell, PhD, RN, The Princess
Margaret Cancer Centre, Toronto, Canada
*Can Incorporation of Health Information
Technology Enhance the Patient Experience?*

In March 2001, the Institute of Medicine Committee on the Quality of Health Care in America published "Crossing the Quality Chasm: A New Health System for the 21st Century." A key finding from this report was that information and communication technology is necessary to improve quality of care. More than \$20 billion of the American Recovery and Reinvestment Act of 2009 was invested to assist physicians, hospitals, and other health care settings, in adopting health information technology (HIT). In the last decade, significant strides have been made to incorporate HIT into clinical practice. While HIT has the potential to improve services, knowledge, communication, outcomes, quality, efficiency, and thus overall quality of health care, the evidence that HIT improves important health-related outcomes is limited.

This symposium will introduce the basic concept of HIT and how it can be utilized by the health care system, patient, and provider to improve health care quality, enhance patient-provider shared decision-making, and facilitate efforts in quality research.

ASH Practice Partnership Lunch

*Best Practices for Collaboration
with Nurse Practitioners, Physician
Assistants, and Clinical Nurse
Specialists in Hematology Care*

Sunday, December 4
11:15 a.m. – 12:30 p.m.

CHAIR:

Joseph Alvarnas, MD, City of Hope National
Medical Center, Duarte, CA

SPEAKERS:

Joseph Alvarnas, MD, City of Hope National
Medical Center, Duarte, CA

Marc Zumberg, MD, University of Florida,
Gainesville, FL

Clayton Hunter, MSPAS, PA-C, University of
Florida, Gainesville, FL

Jean Khoury, MD, Winship Cancer Institute
at Emory University, Atlanta, GA

Brittany Hill, PA-C, Emory University,
Atlanta, GA

The ASH Practice Partnership (APP) is ASH's network for practice-based hematologists to discuss practice-related issues within the Society. The APP Lunch is a special session designed for this community.

In today's world of evolving practice, the roles of nurse practitioners, physician assistants, and other clinical nursing specialists who care for patients with hematologic diseases are continuing to grow. While some practices work to ensure that these professionals work together as a team, many can be more efficient. This presentation will explore best practices for team-based care in malignant and non-malignant hematology for both acute and chronic conditions.





Consultative Hematology Course TICKETED SESSION

Monday, December 5
7:00 a.m. – 11:30 a.m.

This interactive course, intended for clinical hematologists based in community practice in North America, will cover commonly encountered clinical problems that require the expertise of a hematologist. Faculty familiar with consultative practice issues will focus on non-malignant hematology topics, such as thrombosis, thrombocytopenia, and bleeding. For more information on this course, visit www.hematology.org/chc.

Registration Category	Rate*
Member with Annual Meeting Registration	\$125
Non-Member with Annual Meeting Registration	\$200
Member without Annual Meeting Registration	\$200
Non-Member without Annual Meeting Registration	\$275

If you are interested in registering for this course but are not planning to register for the annual meeting, please contact ashregistration@spargoinc.com.

**Registration fee includes continental breakfast and coffee break. Advance online registration is limited to clinical hematologists practicing in North America; on-site registration will be possible for other groups if space is available.*

The ASH Choosing Wisely® Campaign: 2016 ASH Choosing Wisely Champions NEW THIS YEAR

Monday, December 5
12:15 p.m. – 1:15 p.m.

CHAIR:

[Lisa K. Hicks, MD, St. Michael's Hospital, Toronto, Canada](#)

In cooperation with the ABIM Foundation, ASH is introducing the Choosing Wisely Champions initiative to recognize the efforts of practitioners who are working to eliminate costly and potentially harmful overuse of tests and procedures and to provide annual meeting attendees with an opportunity to learn about projects that might be translated to their own practices. Three individuals will be invited as Choosing Wisely Champions to present successful utilization strategies that they have developed and implemented in their practice, institution, or hospital system.

Special Education Sessions on Newly Approved Drugs

The Society's acclaimed webinar series on newly approved drugs will be expanded to include two live sessions at the annual meeting, featuring participation from U.S. Food and Drug Administration product reviewers. The sessions' didactic presentations will feature a selection of hematologic drugs and indications newly approved in 2016 to be determined closer to the meeting. Presenters will have significant clinical experience with the new agents, and the focus of the sessions will be on issues clinicians face in treating patients with the new drugs, including appropriate population, dosing, side effects, adverse events, drug/drug interactions, and off-label use. The didactic presentations will be approximately 15 minutes in length and will leave time for audience questions. Please check the program schedule at www.hematology.org/annual-meeting closer to the meeting for updated information on session speakers and topics.



FOR EDUCATORS

Training Program Directors' Workshop

Friday, December 2
1:00 p.m. – 5:00 p.m.

The Training Program Directors' Workshop provides an interactive forum for directors of all hematology-related training programs to learn from educators, regulators, and each other.

CHAIR:

Ann LaCasce, MD, Dana-Farber Cancer Institute, Boston, MA

SPEAKERS:

Christian Cable, MD, Baylor Scott & White Health, Round Rock, TX
Updates from the ACGME

Patricia Kritek, MD, EdM, University of Washington, Seattle, WA
Timothy Gilligan, MD, Cleveland Clinic, Cleveland, OH
How Come Nobody Ever Told Me This Before?

Dr. Christian Cable, who began as chair of the Residency Review Committee (RRC)-Internal Medicine in July, will share his vision for the RRC and hear from program directors. Dr. Cable will also provide any updates on Accreditation Council for Graduate Medical Education policy.

The title of the second talk comes from the response often heard when discussing performance issues with a fellow. Drs. Patricia Kritek and Timothy Gilligan will focus on how program directors should approach performance improvement for their fellows. This will include addressing performance failure, developing performance plans and consequences, completing constructive evaluations, and providing meaningful feedback, including documenting areas that need improvement. This talk will be followed by interactive breakout sessions.



Hematology Course Directors' Workshop

Sunday, December 4
7:00 a.m. – 9:00 a.m.

CHAIR:

Leslie Renee Ellis, MD, Wake Forest School of Medicine, Winston Salem, NC

SPEAKERS:

Leslie Renee Ellis, MD, Wake Forest School of Medicine, Winston Salem, NC
Teaching Methodology: An Exploration of Teaching Hematology Using the Kolb Learning Cycle

Thomas G. Deloughery, MD, Oregon Health and Science University, Portland, OR
Erin Reid, MD, University of California – San Diego, La Jolla, CA
Rakesh Mehta, MD, Indiana University School of Medicine, Indianapolis, IN
Neil A. Lachant, MD, Cooper University Hospital, Camden, NJ
Panel Discussion: Integrated Pre-Clinical Curriculum in Medical School

The 2016 Hematology Course Directors' Workshop will continue to focus on the new learning environments at medical schools. Dr. Leslie Ellis will share how she

is implementing the Kolb learning cycle with her hematology course. Kolb's experiential learning style theory is typically represented by a four-stage learning cycle in which the learner "touches all the bases." Effective learning is seen when a person progresses through all four stages which include:

1) having a concrete experience, followed by 2) observation of and reflection on that experience, which leads to 3) the formation of abstract concepts (analysis) and generalizations (conclusions), which are then 4) used to test hypothesis in future situations, resulting in new experiences.

The session will conclude with a panel discussion of experiences with the integration of the pre-clinical curriculum in medical school, featuring a panel of course directors in various stages of this transition. The discussion will focus on hematology and a sharing of best practices.

ASH Networking Reception for Female Faculty

Monday, December 5
7:30 p.m. – 9:00 p.m.

CO-CHAIRS:

Jennifer R. Brown, MD, PhD, Dana-Farber Cancer Institute, Boston, MA

Margaret V. Ragni, MD, University of Pittsburgh Medical Center, Pittsburgh, PA

SPEAKERS:

Jane F. Apperley, MD, Hammersmith Hospital, Imperial College, London, United Kingdom

Stephanie J. Lee, MD, Fred Hutchinson Cancer Research Center, Seattle, WA

The ASH Networking Reception for Female Faculty provides an opportunity for female faculty to gather in an informal networking environment. The goal of the event is to facilitate an exchange between tenured and junior faculty and to cultivate mentoring. The event will include brief remarks from the event co-chairs, as well as two featured guest speakers who will discuss their career paths, the impact of mentors, and lessons learned along the way. A structured networking activity will also be included.

To RSVP for this event, please visit www.hematology.org/annual-meeting.

FOR U.S. PARTICIPANTS

ASH Grassroots Network Lunch

Saturday, December 3
11:15 a.m. – 12:15 p.m.

Thanks to ASH's advocacy efforts and the ASH Grassroots Network, issues important to the future of hematology are brought to the attention of the U.S. Congress and federal agencies. The ASH Grassroots Network Lunch provides a forum for interested members to learn how they can participate in ASH's advocacy efforts, communicate with Congress and the White House, and become effective advocates for hematology. The Society's legislative and regulatory priorities will also be highlighted. Discussion will focus on the impact of the November elections on issues of importance to the field, including the National Institutes of Health (NIH) budget. An overview of the Society's 2016 advocacy accomplishments and a preview of the Society's 2017 advocacy agenda will also be provided.



Program Guide

Special-Interest Sessions

FOR ALL

Promoting Minorities in Hematology Presentations and Reception

Saturday, December 3
6:30 p.m. – 9:00 p.m.

ASH invites all interested meeting attendees to this event, which will showcase training and research opportunities geared toward increasing the diversity of scholars in the field of hematology. The highlight of the session will be scientific presentations from the ASH Minority Medical Student Award Program participants. The reception will also feature poster presentations by students participating in the National Heart, Lung, and Blood Institute's Minority Research Supplement and an announcement about the ASH-AMFDP Award, a partnership between ASH and the Harold Amos Medical Faculty Development Program of the Robert Wood Johnson Foundation. Representatives from the National Institutes of Health will provide information about their training and research offerings.

Social Media and Clinical Trials: Physicians, Pharma, and Patients

Sunday, December 4
11:15 a.m. – 12:15 p.m.

CO-CHAIRS:

Joseph Mikhael, MD, MEd, Mayo Clinic, Scottsdale, AZ

Michael Thompson, MD, PhD, Aurora Health Care, Milwaukee, WI

SPEAKERS:

Irene Ghobrial, MD, Dana-Farber Cancer Institute, Boston, MA

Jennifer Ahlstrom, MyelomaCrowd, Salt Lake City, UT

Guillermo Garcia-Manero, MD, The University of Texas MD Anderson Cancer Center, Houston, TX

Social media is increasingly becoming recognized as an important and valuable means of communicating advances in science and medicine. This panel discussion will explore how hematologists can appropriately interact with patients on Twitter and how to use Twitter for clinical trial recruitment while taking potential challenges such as privacy, ethics, and responsible data sharing into consideration. A question-and-answer session will follow the panelists' presentations.

Blood and Beyond Blood: An Epic History of Medicine and Commerce

Sunday, December 4
4:30 p.m. – 6:00 p.m.

CHAIR:

Bob Löwenberg, MD, PhD, Editor-in-Chief, *Blood*, Erasmus University Medical Center, Rotterdam, Netherlands

SPEAKERS:

Nancy Berliner, MD, Deputy Editor, *Blood*, Brigham and Women's Hospital, Boston, MA
Introduction

Douglas Starr, MS, Boston University, Boston, MA
Blood: An Epic History of Medicine and Commerce

While blood has been a source of fascination to the lay public throughout history, the hematologist's view of blood is both deep and more nuanced. As physician-scientists, the study of the production of the formed elements of the blood has been a focus of research that has fascinated generations of hematologists and has illuminated the pathophysiology of the diseases we treat. As clinical hematologists, we view the range of blood products as necessary tools of the trade: to prevent death on the battlefield, to support patients through life-saving therapies, to replace critical clotting factors for patients with hemophilia and other factor deficiencies, and as a source of stem cells for transplantation. Blood transfusions have allowed some of our greatest successes and have been the source of some of our greatest failures. In this talk, Dr. Nancy Berliner will place our view of blood into the context of the wider historical and cultural fabric of society.

