St. Jude Children's Research Hospital
ALSAC • Danny Thomas, Founder

Pediatric Infectious Diseases Society

5th Annual
St. Jude/PIDS
Pediatric Transplant ID Symposium: Bench to Bedside

Program & Abstracts
March 8, 2018

Marlo Thomas Center
For Global Education And Collaboration
St. Jude Children's Research Hospital

PRODUCED BY BMC (C22000) 03.18

5th Annual St. Jude/PIDS
Pediatric Transplant ID Symposium: Bench to Bedside
St. Jude Children's Research Hospital
March 8, 2018
Memphis, Tennessee

St. Jude Children's Research Hospital
Department of Infectious Diseases
262 Danny Thomas Place, Mailstop 320
Memphis, TN 38105-3678

Pediatric Infectious Diseases Society
1300 Wilson Boulevard
Suite 300
Arlington, VA 22209

March 7, 2018

Dear Colleagues:

On behalf of St. Jude Children's Research Hospital and the Pediatric Infectious Diseases Society, we welcome you to Memphis, Tennessee and the 5th Annual St. Jude/PIDS Pediatric Transplant ID Symposium.

We believe the faculty, fellows, and students attending this meeting will learn about infections in the immunocompromised from the speakers and other colleagues presenting abstracts, posters, and clinical cases. Invited speakers will present overviews on transplant immunology and HHV-6 as well as cellular therapy against viral infections, vaccines in the transplant patient, immunodeficiencies, and Epstein Barr Virus. We hope the breakout sessions with bacterial, fungal, and donor cases will generate lively discussions including an opportunity to explore differences in practices across the country. A highlight this year we will be a point-counterpoint on various transplant ID topics frequently seen by ID consultants.

A major goal of this Symposium is to advance research. There will be abstract and poster presentations, an update on ongoing multicenter clinical/translational research studies including multicenter studies of *Clostridium difficile* infection and the opportunity to expand this grassroots research working group. As pediatric infectious disease specialists, we have increasing opportunities for relevant basic, translational, and clinical investigation to promote the health of this expanding population. We are also proud to announce that, with the support of St. Jude Children's Research Hospital, abstracts and selected talks from this symposium will be published in a supplement in our society's journal, the *Journal of the Pediatric Infectious Disease Society*.

We look forward to a stimulating, interactive day. We once again thank St. Jude Children's Research Hospital and the Pediatric Infectious Diseases Society (PIDS) for hosting this symposium, the Pediatric Infectious Disease Transplant Planning Group (Drs. Lara Danziger-Isakov, Janet A. Englund, Brian Fisher, Hayley Gans, Betsy C. Herold, Gabriela Maron, and Elaine I. Tuomanen), and the speakers and panelists for their participation.

Sincerely,

Elaine I. Tuomanen, MD, FPIDS
Chair, Department of Infectious Diseases
St. Jude Children's Research Hospital

Betsy C. Herold, MD, FPIDS
Professor and Vice Chair for Research
Albert Einstein College of Medicine
Co-Chair, Pediatric Infectious Diseases Society Transplant Research Network

Janet A. Englund, MD, FPIDS
Professor of Pediatrics
University of Washington
Co-Chair, Pediatric Infectious Diseases Society Transplant Research Network

Sponsored by:

PEDIATRIC INFECTIOUS DISEASES SOCIETY

St. Jude Children's Research Hospital

Pediatric Transplant ID Symposium: Bench to Bedside
Program at a Glance

Wednesday, March 7
Satellite Registration – Westin/Tennessee Ballroom
6 – 8 p.m.

Thursday, March 8
8:00 a.m.– 8:15 a.m.

- **Welcome and Announcements**
  Elaine I. Tuomanen, MD, St. Jude Children's Research Hospital
  Janet A. Englund, MD, Seattle Children's Hospital
  Betsy C. Herold, MD, Albert Einstein College of Medicine

Morning Session
8:15 a.m.– 9:45 a.m.

- Overview of transplant immunology—Allan Kirk, MD, PhD, Duke University School of Medicine
- HHV-6 in the transplant recipient – when to worry, when to act—Danielle Zerr, MD, MPH, Seattle Children's Hospital

BREAK (15 minutes)

10:00 a.m. – 12:30 p.m.

- Cell therapy with genetically-modified T cells—Stephen Gottschalk, MD, St. Jude Children's Research Hospital
- Vaccines in transplant patients—Klara Posfay-Barbe, MD, MS, University Hospitals of Geneva
- NIH transplants for primary immunodeficiencies—Alexandra Freeman, MD, National Institutes of Health, National Institute of Allergy and Infectious Diseases

Lunch and Poster Session
12:30 – 2:00 p.m.

Afternoon Session
2:00 – 3:30 p.m.

- Biomarkers for post-transplant lymphoproliferative disorder in children —Olivia Martinez, PhD, Stanford University School of Medicine

- Point-Counterpoint: Challenges in Transplant ID:
  Moderators: Janet Englund, MD, Seattle Children's Hospital (Respiratory Infections) and Lara Danziger-Isakov, MD, MPH, Cincinnati Children's Hospital Medical Center (Cytomegalovirus)
  Panelists: Klara Posfay-Barbe, MD, MS, University Hospitals of Geneva; Danielle Zerr, MD, MPH, Seattle Children's Hospital; and Michael Green, MD, MPH; Children's Hospital of Pittsburgh

BREAK (5 minutes)

3:35 – 5:30 p.m.

