# Curriculum Vitae

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Name: Matthew I. Goldsmith, M.D.

## Contact Information

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## Present Position

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| Associate Professor of Pediatrics, Critical Care Medicine |
| Associate Professor of Pediatrics and Genetics |

## Education

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| 1987 | BSc, Anatomy and Physiology, University of Toronto, Toronto, Canada |
| 1990 | MSc, Anatomy and Cell Biology, University of Toronto, Toronto, Canada |
| 1995 | MD, University of Toronto, Toronto, Canada |

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| 1995 - 1998 | Resident, Pediatrics, St. Louis Children's Hospital, St. Louis, MO |
| 1998 - 1999 | Chief Resident, Pediatrics, St. Louis Children's Hospital, St. Louis, MO |
| 1999 - 2002 | Fellow, Pediatric Critical Care Medicine, Washington University School of Medicine/St. Louis Children's Hospital, St. Louis, MO |
| 2014 | Solutions for Patient Safety, St. Louis Children's Hospital, St. Louis, MO |
| 2015 | Program for Leading Innovation in Healthcare and Education, Harvard Macy Institute, Cambridge, MA |
| 2015 | Lean Leader Training, St. Louis Children's Hospital, St. Louis, MO |
| 2017 | Academic Medical Leadership Program for Physicians and Scientists, Washington University School of Medicine/Olin Business School/BJC Healthcare, St. Louis, MO |
| 2017 | Leadership Development for Physicians in Academic Health Centers, Harvard T.H. Chan School of Public Health, Boston, MA |

## Academic Positions / Employment

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| --- | --- |
| 1995 - 1998 | Resident, Pediatrics, Washington University/St. Louis Children's Hospital, St. Louis, MO |
| 1998 - 1999 | Chief Resident, Pediatrics, Washington University/St. Louis Children's Hospital, St. Louis, MO |
| 1999 - 2002 | Fellow, Pediatric Critical Care Medicine, Washington University/St. Louis Children's Hospital, St. Louis, MO |
| 2002 - 2006 | Instructor, Department of Pediatrics and Genetics, Washington University in St. Louis, St. Louis, MO |
| 2006 - 2015 | Assistant Professor, Department of Pediatrics and Genetics, Washington University in St. Louis, St. Louis, MO |
| 2015 - Pres | Associate Professor of Pediatrics and Genetics, Washington University in St. Louis, St. Louis, MO |
| 2016 - Pres | Associate Professor of Pediatrics, Critical Care Medicine, Washington University in St. Louis, St. Louis, MO |

## Clinical Title and Responsibilities

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| --- | --- |
| 2002 - Pres | Attending Physician, Code Team, St. Louis Children's Hospital |
| 2002 - Pres | Attending Physician, Pediatric Intensive Care Unit, Department of Pediatrics, Division of Critical Care Medicine, St. Louis Children's Hospital |
| 2002 - Pres | Attending Physician, Pediatric Transport Team, St. Louis Children's Hospital |
| 2002 - Pres | Attending Physician, Rapid Response Team, St. Louis Children's Hospital |
| 2014 - Pres | Attending Physician, ECMO Transport Team, Department of Pediatrics, Division of Critical Care Medicine, St. Louis Children's Hospital |
| 2019 - Pres | Attending Physician, Cardiac Intensive Care Unit (CICU), Department of Pediatrics, Division of Critical Care Medicine, St. Louis Children's Hospital |

## University, School of Medicine and Hospital Appointments and Committees

### School of Medicine

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| 2006 - Pres | Member, Division of Biology and Biomedical Sciences, Washington University School of Medicine |
| 2008 - Pres | Member, Steering Committee, Graduate Program in Medical Genetics and Genomics, Washington University School of Medicine |