Douglas Starr is the author of *Blood: An Epic History of Medicine and Commerce* and co-director of the graduate program in Science Journalism at Boston University. He has been a commentator on ABC's Nightline, the British Broadcasting Corporation, and National Public Radio, as well as at venues as diverse as Harvard Medical School, Yale Medical School, and the Royal College of Physicians in London. In this talk, we will take a step back from our specializations and take the broadest possible view of blood, as a natural resource. For centuries, people have worked to understand the healing power of blood, marshal it as resource, divide it into useful components, and maintain a safe and reliable supply. In this way, blood bears a strange and striking analogy to oil. Professor Starr, who spent seven years researching





the subject, will speak about the epic history of blood. In a lively talk, accompanied with historic illustrations, he will discuss the development of blood as a resource, from the first experiments with transfusions, to the creation of blood banks, to the management of blood supplies during the great wars. He will also discuss the tragedies of hepatitis and AIDS as they related to the blood and plasma supplies and how public health officials learned to address them. Finally, he will talk about current efforts to minimize the use of blood during surgery, as medical professionals strive to conserve this precious resource.

Special Education Session on Precision Medicine



Monday, December 5
10:30 a.m. – 12:00 noon

CHAIR:

Gary H. Lyman, MD, Fred Hutchinson Cancer Research Center, Seattle, WA

SPEAKERS:

Mark A. Rubin, MD, Weill Cornell Medical College, New York, NY
Development and Interpretation of Molecular Assays

Lillian L. Siu, MD, The Princess Margaret Cancer Centre, Toronto, Canada
Clinical Genomics and Targeted Therapy

Gary H. Lyman, MD, Fred Hutchinson Cancer Research Center, Seattle, WA
Goals for Advancing Appropriate Use of Biomarker Tests

This session is designed to inform hematologists and investigators about recent developments in precision medicine with a focus on the development and interpretation of molecular assays for molecularly targeted therapies. The role of industry, laboratories, providers, patients, the U.S. Food and Drug Administration, and other federal agencies will be discussed. The session will also cover the importance of software development for the integration of clinical measures and genomic data within and between institutions, as well as the importance of establishing a national data repository.

Dr. Mark A. Rubin will discuss the development and interpretation of molecularly assays within a clinical molecular laboratory setting.

Dr. Lillian L. Siu will discuss the rapidly evolving area of clinical genomics and molecularly targeted therapies with a focus on malignant disease.

Dr. Gary H. Lyman will highlight recent recommendations on advancing the appropriate standards for establishing and continuing evaluation of clinical utility for purposes of biomarker development, regulation, clinical utilization, and reimbursement from the Institute of Medicine.

Global Hematology Symposium

How High-Tech in Low-Resource Areas May Help Overcome Hematology Challenges

Monday, December 5
12:15 p.m. – 1:15 p.m.

Hematology care providers in lower-resource areas confront a wide range of challenges in the face of often staggering disease burdens. The lack of necessary training, research, pharmaceuticals, and equipment undermines the ability to deliver standard-of-care treatment. This symposium will explore existing and prospective programs that employ technological innovations to help improve hematology care in low-resource settings.



Trainee Activities and Services

The ASH annual meeting provides hematology trainees with a variety of high-quality educational, career-development, and networking opportunities. To help trainees make the most of their meeting experience, a number of activities and services have been identified as most relevant to the unique interests of undergraduates, medical and graduate students, residents, and fellows (MD and PhD).

All trainee activities and services are open only to annual meeting attendees with a blue trainee badge. To find out which annual meeting registration category is appropriate for you, please see page 44.



Trainee Day

Friday, December 2, 12:00 noon – 5:00 p.m.

This half-day workshop is intended to support and encourage trainees in the field of academic hematology by providing opportunities to explore careers in basic, translational, and clinical research. This program will be presented through didactic and interactive small-group breakout sessions which will allow ample time for discussion, questions, and answers. Important information on collaborative relationships and identifying and pursuing post-training career opportunities and research funding will be presented.

A boxed lunch will be provided. Space is available on a first-come, first-served basis. As seating is limited, attendees are strongly encouraged to arrive early. No additional participants will be allowed in the rooms once these sessions are filled.

CHAIR:

Angela Smith, MD, MS, University of Minnesota, Minneapolis, MN



12:00 noon – 1:15 p.m. **Didactic Session 1: Investigator Responsibilities and Collaboration Between Clinical and PhD Investigators**

Jennifer A. Woyach, MD, The Ohio State University, Columbus, OH

Hal E. Broxmeyer, PhD, Indiana University School of Medicine, Indianapolis, IN

This session will discuss investigator responsibilities in basic science and clinical research projects. It will also address collaborations between PhD scientists and clinical investigators and how to maximize the relationship for the benefit of the research project.

1:30 p.m. – 2:30 p.m. **Breakout Sessions: Developing a Collaborative Basic Science Research Team**

Basic Science

Kelvin P. Lee, MD, Roswell Park Cancer Institute, Buffalo, NY

This talk will cover how to find and engage basic science collaborators at every level, how to lead a team and avoid the pitfalls of collaboration (e.g. inattention to deadlines and disagreements over authorship and credit), and how to ensure that everyone on the team “wins.”

Clinical Science

Elliott Vichinsky, MD, UCSF Benioff Children’s Hospital Oakland, Oakland, CA

This talk will cover how to find and engage clinical collaborators, give and receive feedback, define roles on the team, and make everyone on the team feel valued.

Translational Science

Theresa Hahn, PhD, Roswell Park Cancer Institute, Buffalo, NY

This talk will cover how to find, engage, and define the roles of collaborators, as well as how to value all members of the team. It will also address how to find collaborators who understand the science and clinical sides of a research question and working with those who do not see both sides.

2:45 p.m. – 3:45 p.m. **Breakout Sessions: Identifying Post-Training Career Opportunities**

Academic

Eric Padron, MD, Moffitt Cancer Center, Tampa, FL

This talk will cover traditional scientist or clinician-scientist roles and identify new roles in academia, such as clinical lab directors, clinical research roles (e.g. regulatory experts, clinical research managers, etc.), and administrative roles (e.g. fellowship and clinic directors).

Clinical Practice

Timothy E. O’Brien, MD, MetroHealth Medical Center, Cleveland, OH

Topics covered in this talk will include traditional and new approaches to practice, including job sharing, inpatient or systems-based hematology, and managing a clinical laboratory.

Industry

Melissa Eisen, MD, Amgen, Oak Park, CA

This talk will focus on industry roles, ranging from laboratory research to clinical protocol development, regulatory roles, medical science liaisons, and roles in clinical research.

PhD

Scott Abrams, PhD, Roswell Park Cancer Institute, Buffalo, NY

This talk is specifically for PhDs and will cover traditional principal investigator roles and working as part of a larger group. It will also address new roles in academics, such as bioinformatics, biostatistics, laboratory management, and core facility management, as well as roles in industry and law.

4:00 p.m. – 5:00 p.m. **Didactic Session 2: Identifying and Pursuing Funding for Your Research**

Louis M. Pelus, PhD, Indiana University School of Medicine, Indianapolis, IN

Sophie Lanzkron, MD, MHS, The Johns Hopkins University School of Medicine, Baltimore, MD

This didactic talk will cover competitiveness in grant applications, time expected to complete grant applications, and the difference between federal and foundation grants. The talk will be presented from the basic science and clinical research perspectives.

Program Guide

Trainee Activities and Services

Trainee Welcome Reception

Friday, December 2, 5:00 p.m. – 7:00 p.m.

This informal social event provides the opportunity for undergraduates, medical students, graduate students, residents, and fellows (MD and PhD) to gather with their colleagues. The reception will include an overview of ASH trainee resources, a guide to the annual meeting for trainees, and brief remarks from the ASH president.

Career-Development Lunch Sessions

Saturday, December 3, 11:15 a.m. – 12:15 p.m.

These roundtable discussions will provide an intimate venue for trainees to meet with leaders in hematology to discuss careers in areas such as basic, clinical, and translational research, industry settings, and clinical practice. There will be two rooms reserved for these sessions, with two tables per room for each career area and one faculty member at each table leading the discussion.

A boxed lunch will be provided. Space is available on a first-come, first-served basis. As seating is limited, attendees are strongly encouraged to arrive early. No additional participants will be allowed in the rooms once these sessions are filled.

CHAIR:

Jennifer C. Kesselheim, MD, MEd, Dana-Farber Cancer Institute, Boston, MA



Career Area	Session 1	Session 2
Clinical Benign Hematology	Shannon M. Bates, MD, McMaster University, Hamilton, Canada Rakhi P. Naik, MD, MHS, The Johns Hopkins University, Baltimore, MD	David Garcia, MD, University of Washington, Seattle, WA Agnes Lee, MD, Diamond Health Care Centre, Vancouver, Canada
Clinical Malignant Hem/BMT	Matthew S. Davids, MD, Dana-Farber Cancer Institute, Boston, MA H. Jean Khoury, MD, Winship Cancer Institute at Emory University, Atlanta, GA	Corey Cutler, MD, Dana-Farber Cancer Institute, Boston, MA Vikas Gupta, MD, The Princess Margaret Cancer Centre, Toronto, Canada
Laboratory and Translational Hematology	David Ginsburg, MD, University of Michigan, Ann Arbor, MI David B. Miklos, MD, PhD, Stanford University, Stanford, CA	Catherine J. Wu, MD, Dana-Farber Cancer Institute, Boston, MA Katharine Hsu, MD, PhD, Memorial Sloan-Kettering Cancer Center, New York, NY
Industry	Brian M. Elliott, MD, Novartis, East Hanover, NJ Franklin Smith, MD, Medpace, Cincinnati, OH	Katarina Luptakova, MD, Takeda Oncology, Cambridge, MA To Be Determined
Government	Courtney D. Fitzhugh, MD, National Institutes of Health, Bethesda, MD Peter Marks, MD, PhD, U.S. Food and Drug Administration, Washington, DC	Cynthia E. Dunbar, MD, National Institutes of Health, Bethesda, MD Adrian Wiestner, MD, PhD, National Institutes of Health, Bethesda, MD
Pediatric Hematology/Oncology	Allison King, MD, Washington University in St. Louis, St. Louis, MO Manuel Carcao, MD, Hospital for Sick Children, Toronto, Canada	Susan Rheingold, MD, The Children's Hospital of Philadelphia, Philadelphia, PA Charles Quinn, MD, MS, Cincinnati Children's Hospital, Cincinnati, OH

PhD	Sara K. Vesely, PhD, University of Oklahoma, Oklahoma City, OK	Peter Newman, PhD, BloodCenter of Wisconsin, Milwaukee, WI
	Gregory Denomme, PhD, BloodCenter of Wisconsin, Milwaukee, WI	To Be Determined
Transfusion Medicine	Leslie E. Silberstein, MD, Boston Children's Hospital, Boston, MA	Stella Chou, MD, The Children's Hospital of Philadelphia, Philadelphia, PA
	Don L. Siegel, MD, PhD, University of Philadelphia Medical Center, Philadelphia, PA	Walter "Sunny" Dzik, MD, Massachusetts General Hospital, Boston, MA
Medical Educators	Leslie Renee Ellis, MD, Wake Forest School of Medicine, Winston Salem, NC	Jennifer C. Kesselheim, MD, MEd, Dana-Farber Cancer Institute, Boston, MA
	Marc J. Kahn, MD, Tulane University, New Orleans, LA	To Be Determined

Trainee Didactic Sessions

Sunday, December 4
11:15 a.m. – 12:15 p.m.

Monday, December 5
12:15 p.m. – 1:15 p.m.

During lunch on Sunday and Monday, ASH will offer didactic sessions designed to provide trainees with an overview of timely and relevant career-oriented issues.

Lunch will be provided. Space is available on a first-come, first-served basis. As seating is limited, attendees are strongly encouraged to arrive early. No additional participants will be allowed in the rooms once these sessions are filled.

Sunday, December 4

SPEAKERS:

Gerald Soff, MD, Memorial Sloan-Kettering Cancer Center, New York, NY
How to Transition From Trainee to Faculty

As trainees transition to the next steps in their career, the importance of communicating their interests and goals effectively and efficiently is key in networking, pursuing job opportunities, and initiating collaborations. This session will focus on the "three-minute elevator talk," a concise talk about yourself and objectives in order to leave a positive impression. Other topics to be covered will include how to approach potential future employers or colleagues in a variety of settings, how to communicate your career goals and objectives concisely in order to network more efficiently, how to get the most out of networking contacts, and how to understand the context in which potential employers see you versus the competition.

Ted Wun, MD, University of California Davis School of Medicine, Sacramento, CA
Outcomes Research in Hematology

There has been tremendous growth in research in the assessment of outcomes, analysis of effectiveness, and quality assurance in the last 20 years. Outcomes research relies heavily on large clinical databases. This session will focus on how to identify, access, and use large clinical databases to design and implement research problems which focus on a variety of patient outcomes.