- Oral Abstracts
  - Use of cyclin-dependent kinase inhibitors to modulate gammaherpesvirus reactivation—Joy Hazleton, MD, PhD, University of Colorado
  - Plasma NGS for pathogen detection in pediatric patients at risk for invasive fungal infection—William J. Muller, MD, PhD, Northwestern University Feinberg School of Medicine

- Research Presentations
  - *Clostridium difficile* research (Gabriela Maron, MD, St. Jude Children's Research Hospital)
  - Proposed CMV study (Michael Green, MD, MPH, Children's Hospital of Pittsburgh and Daniel Dulek, MD, Vanderbilt University)
  - Overview of respiratory virus paper (Lara Danziger-Isakov, MD, MPH, Cincinnati Children's Hospital Medical Center)

BREAK (5 minutes)

Clinical Breakout Sessions

- **Bacterial** (Moderators: Hayley Gans, MD, Stanford University; Gabriela Maron, MD, St. Jude Children's Research Hospital; and Daniel Dulek, MD, Vanderbilt University)

- **Fungal** (Moderators: Brian Fisher, DO, MSCE, The Children's Hospital of Philadelphia; William Steinbach, MD, Duke University; and Monica Ardura, MD, Nationwide Children's Hospital)

- **Donor Questions** (Moderators: Lara Danziger-Isakov, MD, MPH, Cincinnati Children's Hospital Medical Center; Betsy Herold, MD, Albert Einstein College of Medicine; and Tanvi Sharma, MD, MPH, Boston Children's Hospital)

5:30 – 6:00 p.m.

- **Transplant Research Network**

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Map of St. Jude Children's Research Hospital ..... **Back Cover**

General Information

Location of Conference

Marlo Thomas Center for Global Education and Collaboration (GEC)
St. Jude Children's Research Hospital
262 Danny Thomas Place
Memphis, TN 38105-3678

Headquarter Hotel Information
Westin Memphis Beale Street Hotel
170 Lt. George W. Lee Avenue
Memphis, TN 38103
(901) 334-5900

Registration Hours

Date	Time	Location
Wednesday, March 7	6:00 – 8:00 p.m.	Westin Memphis Beale Street Hotel (Tennessee Ballroom) – Satellite
Thursday, March 8	7:00 a.m. – 6:00 p.m.	Marlo Thomas Center for Global Education and Collaboration – St. Jude Children's Research Hospital campus

Poster Session

The Poster Session will take place on Thursday, March 8, from 12:30 to 2:00 p.m. in the foyer of the GEC building. Presenters will stand by their posters at that time to answer questions and discuss their research. Posters will be arranged by category (Bacterial, Viral, Host Response, Other Pathogens, and Other). There will be a designated area in the foyer where presenters can receive assistance from staff.

Speaker Ready Room

Oral presenters may preview their slides or presentations in the GEC Auditorium, located on the first floor. A laptop will be provided. The rooms will be open during registration hours and audio-visual personnel will be available to provide technical assistance. *Speakers are responsible for providing CDs, USB flash drives, or zip disks of their presentations prior to the start of the session.* ***Alternatively, speakers are welcome to bring their presentations on their own laptop computers.***

Mothers' Room

St. Jude Children's Research Hospital offers several Mothers' Rooms around the campus for conference registrants. These rooms can be used to breastfeed your infant or to express and store milk while at the conference. The closest rooms to use during conference hours are the Mothers' Room located at the Chili's Care Center and Danny Thomas Research Center. Please seek staff assistance at the Registration Desk before attempting to use this facility.

Shuttle Bus Service

Shuttle bus service is available for registrants to St. Jude Children's Research Hospital from the Westin Memphis Beale Street Hotel. Registrants are responsible for providing their own transportation to any other destination while in Memphis. The following shuttle schedule will be posted at the registration desk.

Date	Time	Pick-up Site	Destination
Thursday, March 8	7:00, 7:15, and 7:30 a.m.	Westin Memphis Beale Street Hotel	St. Jude
	5:45 and 6:15 p.m.	St. Jude	Westin Memphis Beale Street Hotel

Internet Access

St. Jude Children's Research Hospital offers wireless Internet access through HopeNet.

Contact Information
For onsite assistance, please contact Christy Phillips (202) 306-9545 or Brandi Kirby (901) 595-2641.

Continuing Medical Education Information

Educational Objectives
After attending this educational conference, you should be able to:

- Screen, diagnose, and treat viral, bacterial, and fungal infections in the transplant patient
- Explain the role of immunotherapies, microbiome, and age on transplant outcomes and infectious complications
- Describe how different immunosuppressive agents increase the risk for specific infectious diseases

Please note that session objectives will be presented during the conference as appropriate.

Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of St. Jude Children's Research Hospital and the Pediatric Infectious Diseases Society. St. Jude Children's Research Hospital is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation
St. Jude Children's Research Hospital designates this live activity for a maximum of 6.75 *AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Evaluation and Credit Certificates
To claim *AMA PRA Category 1 Credit™* or attendance credit for this activity, you must attend the sessions and complete the evaluation by following the instructions below:

- Go to cme@stjude.org
- Sign in using the email address you used when registering for this conference and your password (if you do not remember your password or have not previously used this system, click "forgot my password" and follow the instructions; St. Jude employees should choose "Sign in with your St. Jude ID")
- Click the MyCME button on the top right of your screen and choose Evaluations and Certificates
- Click "Complete Evaluation" by *St. Jude/PIDS Pediatric Transplant ID Symposium: Bench to Bedside* to complete the evaluation for this activity
- You will then be returned to the Evaluations and Certificates screen to print, download, or email your certificate.

