



Bereketeab Haileselassie

Assistant Professor of Pediatrics (Critical Care)

Pediatrics - Critical Care

CLINICAL OFFICES

- **Pediatric Intensive Care**

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ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

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Bio

BIO

Dr. Haileselassie completed his medical degree at University of Missouri followed by residency at University of Washington. He attained clinical training and expertise in pediatric critical care medicine along with a master's in health sciences from the Johns Hopkins University. After fellowship, Dr. Haileselassie attained postdoctoral T32 research training under Dr. Theodore Abraham at Johns Hopkins University, which focused on myocardial mechanics and redox biology. This was complimented by his Instructorship at Stanford University where he received further research training in mitochondrial biology under Dr. Mochly-Rosen in the Department of Chemical Systems Biology. Dr. Haileselassie was recruited to Stanford School of Medicine in the University Medical Line in 2020, and currently runs an NIH-funded translational research program aimed at understanding the role of alterations in mitochondrial dynamics in sepsis induced multiple organ dysfunction syndrome (MODS).

CLINICAL FOCUS

- Pediatric Critical Care Medicine

ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Pediatrics - Critical Care
- Member, Cardiovascular Institute
- Member, SPARK at Stanford
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Awardee, NRSA T-32 Grant Postdoctoral Research Training in Critical Care Medicine (2015-2016)
- Awardee, Golden Apple Teaching Award, Pediatric Critical Care Division (2017)
- Awardee, SCCM Gold Snapshot Award (2018)
- Awardee, Pediatric Trauma and Critical Care Scientist Developmental Program (2017-2022)
- Star Research Achievement Award, SCCM (2019)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Maternal and Child Health Research Institute (MCHRI) (2018 - present)
- Member, American Academy of Pediatrics (2010 - present)
- Member, Society of Critical Care Medicine (2013 - present)
- Faculty, SCCM Critical Care Ultrasound (2014 - present)

PROFESSIONAL EDUCATION

- Residency: University of Washington Pediatric Residency (2013) WA
- Medical Education: University of Missouri Kansas City School of Medicine Registrar (2010) MO
- Board Certification: Pediatric Critical Care Medicine, American Board of Pediatrics (2016)
- Fellowship: Johns Hopkins University Pediatric Critical Care Fellowship (2016) MD
- Board Certification: Pediatrics, American Board of Pediatrics (2013)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My laboratory is focused on understanding the cellular mechanisms which mediate end-organ failure in pediatric sepsis. Our current work focuses on determining the role of altered mitochondrial dynamics in sepsis-induced multi-organ dysfunction syndrome (MODS). Specifically, we focus on understanding the mechanisms that mediate derangements in mitochondrial fission and autophagy in sepsis.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Sin Jin Li

Publications

PUBLICATIONS

- **A point-of-care ultrasound education curriculum for pediatric critical care medicine.** *The ultrasound journal*
Bhargava, V., Haileselassie, B., Rosenblatt, S., Baker, M., Kuo, K., Su, E.
2022; 14 (1): 44
- **Integrated PERSEVERE and endothelial biomarker risk model predicts death and persistent MODS in pediatric septic shock: a secondary analysis of a prospectiveobservationalstudy.** *Critical care (London, England)*
Atreya, M. R., Cvijanovich, N. Z., Fitzgerald, J. C., Weiss, S. L., Bigham, M. T., Jain, P. N., Schwarz, A. J., Lutfi, R., Nowak, J., Allen, G. L., Thomas, N. J., Grunwell, J. R., Baines, et al
2022; 26 (1): 210
- **Implementation of a Bedside Point-of-Care Ultrasound Program in a Large Academic Neonatal Intensive Care Unit.** *American journal of perinatology*
Pai, V. V., Noh, C. Y., Dasani, R., Vallandingham, S., Manipon, C., Haileselassie, B., Profit, J., Balasundaram, M., Davis, A. S., Bhombal, S.
2022
- **Drp1/Fis1-Dependent Pathologic Fission and Associated Damaged Extracellular Mitochondria Contribute to Macrophage Dysfunction in Endotoxin Tolerance.** *Critical care medicine*
Mukherjee, R., Tompkins, C. A., Ostberg, N. P., Joshi, A. U., Massis, L. M., Vijayan, V., Gera, K., Monack, D., Cornell, T. T., Hall, M. W., Mochly-Rosen, D., Haileselassie, B.
1800