Monday, December 5

SPEAKERS:

Nigel S. Key, MB, ChB, The University of North Carolina at Chapel Hill, Chapel Hill, NC
Building and Nurturing a Research Team

Research today is no longer done in silos but is dependent on "team science." This session will focus on the transition from being a participant to being a team leader. We will discuss the importance of having a vision, building and managing relationships, and coordinating the activities of team members. Other topics will include developing a leadership style, learning how to delegate tasks and authority, and fostering collaboration versus competition.

Michelle Kelliher, PhD, University of Massachusetts, Worcester, MA
Funding Your Career at All Stages

Finding financial support for research is a core part of a research career. This session will focus on the art of getting funded and is designed to aid PhDs in better understanding aspects of career funding at all stages of career development. The session will discuss the various sources, public and private, that support scientific studies.

Trainee Lounge

Trainees are invited to visit the Trainee Lounge located in ASH Central (Sails Pavilion) to meet with colleagues and recharge with complimentary refreshments. The Trainee Lounge will be open on the following days:

Saturday, December 3	7:00 a.m. – 6:00 p.m.
Sunday, December 4	7:00 a.m. – 5:00 p.m.
Monday, December 5	7:00 a.m. – 5:00 p.m.
Tuesday, December 6	7:00 a.m. – 1:30 p.m.



Program Guide

Education Program

The 2016 Education Program will be held Saturday, December 3, through Monday, December 5. Each session will be offered twice, unless otherwise noted. A question-and-answer period will occur at the end of each individual speaker presentation. Chapters based on these sessions will be published in *Hematology 2016*, the ASH Education Program. All Education Program sessions will be recorded and made available for sale during registration and through ASH On Demand (www.ashondemand.org) after the meeting.



New
This Year



Cross-
Cutting
Themes



Ticketed
Session



Precision
Medicine

EDUCATION PROGRAM CO-CHAIRS:



Jorge Di Paola, MD,
University of Colorado
School of Medicine,
Aurora, CO



Selina Luger, MD,
Perelman Center
for Advanced
Medicine, University
of Pennsylvania,
Philadelphia, PA

AML According to WHO: Newer Approaches to Therapy

CHAIR:

Jessica K. Altman, MD, Northwestern
University, Chicago, IL

SPEAKERS:

Jessica K. Altman, MD, Northwestern
University, Chicago, IL
*Acute Promyelocytic Leukemia: Improving
Early Mortality and Late Toxicity*

David Rizzieri, MD, Duke University Medical
Center, Durham, NC
*Treatment of Blastic Plasmacytoid Dendritic
Cell Neoplasm*

Michael Heuser, MD, Hannover Medical
School, Hannover, Germany
*Therapy-Related Myeloid Neoplasms:
Does Knowing the Origin Help to Guide
Treatment?*

Anemia in the Young and Old

CHAIR:

David P. Steensma, MD, Dana-Farber Cancer
Institute, Boston, MA

SPEAKERS:

Robert T. Means, MD, James H. Quillen
College of Medicine, East Tennessee State
University, Johnson City, TN
Pure Red Cell Aplasia

Michael Auerbach, MD, Georgetown
University School of Medicine, Washington, DC
*Contemporary Approaches to Iron Deficiency
Anemia and the Use of IV Iron*

David P. Steensma, MD, Dana-Farber Cancer
Institute, Boston, MA
*New Challenges in Evaluating Anemia in
Older Persons in the Era of Molecular Testing*

Bone Marrow Failures

CHAIR:

Akiko Shimamura, MD, PhD, Boston
Children's Hospital, Boston, MA

SPEAKERS:

Akiko Shimamura, MD, PhD, Boston
Children's Hospital, Boston, MA
*Aplastic Anemia and Clonal Evolution:
Germline and Somatic Genetics*

Danielle Townsley, MD, National Heart, Lung,
and Blood Institute, National Institutes of
Health, Bethesda, MD
*Non-Transplant Therapies for Bone Marrow
Failure*

Regis Peffault De Latour, MD, PhD, Hôpital
Saint-Louis, Paris, France
*Transplantation for Bone Marrow Failure:
Current Issues*

Bone Marrow Transplant: Understanding and Improving the Risk Benefit Ratio

CHAIR:

Katayoun Rezvani, MD, PhD, The University
of Texas MD Anderson Cancer Center,
Houston, TX

SPEAKERS:

Andrew S. Artz, MD, MS, The University
of Chicago, Chicago, IL
*Biologic Versus Physiologic Age
in the Transplant Candidate*

Katayoun Rezvani, MD, PhD, The University
of Texas MD Anderson Cancer Center,
Houston, TX
*Can We Make a Better Match Using
KIR Genotyping?*

Robert Jenq, MD, Memorial Sloan-Kettering
Cancer Center, New York, NY
*Role of the Intestinal Mucosa in Graft-Versus-
Host Disease*

Chronic Lymphocytic Leukemia

CHAIR:

Jacqueline Barrientos, MD, Hofstra Northwell School of Medicine at Hofstra University, Hempstead, NY

SPEAKERS:

Jacqueline Barrientos, MD, Hofstra Northwell School of Medicine at Hofstra University, Hempstead, NY
Sequencing of Chronic Lymphocytic Leukemia Therapies

Susan O'Brien, MD, University of California – Irvine, Irvine, CA
Novel Agents in Chronic Lymphocytic Leukemia

Barbara Eichhorst, MD, University of Cologne, Cologne, Germany
Prognostication in the Era of New Agents

Chronic Myeloid Leukemia

CHAIR:

Susan Branford, PhD, SA Pathology, Center for Cancer Biology, Adelaide, Australia

SPEAKERS:

Susan Branford, PhD, SA Pathology, Center for Cancer Biology, Adelaide, Australia
Molecular Monitoring in Chronic Myeloid Leukemia: How Low Can You Go?

Jorge Cortes, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
Chronic Myeloid Leukemia: Sequencing of TKI Therapies

Fabio Efficace, PhD, Gruppo Italiano Malattie Ematologiche Dell'Adulto-GIMEMA, Rome, Italy
The Value of Quality of Life Assessment in Chronic Myeloid Leukemia Patients Receiving Tyrosine Kinase Inhibitors



Common Consults in Thrombosis

CHAIR:

Steven R. Lentz, MD, PhD, The University of Iowa, Iowa City, IA

SPEAKERS:

Steven R. Lentz, MD, PhD, The University of Iowa, Iowa City, IA
Thrombosis in the Setting of Obesity and Other Inflammatory Conditions

Christine Ribic, MD, McMaster University, Hamilton, Canada
Thrombosis and Anticoagulation in the Setting of Renal and Liver Disease

Michael Streiff, MD, Johns Hopkins Medicine, Baltimore, MD
Thrombosis in the Setting of Cancer

Complement Disorders and Hematologic Consequences

CHAIR:

Charles Parker, MD, The University of Utah, Salt Lake City, UT

SPEAKERS:

Charles Parker, MD, The University of Utah, Salt Lake City, UT
Update on Diagnosis and Treatment of Paroxysmal Nocturnal Hemoglobinuria

Vahid Afshar-Kharghan, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
Atypical Hemolytic-Uremic Syndrome

Sigbjorn Berentsen, MD, PhD, Haugesund Hospital, Haugesund, Norway
Cold Agglutinin Disease

Program Guide

Education Program



Follicular Lymphomas

CHAIR:

Nathan Hale Fowler, MD, The University of Texas MD Anderson Cancer Center, Houston, TX

SPEAKERS:

Carla Casulo, MD, University of Rochester Medical Center, Rochester, NY
Prognostic Factors in Follicular Lymphoma

Nathan Hale Fowler, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
Frontline Strategy for Follicular Lymphoma: Are We Ready to Abandon Chemotherapy?

Laurie H. Sehn, MD, British Columbia Cancer Agency, Vancouver, Canada
Novel Agents in Follicular Lymphoma: Choosing the Best Target

Disorders of Hemostasis and Thrombosis in Women's Health

CHAIR:

Andra H. James, MD, Duke University Medical Center, Durham, NC

SPEAKERS:

Terry Gernsheimer, MD, University of Washington, Seattle, WA
Inherited and Acquired Bleeding Disorders in Pregnancy

Andra H. James, MD, Duke University Medical Center, Durham, NC
Heavy Menstrual Bleeding: Work-Up and Management

Mary Cushman, MD, University of Vermont Medical Center, Burlington, VT
Venous Thrombosis and Stroke in Pregnancy

Disorders of Platelet Number and Function in Systemic Diseases

CHAIR:

Matthew Rondina, MD, The University of Utah, Salt Lake City, UT

SPEAKERS:

Michele P. Lambert, MD, MTR, The Children's Hospital of Philadelphia, Philadelphia, PA
Platelets in Renal and Liver Disease

Matthew Rondina, MD, The University of Utah, Salt Lake City, UT
Platelets in Infectious Disease

Gowthami Arepally, MD, Duke University Medical Center, Durham, NC
Heparin-Induced Thrombocytopenia

Genetic Susceptibility to Leukemias

CHAIR:

Kim Nichols, MD, St. Jude Children's Research Hospital, Memphis, TN

SPEAKERS:

Kim Nichols, MD, St. Jude Children's Research Hospital, Memphis, TN
Introduction to Cancer Genetic Susceptibility Syndromes

Christopher C. Porter, MD, University of Colorado School of Medicine, Children's Hospital Colorado, Aurora, CO
Germline Mutations Associated with Leukemias

Joshua Schiffman, MD, The University of Utah, Salt Lake City, UT
Discussing and Managing Germline Variants with Patients and Families

Hodgkin Lymphoma: Treatment Today and the Challenge for Tomorrow

CHAIR:

T. Andrew Lister, MD, Barts Cancer Institute, London, United Kingdom

SPEAKERS:

Peter Johnson, MA, MD, Southampton General Hospital School of Medicine, Southampton, United Kingdom
Response Adapted Frontline Therapy in Hodgkin Lymphoma: Are We There Yet?

Flora E. Van Leeuwen, PhD, Netherlands Cancer Institute, Amsterdam, Netherlands
Long-Term Risk of Second Malignancy and Cardiovascular Disease After Hodgkin Lymphoma Treatment

Craig Moskowitz, MD, Memorial Sloan-Kettering Cancer Center, New York, NY
Novel Agents and Strategies in Relapsed/Refractory Hodgkin Lymphoma

Informed Decisions in Acute Myeloid Leukemia: Beyond Morphology and Cytogenetics

CHAIR:

Courtney D. DiNardo, MD, MSCE, The University of Texas MD Anderson Cancer Center, Houston, TX

SPEAKERS:

Arati Rao, MD, Gilead Sciences, Inc., Foster City, CA
Fitness in the Elderly: How to Make Decisions Regarding Acute Myeloid Leukemia Induction

Courtney D. DiNardo, MD, MSCE, The University of Texas MD Anderson Cancer Center, Houston, TX
Mutations in Acute Myeloid Leukemia: Prognostic and Therapeutic Implications

Gert Ossenkoppele, MD, PhD, VU University Medical Center, Amsterdam, Netherlands
Minimal Residual Disease in Acute Myeloid Leukemia: Does It Already Guide Therapeutic Decision-Making?

Junior-Faculty Development Education Session: How to Be Successful in Your First “Real” Job

THIS SESSION WILL ONLY BE OFFERED ONCE.

CHAIR:

Angela Smith, MD, MS, University of Minnesota, Minneapolis, MN

SPEAKERS:

Jennifer R. Brown, MD, PhD, Dana-Farber Cancer Institute, Boston, MA
Developing a Productive Research Program

Jonathan W. Friedberg, MD, University of Rochester, Rochester, NY
Developing a Focused Area of Clinical Expertise

Rebecca Kruse-Jarres, MD, University of Washington, Seattle, WA
Structuring Your Position

Lymphoma: Challenges and New Directions

CHAIR:

Helen Heslop, MD, DSc (Hon), Baylor College of Medicine, Houston, TX

SPEAKERS:

Bertrand Coiffier, MD, PhD, Centre Hospitalier Lyon-Sud, Pierre-Benite, France
Diffuse Large B Cell Lymphoma: RCHOP Failure: What to Do

Tracy Batchelor, MD, Massachusetts General Hospital, Boston, MA
Primary CNS Lymphoma and Lymphomatous Involvement of the Central Nervous System

Helen Heslop, MD, DSc (Hon), Baylor College of Medicine, Houston, TX
Checkpoint Inhibition and Immunotherapy/ Cellular Therapies



Program Guide

Education Program

Managing Severe Thrombosis and Sequelae

CHAIR:

Susan R. Kahn, MD, McGill University, Montreal, Canada

SPEAKERS:

Clive Kearon, MB, McMaster University, Juravinski Hospital and Cancer Center, Hamilton, Canada
Diagnosis of Suspected Venous Thromboembolism

Cecilia Becattini, MD, PhD, University of Perugia, Perugia, Italy
Risk Stratification and Management of Pulmonary Embolism

Susan R. Kahn, MD, McGill University, Montreal, Canada
Post-Thrombotic Syndrome

Mantle Cell Lymphoma

CHAIR:

Martin Dreyling, MD, Klinikum Der Universitaet Muenchen-Campus Grosshadern, Munich, Germany

SPEAKERS:

Simon Rule, MD, Plymouth University, Plymouth, United Kingdom
Frontline Therapy and the Role of High-Dose Consolidation in Mantle Cell Lymphoma

Pierre-Louis Soubeyran, MD, PhD, Institut Bergonié, Bordeaux, France
Treatment of the Elderly Patient with Mantle Cell Lymphoma

Eva Hoster, PhD, University Hospital of the Ludwig-Maximilians-University, Munich, Germany
Minimal Residual Disease in Mantle Cell Lymphoma: Insights Into Biology and Impact on Treatment

Mechanisms of Transfusion Alloimmunization

THIS SESSION IS JOINTLY SPONSORED WITH AABB.