If you have questions about claiming your CME or attendance certificate, please contact us at cme@stjude.org. If you registered after February 28, 2018, or on site, it may take 48 hours to have your information added to the CME system so that you may claim credit.

Disclosure of Financial Relationships
All individuals in a position to control the content of this CME activity (such as faculty, presenters, and planners) were asked to complete a statement regarding all relevant financial relationships between themselves or their spouse/partner and any commercial interest (defined by the ACCME as "any entity producing, marketing, re-selling, or distributing health care goods and services consumed by, or used on, patients"). St. Jude CME has reviewed and resolved any conflicts of interest that were identified.

All relevant relationships are disclosed on the CME Addendum; no other speakers, planners, or other individuals with control over content have disclosed relevant financial relationships with commercial interests for themselves or their spouse/partner.

Morning Session
Thursday, 8:15 a.m. – 12:30 p.m. GEC Auditorium

Overview of transplant immunology
ALLAN KIRK, MD, PhD, Duke University School of Medicine, Durham, North Carolina

Are you afraid of transplant immunology? Don't be! It is actually pretty easy to understand once you have a few basic principles to go off of. This lecture will provide a framework for understanding immunology in general, and how the function of the immune system relates to transplant rejection and protection from infectious organisms. It will also show how these two different aspects of the immune response relate to one another (and if we have time, to an overarching philosophy to life!).

HHV-6 in the transplant recipient – when to worry, when to act
DANIELLE ZERR, MD, MPH, Seattle Children's Hospital, Seattle, Washington

HHV-6B infects most people by age 3 years of age and subsequently establishes latent infection. The virus reactivates in approximately 40% of transplant recipients and has been associated with a number of important transplant outcomes. In allogeneic hematopoietic transplant recipients HHV-6B is the most common cause encephalitis and viral reactivation has been associated with bone marrow suppression, pneumonitis, acute graft versus host disease, hepatitis, and mortality. Cord blood transplant recipients are at significantly higher risk of reactivation and encephalitis compared to other allogeneic hematopoietic transplant populations. Quantitative DNA PCR of plasma or serum is typically used to establish the diagnosis of HHV-6B infection. Newer technologies now allow for quantitative detection of viral nucleic acids while controlling for cellular input and provide for visualization of viral RNA in tissue samples. This session will review existing clinical and epidemiological data addressing the relationship between HHV-6B and important transplant outcomes, review new laboratory strategies for assessing tissue for viral pathogens, and discuss and potential next steps aimed at moving the field forward.

Cell therapy with genetically-modified T cells
STEPHEN GOTTSCHALK, MD, St. Jude Children's Research Hospital, Memphis, Tennessee

Cell therapy with genetically modified T cells expressing chimeric antigen receptors (CARs) are highly efficacious for the immunotherapy of CD19+ malignancies leading to their FDA approval in 2017. However, for solid tumors CAR T cells have been less effective in early Phase clinical studies. In my talk, I will review current successes and challenges of CAR T cells for pediatric malignancies. In addition, I will discuss their potential to treat infectious diseases.

Vaccines in transplant patients
KLARA POSFAY-BARBE, MD, MS, University Hospitals of Geneva, Geneva, Switzerland

Lunch/Poster Session
12:30 – 2:00 p.m. GEC Foyer

Afternoon Session
2:00 – 4:00 p.m. GEC Auditorium

Epstein-Barr virus and post-transplant lymphomas
OLIVIA MARTINEZ, PhD, Stanford University School of Medicine, Stanford, California

Epstein Barr virus (EBV) is a gammaherpes virus that has infected >90% of the population. EBV infection in immunocompetent individuals is typically asymptomatic and is accompanied by a strong host immune response that controls the expansion of infected B cells. However, EBV infection in immunocompromised or

immunosuppressed individuals can result in the development of EBV+ B cell lymphoproliferations such as post-transplant lymphoproliferative disorder (PTLD), a complication that is associated with significant morbidity and mortality. Children are at increased risk of EBV+ PTLD since they are often EBV seronegative at the time of transplantation and can acquire the virus in the setting of immunosuppression. In this presentation we review the life cycle of EBV, the immune response to the virus, and current approaches to monitoring EBV in pediatric transplant recipients. We also discuss emerging strategies to incorporate fundamental knowledge on EBV, B cell lymphomas, and the immune response for the development of novel biomarkers for PTLD.

Point-Counterpoint: Challenges in Transplant ID: Respiratory Infections and Cytomegalovirus

A panel will discuss the different strategies around evaluation and management of respiratory viral infections and cytomegalovirus (CMV) in hematopoietic stem cell transplantation and solid organ transplantation. Controversies including delay of transplantation, treatment of respiratory viral infections, refractory CMV and alternative therapies for CMV will be discussed.

