Stanford

Glaivy Batsuli, MD

Assistant Professor of Pediatrics (Hematology/Oncology)

Pediatrics - Hematology & Oncology

CLINICAL OFFICE (PRIMARY)

- **Bass Center for Childhood Cancer and Blood Diseases**

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Bio

BIO

Glaivy Batsuli, MD is an Assistant Professor of Pediatrics at Stanford University in the Division of Pediatric Hematology, Oncology, Stem Cell Transplantation & Regenerative Medicine. She is a practicing Pediatric Hematologist with the Bass Center for Childhood Cancer and Blood Diseases at Lucile Packard Children's Hospital. Dr. Batsuli received her B.S. in Public Health at the University of North Carolina at Chapel Hill and her M.D. from the University of Pittsburgh School of Medicine in Pittsburgh, PA. Dr. Batsuli then completed her pediatrics residency and pediatric hematology & oncology fellowship training at Emory University in Atlanta, GA. During fellowship training, she trained in the lab of Dr. Pete Lollar where she studied the role of the C1 domain of coagulation protein factor VIII in antibody development using murine models of hemophilia A and pediatric patient samples. In 2016, Dr. Batsuli stayed on the faculty at Emory University in the Department of Pediatrics where she developed expertise in hemostatic and thrombotic disorders. In 2023, she joined the faculty at Stanford University where her lab focuses on elucidating mechanisms of the immune response to factor replacement therapies in inherited bleeding disorders in order to develop strategies and therapeutics for antibody prevention and tolerance induction. As a clinician, Dr. Batsuli sees pediatric patients with classical hematologic disorders with expertise in bleeding and clotting disorders.

CLINICAL FOCUS

- Pediatric Hematology-Oncology

ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Pediatrics - Hematology & Oncology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Associate Program Director, Pediatric Hematology and Oncology Fellowship, Emory University, (2022-2023)

HONORS AND AWARDS

- Anne T. and Robert M. Bass Endowed Faculty Scholar in Pediatric Cancer and Blood Diseases, Stanford University (2023 - present)

- Department of Pediatrics Junior Faculty Researcher of the Year, Emory University (2021)
- K99, NHLBI (2020 - present)
- Clinical Scientist Development Grant, Hemophilia of Georgia (2019 - present)
- Loan Repayment Program in Pediatric Research Award, NHLBI (2017-2021)
- Mentored Research Award, Hemostasis and Thrombosis Research Society (2016 - 2018)
- Emory University Atlanta Pediatric Scholars K12 Program, NICHD (2015 - 2017)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Medical and Scientific Advisory Council (MASAC), National Bleeding Disorders Foundation (NBDF) (2023 - present)
- ATHN 16 Sevenfact® Steering Committee, American Thrombosis and Hemostasis Network (2022 - present)
- Working Group Member, National Bleeding Disorders Foundation (previously the National Hemophilia Foundation) National Research Blueprint Workforce Working Group (2022 - present)
- Member, American Association of Immunologists (2022 - present)
- Member, International Society of Thrombosis and Haemostasis (2016 - present)
- Member, Hemostasis and Thrombosis Research Society (2014 - present)
- Member, American Society of Pediatric Hematology/Oncology (2014 - present)
- Member, Scientific Committee on Hemostasis, & Women in Hematology Working Group, American Society of Hematology (2013 - present)

PROFESSIONAL EDUCATION

- Fellowship, Pediatric Hematology and Oncology, Emory University, Atlanta, GA (2015)
- Residency, Pediatrics, Emory University, Atlanta, GA (2012)
- Medical Education, University of Pittsburgh, Pittsburgh, PA (2009)
- Undergraduate Education, BSPH, University of North Carolina at Chapel Hill, Chapel Hill, NC (2005)
- Board Certification, Pediatric Hematology and Oncology, American Board of Pediatrics (2017)
- Board Certification, Pediatrics, American Board of Pediatrics (2012)

LINKS

- Batsuli Lab Website: https://med.stanford.edu/batsuli-lab.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Hemophilia is a rare inherited X-linked bleeding disorder characterized by the deficiency of blood clotting proteins factor VIII or factor IX. These individuals are at risk for spontaneous bleeds and trauma or surgery-induced bleeding. There have been remarkable advancements in the management of hemophilia to prevent these bleeding episodes and improve quality of life. However, the presence of neutralizing antibodies, called inhibitors, still dictates access to novel therapies such as factor replacement for bleed management and now FDA-approved gene therapies. The Batsuli Lab is focused on elucidating mechanisms of the immune response to blood coagulation proteins in bleeding disorders in order to develop strategies and therapeutics for inhibitor prevention and tolerance induction.