CHAIR:

Karina Yazdanbakhsh, PhD, New York Blood Center, New York, NY

SPEAKERS:

Jeanne Hendrickson, MD, Yale University, New Haven, CT
Understanding Red Blood Cell Alloimmunization Triggers

James C. Zimring, MD, PhD, University of Washington, Seattle, WA
Cellular Immune Responses in Red Blood Cell Alloimmunization

Karina Yazdanbakhsh, PhD, New York Blood Center, New York, NY
Immunoregulatory Networks in Sickle Cell Alloimmunization

Myelodysplastic Syndromes

CHAIR:

Valeria Santini, MD, AOU Careggi-University of Florence, Florence, Italy

SPEAKERS:

Valeria Santini, MD, AOU Careggi-University of Florence, Florence, Italy
Treatment of Low-Risk Myelodysplastic Syndromes

Hetty Carraway, MD, Cleveland Clinic, Cleveland, OH
Treatment of Myelodysplastic Syndromes Patients After Hypomethylating Agent Failure

Mary Horowitz, MD, MS, Medical College of Wisconsin, Milwaukee, WI
Transplant for Myelodysplastic Syndromes: Who, When, and Which Conditioning Regimen



Myeloma

CHAIR:

Angela Dispenzieri, MD, Mayo Clinic, Rochester, Rochester, MN

SPEAKERS:

Angela Dispenzieri, MD, Mayo Clinic, Rochester, Rochester, MN
Myeloma: Management of the Newly Diagnosed High-Risk Patient

Noopur Raje, MD, Massachusetts General Hospital Cancer Center, Boston, MA
Sequencing of Non-Transplant Treatments in Myeloma Patients with Active Disease

Philip McCarthy, MD, Roswell Park Cancer Institute, Buffalo, NY
Role of Stem Cell Transplant and Maintenance Therapy in Plasma Cell Disorders

Myeloma – Immunotherapy

CHAIR:

Edward Stadtmauer, MD, University of Pennsylvania, Philadelphia, PA

SPEAKERS:

Donna Weber, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
Advances and Practical Use of Antibodies in Myeloma Therapy

Edward Stadtmauer, MD, University of Pennsylvania, Philadelphia, PA
Cellular Therapies or Vaccines for Myeloma

Don M. Benson Jr., MD, PhD, The Ohio State University Wexner Medical Center, Columbus, OH
Checkpoint Inhibition in Myeloma

Myeloproliferative Neoplasms

CHAIR:

Jamile M. Shampo, MD, Rush University Medical Center, Chicago, IL

SPEAKERS:

Francesco Passamonti, MD, University of Insubria, Varese, Italy
Update from the Latest WHO Classification of Myeloproliferative Neoplasms: A User's Manual

Vikas Gupta, MD, The Princess Margaret Cancer Centre, Toronto, Canada
Myelofibrosis: To Transplant or Not to Transplant?

Jamile M. Shampo, MD, Rush University Medical Center, Chicago, IL
Mutations in Myeloproliferative Neoplasms: Prognostic Implications, Window into Biology, and Impact on Treatment Decisions

Optimizing Treatments for High-Risk Acute Lymphoblastic Leukemia: What It Takes to Move the Needle

CHAIR:

Mignon Loh, MD, UCSF Benioff Children's Hospital San Francisco, San Francisco, CA

SPEAKERS:

Mignon Loh, MD, UCSF Benioff Children's Hospital San Francisco, San Francisco, CA
Implementing Targeted Therapies for Ph-Like Acute Lymphoblastic Leukemia

Noelle Frey, MD, MS, University of Pennsylvania, Philadelphia, PA
Novel Therapies and Novel Toxicities: Cytokine Release Syndrome

Nicola Goekbuget, MD, Goethe University, University Hospital, Frankfurt, Germany
Treatment of the Elderly Patient with Acute Lymphoblastic Leukemia



Pediatric Hematologic Malignancies

CHAIR:

Elizabeth Raetz, MD, The University of Utah, Salt Lake City, UT

SPEAKERS:

Elizabeth Raetz, MD, The University of Utah, Salt Lake City, UT
T-Cell Acute Lymphoblastic Leukemia

John Sandlund, MD, St. Jude Children's Research Hospital, Memphis, TN
Non-Hodgkin Lymphoma Across the Pediatric, Adolescent, and Young Adult Age Spectrum

Henrik Hasle, MD, Aarhus University Hospital, Aarhus, Denmark
Myelodysplastic and Myeloproliferative Disorders of Childhood

Reversing Old and New Anticoagulants

CHAIR:

Mark Crowther, MD, St. Joseph's Hospital, Hamilton, Canada

SPEAKERS:

Sabine Eichinger, MD, Medical University of Vienna, Vienna, Austria
Reversing Vitamin K Antagonists: Making the Old New Again

Mark Crowther, MD, St. Joseph's Hospital, Hamilton, Canada
Reversing Direct Oral Anticoagulants

Daniel M. Witt, PharmD, FCCP, BCPS, The University of Utah College of Pharmacy, Salt Lake City, UT
After the Bleed: When and How to Restart Anticoagulants

Program Guide

Education Program



Sickle Cell Disease: Clinical Management

CHAIR:

Michael DeBaun, MD, Vanderbilt-Meharry-Matthew Walker Center of Excellence in Sickle Cell Disease, Vanderbilt University School of Medicine, Nashville, TN

SPEAKERS:

Jo Howard, MB, BChir, Guy's and St. Thomas' Hospital, London, United Kingdom
Sickle Cell Disease: When and How to Transfuse

Michael DeBaun, MD, Vanderbilt-Meharry-Matthew Walker Center of Excellence in Sickle Cell Disease, Vanderbilt University School of Medicine, Nashville, TN
Prevention of Strokes and Other Central Nervous System Sequelae in Sickle Cell Disease without Evidence from Randomized Controlled Trials

Ted Wun, MD, University of California Davis School of Medicine, Sacramento, CA
Sickle Cell Disease: An Inherited Thrombophilia

Treatment of Congenital Bleeding Disorders

CHAIR:

Shannon L. Meeks, MD, Emory University, Atlanta, GA

SPEAKERS:

Steven Pipe, MD, University of Michigan, Ann Arbor, MI
New Therapies for Hemophilia

Shannon L. Meeks, MD, Emory University, Atlanta, GA
Hemophilia and Inhibitors

Flora Peyvandi, MD, PhD, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy
Rare Factor Deficiencies

An Update on White Blood Cell Disorders

CHAIR:

Mary C. Dinauer, MD, PhD, Washington University School of Medicine in St. Louis, St. Louis, MO

SPEAKERS:

Christoph Klein, MD, PhD, University Children's Hospital, Munich, Germany
Children with Rare Diseases of Neutrophil Granulocytes: From Therapeutic Orphans to Pioneers of Individualized Therapies

Peter Newburger, MD, University of Massachusetts Medical School, Worcester, MA
Autoimmune and Other Acquired Neutropenias

Mary C. Dinauer, MD, PhD, Washington University School of Medicine, St. Louis, MO
Disorders of Neutrophil Function

Von Willebrand Disease: Rediscovering an Old Disease

CHAIR:

Robert R. Montgomery, MD, Blood Research Institute, Milwaukee, WI

SPEAKERS:

Robert R. Montgomery, MD, Blood Research Institute, Milwaukee, WI
Von Willebrand Disease: What Have We Learned from Large Population Studies?

Anne Goodeve, PhD, University of Sheffield, Sheffield, United Kingdom
Diagnosing Von Willebrand Disease

James O'Donnell, MD, PhD, National Center for Hereditary Coagulation Disorders St. James's Hospital, Dublin, Ireland
New Treatment Approaches to Von Willebrand Disease

When Antibody Response Goes Awry

CHAIR:

Theodosia A. Kalfa, MD, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

SPEAKERS:

Theodosia A. Kalfa, MD, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
Warm (and Sometimes Dangerously Hot) Autoimmune Hemolytic Anemia

Rachael F. Grace, MD, MMSc, Boston Children's Hospital, Boston, MA
Second Line Therapies in Immune Thrombocytopenia

Wendy Lim, MD, McMaster University, Hamilton, Canada
Prevention of Thrombosis in Antiphospholipid Syndrome

Education Spotlight Sessions

This year, ASH will offer Education Spotlight Sessions on five important topics. Each 90-minute session will be presented once on either Sunday or Monday in a small-venue format and will include ample time for audience questions and participation. The talks will facilitate discussions of evidence-based practice, decision making, and controversies in diagnosis and management. The lectures will address the current state of knowledge, translational and clinical applications, and future directions.

The Education Spotlight Sessions are restricted to medical professionals only.

ASH-College of American Pathologists Guidelines on Initial Work-Up of Acute Leukemia

SPEAKERS:

Daniel A. Arber, MD, Stanford University Medical Center, Stanford, CA
Kathryn Foucar, MD, University of New Mexico Health Sciences Center, Albuquerque, NM
ASH-CAP Guidelines

A New Wave in the Evaluation of Hemophilic Joint Disease: The Role of Point-of-Care High Resolution Musculoskeletal Ultrasound in the Management of Hemophilic Arthropathy

CHAIR:

Nihal Bakeer, MD, Indiana Hemophilia and Thrombosis Center, Indianapolis, IN

SPEAKERS:

Annette von Drygalski, MD, PharmD, University of California – San Diego, San Diego, CA
The Use of Musculoskeletal Ultrasound as a Point-of-Care for Diagnosis of Hemophilic Arthropathy

Andrea S. Doria, MD, PhD, The Hospital of Sick Children, Toronto, Canada
Advantages and Limitations of MSKUS as Compared to MRI

Systems-Based Hematology: A New Career Path for Hematologists

MODERATOR:

David Garcia, MD, University of Washington, Seattle, WA

SPEAKERS:

Janice Lawson, MD, Tallahassee Memorial Hospital, Tallahassee, FL
Colleen Morton, MD, Regions Hospital, Saint Paul, MN
Why Systems-Based Hematology? (Community-Based Health System)

Nathan Connell, MD, Harvard Medical School, Brigham and Women's Hospital, Boston, MA
Marc Zumberg, MD, University of Florida, Gainesville, FL
Why Systems-Based Hematology? (University-Based Health System)

Brian H. Rank, MD, HealthPartners, Bloomington, MN
Why My System Supports a Systems-Based Hematologist

Transplant for Non-Malignant Disease



SPEAKERS:

Courtney Fitzhugh, MD, National Institutes of Health, Bethesda, MD
Transplant for Hemoglobinopathies

Hilary Haines, MD, University of Alabama at Birmingham, Birmingham, AL
Transplant for Immune Disorders

Treatment of the Patient, Not the Disease

SPEAKERS:

Fred Schiffman, MD, The Miriam Hospital, Providence, RI
Humanism and Professionalism in the Era of the Electronic Medical Record

Mark Litzow, MD, Mayo Clinic in Rochester, Rochester, MN
End-of-life Discussions in Hematologic Malignancies (Adult Perspective)

Leslie Kersun, MD, MSCE, MScEd, The Children's Hospital of Philadelphia, Philadelphia, PA
End-of-life Discussions in Hematologic Malignancies (Pediatric Perspective)



Program Guide

Education Program



How I Treat: Bringing Science To Clinical Dilemmas TICKETED SESSION

Saturday, December 3, 11:15 a.m. – 12:15 p.m.