Moderators: JANET ENGLUND, MD, Seattle Children's Hospital, Seattle, Washington and **LARA DANZIGER-ISAKOV, MD, MPH,** Cincinnati Children's Hospital Medical Center

Panelists: Klara Posfay-Barbe, MD, MS, University Hospitals of Geneva; **Danielle Zerr, MD, MPH,** Seattle Children's Hospital**;** and **Michael Green, MD, MPH**; Children's Hospital of Pittsburgh, Pittsburgh, Pennsylvania

Oral Abstract Presentations
Use of cyclin-dependent kinase inhibitors to modulate gammaherpesvirus reactivation
JOY HAZLETON, MD, PhD, University of Colorado, Denver, Colorado

Infection with the gammaherpesvirus EBV leads to lifelong viral latency with intermittent reactivation that is typically controlled through cell-mediated immunity. Following transplantation, viral reactivation may be poorly controlled, leading to a spectrum of lymphoproliferative disorders that result in significant morbidity and mortality. The mechanisms by which EBV reactivation leads to disease after transplant remain unclear. Using a small animal model, gammaherpesvirus 68, we and others have previously demonstrated that a viral cyclin is necessary for viral reactivation and pathogenesis, leading to the hypothesis that other components of the cell cycle such as cyclin-dependent kinases (CDKs) contribute to viral pathogenesis. We make use of a latently infected murine B cell line, A20-HE2.1, to evaluate viral reactivation in vitro. Using this cell line, we demonstrate that B cell stimulation leads to potent induction of viral reactivation, as determined by quantitative PCR. With this system, we can study chemical inhibitors of CDKs to analyze their effect on viral reactivation. We show that treatment with the specific CDK4/6 inhibitor, PD-0332991, potently reduces viral reactivation as well as cell proliferation and viability in the A20-HE2.1 cell line. This decrease in viability uniquely impacts reactivated cells, as compared to other CDK inhibitors, which decrease viability in all cells. Work is ongoing to define the kinetics and specificity of PD-0332991 and to determine its impact on EBV latently infected cells and on tumor formation in vivo. PD-0332991 is currently in clinical trials as an adjunctive chemotherapy for a number of cancers, including leukemia and lymphoma. Our findings suggest that PD-0332991 may be a useful component of treatment for EBV reactivation following transplantation and for EBV-related lymphoproliferative disorders.

Plasma NGS for pathogen detection in pediatric patients at risk for invasive fungal infection
WILLIAM MULLER, MD, PhD, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, Illinois

Background: Invasive fungal infection (IFI) is a major cause of mortality and morbidity among pediatric immunocompromised patients. Standard microbiologic culture of biopsy samples remains the diagnostic gold standard. Noninvasive biomarker testing can provide clinically useful information, but does not give species-

level identification. Next-generation sequencing (NGS) of cell-free plasma is a noninvasive approach for species-level identification of pathogens, and may guide specific treatment.
Objective: Describe the diagnostic utility of plasma NGS analysis in high-risk immunocompromised pediatric patients, correlating results with 'standard' infectious studies.
Methods: Plasma from at-risk immunocompromised patients with suspected IFI was tested using NGS of extracted DNA (Karius, Redwood City, CA). After removing human reads, remaining sequences were aligned to a curated database including 1251 pathogens. Organisms present above a predefined significance threshold were reported.
Results: The 27 patients analyzed to date include 14 with prolonged febrile neutropenia (FN), 5 with recrudescent FN, 5 with abnormal imaging, and 3 with other findings. Four patients met established criteria for proven IFI, 2 for probable IFI, and 9 for possible IFI. NGS plasma testing identified a pathogen which was cultured from infected tissue or blood in all 4 proven cases. Among probable IFI cases, P. jirovecii was identified in a patient with pneumonia and positive ß-D-glucan. Other pathogens identified with potential clinical significance included T. gondii in a patient with FN and abnormal lung imaging, and C. glabrata in a patient with FN but no other IFI criteria.
Conclusion: Plasma NGS testing can detect IFI from blood. The test identified fungi from proven IFI, and detected other pathogens in both probable and possible IFI cases. NGS testing is a useful diagnostic tool in the evaluation of patients at risk for IFI.

Research Presentations

During this session, original research will be presented by colleagues in pediatric transplant infectious diseases. Additionally, updates on the on-going collaborations from the PIDS-Pediatric Transplant collaborative in the areas of Clostridium difficile infection and cytomegalovirus will be presented.

- *Clostridium difficile* research (**GABRIELA MARON, MD**, St. Jude Children's Research Hospital)
- Proposed CMV study (**MICHAEL GREEN, MD, MPH**, Children's Hospital of Pittsburgh and **DANIEL DULEK, MD**, Vanderbilt University)
- Overview of respiratory virus paper (**LARA DANZIGER-ISAKOV, MD, MPH**, Cincinnati Children's Hospital Medical Center)

Breakout Sessions

4:00 – 5:30 p.m. GEC Conference Rooms

Interactive Transplant Cases
Fellows and faculty will present cases of bacterial or fungal infections in pediatric stem cell and solid organ transplant recipients as well as donor related questions. The objectives of these breakout sessions are to establish a comprehensive differential diagnoses for each of the cases, and highlight diagnostic and treatment controversies. Cases will be presented in two consecutive ~30-minute sessions and participants should plan to attend two different sessions.

