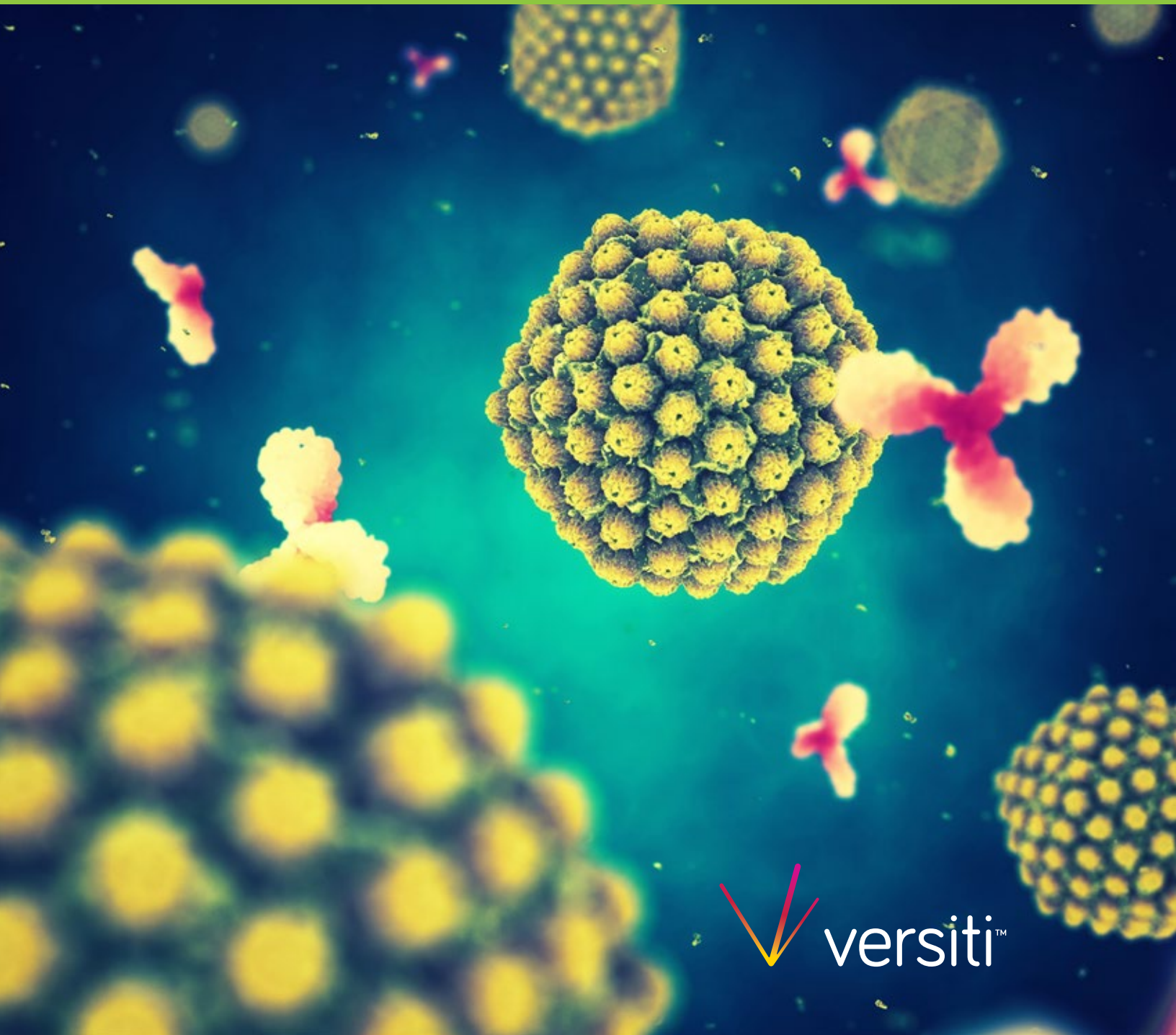


B Cells and Broadly Neutralizing Antibodies

October 17, 2018 • Blood Research Institute
8733 Watertown Plank Road, Milwaukee, WI 53226



BloodCenter and Blood Research Institute: Discovery, Diagnosis, Treatment and Cure



BloodCenter of Wisconsin (BCW) is a private, not-for-profit organization that provides blood, blood products, and specialized transfusion medicine services to hospitals in Wisconsin, Michigan, northern Illinois, and parts of Indiana. A commitment to pursue research and advance the understanding of blood and blood transfusions was written into the articles of incorporation by visionary members of the board of directors when BCW was founded. The current mission statement calls for BCW to “Advance patient care by providing life-saving solutions grounded in unparalleled medical and scientific expertise.”