- **Laryngeal Ultrasound Detects Vocal Fold Immobility in Adults: A Systematic Review.** *Journal of ultrasound in medicine : official journal of the American Institute of Ultrasound in Medicine*
Su, E., Hamilton, C., Tawfik, D. S., Mariano, K., Ginsburg, S., Conlon, T., Vetten, A., Fernandez, E., Wong, K., Sidell, D. R., Haileselassie, B., Pediatric Research Collaborative for Critical Ultrasound
2021
- **deltaPKC-Mediated Drp1 Phosphorylation Impacts Macrophage Mitochondrial Function and Inflammatory Response to Endotoxin.** *Shock (Augusta, Ga.)*
Lin, A. J., Joshi, A. U., Mukherjee, R., Tompkins, C. A., Vijayan, V., Mochly-Rosen, D., Haileselassie, B.
2021
- **Recalibration of the Renal Angina Index for Pediatric Septic Shock** *KIDNEY INTERNATIONAL REPORTS*
Stanski, N. L., Wong, H. R., Basu, R. K., Cvijanovich, N. Z., Fitzgerald, J. C., Weiss, S. L., Bigham, M. T., Jain, P. N., Schwarz, A., Lutfi, R., Nowak, J., Allen, G. L., Thomas, et al
2021; 6 (7): 1858-1867
- **Estimating filling pressures in paediatric heart transplant recipients using echocardiographic parameters and B-type natriuretic peptide.** *Cardiology in the young*
Wisotzkey, B. L., Haileselassie, B., Jorgensen, N., Albers, E. L., Kemna, M. S., Soriano, B. D., Bhat, A. H., Kronmal, R. A., Boucek, R. J., Law, Y. M.
2021: 1-8
- **Ultrasound education improves safety for peripheral intravenous catheter insertion in critically ill children.** *Pediatric research*
Bhargava, V., Su, E., Haileselassie, B., Davis, D., Steffen, K. M.
2021
- **The authors reply.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
Bhargava, V., Haileselassie, B., Su, E.
2021; 22 (5): e331–e332
- **Assessment of Vocal Cord Motion Using Laryngeal Ultrasound in Children: A Systematic Review and Meta-Analysis.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
Hamilton, C. E., Su, E. n., Tawfik, D. n., Fernandez, E. n., Vetten, A. n., Conlon, T. n., Ginsburg, S. n., Mariano, K. n., Sidell, D. n., Haileselassie, B. n.
2021
- **PhewWe Got the Kid BackNow What?: Understanding Risk Factors Which Contribute to In-Hospital Pediatric Recurrent Cardiac Arrest.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
Haileselassie, B., Su, F., Berg, M.
2020; 21 (11): 1012–13
- **Mitochondrial dysfunction mediated through dynamin-related protein 1 (Drp1) propagates impairment in blood brain barrier in septic encephalopathy.** *Journal of neuroinflammation*
Haileselassie, B. n., Joshi, A. U., Minhas, P. S., Mukherjee, R. n., Andreasson, K. I., Mochly-Rosen, D. n.
2020; 17 (1): 36
- **Cardiac Dysfunction Identified by Strain Echocardiography Is Associated With Illness Severity in Pediatric Sepsis.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
Patel, M. D., Mariano, K. n., Dunbar, T. n., Cornell, T. T., Pun, R. n., Haileselassie, B. n.
2020
- **Predicting Mortality in Children With Pediatric Acute Respiratory Distress Syndrome: A Pediatric Acute Respiratory Distress Syndrome Incidence and Epidemiology Study.** *Critical care medicine*
Yehya, N. n., Harhay, M. O., Klein, M. J., Shein, S. L., Piñeres-Olave, B. E., Izquierdo, L. n., Sapru, A. n., Emeriaud, G. n., Spinella, P. C., Flori, H. R., Dahmer, M. K., Maddux, A. B., Lopez-Fernandez, et al
2020
- **Characteristics of Pediatric Extracorporeal Membrane Oxygenation Programs in the United States and Canada.** *ASAIO journal (American Society for Artificial Internal Organs : 1992)*
Troy, L. n., Su, F. n., Kilbaugh, T. n., Rasmussen, L. n., Kuo, T. n., Jett, E. n., Cornell, T. n., Berg, M. n., Haileselassie, B. n.
2020