Sunday, December 4, 11:15 a.m. – 12:15 p.m.

These sessions are designed to provide an opportunity for a small number of attendees to meet with a clinical expert in a setting that fosters interaction. ASH has invited experts from around the world to facilitate informal discussions, allowing participants to present their questions and gain new perspectives. A boxed lunch will be provided.

Ticket Prices (per session)

ASH Member:	\$50
Non-Member in Training:	\$50
Allied Health Professional:	\$50
Non-Member:	\$75

These sessions are restricted to medical professionals only; no businesspersons or media will be admitted. Tickets are limited and only available on site on a first-come, first-served basis. Only one ticket per person is allowed. Tickets may be purchased at the Ticketed Sessions Counter in the registration area in the Level 1 Hall D Lobby of the San Diego Convention Center beginning Thursday, December 1, during registration hours.

Attention Trainees!

A number of tickets for the “How I Treat: Bringing Science to Clinical Dilemmas” sessions will be reserved for trainees. Proof of status as an Associate, International Associate, Resident, or Graduate/Medical Student member, or Non-Member in Training will be required to purchase a ticket. Please show your name badge to the staff at the Ticketed Sessions Counter.

SPEAKERS:

Janis L. Abkowitz, MD, University of Washington, Seattle, WA
Anemia in the Elderly Patient

Vahid Afshar-Kharghan, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
Disorders of Complement

Jessica K. Altman, MD, Northwestern University, Chicago, IL
Acute Promyelocytic Leukemia

Gowthami Arepally, Duke University Medical Center, Durham, NC
Heparin-Induced Thrombocytopenia

Mark Crowther, St. Joseph's Hospital, Hamilton, Canada
Reversing Anticoagulation

Martin Dreyling, MD, Klinikum Der Universitaet Muenchen-Campus Grosshadern, Munich, Germany
Mantle Cell Lymphoma

Brian Druker, MD, Oregon Health and Science University, Portland, OR
Chronic Myeloid Leukemia

Nathan Hale Fowler, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
Follicular Lymphoma, Evolving Therapy, and Novel Treatment Options

Theodosia A. Kalfa, MD, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
Hemolytic Anemias

Steven R. Lentz, MD, PhD, The University of Iowa, Iowa City, IA
Obesity, Inflammation, and Thrombosis

Shannon L. Meeks, MD, Emory University, Atlanta, GA
Bleeding Disorders

Valeria Santini, MD, AOU Careggi-University of Florence, Florence, Italy
Myelodysplastic Syndromes

Akiko Shimamura, MD, PhD, Boston Children's Hospital, Boston, MA
Bone Marrow Failures

Sonali Smith, MD, The University of Chicago, Chicago, IL
Follicular Lymphoma

Edward Stadtmauer, MD, University of Pennsylvania, Philadelphia, PA
Multiple Myeloma

Wendy Stock, MD, The University of Chicago, Chicago, IL
ALL in Adolescents and Young Adults

Scientific Program

The 2016 Scientific Committee Sessions will be held Saturday, December 3, and Sunday, December 4. Each session will be offered twice. A question-and-answer period will occur at the end of each individual speaker presentation. Invited abstracts of these sessions will be published in the Program Book and on the flash drive containing the annual meeting abstracts. All Scientific Program sessions will be recorded and made available for sale during registration and through ASH On Demand (www.ashondemand.org) after the meeting.



Continuing Conversations with the Speakers

Scientific Program sessions marked with this icon are immediately followed by informal discussion with Scientific Program session speakers. These sessions are designed to give interested individuals, especially trainees and junior investigators, increased accessibility both to information on the topic and to the opinions of experts in those particular fields. These small, interactive discussions are meant to provide an increased opportunity for scientific peers to form collaborations and partnerships.



New This Year



Ticketed Session



Cross-Cutting Themes



Precision Medicine

SCIENTIFIC PROGRAM CO-CHAIRS:



Robert Brodsky, MD,
The Johns Hopkins
University School of
Medicine, Baltimore, MD



Ross Levine, MD,
Memorial Sloan-Kettering Cancer
Center, New York, NY

JOINT SESSION: Scientific Committee on Blood Disorders in Childhood and Scientific Committee on Red Cell Biology

*Red Cell Biology: Understanding and
Repairing Faulty Red Blood Cells*

CO-CHAIRS:

Colleen Delaney, MD, Fred Hutchinson
Cancer Research Center, Seattle, WA

Alex Minella, MD, BloodCenter of Wisconsin,
Milwaukee, WI

SPEAKERS:

Ann Dean, PhD, National Institute of Diabetes
and Digestive and Kidney Diseases, National
Institutes of Health, Bethesda, MD
New Concepts in Genome Regulation

Marina Cavazzana, MD, PhD, Hôpital Necker
– Enfants, Paris, France
*Gene Therapy Studies in
Hemoglobinopathies: Successes and
Challenges*

Harvey Lodish, PhD, Whitehead Institute
for Biomedical Research, Cambridge, MA
*PPAR α Agonists and TGF β Inhibitors
Stimulate Red Blood Cell Production
by Enhancing Self-Renewal of BFU-E
Erythroid Progenitors*

Lucia De Franceschi, MD, Policlinico GB
Rossi, University of Verona, Verona, Italy
*New Therapeutic Options Alternative to
Gene Therapy to Treat Hemoglobinopathies*

JOINT SESSION: Scientific Committee on Hematopoiesis and Scientific Committee on Myeloid Biology

*Clonal Development of Hematopoietic
Stem Cell Specification and
Differentiation at Single Cell Resolution*

CO-CHAIRS:

Yi Zheng, PhD, Cincinnati Children's Hospital,
Cincinnati, OH

H. Leighton Grimes, PhD, Cincinnati
Children's Hospital, Cincinnati, OH

SPEAKERS:

John Dick, PhD, The Princess Margaret
Cancer Centre, Toronto, Canada
*Molecular Events Defining Human Clonal
Hematopoiesis at Single Cell Resolution*

Timm Schroeder, PhD, ETH Zurich, Zurich,
Switzerland
*TF-GFP Fusion Proteins Track Lineage
Fate: Myeloid*

Ellen Rothenberg, PhD, California Institute
of Technology, Pasadena, CA
*Transcription Factor Gene Fluorescent
Reporters Track Lineage Fate in Lymphoid
Commitment*

Bertie Gottgens, DPhil, University of
Cambridge, Cambridge, United Kingdom
*Defining Cellular States, Differentiation
Trajectories, and Regulatory Networks
Through Single Cell Profiling*

Program Guide

Scientific Program

Ad Hoc Scientific Committee on Epigenetics and Genomics

Enhancers and Chromatin Landscapes in Development and Cancer

CHAIR:

Ash Alizadeh, MD, PhD, Stanford University, Stanford, CA

SPEAKERS:

Joanna Wysocka, PhD, Stanford University, Stanford, CA
Enhancers and Transcriptional Regulation

Iannis Aifantis, PhD, New York University, New York, NY
The Impact of 3D Chromosomal Topology in Acute Leukemia

Bing Ren, PhD, University of San Diego, La Jolla, CA
Organization and Regulation of the Human Genome

Scientific Committee on Bone Marrow Failure

Ribosomes and Ribosomopathies

CHAIR:

Nancy Speck, PhD, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA

SPEAKERS:

Maria Barna, PhD, Stanford University School of Medicine, Stanford, CA
Specialized Ribosomes

Alan Warren, MD, PhD, University of Cambridge, Cambridge, United Kingdom
Shwachman-Diamond Syndrome and the Quality Control of Ribosome Assembly

Leonard Zon, MD, Harvard Medical School, Boston Children's Hospital, Cambridge, MA
Modeling Diamond Blackfan Anemia and p53 Activation in the Zebrafish

Scientific Committee on Hematopathology and Clinical Laboratory Hematology

Minimal Residual Disease in Hematology: Why, When, and How?

CHAIR:

Torsten Haferlach, MD, PhD, MLL Münchner Leukämielabor GmbH, Munich, Germany

SPEAKERS:

Brent Wood, MD, PhD, Seattle Cancer Care Alliance, Seattle, WA
Multiparameter Flow Cytometry as a Powerful Tool

Peter Valk, PhD, Erasmus University Medical Center, Rotterdam, Netherlands
Molecular Minimal Residual Disease Detection in Acute Myeloid Leukemia

Todd Druley, MD, PhD, Washington University School of Medicine in St. Louis, St. Louis, MO
Novel Technologies to Detect Minimal Residual Disease

Scientific Committee on Hemostasis

Emerging Therapeutics to Alter Hemostasis and Thrombosis

CHAIR:

Alan Mast, MD, PhD, BloodCenter of Wisconsin, Milwaukee, WI

SPEAKERS:

Peter Lenting, MD, INSERM, Le Kremlin-Bicêtre, France
Von Willebrand Factor Interaction with FVIII: Development of Long Acting FVIII Therapies

Valder Arruda, MD, PhD, The Children's Hospital of Philadelphia, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA
Factor IX Padua: From Biochemistry to Gene Therapy

Shaun Coughlin, MD, PhD, University of California – San Francisco, San Francisco, CA
PAR1 Antagonists Development and Clinical Utility



Scientific Committee on Immunology and Host Defense

*Innate Immunity: The Green Light to
Adaptive Responses*

CHAIR:

Stanley Riddell, MD, Fred Hutchinson Cancer
Research Center, Seattle, WA

SPEAKERS:

Giorgio Trinchieri, MD, National Cancer
Institute, National Institutes of Health,
Bethesda, MD
*Innate Immune Signaling in Regulation of
Immunity*

Thomas Gajewski, MD, PhD, The University
of Chicago, Chicago, IL
The Sting Pathway in Antitumor Immunity

Miriam Merad, MD, PhD, Mount Sinai Medical
Center, New York, NY
Antigen Presentation Pathways

Scientific Committee on Iron and Heme

From Iron Trafficking to Iron Traffic Jam

CHAIR:

Maria Domenica Cappellini, MD, University
of Milan, Milan, Italy

SPEAKERS:

Francesca Carlomagno, MD, PhD, Federico II
University of Naples, Naples, Italy
Ferritinophagy and Cell Cycle Control

Samira Lakhali-Littleton, DPhil, University
of Oxford, Oxford, United Kingdom
*Ferroportin Mediated Control of Iron
Metabolism and Disease*

Mitchell Knutson, PhD, University of Florida,
Gainesville, FL
Non-Transferrin-Mediated Iron Delivery



Scientific Committee on Lymphoid Neoplasia

*Emerging Biology Leading to New
Therapies in Follicular Lymphoma*

CHAIR:

Wendy Stock, MD, The University of Chicago,
Chicago, IL

SPEAKERS:

Bertrand Nadel, PhD, Centre D'Immunologie
De Marseille-Luminy, Marseille, France
*Early Steps of Follicular Lymphoma
Pathogenesis*

Jude Fitzgibbon, PhD, Queen Mary University
of London, London, United Kingdom
*Genomic Discovery, Prognosis, and
Target Therapy Development*

Sonali Smith, MD, The University of Chicago,
Chicago, IL
*Follicular Lymphoma Therapy Based on
Biological Insights and Novel Concepts*

Scientific Committee on Myeloid Neoplasia

*Focusing on Myeloid Neoplasia
Through Splicing*

CHAIR:

Cristina Mecucci, MD, PhD, University
of Perugia, Perugia, Italy

SPEAKERS:

Adrian Krainer, PhD, Cold Spring Harbor
Laboratory, Cold Spring Harbor, NY
*Spliceosome: Physiology and Disease
Pathogenesis*

Stephanie Halene, MD, PhD, Yale University
School of Medicine, New Haven, CT
*Functional Consequences of Spliceosome
Mutations*

Matthew Walter, MD, Washington University
in St. Louis, St. Louis, MO
*Clinical Implications of Spliceosome
Mutations: Epidemiology, Clonal
Hematopoiesis, and Potential
Therapeutic Strategies*

Scientific Committee on Plasma Cell Neoplasia

New and Emerging Immune-Based Approaches

CHAIR:

Madhav Dhodapkar, MD, Yale University, New Haven, CT

SPEAKERS:

Ivan Borrello, MD, The Johns Hopkins University, Baltimore, MD
Adoptive Cell Therapies

Fabio Malavasi, MD, University of Torino Medical School, Turin, Italy
CD38 and Antibody Therapy: What Can Basic Science Add?