The Junior League of Milwaukee founded the Junior League Blood Center in 1947 as a community blood bank with five paid staff and 70 regular volunteers. In its near 70 years of operation, the organization’s name has changed three times and it now employs over 1,000 people; showcasing the growth of BCW’s services. An active research focus was initiated in the early 1950s, and shortly thereafter the first federal grant was received. With the success of life- saving discoveries, increased research funding and committed scientific staff, the Blood Research Institute (BRI) was built on the grounds of the Milwaukee Regional Medical Center in 1991.

Over the years, the contributions of BRI investigators have made a lasting impact on the fields of Transfusion Medicine, Vascular Biology, Stem Cell Biology and Immunology.

Research extends from basic cellular, molecular and genetic studies, to participation in NIH clinical trial networks such as the Recipient Epidemiology and Donor Evaluation Study (REDS) III and the Transfusion Medicine-Hemostasis (TMH) Clinical Trials Network. Research activities are also strengthened by physical proximity of the BRI to the immediately adjacent Medical College of Wisconsin (MCW), Froedtert Hospital, and Children’s Hospital of Wisconsin (CHW). BRI investigators hold faculty appointments at MCW and participate actively in their teaching, mentoring and research activities.

Immunology Then and Now

Immunology at BCW has an extensive history starting in 1959 when it was selected as the national depository for rare bone marrow donor files, which evolved into the National Marrow Donor program. BCW today continues to provide HLA typing for bone marrow transplantation. In 1979, BRI investigators discovered a new HLA histocompatibility system now known as HLA-DQ. With its expertise in HLA, BCW was able to facilitate the first unrelated bone marrow transplant in 1981.

Today, BCW immunologists at the BRI continue to conduct cutting edge research in cancer, infectious disease and autoimmunity. Investigators are developing new methods by which to eradicate cancer by using novel immunotherapies. In infectious disease, the work by BRI immunologists studying how the immune system recognizes and responds to viruses is opening new avenues for the treatment and prevention of viral infections. Studies in autoimmunity include how B and T lymphocytes contribute to and regulate autoimmunity.

The immunology community at BRI/MCW is well organized and in addition to the yearly Immunology Symposium, now in its 12th year, offers a variety of training opportunities for its trainees. These include both predoctoral graduate courses and advanced training in clinical immunology. The immunology faculty also facilitate a weekly journal club, a weekly work-in-progress and a yearly internal conference/retreat.