- **Ultrasonographic Optic Nerve Sheath Diameter Measurement to Detect Intracranial Hypertension in Children With Neurological Injury: A Systematic Review.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
Bhargava, V. n., Tawfik, D. n., Tan, Y. J., Dunbar, T. n., Haileselassie, B. n., Su, E. n.
2020
- **ULTRASOUND-GUIDED IV PROGRAM IMPROVES FIRST STICK SUCCESS AND LONGEVITY IN CRITICALLY ILL CHILDREN**
Bhargava, V., Su, E., Haileselassie, B., Davis, D., Steffen, K.
LIPPINCOTT WILLIAMS & WILKINS.2020
- **Early Use of Adjunctive Therapies for Pediatric Acute Respiratory Distress Syndrome: A PARDIE Study.** *American journal of respiratory and critical care medicine*
Rowan, C. M., Klein, M. J., Hsing, D. D., Dahmer, M. K., Spinella, P. C., Emeriaud, G. n., Hassinger, A. B., Piñeres-Olave, B. E., Flori, H. R., Haileselassie, B. n., Lopez-Fernandez, Y. M., Chima, R. S., Shein, et al
2020
- **Regulating Critical Care Ultrasound, It Is All in the Interpretation.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
Su, E. n., Soni, N. J., Blaivas, M. n., Bhargava, V. n., Steffen, K. n., Haileselassie, B. n.
2020
- **PERSEVERE Biomarkers Predict Severe Acute Kidney Injury and Renal Recovery in Pediatric Septic Shock.** *American journal of respiratory and critical care medicine*
Stanski, N. L., Stenson, E. K., Cvijanovich, N. Z., Weiss, S. L., Fitzgerald, J. C., Bigham, M. T., Jain, P. N., Schwarz, A. n., Lutfi, R. n., Nowak, J. n., Allen, G. L., Thomas, N. J., Grunwell, et al
2020
- **Western diet regulates immune status and the response to LPS-driven sepsis independent of diet-associated microbiome.** *Proceedings of the National Academy of Sciences of the United States of America*
Napier, B. A., Andres-Terre, M., Massis, L. M., Hryckowian, A. J., Higginbottom, S. K., Cumnock, K., Casey, K. M., Haileselassie, B., Lugo, K. A., Schneider, D. S., Sonnenburg, J. L., Monack, D. M.
2019; 116 (9): 3688–94
- **Deciphering the Effects of Performing Ultrasound on Critically Ill Emergency Department Patients** *Critical Care Explorations*
Bhargava, V., Haileselassie, B., Su, E.
2019
- **INFRASTRUCTURE AND PRACTICE CHARACTERISTICS OF PEDIATRIC ECMO PROGRAMS ACROSS NORTH AMERICA**
Troy, L., Su, F., Berg, M., Rasmussen, L., Kuo, T., Jett, E., Jacobs, K., Haileselassie, B.
LIPPINCOTT WILLIAMS & WILKINS.2019
- **ROLE OF DRP1/FIS1-MEDIATED MITOCHONDRIAL FRAGMENTATION IN SEPSIS-INDUCED MYOCARDIAL DYSFUNCTION**
Haileselassie, B., Joshi, A., Mukherjee, R., Napier, B., Massis, L., Ostberg, N., Monack, D., Bernstein, D., Mochly-Rosen, D.
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Fragmented mitochondria released from microglia trigger A1 astrocytic response and propagate inflammatory neurodegeneration.** *Nature neuroscience*
Joshi, A. U., Minhas, P. S., Liddelow, S. A., Haileselassie, B. n., Andreasson, K. I., Dorn, G. W., Mochly-Rosen, D. n.
2019; 22 (10): 1635–48
- **Prospective clinical testing and experimental validation of the Pediatric Sepsis Biomarker Risk Model.** *Science translational medicine*
Wong, H. R., Caldwell, J. T., Cvijanovich, N. Z., Weiss, S. L., Fitzgerald, J. C., Bigham, M. T., Jain, P. N., Schwarz, A. n., Lutfi, R. n., Nowak, J. n., Allen, G. L., Thomas, N. J., Grunwell, et al
2019; 11 (518)
- **Drp1/Fis1 interaction mediates mitochondrial dysfunction in septic cardiomyopathy.** *Journal of molecular and cellular cardiology*
Haileselassie, B. n., Mukherjee, R. n., Joshi, A. U., Napier, B. A., Massis, L. M., Ostberg, N. P., Queliconi, B. B., Monack, D. n., Bernstein, D. n., Mochly-Rosen, D. n.
2019
- **Low Left Atrial Strain Is Associated With Adverse Outcomes in Hypertrophic Cardiomyopathy Patients.** *Journal of the American Society of Echocardiography : official publication of the American Society of Echocardiography*