James Kochenderfer, MD, National Cancer Institute, National Institutes of Health, Bethesda, MD
Chimeric Antigen Receptors/Genetically Modified T Cells

Scientific Committee on Platelets

Progress in Identifying the Causes of Congenital Platelet Disorders

CHAIR:

Benjamin Kile, PhD, Walter and Eliza Hall Institute of Medical Research, Parkville, Australia

SPEAKERS:

Kathleen Freson, PhD, University of Leuven, Leuven, Belgium
Clinical Next Generation Sequencing to Identify Novel Platelet Disorders

Jorge Di Paola, MD, University of Colorado School of Medicine, Aurora, CO
Novel Congenital Platelet Disorders

Nicole Soranzo, PhD, Wellcome Trust Sanger Institute, Cambridge, United Kingdom
Large Scale Discoveries of Genes and Polymorphisms Associated with Variation in Hematologic Traits

Scientific Committee on Stem Cells and Regenerative Medicine

Mitochondria and Metabolism in Stem Cell Maintenance and Aging

CHAIR:

Mervin Yoder, MD, Indiana University School of Medicine, Indianapolis, IN

SPEAKERS:

Saghi Ghaffari, MD, PhD, Icahn School of Medicine at Mount Sinai, New York, NY
Mitochondrial Metabolism in Hematopoietic Stem Cells Requires Functional FOXO3

Emmanuelle Passegue, PhD, University of California – San Francisco, San Francisco, CA
Surviving Change: The Metabolic Journey of Hematopoietic Stem Cells

Danica Chen, PhD, University of California – Berkeley, Berkeley, CA
The Mitochondrial Metabolic Checkpoint and Reversing Stem Cell Aging

Scientific Committee on Thrombosis and Vascular Biology

The Nuts and Bolts of TLRs: Network of TLRs, Expressed in What Vascular Cells, Targeted by Which Pathogens

CHAIR:

Katya Ravid, DSc, PhD, Boston University School of Medicine, Boston, MA

SPEAKERS:

Xiaoxia Li, PhD, Cleveland Clinic, Cleveland, OH
Toll-Like Receptors Signaling Mechanisms

Paul Kubes, PhD, University of Calgary, Calgary, Canada
Platelets Toll-Like Receptors Bridging Inflammation and Immunity

Jane Freedman, MD, University of Massachusetts, Worcester, MA
Toll-Like Receptors: Mechanism and Relation to Human Populations

Scientific Committee on Transfusion Medicine

Genomics in Transfusion Medicine

CHAIR:

Connie M. Westhoff, PhD, New York Blood Center, New York, NY

SPEAKERS:

Stella Chou, MD, The Children's Hospital of Philadelphia, Philadelphia, PA
Genomic Applications for Transfusion Support

William Lane, MD, PhD, Brigham and Women's Hospital, Boston, MA
Next Generation Sequencing for Blood Group Antigen Profiling

Yuk Ming Dennis Lo, MD, PhD, Chinese University of Hong Kong, Hong Kong, China
Genomic Analysis of Plasma DNA in Prenatal Medicine and Beyond

Scientific Committee on Transplantation Biology and Cellular Therapies

Engineered and Non-Engineered T Cells as Immunotherapy Tools: Beyond Chimeric Antigen Receptor T Cells

CHAIR:

Sophie Paczesny, MD, PhD, Indiana University School of Medicine, Indianapolis, IN

SPEAKERS:

Golnaz Vahedi, PhD, University of Pennsylvania, Philadelphia, PA
Regulation of T-Cell Activation and Differentiation

Nicholas Restifo, MD, National Cancer Institute, National Institutes of Health, Bethesda, MD
Dissecting Antigen-Specific T-Cell Immunity in Human Cancer and Acquired Resistance to Immunotherapy

Chiara Bonini, PhD, Fondazione San Raffaele Del Monte Tabor, Milan, Italy
Engineering T Cells Beyond Chimeric Antigen Receptor

Friday Scientific Workshops

The Friday Scientific Workshops are interactive discussions of the latest scientific developments in a particular field of hematology. Please check the program schedule at www.hematology.org/annual-meeting closer to the meeting for information about specific session topics.

Special Scientific Symposia

The Special Scientific Symposia highlight transformative research with implications for scientific investigation and clinical practice across the field of hematology. This year's symposia will focus on cell of origin and leukemic transformation, as well as the causes and consequences of genomic instability in lymphoid development. The Special Symposium on the Basic Science of Hemostasis and Thrombosis will highlight major recent discoveries in the fields of hemostasis, platelets, thrombosis, and vascular biology.

Special Scientific Symposium on Cell of Origin and Leukemic Transformation

CHAIR:

Scott Armstrong, MD, PhD, Dana-Farber Cancer Institute, Boston, MA

SPEAKERS:

Liran Shlush, MD, PhD, Weizmann Institute of Science, Rehovot, Israel
Pre-Leukemic Versus Leukemic Cell of Origin

Daniel G. Tenen, Cancer Science Institute, National University of Singapore, Singapore; Harvard Stem Cell Institute, Cambridge, MA
Myeloid Progenitor Commitment and Leukemic Transformation

Dominique Bonnet, PhD, The Francis Crick Institute, London, United Kingdom
Insights from Xenotransplant Studies

Special Scientific Symposium on Genomic Instability in Lymphoid Development: Causes and Consequences

CHAIR:

Richard Ambinder, MD, PhD, The Johns Hopkins University School of Medicine, Baltimore, MD

SPEAKERS:

Stephen Desiderio, MD, PhD, The Johns Hopkins University School of Medicine, Baltimore, MD
Suppression of Genomic Instability in Developing Lymphocytes

Barry Sleckman, MD, PhD, Weill Cornell Medical College, New York, NY
Coordination or Recombination and DNA Repair in Developing Lymphocytes

Markus Müschen, MD, PhD, University of California – San Francisco, San Francisco, CA
Clonal Evolution of Acute Lymphoblastic Leukemia



Special Symposium on the Basic Science of Hemostasis and Thrombosis

CO-CHAIRS:

Katya Ravid, DSc, PhD, Boston University School of Medicine, Boston, MA

Alan Mast, MD, PhD, BloodCenter of Wisconsin, Milwaukee, WI

Benjamin Kile, PhD, Walter and Eliza Hall Institute of Medical Research, Parkville, Australia

SPEAKERS:

Christian Gachet, MD, PhD, EFS-Alsace-Lorraine-Champagne-Ardenne, Strasbourg, France
Purinergic Receptors at the Crossroad of Thrombosis and Vascular Inflammation

Matthew D. Neal, MD, University of Pittsburgh, Pittsburgh, PA
Innate Immune-Mediated Platelet Dysfunction: The Toll of Trauma

Roger Tsien, PhD, University of California – San Diego, La Jolla, CA
Imaging Protease Activity and Hemorrhage in Stroke



Scientific Spotlight Sessions

This year, ASH will offer Scientific Spotlight Sessions on three exciting topics. Each 90-minute session will be presented once on either Sunday or Monday in a small-venue format. Speakers will discuss current challenges and controversies in a particular scientific field with ample time reserved for audience questions and participation. The talks will address the current state of knowledge, translational and clinical applications, and future directions.

The Scientific Spotlight Sessions are restricted to medical and research professionals only; no businesspersons or media will be admitted.

Novel Approaches to Improve Cell Therapies for Hematologic Malignancies

SPEAKERS:

Michel Sadelain, MD, PhD, Memorial Sloan-Kettering Cancer Center, New York, NY
Chimeric Antigen Receptor Therapy Beyond the CD19 Paradigm

Terry Fry, MD, National Cancer Institute, National Institutes of Health, Bethesda, MD
Beyond CD19: Alternative Targets for Cellular Therapy in Hematologic Malignancies

Novel Technologies to Query Single Cells in Hematopoiesis

SPEAKERS:

Rong Fan, PhD, Yale University, New Haven, CT
Single Cell Analysis of Cytokine Production

Rahul Satija, DPhil, New York Genome Center, New York, NY
Single Cell Approaches to Assess Transcriptional Output

Precision Medicine Trials as a Novel Approach to Drug Development

CHAIR:

Louis Staudt, MD, PhD, National Cancer Institute, National Institutes of Health, Bethesda, MD

SPEAKERS:

Brian Druker, MD, Oregon Health & Science University, Portland, OR
Acute Myeloid Leukemia

Keith Flaherty, MD, Massachusetts General Hospital, Boston, MA
MATCH Trial

Meet the Scientist

Saturday, December 3, 11:15 a.m. – 12:15 p.m.

Sunday, December 4, 11:15 a.m. – 12:15 p.m.

The “Meet the Scientist” sessions are designed to provide an opportunity for a small number of attendees to meet with a scientific expert in a setting that fosters interaction. ASH has invited experts from around the world to facilitate informal discussions, allowing participants to present their questions and gain new perspectives. A boxed lunch will be provided.

Ticket Prices (per session)

ASH Member:	\$50
Non-Member in Training:	\$50
Allied Health Professional:	\$50
Non-Member:	\$75

These sessions are restricted to medical professionals only; no businesspersons or media will be admitted. Tickets are limited and only available on site on a first-come, first-served basis. Only one ticket per person is allowed. Tickets can be purchased at the Ticketed Sessions Counter in the registration area in the Level 1 Hall D Lobby of the San Diego Convention Center beginning Thursday, December 1, during registration hours.

Attention Trainees!

A number of tickets for the “Meet the Scientist” sessions will be reserved especially for trainees. Proof of status as an Associate, International Associate, Resident, or Graduate/Medical Student member, or Non-Member in Training will be required to purchase a ticket. Please show your name badge to the staff at the Ticketed Sessions Counter in the registration area in the Level 1 Hall D Lobby of the San Diego Convention Center.

SPEAKERS:

Sigbjorn Berentsen, MD, PhD, Haugesund Hospital, Haugesund, Norway
Novel Agents for Treating Cold Agglutinin Disease

Courtney D. DiNardo, MD, The University of Texas MD Anderson Cancer Center, Houston, TX
Hypomethylating Agent Therapy as a Basis for Combination Therapy in AML

Jorge Di Paola, MD, University of Colorado, Denver, CO
Genetics of Congenital Bleeding Disorders

Ben Ebert, MD, PhD, Harvard Medical School, Boston, MA
Genetic Basis of del(5q) Myelodysplastic Syndrome

Jude Fitzgibbon, PhD, Queen Mary University of London, London, United Kingdom
Genetics of Follicular Lymphoma

Harvey Lodish, PhD, Whitehead Institute for Biomedical Research, Cambridge, MA
Long Non-Coding RNAs in Normal and Malignant Hematopoiesis

Ann Mullally, MD, Brigham and Women's Hospital, Boston, MA
Role of Mutations in Chaperone Proteins in Myeloid Transformation

Markus Müschen, MD, University of California – San Francisco, San Francisco, CA
Clonal Evolution in Chronic Lymphocytic Leukemia

Laura Pasqualucci, MD, Columbia University, New York, NY
Pathogenesis and Therapy of Diffuse Large B Cell Lymphoma

Noopur Raje, MD, Massachusetts General Hospital Cancer Center, Boston, MA
Novel Agents for Myeloma Therapy

Evan Sadler, MD, PhD, Washington University in St. Louis, St. Louis, MO
ADAMTS13 and Thrombotic Thrombocytopenic Purpura

Liran Shlush, MD, PhD, Weizmann Institute of Science, Rehovot, Israel
Mutations That Initiate Leukemogenesis: Role of Epigenetic Modifiers

David Steensma, MD, Dana-Farber Cancer Institute, Boston, MA
Interpreting Genetic Panels in the Elderly

Ayalew Tefferi, MD, Mayo Clinic, Rochester, NY
Pathogenesis of Myeloproliferative Disorders

Matt Walter, MD, Washington University in St. Louis, St. Louis, MO
Therapeutic Targeting of the Spliceosome



Program Guide

Abstract Presentations

Abstracts selected for oral and poster presentations feature the latest research in the field and are considered the best of the thousands submitted for the 2016 ASH Annual Meeting. A detailed schedule listing individual oral and poster abstract presentations, as well as the full abstracts, will be included on a flash drive that will be mailed in mid-November to all individuals who register for the meeting by November 2. The full text of the annual meeting abstracts will also be posted in early November at www.hematology.org, and registrants may use the ASH annual meeting mobile application to download the abstracts and annual meeting program to a smartphone or tablet.

Simultaneous Oral Sessions

These sessions feature 15-minute presentations of high-scoring abstracts. Sessions on related topics are scheduled in close proximity so attendees can move easily from room to room to hear individual presentations of interest.