Dr. Batsuli's clinical research interests also include clinical trial participation for novel therapeutics & interventions in bleeding disorders such as hemophilia and von Willebrand disease in addition to coagulation issues & outcomes in ultra-rare bleeding disorders and sickle cell disease.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Huong Chau, Rinki Verma

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)
- Pediatric Hem/Onc (Fellowship Program)

Publications

PUBLICATIONS

- **Factor VIII antibody immune complexes modulate the humoral response to factor VIII in an epitope-dependent manner.** *Frontiers in immunology*
  Batsuli, G., Ito, J., York, E. S., Cox, C., Baldwin, W., Gill, S., Lollar, P., Meeks, S. L.
  2023; 14: 1233356
- **Removal of single-site N-linked glycans on factor VIII alters binding of domain-specific monoclonal antibodies** *JOURNAL OF THROMBOSIS AND HAEMOSTASIS*
  Ito, J., Baldwin, W., Cox, C., Healey, J. F., Parker, E. T., Legan, E. R., Li, R., Gill, S., Batsuli, G.
  2022; 20 (3): 574-588
- **Immune tolerance induction in paediatric patients with haemophilia A and inhibitors receiving emicizumab prophylaxis** *HAEMOPHILIA*
  Batsuli, G., Zimowski, K. L., Tickle, K., Meeks, S. L., Sidonio, R. F.
  2019; 25 (5): 789-796
- **The Atlanta Protocol: Immune Tolerance Induction in Pediatric Patients with Hemophilia a and Inhibitors on Emicizumab**
  Batsuli, G. M., Zimowski, K. L., Tickle, K., Meeks, S. L., Sidonio, R. F.
  AMER SOC HEMATOLOGY.2018
- **Anti-C1 domain antibodies that accelerate factorVIII clearance contribute to antibody pathogenicity in a murine hemophiliaA model** *JOURNAL OF THROMBOSIS AND HAEMOSTASIS*
  Batsuli, G., Ito, J., Mercer, R., Baldwin, W. H., Cox, C., Parker, E. T., Healey, J. F., Lollar, P., Meeks, S. L.
  2018; 16 (9): 1779-1788
- **High-affinity, noninhibitory pathogenic C1 domain antibodies are present in patients with hemophilia A and inhibitors** *BLOOD*
  Batsuli, G., Deng, W., Healey, J. F., Parker, E. T., Baldwin, W., Cox, C., Nguyen, B., Kahle, J., Koenigs, C., Li, R., Lollar, P., Meeks, S. L.
  2016; 128 (16): 2055-2067
- **Assessment of menstrual health in adolescent and young adults with sickle cell disease.** *Pediatric blood & cancer*
  Notice, B., Soffer, E., Tickle, K., Xiang, Y., Gee, B. E., Sidonio, R. F., Sokkary, N., Batsuli, G.
  2023: e30727
- **Severe muscle bleeds in children and young adults with hemophilia A on emicizumab prophylaxis: Real-world retrospective multi-institutional cohort** *AMERICAN JOURNAL OF HEMATOLOGY*
  Batsuli, G., Wheeler, A. P., Weyand, A. C., Sidonio, R. F., Young, G.
  2023
- **The impact of concurrent X chromosome anomalies on diagnosis and bleeding phenotype in children with hemophilia: A single-institution case series** *PEDIATRIC BLOOD & CANCER*
  Soffer, E., Coleman, K., Batsuli, G.
  2023; 70 (7): e30400
- **Investigating persistent factor VIII-specific IgM in the humoral immune response to factor VIII**
  York, E. S., Ito, J., Batsuli, G.
  AMER ASSOC IMMUNOLOGISTS.2023

- **Charactering the immune signature of antigen presenting cells in the immune response to factor VIII in a murine model of hemophilia A using single-cell RNA sequencing**
  Batsuli, G., York, E. S., Krishnan, U., Gill, S., Thomas, B., Bhasin, S.
  AMER ASSOC IMMUNOLOGISTS.2023

- **Building the foundation for a community-generated national research blueprint for inherited bleeding disorders: facilitating research through infrastructure, workforce, resources and funding** *EXPERT REVIEW OF HEMATOLOGY*
  Ragni, M. V., Young, G., Batsuli, G., Bisson, E., Carpenter, S. L., Croteau, S. E., Cuker, A., Curtis, R. G., Denne, M., Ewenstein, B., Federizo, A., Frick, N., Funkhouser, et al
  2023; 16: 107-127

- **INVESTIGATING THE ROLE OF IGM IN THE IMMUNE RESPONSE TO FACTOR VIII**
  York, E. S., Batsuli, G., Ito, J.
  WILEY.2023: E121-E122