- Vasquez, N. n., Ostrander, B. T., Lu, D. Y., Ventoulis, I. n., Haileselassie, B. n., Goyal, S. n., Greenland, G. V., Vakrou, S. n., Olgin, J. E., Abraham, T. P., Abraham, M. R.
2019
- **Interaction of mitochondrial fission factor with dynamin related protein 1 governs physiological mitochondrial function in vivo.** *Scientific reports*
Kornfeld, O. S., Qvit, N., Haileselassie, B., Shamloo, M., Bernardi, P., Mochly-Rosen, D.
2018; 8 (1): 14034
 - **Clinical Outcomes in Patients With Nonobstructive, Labile, and Obstructive Hypertrophic Cardiomyopathy.** *Journal of the American Heart Association*
Lu, D., Pozios, I., Haileselassie, ., Ventoulis, I., Liu, H., Sorensen, L., Canepa, M., Phillip, S., Abraham, R. M., Abraham, T. P.
2018: e006657.
 - **Drp1/Fis1-mediated mitochondrial fragmentation leads to lysosomal dysfunction in cardiac models of Huntington's disease.** *Journal of molecular and cellular cardiology*
Joshi, A. U., Ebert, A. E., Haileselassie, B. n., Mochly-Rosen, D. n.
2018; 127: 125–33
 - **Diagnostic Bedside Ultrasound Program Development in Pediatric Critical Care Medicine: Results of a National Survey.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
Conlon, T. W., Kantor, D. B., Su, E. R., Basu, S. n., Boyer, D. L., Haileselassie, B. n., Petersen, T. L., Su, F. n., Nishisaki, A. n.
2018
 - **EVALUATION OF STRAIN ECHOCARDIOGRAPHY IN PEDIATRIC SEPSIS**
Patel, M., Mariano, K., Dunbar, T., Haileselassie, B.
LIPPINCOTT WILLIAMS & WILKINS.2018: 742
 - **EVALUATION OF THE TEMPORAL CHANGES IN CARDIAC BIOENERGETICS IN THE SETTING OF SEPSIS**
Haileselassie, B., Joshi, A., Bernstein, D., Mochly-Rosen, D.
LIPPINCOTT WILLIAMS & WILKINS.2018: 742
 - **Certification in Critical Care Echocardiography: The Evolution of an Emerging PICU Practice** *PEDIATRIC CRITICAL CARE MEDICINE*
Su, E., Haileselassie, B., Hernandez, A., Diaz-Gomez, J. L.
2018; 19 (1): 88
 - **E/e' ratio and outcome prediction in hypertrophic cardiomyopathy: the influence of outflow tract obstruction.** *European heart journal cardiovascular Imaging*
Lu, D. Y., Haileselassie, B., Ventoulis, I., Liu, H. Y., Liang, H. Y., Pozios, I., Canepa, M., Phillip, S., Abraham, M. R., Abraham, T.
2018; 19 (1): 101-107
 - **Certification in Critical Care Echocardiography: The Evolution of an Emerging PICU Practice.** *Pediatr Crit Care Med.*
Su, E., Haileselassie, B., Hernandez, A., Díaz-Gómez, J. L.
2018 ; 19 ((1))
 - **Myocardial oxidative stress correlates with left ventricular dysfunction on strain echocardiography in a rodent model of sepsis.** *Intensive care medicine experimental*
Haileselassie, B., Su, E., Pozios, I., Niño, D. F., Liu, H., Lu, D., Ventoulis, I., Fulton, W. B., Sodhi, C. P., Hackam, D., O'Rourke, B., Abraham, T.
2017; 5 (1): 21-?
 - **Impact of peak provoked left ventricular outflow tract gradients on clinical outcomes in hypertrophic cardiomyopathy.** *International journal of cardiology*
Lu, D. Y., Haileselassie, B., Ventoulis, I., Liu, H., Liang, H. Y., Nowbar, A., Pozios, I., Canepa, M., Cresswell, K., Luo, H. C., Abraham, M. R., Abraham, T. P.
2017; 243: 290-295
 - **Role of Global Longitudinal Strain in Predicting Outcomes in Hypertrophic Cardiomyopathy.** *The American journal of cardiology*
Liu, H., Pozios, I., Haileselassie, B., Nowbar, A., Sorensen, L. L., Phillip, S., Lu, D. Y., Ventoulis, I., Luo, H., Abraham, M. R., Abraham, T. P.
2017; 120 (4): 670-675
 - **Strain Echocardiography Parameters Correlate With Disease Severity in Children and Infants With Sepsis** *PEDIATRIC CRITICAL CARE MEDICINE*
Haileselassie, B., Su, E., Pozios, I., Fiskum, T., Thompson, R., Abraham, T.
2016; 17 (5): 383-390
 - **Oropharyngeal dermoid cyst in an infant with intermittent airway obstruction. A case report.** *The neuroradiology journal*