Saturday, December 3

7:30 a.m. – 9:00 a.m.
9:30 a.m. – 11:00 a.m.
12:00 noon – 1:30 p.m.
2:00 p.m. – 3:30 p.m.
4:00 p.m. – 5:30 p.m.

Sunday, December 4

7:30 a.m. – 9:00 a.m.
9:30 a.m. – 11:00 a.m.
12:00 noon – 1:30 p.m.
2:00 p.m. – 4:00 p.m. (Plenary Scientific Session)
4:30 p.m. – 6:00 p.m.

Monday, December 5

7:00 a.m. – 8:30 a.m.
10:30 a.m. – 12:00 noon
2:45 p.m. – 4:15 p.m.
4:30 p.m. – 6:00 p.m.
6:15 p.m. – 7:45 p.m.

Tuesday, December 6

7:30 a.m. – 9:00 a.m. (Late-Breaking Abstracts Session)

Poster Sessions

Posters will be available for viewing in Hall G of the San Diego Convention Center at the times listed below. Meeting attendees will also have the opportunity to meet the abstract authors to discuss their research and ask questions during the presentation times listed.

Saturday, December 3

9:00 a.m. – 7:30 p.m. (Viewing)
5:30 p.m. – 7:30 p.m. (Presentations)

Sunday, December 4

9:00 a.m. – 8:00 p.m. (Viewing)
6:00 p.m. – 8:00 p.m. (Presentations)

Monday, December 5

10:00 a.m. – 8:00 p.m. (Viewing)
6:00 p.m. – 8:00 p.m. (Presentations)

Featured Topic Discussions

These sessions will feature expert analyses of several annual meeting abstract presentations that provide insights into a particularly timely topic area to be determined this fall. Visit www.hematology.org/annual-meeting in late September to view updated information and topics for each session.

Sunday, December 4

11:15 a.m. – 12:15 p.m.

Monday, December 5

12:15 p.m. – 1:15 p.m.



ASH Foundation Run/Walk

BLOOD CELLS ON THE RUN

On Sunday, December 4, kick off your day in a fun and healthy way with the **2016 ASH Foundation Run/Walk!** The run/walk will start and end at the Embarcadero Marina Park South, and the route will take participants along San Diego's scenic Embarcadero. Participants may choose either the 3K or 5K distance and will have the option to run or walk the route. Participation is limited to the first 1,300 registrants. All race proceeds will benefit programs supported by the ASH Foundation.

For more information and to register, visit www.hematology.org/runwalk.



Prices:

Individuals:	\$50
Trainees:	\$35

The ASH Foundation is dedicated to philanthropy that helps hematologists conquer blood diseases worldwide through support for research, career development,

quality care, and education programs. One hundred percent of charitable donations to the ASH Foundation, including the fee to participate in the run/walk, benefit programs sponsored by ASH and are tax deductible as allowable by law. For more information about the ASH Foundation, visit www.hematology.org/foundation.

Donors are the life blood of the ASH Foundation, enabling ASH to do more for existing programs and to create new initiatives. In thanks for the support received, we invite those individuals who have donated \$250 or more throughout the 2016 calendar year to take advantage of the ASH Foundation Donor Lounge located at the San Diego Convention Center. In addition, donors who have contributed \$2,500 or more will receive an invitation to the President's Reception in recognition of their sustained support. Finally, qualified donors are eligible for a selection of time-sensitive benefits associated with the registration process for the ASH annual meeting. Please visit www.hematology.org/foundation to learn more.

Social Events

Join your colleagues for social events throughout the annual meeting. All events will be held in the Poster Hall (Hall G).

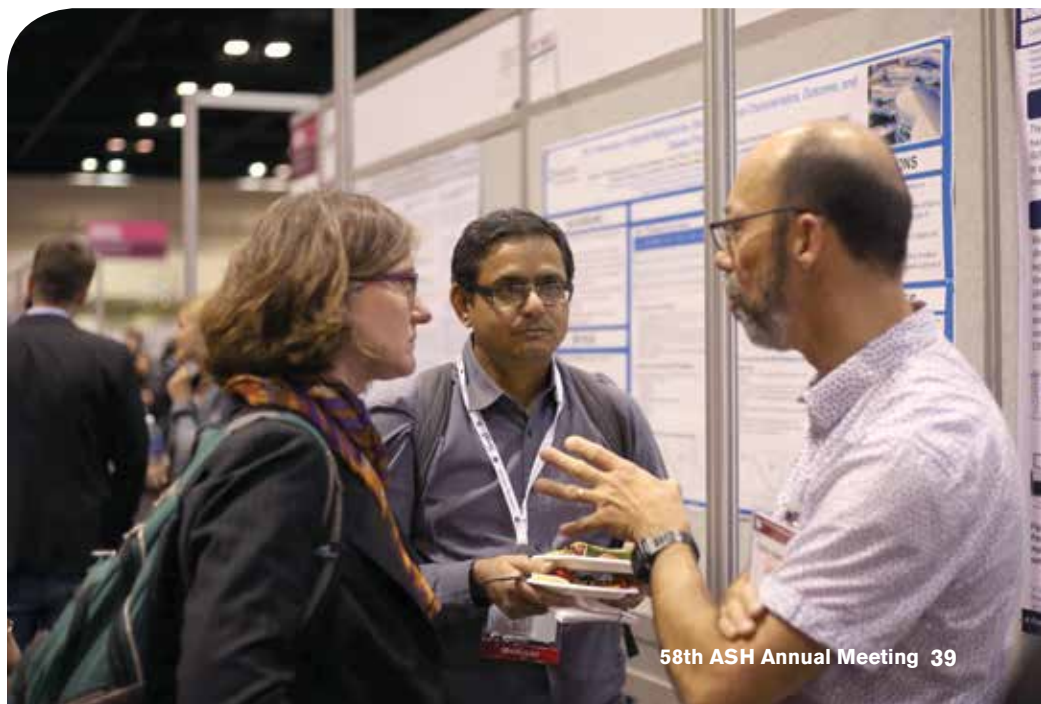
Welcome Reception

Saturday, December 3
5:30 p.m. – 7:30 p.m.

Poster Hall Receptions

Sunday, December 4
6:00 p.m. – 8:00 p.m.

Monday, December 5
6:00 p.m. – 8:00 p.m.



Exposition

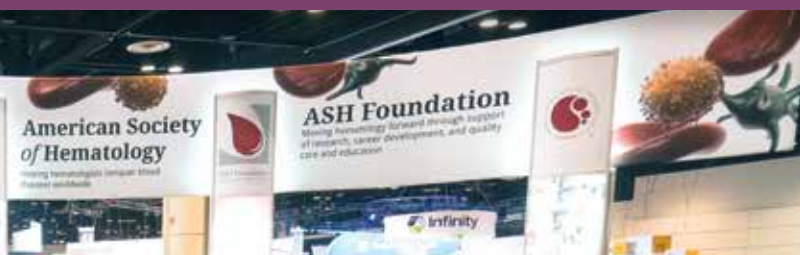


Exhibit Hall

Visit the state-of-the-art exhibit hall in Halls C-F to see the latest technology and research and learn about a wide range of products and services offered by nearly 250 exhibitors. Exhibitors will include pharmaceutical companies, medical suppliers, clinical diagnostic and research-based companies, publishers, and nonprofit organizations.

Hours

Saturday, December 3	11:00 a.m. – 5:00 p.m.
Sunday, December 4	10:00 a.m. – 5:00 p.m.
Monday, December 5	10:00 a.m. – 2:00 p.m.

Lunch Available Sunday and Monday

On Sunday and Monday, ASH will provide a complimentary light lunch at the following times in the Exhibit Hall:

Hours

Sunday, December 4	11:00 a.m. – 12:30 p.m.
Monday, December 5	12:00 noon – 1:30 p.m.

Exhibit Hall Product Theaters

Product Theaters feature exhibitor presentations on new research findings and products to small groups (no more than 150) within the exhibit hall. The Product Theater sessions offered at the times listed below will be solely promotional in nature.

Visit www.hematology.org/annual-meeting or check the ASH annual meeting mobile app for Product Theater information.

Hours

Saturday, December 3	11:30 a.m. – 12:30 p.m.
Sunday, December 4	11:30 a.m. – 12:30 p.m.
Monday, December 5	12:15 p.m. – 1:15 p.m.

Continuing Education

Educational Objectives

Upon completion of this educational activity, participants should be able to:

- Employ the knowledge gained regarding the diagnosis and treatment of non-malignant and malignant hematologic disorders to improve patient care
- Discuss state-of-the-art research in hematology
- Analyze the potential contribution of novel, not-yet-approved modalities of therapy to current evidence-based management of hematologic disorders

Accreditation

The American Society of Hematology is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The American Society of Hematology designates this live activity for a maximum of 37 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CME Accreditation of Hematology 2016

ASH will be offering CME credit and American Board of Internal Medicine (ABIM) Maintenance of Certification (MOC) points to physicians for completion of multiple-choice questions based on the manuscripts written by the 2016 Annual Meeting Education Program speakers. Physicians may earn up to 40 credits by taking two 20-credit exams – one on malignant hematology and the other on non-malignant hematology. More information will be available at www.ashacademy.org this fall.



CME Certificate Eligibility

ASH is accredited to provide *AMA PRA Category 1 Credits™* to physicians only. The American Medical Association (AMA) defines physicians as those individuals who have obtained an MD, DO, or equivalent medical degree from another country.

Physicians not licensed in the United States who participate in this CME activity are also eligible for *AMA PRA Category 1 Credits™*.

Visit www.hematology.org/annual-meeting for information on obtaining a CME certificate, Certificate of Attendance, or European Board for Accreditation in Hematology CME credit.

How to Obtain a CME Certificate

If you plan to claim CME credit for your participation at the meeting, please check the appropriate box during the registration process. Attendees may complete the process to claim their CME credits and print their CME certificates by completing the annual meeting program evaluation on site at any of the internet stations available at the San Diego Convention Center. The evaluation can also be accessed once the meeting is underway by clicking the "CME Certificate" link at www.hematology.org/annual-meeting. A processing fee of \$25 will be charged for CME/ABIM MOC credit.

The online process for claiming CME credits and printing a CME certificate for the 58th ASH Annual Meeting must be completed no later than April 14, 2017.

ABIM Maintenance of Certification

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn Maintenance of Certification (MOC) points in the American Board of Internal Medicine's (ABIM) MOC program. Participants will earn

ABIM MOC points equivalent to the amount of CME credits claimed for the activity. A processing fee of \$25 will be charged for CME/ABIM MOC credit. For more information, please visit www.hematology.org/annual-meeting.

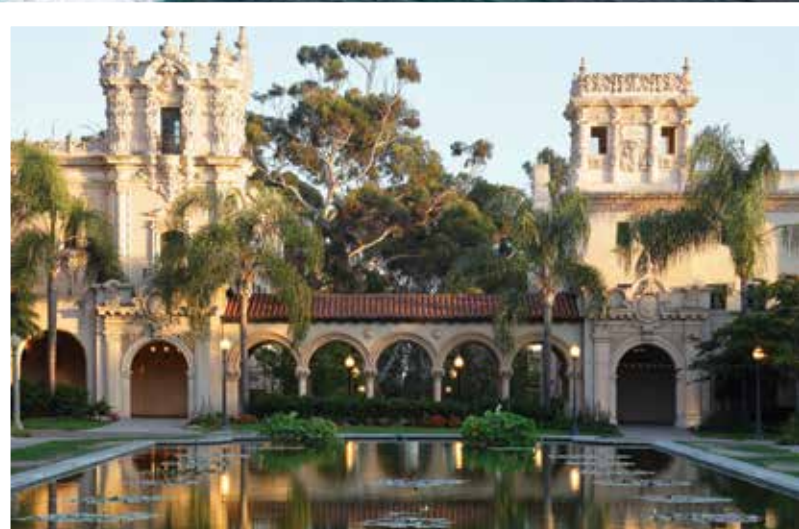
Conflict-of-Interest Policy for the ASH Annual Meeting

ASH is committed to providing quality, objective, balanced, and scientifically rigorous continuing medical education activities that are free from commercial and non-commercial bias. In accordance with the rules of the ACCME, all meeting session chairs, speakers, and moderators are required to disclose any conflicts they may have in writing prior to the meeting. All poster presenters are required to disclose any conflicts they may have in writing prior to the meeting and display their disclosures on their poster boards. **If bias, actual or perceived, occurs during the presentations, session attendees are encouraged to address such bias during the question-and-answer periods following the presentations.**

Annual meeting contributors are asked to disclose any relationships of the following types: employment, consultancy, equity ownership, research funding, honoraria, patents and royalties, speakers bureau, membership on an entity's board of directors or advisory committee, and any other financial relationship.