B Cells and Broadly Neutralizing Antibodies

8:30 - 9:00 am	Registration	
9:00 - 9:05 am	Welcome	Chris Miskel President and CEO, Versiti
9:05 - 9:10 am	Opening Remarks	Gilbert C. White II, MD, Richard H. and Sara E. Aster Chair for Medical Research, Executive Vice President for Research, Director, Blood Research Institute, BloodCenter of Wisconsin, Part of Versiti; Versiti Chief Scientific Officer
9:10 - 9:55 am	Speaker Introduction by Carlie Aurubin Graduate Student, MCW	Frederick W. Alt, PhD Harvard Medical School <i>New Insights into Mechanisms that Generate Primary and Peripheral B Cell Repertoires</i> Visit our sponsors
9:55 - 10:20 am	Coffee Break	
10:20 - 11:05 am	Speaker Introduction by Alex Gardner Graduate Student, MCW	James E. Crowe, MD Vanderbilt University School of Medicine <i>Molecular and Genetic Basis for Development of Broad and Potent Neutralizing Antibodies</i>
11:05 - 11:50 am	Speaker Introduction by Achia Khatun Graduate Student, MCW	Gary J. Nabel, MD, PhD Sanofi <i>Development of Trispecific Antibodies for AIDS and Cancer</i>
11:50 am - 12:00 pm	Sponsor Introductions	Demin Wang, PhD and Renren Wen, PhD, Symposium Hosts, and GemPharmatech Representative
12:00 - 1:15 pm	Lunch	Vendor Workshops presented by Sartorius and GemPharmatech
1:15 - 2:00 pm	Speaker Introduction by Wen Zhu Graduate Student, MCW	William Schief, PhD The Scripps Research Institute <i>Germline-Targeting Vaccine Design for HIV</i> Visit our Sponsors
2:00 - 2:25 pm	Break	
2:25 - 3:10 pm	Speaker Introduction by Melissa Whyte Graduate Student, MCW	Betty Diamond, MD The Feinstein Institute for Medical Research <i>Origins of Autoreactive B cells in Systemic Lupus</i>
3:10 - 3:55 pm	Speaker Introduction by Yao Chen Graduate Student, MCW	Demin Wang, PhD BloodCenter of Wisconsin, Part of Versiti <i>B Cell and Antibody Response in Heparin-induced Thrombocytopenia</i>



Featured Speakers 2018



Frederick W. Alt, PhD

Investigator, Howard Hughes Medical Institute; Director, Program in Cellular and Molecular Medicine, Boston Children's Hospital; Charles A. Janeway Professor of Pediatrics and Professor of Genetics, Harvard Medical School

Frederick W. Alt is a Howard Hughes Medical Institute (HHMI) Investigator and Director of the Program in Cellular and Molecular Medicine (PCMM) at Boston Children's Hospital (BCH). He is the Charles A Janeway Professor of Pediatrics and Professor of Genetics at Harvard Medical School. He works on elucidating mechanisms that generate antigen receptor diversity and, more generally, on mechanisms that generate and suppress genomic instability in mammalian cells, with a focus on the immune and nervous systems. Recently, his group has developed sensitive genome-wide approaches to identify mechanisms of DNA breaks and rearrangements in normal and cancer cells. He has been elected to the U.S. National Academy of Sciences, the U.S. National Academy of Medicine, and the European Molecular Biology Organization. His awards include the Albert Szent-Gyorgyi Prize for Progress in Cancer Research, the Novartis Prize for Basic Immunology, the Lewis S. Rosenstiel Prize for Distinguished work in Biomedical Sciences, the Paul Berg and Arthur Kornberg Lifetime Achievement Award in Biomedical Sciences, and the William Silen Lifetime Achievement Award in Mentoring.



James E. Crowe, MD

Ann Scott Carell Chair; Professor of Pediatrics, Pathology, Microbiology, and Immunology; Director, Vanderbilt Vaccine Center, Vanderbilt University School of Medicine

James E. Crowe earned his BS in pre-medicine from the Davidson College, NC and MD from the University of North Carolina, School of Medicine. He performed a residency in Pediatrics at the University of North Carolina, School of Medicine and postdoctoral research in Virology at the NIAID Intramural Program, Bethesda, MD. He is a professor in the Departments of Pediatrics, Pathology, Microbiology and Immunology at Vanderbilt University, director of the Vanderbilt Vaccine Center, and director of Vanderbilt Technologies for Advanced Genomics. He holds the chair of Ingram Professor of Research and Ann Scott Carell Chair. Dr. Crowe's research studies the fundamental mechanisms by which human antibodies inhibit viruses. His lab is one of the leading groups in development of innovative technologies for isolation and study of human monoclonal antibodies. Dr. Crowe has licensed five antibody portfolios to commercial partners for ongoing clinical development, and one has been tested in first-in-human studies.