Interactive Transplant Bacterial Infections
(Moderators: **HAYLEY GANS, MD**, Stanford University; **GABRIELA MARON, MD**, St. Jude Children's Research Hospital; and **DANIEL DULEK, MD**, Vanderbilt University)

- Case Presenters:
  - **PATRICK GAVIGAN, MD**, St. Jude Children's Research Hospital
  - **BENJAMIN BRIGGS, MD**, University of California, San Francisco
  - **JACOB KILGORE, MD**, Duke University

Interactive Transplant Fungal Infections
(Moderators: **BRIAN FISHER, DO, MSCE**, The Children's Hospital of Philadelphia; **WILLIAM STEINBACH, MD**, Duke University; **MONICA ARDURA, MD**, Nationwide Children's Hospital)

- Case Presenters:
    - **FRANCES SACCOCCIO, MD**, Duke University
    - **ALEXANDRA YONTS, MD**, Children's National Medical Center
    - **DEBORAH BLOCK, MD**, Emory University
    - **CAROL KAO, MD**, Albert Einstein College of Medicine

Interactive Donor Questions
(Moderators: **LARA DANZIGER-ISAKOV, MD, MPH**, Cincinnati Children's Hospital Medical Center; **BETSY HEROLD, MD**, Albert Einstein College of Medicine; and **TANVI SHARMA, MD, MPH**, Children's Hospital Boston)

- Case Presenters:
    - **AMI PATEL, MD**, New York University Medical Center
    - **KAREN OCWIEJA, MD**, Children's Hospital Boston

Transplant Research Network
5:30 – 6:00 p.m. GEC Auditorium

Poster Presentations
Thursday, 12:30 – 2:00 p.m.

GEC Foyer

Bacterial

#19161 Infections in children with acute myeloid leukemia receiving antimicrobial prophylaxis in a tertiary (Presenter: Jennia Acebo)

#19100 Ceftazidime for neutropenic fevers in children : Is it time for a change? (Presenter: Muayad Alali)

#19116 Microbiology and susceptibility pattern of skin isolates from patients with epidermolysis bullosa (Presenter: Satja Issaranggoon Na Ayuthaya)

#19127 Impact of drug resistant bacterial colonization in pedaitric hematopoietic cell transplant patients (Presenter: Patrick Gavigan)

#19142 Surveillance of central line-associated bloodstream infections (CLABSI) and non-CLABSIs in a pediatric cancer center in a low-resource setting (Presenter: Jose Francisco Mendez)

#19165 *Helicobacter cinaedi*: A cause of fever of unknown origin in immunocompromised patients (Presenter: Zacharoula Oikonomopoulou)

#19170 Fever in a patient who failed engraftment after UUCBT (Presenter: Bradford Becken)

#19171 Isoniazid resistant *Mycobacterium bovis* infection in X-linked severe combined immunodeficiency (Presenter: Maria Garcia Fernandez)

Host Responses

#19154 Managing opportunistic infections in the oncology clinic: An untapped opportunity for pediatric infectious disease physicians (Presenter: Abby Green)

#19091 Increase in distal airway mucus-producing Clara-cells during primary *Pneumocystis* infection (Presenter: Sergio Vargas)

Other

#19128 Impact of time-lapse b/w onset of fever and first I/V Ab in pediatric cancer patients with FN (Presenter: Saadia Anwar)

#19160 Evaluation of posaconazole plasma concentrations in pediatric patients (Presenter: Alyssa Berganini)

#19168 CNS toxoplasmosis post bone marrow transplantation (Presenter: Claudette Poole)

#19169 A case of progressive multifocal leukoencephalopathy in a patient with systemic lupus erythematosus (Presenter: Ami Patel)

#19098 Chest pain in hematopoietic cell transplantation patient with invasive fungal sinusitis (Presenter: Su Jin Joo)

#19087 Utility of anaerobic and fungal cultures in clinically ill oncologic patients (Presenter: Madan Kumar)

Other Pathogens

#19114 *Mucor indicus* necrotizing fasciitis in post-stem cell transplant pediatric patient (Presenter: Deborah Bloch)

#19113 Delayed wound healing due to fusariosis following trauma (Presenter: Janitzio Guzman)

#19147 Ocular toxocariasis among patients referred for suspicion of retinoblastoma (Presenter: Iván Tinoco Martín)

#19148 Visceral toxocariasis among patients at a pediatric cancer hospital in Memphis (Presenter: Iván Tinoco Martín)

#19162 Intestinal parasites in pediatric cancer patients in south of Mexico (Presenter: Enid Alejandra Nava)

#19084 Toxoplasmosis post bone marrow transplantation (Presenter: Claudette Poole)

#19120 Predictive value of noninvasive diagnosis of primary *Pneumocystis* infection in infants at autopsy (Presenter: Sergio Vargas)

Viral

#19104 Incidence and outcomes of human adenovirus infection in pediatric solid organ transplant recipients (Presenter: Craig Boge)

#19150 BK virus incidence, genotype and hemorrhagic cystitis risk factors in pediatric HSCT patients (Presenter: Daniel Ruderfer)

#19151 BK virus epidemiology, risk factors and renal outcomes of HSCT patients with hemorrhagic cystitis (Presenter: Daniel Ruderfer)

#19166 Ganciclovir-resistant CMV infection in a patient coming to HSCT (Presenter: Katy Goggin)

#19167 Case report: Management of adenovirus viremia in the pre-engraftment period (Presenter: Priya Soni)

Attendee Listing

Abdurrahim, Lukman, MBBS
Boston Medical Center
lukman.abdurrahim@bnc.org

Adderson, Elisabeth, MD
St. Jude Children's Research Hospital
elisabeth.adderson@stjude.org

Aldrich, Aileen, MD
Children's Hospital and Medical Center
aileen.aldrich@unmc.edu