Any questions about this policy or concerns regarding disclosures should be directed to the ASH Meeting and CME Information Desk in ASH Central located in the Sails Pavilion of the San Diego Convention Center or by emailing cme@hematology.org.

Registration and Hotel Information



EXPLORE SAN DIEGO

The most difficult part of planning a trip to “America’s Finest City” is deciding what to do, what to see, and where to go. San Diego has more than 300 days of sunshine per year and offers every kind of activity imaginable. You’re sure to find a host of things to entertain and inspire!

Start planning your trip today and explore all that’s waiting for you to discover at www.meetmeinsandiego.com/ash.

- Take advantage of more than 70 miles of Pacific Ocean beaches
- Experience the largest urban cultural park (Balboa Park) in the United States, which contains the world-famous San Diego Zoo, more than 15 museums, and a variety of gardens.
- Visit Old Town, considered the birthplace of California
- Sample from 100 dining options, all within walking distance from the conference center

How To Register

Online: www.hematology.org/annual-meeting

On Site: Registration will be open in the Level 1 Hall D Lobby of the San Diego Convention Center beginning Thursday, December 1, at 3:00 p.m. Pacific Time.

To register and obtain housing, all attendees must use their ASH username and password to start the online registration process. If you are planning to have someone else process your registration and hotel reservation for you, it will be important for you to share your ASH username (usually your email address unless you have customized it) and password, which are required to access the system.

Don't have an ASH username or password? You can create an account when you begin the registration process.

Forgot your ASH username or password? You may reset your password by going to www.hematology.org and clicking on "My Account."

ASH Member-Only Early-Bird Registration

July 20, 11:00 a.m. Eastern Time – August 10

ASH members who have paid their dues for 2016 are eligible for early-bird registration. If you need to renew your membership, ASH suggests doing so in advance of the registration opening. Visit www.hematology.org, click on "My Account" to log in, and renew online; or call 866-828-1231 (international callers dial 001-202-776-0544) prior to registering online.

ASH Member and Non-Member Advance Registration

August 10, 11:00 a.m. Eastern Time – November 2, 11:59 p.m. Pacific Time

Meeting badges will be mailed to all early-bird and advance registrants (those registered prior to November 2) in mid-November.

Late and On-Site Registration

After November 2

Attendees who register after November 2 will be charged the late/on-site registration fee. On-site registration will begin on Thursday, December 1, at 3:00 p.m. Pacific Time in the Level 1 Hall D Lobby of the San Diego Convention Center.

Registration Hours

Thursday, December 1	3:00 p.m. – 7:00 p.m.
Friday, December 2	7:00 a.m. – 6:00 p.m.
Saturday, December 3	7:00 a.m. – 6:00 p.m.
Sunday, December 4	7:00 a.m. – 5:00 p.m.
Monday, December 5	7:00 a.m. – 5:00 p.m.
Tuesday, December 6	7:00 a.m. – 1:30 p.m.

To avoid lines at the on-site registration counters, ASH encourages you to register for the meeting in advance.

Registration Fees

You must be a member at the time of registration to receive the member rate. Applicants approved for membership after registering for the meeting will not be refunded the difference between the member and non-member rates.

Registration Categories	Advance	Late/On-Site
Active or International Member	\$525	\$575
Associate, International Associate (NEW!), Resident, or Graduate/Medical Student Member	\$100	\$100
Non-Member	\$1,050	\$1,195
Non-Member in Training	\$200	Not available*
Allied Health Professional	\$525	\$575
Spouse/Guest	\$125	\$125
Honorary/Emeritus Member (before 1/1/15)	No Charge	No Charge
Honorary/Emeritus Member (as of 1/1/15)	\$100	\$100

*To register as a non-member in training, you *must* register and submit your verification by November 2. After this date, you will need to register as a non-member, meaning you will not get access to trainee activities and services.

Registration fees may only be paid by credit card or check. Wire transfers will not be accepted.

Registration and Hotel Information

What Is Included in the Registration Fee?

- Abstracts on flash drive
- *Hematology 2016*, ASH Education Program
- Program Book
- Access to ASH annual meeting mobile application and online scheduler
- Admission to the General, Special-Interest, Education, Scientific, Oral, and Poster Sessions
- Admission to the Exhibit Hall*
- Admission to receptions in the Poster Hall*
- Complimentary light lunch in the Exhibit Hall on Sunday and Monday*
- Daily coffee breaks*

**Spouse/guest registrants are only eligible for the events marked with an asterisk.*



Registering as a Trainee

Find out which registration category is appropriate for you, as well as any additional benefits you may qualify for. To apply for membership and qualify for a discounted annual meeting registration rate, please visit www.hematology.org/join.

Level of Training	Residence	
	North America	Outside North America
Undergraduate	Register as a Non-Member in Training	Register as a Non-Member in Training
Graduate or Medical Student	Apply for complimentary ASH Graduate/Medical Student membership or register as a Non-Member in Training	Register as a Non-Member in Training
Resident (physician training in specialty prior to training in hematology)	Apply for complimentary ASH Resident membership or register as a Non-Member in Training	Register as a Non-Member in Training
Fellow (physician training in hematology or related field) or Post-Doctoral (PhD) Fellow	Apply for ASH Associate membership or register as a Non-Member in Training	Apply for ASH International Associate membership or register as a Non-Member in Training



Registering as an Allied Health Professional

Nurse practitioners, registered nurses, physician assistants, clinical nurse specialists, pharmacists, research technicians, and technologists may register in this category. To do so, you must provide one of the following items to verify your status: a letter from your immediate supervisor on institutional letterhead confirming the name of the organization and your position there, a copy of a state license, proof of membership in another affiliated association, or a copy of an institutional identification card.

Verification must be submitted by November 2. ASH strongly encourages registrants to send their verification by email (in PDF format) to ashverification@spargoinc.com or by mail to the following address:

ASH Registration Center
c/o SPARGO, Inc.
11208 Waples Mill Road, Suite 112
Fairfax, VA 22030



Hotel Reservations

Hotel rooms have been reserved throughout the city of San Diego for meeting attendees. For a list of participating hotels and their room rates, please visit www.hematology.org/annual-meeting. ASH will provide complimentary shuttle service between these hotels and the San Diego Convention Center.

You must register for the meeting before you make your hotel reservation. Only one hotel room may be reserved for each individual registering for the meeting. **Hotel reservations must be made directly with the official ASH Housing Center** no later than Wednesday, November 2, using any of the methods listed below.

Online: <https://show.jspargo.com/ashAM16/>

Phone: 888-273-5704 – U.S. (toll free)
001 703-449-6418 – International

Email: ashhousing@spargoinc.com

Housing Fraud Alert

Please note that SPARGO, Inc. is the only official housing provider for the 58th ASH Annual Meeting & Exposition. Do not be misled by "pirate" housing companies that may solicit you over the phone and misrepresent themselves as ASH's official housing provider. If you are contacted by one of these companies, please contact the ASH Housing Center immediately.

Headquarters/Members-Only Hotels

The Manchester Grand Hyatt and the Marriott Marquis San Diego are the official co-headquarters hotels for the 2016 ASH Annual Meeting and are designated for ASH members only. In addition, the following hotels are available exclusively to Society members:

- Horton Grand Hotel
- Omni San Diego
- Residence Inn San Diego Gaslamp/Convention Center

Non-members, international tour groups, and exhibitors will not be able to reserve rooms in these hotels.



ASH Central, located in the Sails Pavilion, is a place where meeting attendees can gather to collaborate, relax, view sessions remotely, or purchase ASH products.

Offered at ASH Central:

- ASH Live: Remote Session Viewing
- Charging stations
- Collaboration Rooms
- ASH Store
- Selfie Zone
- ASH Trainee Lounge
- ASH News TV
- Hematology MeetUp areas

At ASH Central, reserve a Collaboration Room or view annual meeting sessions remotely.

- **Collaboration Rooms:** Small conference rooms for 10-20 people will be available for meeting attendees to collaborate in a more private space. Collaboration Rooms are pre-set with a conference table and chairs. Rooms may be reserved for 45 minutes only.
- **ASH Live: Remote Session Viewing:** Viewing areas located in the San Diego Convention Center Sails Pavilion, Manchester Grand Hyatt, and the Marriott Marquis San Diego Marina will enable attendees to experience select sessions located elsewhere in the convention center, Marriott, or Hyatt hotels without having to navigate through the buildings. Each remote session viewing area will have television monitors/screens displaying the slides from a selection of sessions located elsewhere. Participants will be provided with a set of headphones so they may listen to the selected speaker. Please note that not all sessions will be broadcast into the remote session viewing areas. Check the annual meeting mobile app for more information about which sessions will be available remotely.

For more information on ASH Central and affiliated services, visit www.hematology.org/annual-meeting.

Meeting Materials

Attendees may access annual meeting content and daily updates through the following resources available on site:

- Flash drive containing the abstracts and a link to the online program and scheduler
- 2016 ASH Annual Meeting mobile application
- *ASH News Daily*, the daily on-site newspaper
- ASH News TV, a daily newscast
- *Hematology 2016*, the ASH Education Program
- On-site Program Book
- Notebook containing detailed information on General and Special-Interest Sessions, Trainee Activities, and Education and Scientific Programs

2016 ASH Annual Meeting Webcast

Available for viewing only at www.ashondemand.org

This year's ASH Annual Meeting Webcast will offer nearly 100 hours of easily manageable recorded annual meeting content, including the Education and Scientific Programs.

To ensure that you only pay for what you need, ASH offers three webcast package options, so you can choose between scientific and educational content or purchase both at a lower price.

Webcast Advance Purchase Pricing

Pre-order the webcast during the online meeting registration or on site and receive up to a \$100 discount. The price will go up after the meeting ends. For those who purchase the webcasts in advance, select sessions will be available as soon as 24 hours after the live session.

Registration Category	Full Webcast	Education-Program-Only Package	Scientific-Program-Only Package
Active or International Member	\$300	\$200	\$200
Associate, International Associate, Resident, or Graduate/Medical Student Member	\$125	\$70	\$70
Non-Member	\$500	\$300	\$300
Non-Member in Training	\$125	\$70	\$70
Allied Health Professional	\$500	\$300	\$300
Honorary/Emeritus Member	\$125	\$70	\$70

Visit www.hematology.org/annual-meeting for more information on all ASH annual meeting publications and meeting materials.



Upcoming ASH Meetings

MARK YOUR CALENDAR

www.hematology.org/meetings

Today, ASH is educating more hematologists than ever through already established and newly created meetings. Each of the following meetings offers unique and relevant educational content, attracts top speakers in the field, and has limited attendance to encourage interaction between attendees and speakers in an intimate setting.

ASH® Meeting on Hematologic Malignancies

Chicago, IL
September 16-17, 2016

Hear the top leaders in the field of hematologic malignancies discuss the latest developments in clinical care, and learn how these experts treat their own patients based on the available data. This meeting will provide the opportunity to discuss the current or potential use of novel agents and immunotherapies, as well as specific challenging cases. It will also include a Consultative Hematology Course.

Highlights of ASH® in North America

These smaller, clinically focused meetings, held a few weeks after the annual meeting, provide opportunities to hear leading experts present unbiased analyses of abstracts and sessions from the latest ASH annual meeting. Attendees also learn more about the evolving therapies, latest treatment options, and their clinical applications that were discussed at the meeting. The program format is designed to allow practitioners, fellows, academicians, and allied health professionals the opportunity to discuss some of the most rapidly evolving developments in the field with experts and colleagues.

Atlanta, GA
January 13-14, 2017

Chicago, IL, and Dallas, TX
January 20-21, 2017

New York, NY, and Seattle, WA
January 27-28, 2017

International Highlights of ASH®

The Highlights of ASH meetings in the Asia-Pacific and Latin America offer similar content to Highlights of ASH in North America, with the addition of new topics that are relevant to the region.

**Highlights of ASH in Asia-Pacific:
Hong Kong**
March 10-12, 2017

**Highlights of ASH in Latin
America: Punta del Este, Uruguay**
April 7-8, 2017

59th ASH® Annual Meeting and Exposition

**Georgia World Congress Center,
Atlanta, GA**
Meeting: December 9-12, 2017
Exposition: December 9-11, 2017



Hong Kong



Punta del Este, Uruguay



Atlanta, GA

Acknowledgments



Special thanks are due to the Program Committee:

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2017 Scientific Program Co-Chair

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Connect with ASH and
the global hematology
community to share
experiences, find answers,
and spread knowledge.