### Hospital

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| 2002 - Pres | Full-Time Medical Staff, St. Louis Children's Hospital |
| 2012 - 2018 | Unit-Based Joint Practice Team Subcommittee, St. Louis Children's Hospital   * Met monthly. * Included UBJPT leaders, SLCH CMO, and other St. Louis Children's Hospital leadership. * Goals were to discuss issues and solve problems that had broad applicability across clinical services/units at St. Louis Children's Hospital. * Recent examples included extensive work on patient satisfaction, patient safety, and planning for the winter surge season. * This group began in 2012 as the UBJPT subcommittee, and has now morphed into the Hospital Operations Subcommittee (see below). |
| 2014 - Pres | Co-Director, PICU Unit-Based Joint Practice Team   * Co-leader for the Pediatric Intensive Care unit, Unit Based Joint Practice Team (UBJPT) with Kristen Economon, PICU Manager. * The Unit Based Joint Practice Team, and its subgroups, is responsible for the development, approval and implementation of procedures and policies that jointly affect PICU providers (residents, fellows, nurse practitioners) and PICU staff (nurses, respiratory therapists, pharmacists, dietitians, social workers, chaplains). This includes procedures, policies and guidelines developed both within the UBJPT, and within the PCCM Division, but substantially affecting both physician and non-physician providers. An example of a project arising within the UBJPT is the current process to overhaul morning bedside rounds. * The UBJPT meets monthly, in addition to meetings of the various subgroups and project working groups. |
| 2014 - Pres | Medical Director, Pediatric Intensive Care Unit, St. Louis Children's Hospital   * Medical Director, Pediatric Intensive Care Unit (PICU), St. Louis Children's Hospital (SLCH) (20% effort). Specific responsibilities include: * Responsible for the overall care delivered to all patients in the 40-bed PICU at SLCH. * Daily informal meetings with PICU nursing leadership (manager, assistant managers, educator, charge nurses). Goal is a short, strategic overview of current PICU status (patient number, acuity, nurse staffing level, current/anticipated problems). * Weekly strategic walk rounds in the PICU with PICU nursing leadership. * Monthly leadership meeting with the PICU manager. * Co-director, PICU unit-based joint practice team (see separate description). * 2006-2016. Co-leader, Division of Pediatric Critical Care Clinical Leadership Group and associated subgroups (training leadership group, general critical care section, neurocritical care section). This specific responsibility ended 2016 with a change in the Division leadership structure. * Participation and leadership in weekly PICU outcomes process (now referred to as Quality, Systems and Safety (QSS)). * Administrator on call for the PICU 24/7 to support PCCM faculty, fellows and PICU staff with challenging clinical and administrative issues. * Liaise with SLCH Chief Medical Officer regarding any safety, personnel, or operational issues relevant to the PICU. * Liaise with leadership from multiple clinical services to improve the care of patients in the PICU. * Liaise with SLCH leadership regarding error prevention in the PICU, including Hospital Acquired Conditions (HACs). * Represent the PICU on several standing and ad hoc SLCH working groups (e.g. ebola planning, novel coronavirus planning, mechanical assist program). |
| 2014 - Pres | St. Louis Children's Hospital Clinical Care Work Group for Ebola Planning   * Group formed in 2014 to develop a plan and protocols to care for potential patients infected with ebola virus and other highly contagious agents. * Group is now involved in planning for novel coronavirus patients. |
| 2014 - Pres | St. Louis Children's Hospital Physician Advisory Group, Ebola Incident Command Team   * Group consisting of SLCH physician leaders, the SLCH CMO and additional SLCH leadership (nursing, patient safety, infection prevention, media relations, public safety) formed to advise on policies related to management of possible patients infected with ebola virus and other highly contagious infectious diseases. * Met several times during the ebola outbreak, but now meets on an as needed basis. * Met recently to begin preparations for possible novel coronavirus pandemic. |
| 2014 - Pres | St. Louis Children's Hospital Physician Advisory Council   * Consists of physician and hospital leadership. * Meets on an ad hoc basis to solve problems related to the interface between SLCH, the clinical laboratory, and the front-line providers. |
| 2015 - Pres | Capital Committee, St. Louis Children's Hospital   * Meets quarterly to review SLCH capital requests to determine which requests will be funded. |