Wagner, M. W., Haileselassie, B., Kannan, S., Chen, C., Poretti, A., Tunkel, D. E., Huisman, T. A.
2014; 27 (5): 627-631

- **Fat Embolism: Evolution of Histopathological Changes in the Rat Lung** *JOURNAL OF ORTHOPAEDIC RESEARCH*
McIff, T. E., Poisner, A. M., Herndon, B., Lankachandra, K., Schutt, S., Haileselassie, B., Patel, S., Quinn, T., Adler, F., Molteni, A.
2010; 28 (2): 191-197
- **Left Atrial Strain Predicts Adverse Outcomes in Hypertrophic Cardiomyopathy** *Circulation, American Heart Association's 2018 Scientific Sessions*
Vasquez, ., Ostrander, B., Lu, D., Ventoulis, I., Haileselassie, B., Goyal, S., Vakrou, S., Abraham, T. P., Abraham, R. M.
2018: A17186
- **ROLE OF DRP1/FIS1-MEDIATED MITOCHONDRIAL FRAGMENTATION IN SEPSIS-INDUCED MYOCARDIAL DYSFUNCTION** *Society of Critical Care Medicine Congress*
Haileselassie, B., Joshi, A., Mukherjee, R., Napier, B., Massis, L., Ostberg, N., Monack, D., Bernstein, D., Mochly-Rosen, D.
2019: 21