- **HEMOSTATIC EFFICACY OF RECOMBINANT FACTOR VII PRODUCT EPTACOG BETA FOR BLEEDING MANAGEMENT: REAL-WORLD EXPERIENCE OF PATIENTS WITH HEMOPHILIA A AND B WITH INHIBITORS**
  Batsuli, G., Tran, D. Q., Young, G., Khan, O., Sidonio, R. F.
  WILEY.2023: E10-E11

- **Assessment of Menstrual Health and Bleeding Symptoms in Adolescent Girls and Young Women with Sickle Cell Disease**
  Notice, B., Soffer, E., Xiang, Y., Tickle, K., Gee, B. E., Sidonio, R. F., Batsuli, G.
  AMER SOC HEMATOLOGY.2022: 5116-5118

- **A review of the pharmacokinetics, efficacy and safety of high-purity factor X for the prophylactic treatment of hereditary factor X deficiency** *HAEMOPHILIA*
  Payne, J., Batsuli, G., Leavitt, A. D., Mathias, M., McGuinn, C. E.
  2022; 28 (4): 523-531

- **Iron deficiency anemia and bleeding management in pediatric patients with Bernard-Soulier syndrome and Glanzmann Thrombasthenia: A single-institution analysis** *HAEMOPHILIA*
  Lee, A., Maier, C. L., Batsuli, G.
  2022; 28 (4): 633-641

- **Report Successful Perioperative Management of Orthotopic Cardiac Transplantation in a Pediatric Patient With Concurrent Congenital von Willebrand Disease and Acquired von Willebrand Syndrome Using Recombinant von Willebrand Factor** *JOURNAL OF CARDIOTHORACIC AND VASCULAR ANESTHESIA*
  Batsuli, G., Zimowski, K. L., Carroll, R., White, M. H., Woods, G. M., Meeks, S. L., Sidonio, R. F.
  2022; 36 (3): 724-727

- **Reticular Dysgenesis: A Rare Immunodeficiency in a Neonate With Cytopenias and Bacterial Sepsis** *PEDIATRICS*
  Janardan, S. K., Pencheva, B., Ross, A., Karpen, H. E., Rytting, H., Batsuli, G.
  2021; 148 (6)

- **Real-World Data of the Hemostatic Efficacy of Recombinant Human Factor VIIa Eptacog Beta for Acute Bleeding Events in Patients with Hemophilia a and B with Inhibitors**
  Batsuli, G., Duc Quang Tran, Young, G., Sidonio, R. F.
  AMER SOC HEMATOLOGY.2021

- **Rare Coagulation Factor Deficiencies (Factors VII, X, V, and II)** *HEMATOLOGY-ONCOLOGY CLINICS OF NORTH AMERICA*
  Batsuli, G., Kouides, P.
  2021; 35 (6): 1181-1196

- **Plasma factor IX: The tip of the iceberg?** *HAEMOPHILIA*
  Sidonio, R. F., Batsuli, G.
  2021; 27 (3): 329-331

- **Emicizumab in tolerized patients with hemophilia A with inhibitors: A single-institution pediatric cohort assessing inhibitor status** *RESEARCH AND PRACTICE IN THROMBOSIS AND HAEMOSTASIS*
  Batsuli, G., Greene, A., Meeks, S. L., Sidonio, R. F.
  2021; 5 (2): 342-348