| 2015 - Pres | SLCH Telemedicine Task Force   * Group consists of physician representatives from the acute care areas of the hospital, the SLCH CMO, and additional hospital leadership. * Initially met quarterly, now on an as needed basis, to advance the SLCH footprint for pediatric telemedicine in the region. |
| 2015 - Pres | Pharmaceutical, Diagnostic & Therapeutic Subcommittee, St. Louis Children's Hospital   * Meets monthly. * Committee has multiple responsibilities including managing drug shortages, approving (and often developing) all policies related to medication administration at SLCH, approving medications to (and deleting medications from) the SLCH formulary, and reviewing all adverse drug events. |
| 2016 - Pres | Allied Health Professionals Subcommittee, St. Louis Children's Hospital   * Committee has broad oversight over the Advance Practice Nurses (APN's) who work in the inpatient areas throughout SLCH and are employed by SLCH. * Meet on an ad hoc basis to discuss issues related to credentialing or clinical care provided by APN's in the PICU. |
| 2016 - Pres | CMEC Quality & Safety Subcommittee, St. Louis Children's Hospital   * Report and discuss PICU quality and safety metrics, as well as annual goals regarding quality and safety, on an annual basis. |
| 2017 - Pres | Antibiotic Stewardship Subcommittee, St. Louis Children's Hospital   * Meets monthly to review metrics, as well as the broader impact of the SLCH antimicrobial stewardship program, on the care of patients at SLCH. |
| 2017 - Pres | SLCH Pain Task Force   * Meet quarterly. * Primary role is to ensure compliance with the complex array of state and federal regulations that pertain to the prescribing and use of opiates, and other controlled substances. |
| 2017 - Pres | CMEC Pain and Sedation Subcommittee   * Meet quarterly to review, and if necessary, revise policies related to provision of analgesia and sedation at SLCH. |
| 2018 - Pres | BJC Critical Care Collaborative Council   * Council consists of representatives from all critical care units across the BJC system. * The overarching goal is to develop consistency regarding care of ICU patients across the BJC system. * Represent St. Louis Children's Hospital, to ensure that the needs of pediatric ICU patients are represented and protected. |
| 2018 - Pres | Hospital Operations Subcommittee, St. Louis Children's Hospital   * Meets monthly. * Now two separate subgroups, one of which represents the critical/acute care units of the hospital and meets monthly. The second group includes the acute care area, as well as all of the other inpatient units. This second group meets quarterly. * The combined groups consist of all the co-leads for the SLCH Unit Based Joint Practice Teams, along with the SLCH CMO and additional SLCH leadership. * Goals are to discuss issues and solve problems that have broad applicability across clinical services/units at SLCH. |
| 2019 - Pres | Member, BJC Pharmacy and Therapeutics Committee   * As subcommittee chair for the SLCH Pharmacy, Diagnostics and Therapeutics Subcommittee, I represent SLCH on the system wide P&T committee. * Meet quarterly to discuss all medications that require system level approval for BJC. |
| 2019 - Pres | Subcommittee Chair, Pharmaceutical, Diagnostic & Therapeutics Subcommittee   * Took over leadership of the PD&T subcommittee July 2019. This involves leading the monthly meeting with my co-lead, Courtney Rogers, as well as attending the bi-monthly system P&T meeting. * On call 24/7 to respond to urgent issues that are under the purview of the PD&T committee, such as urgent requests to administer home medications, acute drug shortages). |
| 2019 - Pres | BJC Critical Care Medicine Use Workgroup   * The BJC Critical Care Medication Use Workgroup is a standing subcommittee of the Critical Care Collaborative Council (C4) and a collaborative partner to the BJC System Pharmacy and Therapeutics Committee. The BJC Critical Care Medication Use Workgroup has the responsibility for identifying medication opportunities for stewardship, standardization, and best practice sharing/implementation while ensuring a focus on quality and safety of medication use processes in the critical care setting. |
| 2020 - Pres | BJC Critical Care COVID-19 Task Force   * Representatives from critical care medicine across the BJC system are tasked with generated protocols and guidelines for the management of COVID-19 in critically ill patients (adults and children). * Discuss and plan responses to medication, equipment and bed shortages related to the management of patients with COVID-19.Meeting frequency has ranged from daily to weekly, depending on the crisis level within the BJC system. |
| 2020 - Pres | COVID-19 Planning Virtual Incident Command Center   * Group working to plan/prepare for possible COVID-19 outbreak in the St. Louis region. * Work includes daily conference calls, planning meetings, and table top exercises. * Focus is on clinical care of the COVID-19 patient. |