Featured Speakers 2018

Gary J. Nabel, MD, PhD

Chief Scientific Officer, Senior Vice President, Sanofi

Gary J. Nabel MD, PhD is Chief Scientific Officer, Global Research and Development, and Head of the North American R&D Hub at Sanofi. He also serves as Senior Vice President for the company and is deputy to the President of Global R&D. An author of more than 450 scientific publications, Dr. Nabel joined Sanofi in 2012 from the National Institutes of Health, where he served as Director of the Vaccine Research Center (VRC) since 1999, during which time, he provided overall direction and scientific leadership of the basic, clinical, and translational research activities and guided development of novel vaccine strategies against HIV, Universal Influenza, Ebola as well as emerging infectious disease viruses. His work encompasses basic mechanisms of HIV gene activation, structure-based vaccine design, and immunotherapy. Dr. Nabel graduated magna cum laude from Harvard in 1975. He continued his graduate studies at Harvard, completing his PhD in 1980 followed by his M.D. two years later. He had a post-doctoral fellowship with David Baltimore at the Whitehead Institute. In recognition of his expertise at the forefront of Virology, Immunology, Gene therapy, and Molecular Biology, Dr. Nabel was elected to the National Academy of Medicine in 1998. Among his many other honors, Dr. Nabel received the Amgen Scientific Achievement Award from the American Society for Biochemistry and Molecular Biology, the Health and Human Services Secretary's Award for Distinguished Service, and is a fellow of the American Association of Physicians, and the American Academy of Arts Sciences.



William Schief, PhD

Professor of Immunology and Microbial Science, The Scripps Research Institute

William Schief has a BS in Applied Mathematics from Yale University and a PhD in Physics from the University of Washington. He is a Professor in the Immunology and Microbiology Department at The Scripps Research Institute, Director of Vaccine Design at the International AIDS Vaccine Initiative (IAVI) Neutralizing Antibody Center at TSRI, and an Associate Member of the Ragon Institute of MGH, MIT and Harvard. Dr. Schief's work focuses on computation-guided and structure-based design of immunogens and immunization regimens, with the goal of inducing broadly neutralizing antibodies against HIV and other pathogens that have frustrated traditional vaccine design strategies.



Featured Speakers 2018



Betty Diamond, MD

Head, The Center for Autoimmune Musculoskeletal and Hematopoietic Diseases, The Feinstein Institute for Medical Research

Betty Diamond received an MD from Harvard Medical School. She performed a residency in Internal Medicine at Columbia Presbyterian Medical Center, and then a post-doctoral fellowship in Immunology with Dr. Matthew Scharff at the Albert Einstein College of Medicine. She is currently the head of the Autoimmune Disease Center at the Feinstein Institute for Medical Research. Dr. Diamond's research has focused on the induction and pathogenicity of anti-DNA antibodies in Systemic Lupus Erythematosus. She showed that somatic mutation of immunoglobulin genes can generate autoantibodies in mice and humans, making the germinal center a focus in disease pathogenesis. Her laboratory has also demonstrated that a subset of anti-DNA antibodies cross-reacts with the NMDA receptor and showed that autoantibodies can cause aspects of neuropsychiatric lupus, creating a paradigm for antibody-mediated changes in brain function in many conditions. Most recently, she has developed a research program on the immunomodulatory functions of C1q. She received the Outstanding Investigator Award of the ACR in 2001, the Lee C. Howley Award from the Arthritis Foundation in 2002, the Recognition Award from the National Association of MD-PhD Programs in 2004 and was elected to the Institute of Medicine in 2006. She is an elected fellow of the AAAS. She has served on the Scientific Council of NIAMS and the Board of Directors of the American College of Rheumatology, and is a past President of the American Association of Immunologists.



Demin Wang, PhD

John B. and Judith A. Gardetto Chair for Cancer Research, Senior Investigator, Blood Research Institute, BloodCenter of Wisconsin, Part of Versiti

Demin Wang received his BS in Biochemistry from Nanjing University and PhD in Biochemistry from the University of Tennessee, Health Science Center. He performed his postdoctoral research in the Department of Biochemistry at St Jude Children's Research Hospital. Currently, he is a Senior Investigator (Full Professor) at BloodCenter of Wisconsin's Blood Research Institute. He is also a faculty member in the Department of Microbiology and Immunology, Medical College of Wisconsin. He holds the John B and Judith A Gardetto Endowed Chair for Cancer Research. He is an editorial board member of Blood journal. He has served as an associate editor for the Journal of Immunology. His scientific interests focus on identifying and functionally characterizing signaling molecules and pathways that control B cell biology. He also studies the immune-pathogenesis of drug-induced immune thrombocytopenia. His studies have identified novel signaling pathways that control the development and function of B cells and new mechanisms that regulate induction of B cell tolerance. His research program aims to understand the molecular pathogenesis of various immunological diseases and to suggest new approaches to prevention and treatment of autoimmunity.