- **Thrombocytosis with acquired von Willebrand disease in an adolescent with sickle cell disease** *CLINICAL CASE REPORTS*
  Yee, M. M., Batsuli, G., Chonat, S., Park, S.
  2021; 9 (1): 457-460
- **Use of plasma-derived factor X concentrate in neonates and infants with congenital factor X deficiency** *JOURNAL OF THROMBOSIS AND HAEMOSTASIS*
  Zimowski, K. L., McGuinn, C. E., Abajas, Y. L., Schultz, C. L., Kaicker, S., Batsuli, G.
  2020; 18 (10): 2551-2556
- **Inhibitor status of patients with Hemophilia A who transition to Emicizumab after Immune Tolerance Induction**
  Batsuli, G., Greene, A., Meeks, S. L., Sidonio, R. F.
  WILEY.2020: 28
- **THE IMPACT OF CONCURRENT X-CHROMOSOME ABNORMALITIES ON BLEEDING PHENOTYPE IN PEDIATRIC HEMOPHILIA**
  Soffer, E., Coleman, K., Meeks, S., Batsuli, G.
  WILEY.2020: S61
- **Severe Bleeding Events in Hemophilia. Patients Receiving Emicizumab Prophylaxis**
  Zimowski, K. L., Batsuli, G. M., Bryant, P., McDaniel, J., Tickle, K., Meeks, S. L., Sidonio, R. F.
  AMER SOC HEMATOLOGY.2019
- **The Immune Response to Murine Factor VIII in Single Exon Deletion and Total Gene Deletion Murine Models of Hemophilia a**
  Patel, S. R., Baldwin, W. H., Cox, C., Healey, J., Parker, E. T., Batsuli, G., Meeks, S. L.
  AMER SOC HEMATOLOGY.2019
- **Epitope Dependent Augmentation of the Immune Response in Hemophilia. Mice Immunized with Factor VIII/Antibody Immune Complexes**
  Batsuli, G., Patel, S. R., Cox, C., Baldwin, W. H., Lollar, J. S., Meeks, S. L.
  AMER SOC HEMATOLOGY.2019
- **Congenital Disorders of Fibrinogen** *TRANSFUSION MEDICINE AND HEMOSTASIS: CLINICAL AND LABORATORY ASPECTS, 3RD EDITION*
  Batsuli, G., Meeks, S. L., Shaz, B. H., Hillyer, C. D., Gil, M. R.
  2019: 703-706
- **Factor XIII, alpha(2)-Antiplasmin, and Plasminogen Activator Inhibitor-1 Deficiencies** *TRANSFUSION MEDICINE AND HEMOSTASIS: CLINICAL AND LABORATORY ASPECTS, 3RD EDITION*
  Batsuli, G., Meeks, S. L., Shaz, B. H., Hillyer, C. D., Gil, M. R.
  2019: 707-710
- **Factor VII Deficiency** *TRANSFUSION MEDICINE AND HEMOSTASIS: CLINICAL AND LABORATORY ASPECTS, 3RD EDITION*
  Batsuli, G., Meeks, S. L., Shaz, B. H., Hillyer, C. D., Gil, M. R.
  2019: 695-697
- **Maintaining Perioperative Hemostasis in Patients with Severe Hemophilia A and Inhibitors Receiving Emicizumab Prophylaxis**
  Zimowski, K. L., Batsuli, G. M., Reding, M. T., Rana, J., Callaghan, M. U., Tickle, K., Meeks, S. L., Sidonio, R. F.
  AMER SOC HEMATOLOGY.2018
- **Long-term outcomes of patients with severe hemophilia A and high titer inhibitors with partial tolerance after immune tolerance induction**
  Batsuli, G., Meeks, S., Sidonio, R.
  WILEY.2018: 48-49
- **Factor VIII C2 Domain Epitopes Recognized By Classical and Non-Classical Anti-C2 Domain Monoclonal Antibodies Help Mediate FVIII Uptake By Dendritic Cells**
  Batsuli, G., Baldwin, W., Healey, J. F., Parker, E. T., Cox, C., Lollar, P., Meeks, S. L.
  AMER SOC HEMATOLOGY.2016
- **Very High Dose Factor VIII Needed to Prevent Bleeding in the Presence of a Low Titer Anti-C1 Domain Antibody**
  Ito, J., Mercer, R., Baldwin, W., Batsuli, G., Meeks, S. L.
  AMER SOC HEMATOLOGY.2016
- **Hemophilia and inhibitors: current treatment options and potential new therapeutic approaches** *HEMATOLOGY-AMERICAN SOCIETY OF HEMATOLOGY EDUCATION PROGRAM*

Meeks, S. L., Batsuli, G.
2016: 657-662

- **Innovating immune tolerance induction for haemophilia**
  Batsuli, G., Meeks, S. L., Herzog, R. W., Lacroix-Desmazes, S.
  WILEY.2016: 31-35

- **Anti-C1 Domain Antibodies Are Pathogenic in a Murine Tail Snip Model Despite Low Inhibitor Titers**
  Batsuli, G., Healey, J., Parker, E., Baldwin, W., Nguyen, B., Lollar, P., Meeks, S. L.
  AMER SOC HEMATOLOGY.2015

- **Anti-Factor VIII C1 Domain Antibodies Are Present in the Plasmas of Patients with Hemophilia and Inhibitors**
  Batsuli, G., Cox, C., Healey, J. F., Lollar, P., Meeks, S. L.
  AMER SOC HEMATOLOGY.2014

- **ROLE OF RACE/ETHNICITY ON IMMUNE TOLERANCE INDUCTION AND INHIBITOR RELAPSE IN CHILDREN WITH HEMOPHILIA A**
  Batsuli, G., Chapman, R., Cox, C., Dunn, A., Meeks, S.
  WILEY PERIODICALS, INC.2012: 1032