## Medical Licensure and Certifications

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| 1996 - Pres | MO #109041 |
| 1999 - 2016 | Pediatrics |
| 2002 - Pres | Pediatric Critical Care |
| 2014 - Pres | Advanced Cardiac Life Support |
| 2014 - Pres | Basic Life Support |
| 2014 - Pres | Pediatric Advanced Life Support |
| 2017 - Pres | Pediatric Advanced Life Support Instructor #03170556252 |

## Honors and Awards

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| --- | --- |
| 1986 | Ann Shepard Memorial Scholarship for Biology |
| 1986 | Daniel Wilson Scholarship for Physiology/Biochemistry |
| 1987 | Margaret J. Santalo Memorial Scholarship for Physiology |
| 1987 | NSERC Summer Research Scholarship |
| 1988 - 1989 | University of Toronto Open Graduate Fellowship |
| 1988 - 1990 | Ontario Graduate Scholarship |
| 1989 - 1990 | MRC (Canada) Studentship |
| 1991 - 1992 | Dr. R.E. Haist Award in Physiology |
| 1991 - 1995 | Dean's Honor Roll in Medicine |
| 1992 | Dr. C.S. Wainwright Memorial Scholarship |
| 1992 | Robert and Annie McDonnell Trust Fund Research Scholarship |
| 1993 | MDS Scholarship in Laboratory Medicine |
| 1993 | MRC (Canada) Summer Research Scholarship |
| 1994 | Alpha Omega Alpha Honor Medical Society |
| 1994 | Dr. Carl Witus Prize in Pediatrics |
| 1994 | Merck Sharp and Dohme Award |
| 1995 | Cody Gold Medal (graduated 1st overall, School of Medicine, class of 1995) |
| 1995 | Ellen Mickle Fellowship |
| 2000 - 2003 | Pediatric Scientist Development Award |
| 2000 - 2004 | HHMI Young Investigator Award |
| 2003 - 2006 | Mallinckrodt Foundation Award |
| 2004 - 2005 | Clinical Nutrition Research Unit Award |
| 2004 - 2006 | Scholar of the Child Health Research Center of Excellence in Developmental Biology |
| 2006 | James Sutherland Award for Outstanding Research by a Young Investigator |
| 2007 - Pres | Best Doctors in St. Louis |
| 2007 - Pres | Best Doctors in America |
| 2010 | Elected to Society for Pediatric Research |
| 2019 | Faculty Member, F1000 |
| 2019 | Doctor Honoris Causa, Riga Stradins University |

## Editorial Responsibilities

### Editorial Ad Hoc Reviews

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| 2009 - Pres | Developmental Biology |
| 2009 - Pres | Developmental Dynamics |
| 2009 - Pres | Mechanisms of Development |
| 2009 - Pres | PLoSONE |
| 2019 - Pres | Frontiers in Pediatrics |