Allison, Kim, RN
St. Jude Children's Research Hospital
kim.allison@stjude.org

Alsulami, Abdulsalam, MD
University of Alabama, Birmingham
aalsulami@uabmc.edu

Andrews, Shannon, MD
University of Minnesota
andre928@umn.edu

Ardura, Monica, DO, MSCS
Nationwide Children's Hospital and The Ohio State University
monica.ardura@nationwidechildrens.org

Arnold, Paula, PhD
St. Jude Children's Research Hospital
paula.arnold@stjude.org

Baquera Arteaga, Maribel, Pediatric Infectologist
Hospital Infantil del Especialidades del Estado de Chihuahua
maribel.baquera@gmail.com

Baraldo, Sebastian, MD
Sor Maria Ludovica Children's Hospital
sbaraldo@gmail.com

Batarseh, Einas, MD
Vanderbilt University Medical Center
einas.batarseh@vanderbilt.edu

Becken, Bradford, MD
Duke University Pediatric Infectious Diseases
bbecken03@gmail.com

Beneri, Christy, DO
Stony Brook Children's Hospital
christy.beneri@stonybrookmedicine.edu

Bhattacharyya, Arpita, MBBS, DCH, MRCP
Tata Medical Center, Kolkata
arpita.bhattacharyya@tmckolkata.com

Bloch, Deborah, MD
Emory University
deborah.bloch@emory.edu

Brauner de Moraes, Monica, MD
Brasilia Children's Hospital
mbraunerm@gmail.com

Briggs, Benjamin, MD, PhD
University of California, San Francisco
benjamin.briggs@ucsf.edu

Briggs, Carrington, B.S. in Biology
St. Jude Children's Research Hospital
carrington.briggs@stjude.org

Burns, Julianne, MD
Children's Hospital of Philadelphia
burnsje@email.chop.edu

Camacho-Badilla, Kattia, MD
Hospital Nacional de Niños
kcamachocr@gmail.com

Campbell, Melissa, MD
Yale Univeristy
melissa.campbell@yale.edu

Attendee Listing

Carlucci, James, MD, MPH
Vanderbilt University Medical Center
james.g.carlucci@vanderbilt.edu

Carrillo-Marquez, Maria, MD
University of Tennesse Health Science Center
mcarril4@uthsc.edu

Chaisavaneeyakorn, Sujittra, PhD MD
University of Texas Southwestern Medical Center
sujittra.chaisavaneeyakorn@utsouthwestern.edu

Chatani, Brandon, MD
University of Miami Miller School of Medicine
bchatani@med.miami.edu

Chou, Elaine, PhD
St. Jude Children's Research Hospital
po-chien.chou@stjude.org

Cross, Shane, PharmD
St. Jude Children's Research Hospital
shane.cross@stjude.org

Dailey Garnes, Natalie, MD
The University of Texas MD Anderson Cancer Center
njdailey@mdanderson.org

Day, Melissa, BS
Vanderbilt University School of Medicine
melissa.e.day@vanderbilt.edu

Danziger-Isakov, Lara, MD, MPH
Cincinnati Children's Hospital Medical Center
lara.danziger-isakov@cchmc.org

Diaz, Alejandro, MD
Nationwide Children's Hospital
alejandro.diaz@nationwidechildrens.org

Downes, Kevin, MD
Children's Hospital of Philadelphia
downeskj@email.chop.edu

Dulek, Daniel, MD
Vanderbilt University
daniel.dulek@vanderbilt.edu

Eguiguren, Lourdes, MD
Stanford University
luliegui@stanford.edu

Eid, Dalia, M.D
Cohen Children's Medical Center
deid@northwell.edu

Englund, Janet, MD
Seattle Children's Hospital
janet.englund@seattlechildrens.org

Fisher, Brian, DO, MSCE
Children's Hospital of Philadelphia
fisherbria@email.chop.edu

Flynn, Pat, MD
St. Jude Children's Research Hospital
pat.flynn@stjude.org

Freeman, Alexandra, MD
NIAID/NIH
freemaal@mail.nih.gov

Gans, Hayley, MD
Stanford University Medical Center
hagans@stanford.edu

Gavigan, Patrick, MD
St Jude Children's Research Hospital
pgavigan@stjude.org

Gilliam, Craig, BS
St Jude Children's Research Hospital
craig.gilliam@stjude.org

Attendee Listing

Goggin, Kathryn, MD
St. Jude Children's Research Hospital
kathryn.goggin@stjude.org

Gottschalk, Stephen, MD
St. Jude Children's Research Hospital
stephen.gottschalk@stjude.org

Green, Abby, MD
Children's Hospital of Philadelphia
greenam@email.chop.edu

Green, Michael, MD, MPH
Children's Hospital of Pittsburgh
michael.green@chp.edu

Griffith, Jamilla, MSW
St. Jude Children's Research Hospital
jamilla.griffith@stjude.org

Grimsley Ackerley, Cassie, MD
Emory University
cmgrims@emory.edu

Gutierrez, Ivan, MD
Clinica Infantil Colsubsidio
ivanfelipegutierrezt@gmail.com

Guzman, Janitzio, MD
University of Oklahoma Tulsa
janitzio-guzman@ouhsc.edu

Halasa, Natasha, MD, MPH
Vanderbilt Univeristy
natasha.halasa@vanderbilt.edu

Hamdan, Lubna, MD
Vanderbilt University Medical Center
lubna.r.hamdan@vanderbilt.edu

Hassouneh, Linda, MD
University of Texas Southwestern Medical Center
linda_hass@hotmail.com