Topics and Speakers of our Past Symposia

2007 – Human Immunology

2008 – Integrating Hemostasis and Immunity

2009 – Immune Memory

Rafi Ahmed, PhD,
Emory University

Ignacio Sanz, MD,
University of Rochester

Jack Gorski, PhD,
BloodCenter of Wisconsin

Anne West, MD, PhD,
Duke University Medical Center

2010 – Systems and Computational Immunology

Tim R. Mosmann, PhD,
University of Rochester

Greg E. Lemke, PhD,
Salk Institute

Steven H. Kleinstein, PhD,
Yale University School of Medicine

Elena Naumova, PhD,
Tufts University School of Medicine

2011 – Innate Immunity

David Raulet, PhD,
University of California-Berkeley

Alejandro Aballay, PhD,
Duke University

Thirumala-Devi Kanneganti, PhD,
St. Jude Children's Research Hospital

Subramaniam Malarkannan, PhD,
BloodCenter of Wisconsin

Dan Wu, PhD, Yale University,
School of Medicine

Wendy Havran, PhD,
The Scripps Research Institute

2012 – Interactions Between the Immune and Nervous Systems

Keith Kelley, PhD, University of Illinois

Alan Lomax, PhD, Queen's University

Katherine Held, PhD, Allergan

Bonnie Dittel, PhD,
BloodCenter of Wisconsin

Jeannette Marketon, PhD,
The Wexner Medical Center

Cecelia Hillard, PhD,
Medical College of Wisconsin

2013 – Cellular Immunotherapy & Hematopoietic Stem Cells

Stuart Orkin, PhD,
Harvard Medical School

Stanley Riddell, MD, University of
Washington School of Medicine

Crystal Mackall, MD,
National Cancer Institute

Linheng Li, PhD, University of Kansas
School of Medicine

Pramod Srivastava, PhD,
University of Connecticut

2014 – Immune Cell: Genome, Transcriptome & Signalsome

Ellen Robey, PhD,
University of California – Berkeley

David Rawlings, MD,
University of Washington

Harvey Lodish, PhD, Massachusetts
Institute of Technology

Anjana Rao, PhD, La Jolla Institute for
Allergy and Immunology

Cornelis Murre, PhD, University of
California – San Diego

2015 – The Impact of the Microbiome on Immunity

Alexander Chervonsky, MD, PhD,
The University of Chicago

Duane Wesemann, MD, PhD,
Harvard Medical School

Cathryn Nagler, PhD,
The University of Chicago

Veena Taneja, PhD, Mayo Clinic

Christian Jobin, PhD,
University of Florida

Nita Salzman, MD, PhD,
Medical College of Wisconsin

2016 – Host Defense

Ronald Germain, MD, PhD,
National Institutes of Health

Vera Tarakanova, PhD,
Medical College of Wisconsin

Patrick Wilson, PhD,
The University of Chicago

David Brooks, PhD,
University of Toronto

Jyothi Rengarajan, PhD,
Emory University

Gabriel Núñez, MD,
University of Michigan

2017 – Immunology in Precision Medicine

Mark M. Davis, PhD,
Stanford University School of
Medicine

Ming Li, PhD,
Memorial Sloan Kettering Cancer
Center

Edward M. Behrens, MD,
Perelman School of Medicine at
University of Pennsylvania

Yi-Guang Chen, PhD,
Medical College of Wisconsin

Gail Bishop, PhD,
University of Iowa

Arup Chakraborty, PhD,
Massachusetts Institute of
Technology

2018 Organizing Committee

Demin Wang, PhD, Co-Chair

Renren Wen, PhD, Co-Chair

Jenny Wojtysiak, Co-Event Manager

Christina Daniels, Co-Event Manager

Sandy Lakric, Co-Event Manager

Kathy Krueger, Graphic Design

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