## National Panels, Committees

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| 2007 - 2009 | Council Member, Midwest Society for Pediatric Research |
| 2009 - 2010 | President, Midwest Society for Pediatric Research |
| 2010 - 2011 | Past President, Midwest Society for Pediatric Research |

## Community Service Contributions

### Committees and Activities

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| 2017 | Cox South Hospital, Outreach, Pediatric Sepsis   * Reviewed patient with septic shock that was transferred from Cox South to SLCH and provided general review of management of pediatric sepsis. Met with physicians from Pediatric Emergency Medicine, Pediatric Critical Care and Pediatric Hospitalist Medicine. |
| 2017 | Poplar Bluff Regional Medical Center, Outreach, Pediatric Sepsis   * Met with pediatricians in Poplar Bluff to discuss our ongoing collaboration regarding the care of septic children in the region. |
| 2018 | St. John's Hospital, Springfield, IL, Outreach, Pediatric Critical Care   * Met with the critical care group at St. John's in Springfield to discuss our ongoing collaboration regarding the care of critically ill children in the region. |

### Professional Societies and Organizations

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| --- | --- |
|  | Midwest Society for Pediatric Research, Past President |
|  | Society for Critical Care Medicine |
|  | Society for Pediatric Research |

## Major Invited Professorships and Lectures

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| --- | --- |
| 2003 | Department of Biology, Case Western Reserve University, Cleveland, OH, USA |
| 2003 | Pediatric Grand Rounds, Washington University School of Medicine, St. Louis, MO, USA |
| 2003 | Child Nutrition Research Center, Baylor College of Medicine, Houston, TX, USA |
| 2004 | Genetic and Developmental Basis of Pediatric Disease, Washington University School of Medicine, St. Louis, MO, USA |
| 2004 | NIH Child Health Research Center Annual Meeting, Skamania Lodge, Stevenson, WA, USA |
| 2006 | Pediatric Grand Rounds, Washington University School of Medicine, St. Louis, MO, USA |
| 2007 | Program in Vascular Biology, UTSW Medical School, Dallas, TX, Dallas, TX, USA |
| 2009 | 3rd Strategic Conference for Zebrafish Investigators, Asilomar, CA, USA |
| 2009 | Louis Avioli Bone Conference, St. Louis, MO, St. Louis, MO, USA |
| 2010 | Osteogenesis Imperfecta Foundation Scientific Meeting, Chicago, IL, USA |
| 2010 | Pediatric Grand Rounds, Washington University School of Medicine, St. Louis, MO, USA |
| 2012 | 64th American Association for Laboratory Animal Science National Meeting, Minneapolis, MN, USA |
| 2013 | Annual Meeting of the Latvian Society of Anesthesiology and Intensive Care Medicine, Riga, Latvia |
| 2013 | Pediatric Grand Rounds, Riga Stradins University, Riga, Latvia |
| 2013 | 65th American Association for Laboratory Animal Science National Meeting, Baltimore, MD, USA |
| 2015 | Visiting Professor, Riga Stradins University, Riga, Latvia |
| 2016 | Visiting Professor, Riga Stradins University, Riga, Latvia |
| 2018 | Pediatric Grand Rounds, Southern Illinois University School of Medicine, Springfield, IL, USA |
| 2018 | Visiting Professor, Riga Stradins University, Riga, Latvia |
| 2019 | Visiting Professor, Riga Stradins University, Riga, Latvia |
| 2020 | Visiting Professor, Riga Stradins University, Riga , Latvia (postponed due to COVID-19) |

## Research Support

### Completed Governmental Support

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| 2000 - 2003 | K12 HD-00850, NIH Research Fellow Growth Control in the Zebrafish, Danio rerio Role: NA |
| 2004 - 2009 | K08 HD046656, NIH Growth Control in the Zebrafish During Development Role: NA  Total cost: $113,000.00 |
| 2004 - 2006 | K12 HD-001487, NIH Scholar of the Child Health Research Center in Developmental Biology at Washington University Role: NA |
| 2010 - 2015 | U01 Acute Liver Failure Study Group Role: Co-Principal Investigator  PI: Goldsmith  Total cost: $311,656.00 |

### Completed Non-Governmental Support

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| 2000 - 2004 | Young Investigator Award Growth Control in Zebrafish Role: Principal Investigator  Total cost: $268,000.00 |
| 2003 - 2006 | The Endothelium and Growth Control in the Zebrafish Role: Principal Investigator  Total cost: $195,000.00 |
| 2008 - 2012 | Research Award Characterization of Rapunzel: A Novel protein Important in Growth Control Role: Principal Investigator  Total cost: $255,000.00 |
| 2009 - 2010 | Seed Grant Children's Brittle Bone Foundation and Osteogenesis Imperfecta Foundation Role: Principal Investigator  Total cost: $60,000.00 |
| 2012 - 2014 | Interdisciplinary Research Initiative Role: Principal Investigator  Total cost: $450,000.00 |
| 2016 - 2017 | Planned Adaptation Of The I-Pass Framework For Pediatric Intensive Care Unit Discharges Role: Co-Investigator  PI: Goldsmith  Total cost: $28,469.00 |