Haston, Julia, MD
Emory University
juliahaston3@gmail.com

Haynes, Andrew, MD
Children's Hospital Coloroado
andrew.haynes@childrenscolorado.org

Hazleton, Joy, MD, PhD
University of Colorado School of Medicine
joy.hazleton@childrenscolorado.org

Hernandez Orozco, Hilda G, MsC
Instituto Nacional de Pediatria
wuzhi1916@gmail.com

Herold, Betsy, MD
Albert Einstein College of Medicine
betsy.herold@einstein.yu.edu

Hobbs, Athena, PharmD
Baptist Memorial Hospital-Memphis
athena.hobbs@bmhcc.org

Homsi, Maysam, MPH, CCRP
St. Jude Children's Research Hospital
maysam.homsi@gmail.com

Hurwitz, Julia, PhD
St. Jude Children's Research Hospital
julia.hurwitz@stjude.org

Issaranggoon Na Ayuthaya, Satja, MD
University of Minnesota
issar003@umn.edu

Joo, Su Jin, MD
Emory University School of Medicine
sjoo25@emory.edu

Kanthula, Ruth, MD, MPH
Georgetown University
ruth.m.kanthula@gunet.georgetown.edu

Attendee Listing

Kashef, Amr, BPharm
Children's Cancer Hospital Egypt 57357
amr.kashef@57357.org

Keaton, Amelia, MD
Centers for Disease Control and Prevention
keatonaa@gmail.com

Kietzman, Colin, PhD
St. Jude Children's Research Hospital
colin.kietzman@stjude.org

Kilgore, Jacob, MD
Duke University Pediatric Infectious Diseases
jacob.kilgore@duke.edu

Kirk, Allan, MD, PhD, FACS
Duke University School of Medicine
allan.kirk@duke.edu

Kirkpatrick, Lindsey, DO, PhD
Indiana University School of Medicine, Riley Hospital for Children
lkirkpat@iupui.edu

Konold, Victoria, MD
University of Chicago
vkonold@gmail.com

Kuhn, Kira, CRNP
The Children's Hospital of Philadelphia
kuhnk@email.chop.edu

Lan, Xin, Master
University of Tennessee Health Sciences Center
Xin.Lan@stjude.org

Lee, Grace, MD, MPH
Stanford University
gmlee@stanford.edu

Lippa, Andrew, MD, PhD
Boston Children's Hospital
andrew.lippa@childrens.harvard.edu

Lloyd, Elizabeth, MD
University of Michigan
echenowe@umich.edu

Lugo, Debra, MD
Duke University Medical Center
debra.lugo@duke.edu

Luque, Marco, MD
St. Jude Children's Research Hospital
mtluque@yahoo.com

Madni, Arshia, MD
St. Jude Children's Research Hospital
arshia.madni@st.jude.org

Mahautmr, Jenvara, BS
St. Jude Children's Research Hospital
jenvara.mahautmr@stjude.org

Mahmud, Ousman, PhD
St. Jude Children's Research Hospital
ousman.mahmud@gmail.com

Mandelia, Yamini, MD
Cleveland Clinic
mandely@ccf.org

Maron, Gabriela, MD
St. Jude Children's Research Hospital
gabriela.maron@stjude.org

Martin, Kimberly, DO, MPH
OU-Tulsa School of Community Medicine
kimberly-martin@ouhsc.edu

Martinez, Olivia, PhD
Stanford University School of Medicine
omm@stanford.edu

Max, Anita, MSN, FNP
St. Jude Children's Research Hospital
anita.max@stjude.org

Attendee Listing

McClure, Kristen, Bachelor's Degree
St. Jude Children's Research Hospital
kristen.mcclure@stjude.org

McGrath, Eric, MD
Wayne State University - Children's Hospital of Michigan
emcgrath@med.wayne.edu

Mendez, Jose Francisco, MD
Hospital Civil de Guadalajara “Dr. Juan I. Menchaca”
pako_890124@hotmail.com

Mukkada, Sheena, MD
St. Jude Children's Research Hospital
Sheena.Mukkada@stjude.org

Muller, Bill, MD, PhD
Northwestern University/Lurie Children's
wjmuller@northwestern.edu

Nailescu, Corina, MD
Riley Hospital for Children at Indiana University
cnailesc@iu.edu

Nicholson, Erin, MD
Baylor College of Medicine
erin.nicholson@bcm.edu

OBrien, Brigid, DO
Tulane University
bobrien3@tulane.edu

Ocampo, Diego, MPH
St. Jude ChildrenÂ´s Research Hospital
diego.ocampo.bykov@gmail.com

Ogimi, Chikara, MD
University of Washington
Chikara.Ogimi@seattlechildrens.org

Oikonomopoulou, Zacharoula, MD
Ann and Robert H. Lurie Children's Hospital
zoikonomopoulou@luriechildrens.org

Osborne, Christie, MD
University of Colorado/Children's Hospital Colorado
christina.osborne@childrenscolorado.org

Palomo, Miguel, MD
Hospital Infantil de Mexico Federico Gomez
phalomi@gmail.com

Patel, Ami, MD
New York University School of Medicine
ami.patel@nyumc.org

Paulsen, Grant, MD
Cincinnati Children's Hospital
grant.paulsen@cchmc.org

Penton, Manuel, MD
SUNY Downstate / Kings County Hospital
manuel.penton@downstate.edu