## Trainee/Mentee/Sponsorship Record

### Past Trainees

|  |  |
| --- | --- |
| 2000 - 2005 | Gazit, Avihu MD, Clinical Fellow Study area: Pediatric Critical Care Medicine and Pediatric Cardiology Present position: Associate Professor, Department of Pediatrics, Division Pediatric Critical Care, Washington University School of Medicine, Department of Pediatrics, St. Louis, MO, USA |
| 2001 - 2005 | Lin, Nancy MD, Clinical Fellow Study area: Pediatric Critical Care & Pediatric Cardiology Present position: Private Practice, Pediatric Cardiology, Las Vegas, NV, USA |
| 2002 - 2005 | Lin, Ada MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor of Clinical Pediatrics, Ohio State University/Nationwide Children's, Department of Pediatrics, Columbus, OH, USA |
| 2004 - 2007 | Dean, Nathan MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Medical Director, Pediatric Intensive Care Unit, George Washington University/Children's National Medical Center, Washington, DC, USA |
| 2004 - 2006 | Taylor, Jennifer PhD, Postdoctoral Fellow Study area: Zebrafish Growth and Development |
| 2005 - 2008 | Charney, Rachel MD, Postdoctoral Fellow Study area: Zebrafish Regeneration Present position: Associate Professor of Pediatrics, St. Louis University, Department of Pediatrics/Cardinal Glennon Children's Hospital, St. Louis, MO, USA |
| 2005 - 2008 | Green, Julie, Graduate Student Study area: Zebrafish Growth & Development |
| 2005 - 2008 | Werner, Jason MD, Clinical Fellow Study area: Pediatric Critical Care Present position: Assistant Professor, St. Louis University, Department of Pediatrics/Cardinal Glennon Children's Hospital, St. Louis, MO, USA |
| 2006 - 2009 | Capers, Celeste MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Associate Professor of Pediatrics, Washington University School of Medicine, Department of Pediatrics/St. Louis Children's Hospital, St. Louis, MO, USA |
| 2006 - 2011 | Neumayr, Tara MD, Clinical Fellow Study area: Pediatric Critical Care Medicine & Pediatric Nephrology Present position: Assistant Professor, Department of Pediatrics, Associate Program Director, Washington University School of Medicine, St. Louis, MO, USA |
| 2007 - 2010 | Huo, Jeffrey MD, House Staff Study area: Pediatrics Present position: Attending Physician, Pediatric Hematology and Oncology, Atrium Health, Charlotte, NC, USA |
| 2007 - 2009 | Kulikowska, Agnieszka MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, University of Illinois College of Medicine at Peoria, Department of Pediatrics, Peoria, IL, USA |
| 2007 - 2011 | Miller-Smith, Laura MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Associate Professor of Pediatrics, Associate Medical Director, University of Missouri-Kansas City School of Medicine/Children's Mercy, Kansas City, MO, USA |
| 2007 - 2007 | Schoeller, Erica, Rotation Student Study area: Growth Control in Zebrafish Present position: Scientist, Ferring Pharmaceuticals, San Diego, CA, USA |
| 2007 - 2009 | Karue, Grace Julie BA, Other Study area: Growth Control in Zebrafish |
| 2008 - 2011 | Emke, Amanda MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Washington University School of Medicine, Department of Pediatrics, Division of Pediatric Critical Care, St. Louis, MO, USA |
| 2008 - 2011 | Lin, Jiuann-Huey (Ivy) MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Fellow, Pediatric Cardiology, University of Indiana, Department of Pediatrics/Riley Children's Hospital, Indianapolis, IN, USA |
| 2008 - 2011 | Behrens, Deanna MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Pediatric Critical Care Attending, Advocate Health, Chicago, IL, USA |
| 2009 - 2010 | Bar, Amir MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, St. Christopher's Hospital for Children, Department of Pediatrics, Philadelphia, PA, USA |
| 2009 - 2011 | Gong, Bendi PhD, Postdoctoral Fellow Study area: Growth & Development in Zebrafish Present position: Senior Laboratory Technician, Washington University School of Medicine, St. Louis, MO, USA |
| 2009 - 2009 | Noriega, Manuela, Other Study area: Growth Control in Zebrafish |
| 2009 - 2014 | Davila, Sam MD, Clinical Fellow Study area: Pediatric Critical Care Medicine & Infectious Diseases Present position: Assistant Professor, Pediatric Critical Care, University of Texas Southwestern, Department of Pediatrics/Children's Medical Center of Dallas, Dallas, TX, USA |
| 2009 - 2012 | Ghafoor, Saad MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Pediatric Critical Care Attending, St. Jude Children's Research Hospital, Department of Pediatric Medicine, Memphis, TN, USA |
| 2009 - 2011 | McBride, Mary MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Associate Professor of Pediatrics, Associate Program Director, Northwestern University, Department of Pediatrics/Lurie Children's Hospital, Chicago, IL, USA |
| 2009 - 2012 | Vellore-Govardhan, Shilpa MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Attending Physician, CVICU, Phoenix Children's Hospital, Phoenix, AZ, USA |
| 2009 - 2012 | Wu, Katherine MD, House Staff Study area: Pediatrics Present position: Pediatric Primary Care, Peabody, MA, USA |
| 2009 - 2012 | York, Jennifer MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Attending Physician, Pediatric Critical Care, Mercy Hospital, St. Louis, MO, USA |
| 2009 - 2011 | Chatman, Clell, Other Study area: Growth Control in Zebrafish |
| 2010 - 2010 | Bleher, Barbara BSc, Rotation Student Study area: Growth and Development in Zebrafish |
| 2010 - 2010 | Pruden, Roy, Other Study area: Growth Control in Zebrafish |
| 2010 - 2012 | Allen, Casey, Other Study area: Growth and Development in Zebrafish |
| 2010 - 2013 | Hall, Laura MD, House Staff Study area: Pediatrics Present position: Assistant Professor, Department of Pediatrics, Division of Hospitalist Medicine, Washington University School of Medicine, Department of Pediatrics, St. Louis, MO USA |
| 2010 - 2013 | Majcina, Ryan MD, Clinical Fellow Study area: Pediatric Critical Care Present position: Assistant Professor, Southern Illinois University, Department of Pediatrics, Springfield, IL, USA |
| 2010 - 2013 | Potera, Renee MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, University of Texas Southwestern, Department of Pediatrics/Children's Medical Center of Dallas, Dallas, TX, USA |
| 2010 - 2014 | Buchan, Jillian PhD, Graduate Student Study area: Zebrafish Model of Scoliosis Present position: Assistant Laboratory Director, Stanford Clinical Genomics Program & Clinical Assistant Professor, Department of Pathology, Stanford University, Palo Alto, CA, USA |
| 2011 - 2011 | Moore, Kelsey, Other Study area: Growth Control in Zebrafish |
| 2011 - 2012 | Balmaks, Reinis MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Department of Pediatrics, Riga Stradins University, Riga, Latvia |
| 2011 - 2014 | Curfman, Alison MD, House Staff Study area: Pediatrics Present position: Pediatric Emergency Medicine Physician, Mercy Hospital, Creve Coeur, MO, USA |
| 2011 - 2014 | Guilliams, Kristin MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Department of Pediatrics, Washington University School of Medicine, Departments of Pediatrics, St. Louis, MO, USA |
| 2011 - 2014 | Quispe, Marco MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Clinical Assistant Professor, University Health Shreveport, Shreveport, LA, USA |
| 2011 - 2014 | Saini, Arun MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Critical Care Consultant, Le Bonheur Children's Hospital/University of Tennessee Health Science Center, Department of Pediatrics, Memphis, TN, USA |
| 2011 - 2014 | Santana, Darline MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Attending Physician, Cardiac Critical Care, Nicklaus Children's Hospital, Miami, FL, USA |
| 2011 - 2013 | Welch, Timothy MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Baylor College of Medicine/Texas Children's Hospital, Houston, TX, USA |
| 2012 - 2012 | Cavaco, Nanea, Rotation Student Study area: Growth Control in Zebrafish |
| 2012 - 2015 | Kelli Boelens, MD, House Staff Study area: Pediatrics Present position: Primary Care Pediatrics, Missouri |
| 2012 - 2015 | Maguire, Courtney MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Attending Physician, Pediatric Critical Care, Mercy Hospital, St. Louis, MO USA |
| 2012 - 2015 | Said, Ahmed MD, PhD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor of Pediatrics, Section of Critical Care Medicine, Washington University School of Medicine, Department of Pediatrics, St. Louis, MO, USA |
| 2012 - 2016 | Steed, Ashley MD, PhD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor of Pediatrics, Section of Critical Care Medicine, Washington University School of Medicine, Department of Pediatrics, St. Louis, MO, USA |
| 2012 - 2013 | Waldrup, William MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Baylor College of Medicine/Texas Children's Hospital, Houston, TX, USA |
| 2012 - 2013 | Hadi, Mackenzie, Rotation Student Study area: Growth Control in Zebrafish |
| 2013 - 2013 | Castro, Raisa Reyes, Rotation Student Study area: Zebrafish Model of Scoliosis Present position: Graduate Student, MD Anderson Cancer Center/University of Texas, Houston, TX, USA |
| 2013 - 2013 | Hua, Jennifer, Other Study area: Growth Control in Zebrafish |
| 2013 - 2016 | Barker, Erin MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, University of Rochester/Golisano Children's Hospital, Rochester, NY, USA |
| 2013 - 2013 | Del Valle, Karina, Other Study area: Growth Control in Zebrafish |
| 2013 - 2016 | Malone, Jay MD, PhD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor, Division of Pediatric Critical Care, Washington University School of Medicine, Department of Pediatrics, St. Louis, MO, USA |
| 2013 - 2016 | Markus, Richard MD, House Staff Study area: Pediatrics Present position: Primary Care Pediatrics, College Station, TX, USA |
| 2013 - 2016 | Powell, Kimberley MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor of Clinical Pediatrics, Southern Illinois University School of Medicine, Springfield, IL, USA |
| 2013 - 2016 | Sigdel, Binayak MD, Clinical Fellow Study area: Pediatric Critical Care Medicine Present position: Assistant Professor of Pediatrics, Section of Critical Care Medicine, Baylor College of Medicine, Houston, TX, USA |
| 2013 - 2014 | Burgert, Lydia BSc, Rotation Student Study area: Zebrafish Model of Scoliosis |
| 2014 - 2017 | McNerney, Kyle MD, House Staff Study area: Pediatrics Present position: Clinical Fellow, Pediatric Endocrinology, Washington University School of Medicine, Department of Pediatrics, St. Louis, MO, USA |
| 2016 - 2018 | Kendall, Meghan, DO, Clinical Research Trainee Study area: Nutrition in the PICU Present position: Assistant Professor, Division of Pediatric Critical Care, University of Nebraska Medical Center, Omaha, NE, USA |
| 2017 - 2017 | Zvigule-Neidere, Gunda MD, Rotation Student Study area: Pediatric Critical Care, Pediatric Emergency Medicine Present position: Attending Physician, Pediatric Critical Care, Children's Clinical University Hospital, Riga, Latvia |
| 2018 - 2018 | Klavina, Paula MD, Other Study area: Pediatric Critical Care, Pediatric Emergency Medicine Present position: Pediatric Resident, Children's Clinical University Hospital, Riga, Latvia |
| 2019 - 2019 | Belousko, Katrina RN, Other Study area: Pediatric Critical Care Nursing Present position: Pediatric Critical Care Nurse, Children's Clinical University Hospital, Riga, Latvia |
| 2019 - 2019 | Zarina, Ieva RN, Other Study area: Pediatric Critical Care Nursing Present position: Pediatric Critical Care Nurse, Children's Clinical University Hospital, Riga, Latvia |
| 2020 - 2020 | Kolbergs, Janis MD, Other Study area: Pediatric Anesthesia & Pain Medicine Present position: Pediatric Anesthesia Attending, Children's Clinical University Hospital, Riga, Latvia |