Pham, Trung, MD, PhD
Stanford University
tpham8@stanford.edu

Pickering, Larry, MD
Emory University
Pickering007@bellsouth.net

Pierce, Angie, MSN
Infectious Disease of Indiana
apierce@idipsc.com

Posfay-Barbe, Klara, MD, MS
University Hospitals of Geneva
Klara.PosfayBarbe@hcuge.ch

Power, Kaitlyn, BS, CCMA
George Mason University
kpower33@gmail.com

Attendee Listing

Probst, Varvara, MD
Vanderbilt University Medical Center
varvara.probst@vanderbilt.edu

Rathe, Jennifer, MD, PhD
University of Washington/Seattle Children's Hospital
Jennifer.rathe@seattlechildrens.org

Rodrigues, Marcia, MPH
St. Jude Children's Research Hospital
marciaccih@uol.com.br

Saccoccio, Frances, MD, PhD
Duke University Hospital
frances.saccoccio@duke.edu

Sachdev, Mansi, MD
St Jude Children's Research Hospital
mansi.sachdev@stjude.org

Scaggs, Felicia, MD
Cincinnati Children's Hospital Medical Center
Felicia.ScaggsHuang@cchmc.org

Schneider, Jack, MD
Indiana University School of Medicine
jgschnei@iu.edu

Sharma, Tanvi, MD, MPH
Boston Children's Hospital
tanvi.sharma@childrens.harvard.edu

Solopova, Galina, MD, PhD
D. Rogachev National Research Center for Pediatric Hematology, Oncology and Immunology
galigen@yahoo.co.uk

Soneji, Maulin, MD
Northwestern University
masoneji@luriechildrens.org

Soriano, Melinda, PharmD
Shionogi Inc.
melinda.soriano@shionogi.com

Spearman, Paul, MD
Cincinnati Children's Hospital
paul.spearman@cchmc.org

Steinbach, William, MD
Duke University Medical Center
bill.steinbach@duke.edu

Stronski, Lauren, BSN
St. Jude Children's Research Hospital
lauren.stronski@stjude.org

Talleur, Aimee, MD
St. Jude Children's Research Hospital
aimee.talleur@stjude.org

Thielen, Beth, MD, PhD
University of Minnesota
beth.thielen@gmail.com

Tuomanen, Elaine, MD
St. Jude Children's Research Hospital
elaine.tuomanen@stjude.org

Turner, Paige, BSN
St. Jude Children's Research Hospital
paige.turner@stjude.org

Ulloa, E R Chulie, MD, MSc
Children's Hospital of Philadelphia
ulloae@email.chop.edu

Vargas Soler, Jose Antonio, MD
Fundacion Cardiovascular de Colombia
jvargassoler@yahoo.com

Vaughan, Ana, MD, MPH
Children's Hospital of Philadelphia
vaughana@email.chop.edu

Attendee Listing

Voss, Lesley, MBChB
Starship Children's Hospital
lesleyv@adhb.govt.nz

Wang, Bo, MD
St Jude Children's Research Hospital
bo.wang2@stjude.org

Watson, Michael, MD, PhD
University of Michigan
mewats@med.umich.edu

Wilbur, Christopher, MD
The Children's Hospital of Philadelphia
Wilburcj@email.chop.edu

Yi, Zhongzhen, PhD
St. Jude Children's Research Hospital
Zhongzhen.yi@stjude.org

Yonts, Alexandra, MD
Children's National Medical Center
ayonts@childrensnational.org

Zahlanie, Yorgo, MD
University of Texas Southwestern Dallas
yorgozehlanieh_6@hotmail.com

Zerr, Danielle, MD, MPH
University of Washington/Seattle Children's Hospital
danielle.zerr@seattlechildrens.org

Zhao, Yuling, MD
St. Jude Children's Research Hospital
yuling.zhao@stjude.org

Zhu, Frank, MD
Children's Hospital of Michigan
fzhu@dmc.org

Zerr, Danielle, MD, MPH
University of Washington/Seattle Children's Hospital
danielle.zerr@seattlechildrens.org

Zucker, Jason, MD
Columbia University Medical Center
jz2700@cumc.columbia.edu

Zuniga, Julio, Medical Student
Universidad Catolica de Honduras
jczm1991@gmail.com

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- Entrance Gates
- Patient Only Parking
- Marlo Thomas Center
- Kay Kafe
- Mail Services Center
- Docks

- (A) Danny Thomas/ALSAC Pavilion
- (B) Patient Care Center
- (C) Richard C. Shadyac ALSAC Tower
- (D) Danny Thomas Research Center
- (E) Donald P. Pinkel, MD, Research Tower
- (F) Central Energy Plant
- (G) AutoZone Garage 1
- (H) Incinerator/Hazardous Waste
- (I) Chili's Care Center
- (IA) Kay Research & Care Center
- (J) 545 Danny Thomas Place
- (K) 595 Building
- (L) 567 Danny Thomas Place
- (M) 505 Building
- (N) 305 Building
- (O) Tamer-Rashid (ALSAC HQ)
- (OA) ALSAC HQ Addition
- (OE) Domino's Event Center
- (P) AutoZone Garage 2
- (Q) Kmart St. Jude Life Center
- (R) Longinotti Building
- (S) Barry Building
- (T) Tri Delta Place
- (U) ALSAC Gift Shop
- (V) St. Jude GMP Facility
- (W) 448 North Second
- (X) 160 Shadyac Avenue
- (Y) Garage 3
- (Z) Data Center
- (ZZ) 655 Warehouse