## Bibliography

### A. Journal Articles

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| 1. | Goldsmith M, van der Kooy D. Separate non-cholinergic descending projections and cholinergic ascending projections from the nucleus tegmenti pedunculopontinus. *Brain Res*. 1988;445(2):386-91. PMID:[2453253](https://www.ncbi.nlm.nih.gov/pubmed/?term=2453253" \o "PubMed" \t "_blank) |
| 2. | Goldsmith M, Connolly JA, Kumar N, Wu J, Yarbrough LR, van der Kooy D. Conserved beta-tubulin binding domain for the microtubule-associated motors underlying sperm motility and fast axonal transport. *Cell Motil Cytoskeleton*. 1991;20(3):249-62. doi:[10.1002/cm.970200308](https://doi.org/10.1002/cm.970200308" \o "DOI" \t "_blank) PMID:[1723030](https://www.ncbi.nlm.nih.gov/pubmed/?term=1723030" \o "PubMed" \t "_blank) |
| 3. | Goldsmith M, Leyland S, Connolly JA, van der Kooy D. A unique tubulin antiserum attenuates the rate of poleward chromosome movement in anaphase. *Eur J Cell Biol*. 1992;58(2):346-55. PMID:[1425771](https://www.ncbi.nlm.nih.gov/pubmed/?term=1425771" \o "PubMed" \t "_blank) |
| 4. | Goldsmith M, Yarbrough L, van der Kooy D. Mechanics of motility: distinct dynein binding domains on alpha- and beta-tubulin. *Biochem Cell Biol*. 1995;73(9-10):665-71. PMID:[8714687](https://www.ncbi.nlm.nih.gov/pubmed/?term=8714687" \o "PubMed" \t "_blank) |
| 5. | Goldsmith MI, Fisher S, Waterman R, Johnson SL. Saltatory control of isometric growth in the zebrafish caudal fin is disrupted in long fin and rapunzel mutants. *Dev Biol*. 2003;259(2):303-17. PMID:[12871703](https://www.ncbi.nlm.nih.gov/pubmed/?term=12871703" \o "PubMed" \t "_blank) |
| 6. | Goldsmith MI, Iovine MK, O'Reilly-Pol T, Johnson SL. A developmental transition in growth control during zebrafish caudal fin development. *Dev Biol*. 2006;296(2):450-7. doi:[10.1016/j.ydbio.2006.06.010](https://doi.org/10.1016/j.ydbio.2006.06.010" \o "DOI" \t "_blank) PMID:[16844108](https://www.ncbi.nlm.nih.gov/pubmed/?term=16844108" \o "PubMed" \t "_blank) |
| 7. | Green J, Taylor JJ, Hindes A, Johnson SL, Goldsmith MI. A gain of function mutation causing skeletal overgrowth in the rapunzel mutant. *Dev Biol*. 2009;334(1):224-34. doi:[10.1016/j.ydbio.2009.07.025](https://doi.org/10.1016/j.ydbio.2009.07.025" \o "DOI" \t "_blank) PMCID:[PMC2756807](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2756807/?report=abstract" \o "PubMedCentral" \t "_blank) PMID:[19632218](https://www.ncbi.nlm.nih.gov/pubmed/?term=19632218" \o "PubMed" \t "_blank) |
| 8. | Schuettpelz LG, Behrens D, Goldsmith MI, Druley TE. Severe ceftriaxone-induced hemolysis complicated by diffuse cerebral ischemia in a child with sickle cell disease. *J Pediatr Hematol Oncol*. 2009;31(11):870-2. doi:[10.1097/MPH.0b013e3181b7eda2](https://doi.org/10.1097/MPH.0b013e3181b7eda2" \o "DOI" \t "_blank) PMID:[19829151](https://www.ncbi.nlm.nih.gov/pubmed/?term=19829151" \o "PubMed" \t "_blank) |
| 9. | Oppedal D, Goldsmith MI. A chemical screen to identify novel inhibitors of fin regeneration in zebrafish. *Zebrafish*. 2010;7(1):53-60. doi:[10.1089/zeb.2009.0633](https://doi.org/10.1089/zeb.2009.0633" \o "DOI" \t "_blank) PMCID:[PMC2946367](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2946367/?report=abstract" \o "PubMedCentral" \t "_blank) PMID:[20384483](https://www.ncbi.nlm.nih.gov/pubmed/?term=20384483" \o "PubMed" \t "_blank) |
| 10. | Ha K, Buchan JG, Alvarado DM, McCall K, Vydyanath A, Luther PK, Goldsmith MI, Dobbs MB, Gurnett CA. MYBPC1 mutations impair skeletal muscle function in zebrafish models of arthrogryposis. *Hum Mol Genet*. 2013;22(24):4967-77. doi:[10.1093/hmg/ddt344](https://doi.org/10.1093/hmg/ddt344" \o "DOI" \t "_blank) PMCID:[PMC3836476](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3836476/?report=abstract" \o "PubMedCentral" \t "_blank) PMID:[23873045](https://www.ncbi.nlm.nih.gov/pubmed/?term=23873045" \o "PubMed" \t "_blank) |
| 11. | Said A, Hmiel P, Goldsmith MI, Dietzen D, Hartman ME. Successful use of plasma exchange for profound hemolysis in a child with loxoscelism. *Pediatrics*. 2014;134(5):e1464-7. doi:[10.1542/peds.2013-3338](https://doi.org/10.1542/peds.2013-3338" \o "DOI" \t "_blank) PMID:[25349320](https://www.ncbi.nlm.nih.gov/pubmed/?term=25349320" \o "PubMed" \t "_blank) |
| 12. | Buchan JG, Gray RS, Gansner JM, Alvarado DM, Burgert L, Gitlin JD, Gurnett CA, Goldsmith MI. Kinesin family member 6 (kif6) is necessary for spine development in zebrafish. *Dev Dyn*. 2014;243(12):1646-57. doi:[10.1002/dvdy.24208](https://doi.org/10.1002/dvdy.24208" \o "DOI" \t "_blank) PMID:[25283277](https://www.ncbi.nlm.nih.gov/pubmed/?term=25283277" \o "PubMed" \t "_blank) |

### C2. Chapters

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| 1. | Ahmed S. Said, Kara Kniska, Matthew I. Goldsmith, and Nikoleta S. Kolovos. Patient Safety in Pediatrics. In: Emily Fondahn, Michael Lane, and Andrea Vannucci, eds. *The Washington Manual of Patient Safety and Quality Improvement* Philadelphia; 2016:Chapter 24. |

### C4. Invited Publications

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| 1. | Matthew I. Goldsmith. Recommendation of Early Neuromuscular Blockade in Respiratory Distress Syndrome. *F1000Prime*. 2019. doi: [10.3410/f.735789046.793562287](https://doi.org/10.3410/f.735789046.793562287" \o "DOI" \t "_blank) |

### F. Abstracts

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| 1. | Matthew I. Goldsmith, Richard Waterman and Stephen L. Johnson . *Saltation and stasis: growth control in the zebrafish fin.* 5th International Conference on Zebrafish Development and Genetics; 2002. |
| 2. | M. Kathryn Iovine, Matthew I. Goldsmith and Stephen L. Johnson . *Size and shape of zebrafish fins.* 5th International Conference on Zebrafish Development and Genetics; 2002. |
| 3. | Matthew I. Goldsmith, M. Kathryn Iovine and Stephen L. Johnson. *A developmental transition in growth control mechanisms during zebrafish caudal fin development.* 6th International Conference on Zebrafish Development and Genetics; 2004. |
| 4. | Matthew I. Goldsmith, M. Kathryn Iovine and Stephen L. Johnson. *A developmental transition in growth control mechanisms during zebrafish caudal fin development.* Strategic Conference of Zebrafish Investigators: Mount Desert Island Biological Laboratory, Maine; 2005. |
| 5. | Matthew I. Goldsmith, M. Kathryn Iovine and Stephen L. Johnson. *A developmental transition in growth control mechanisms during zebrafish caudal fin development.* 4th European Zebrafish Genetics and Development Meeting; 2005. |
| 6. | Crystal Dao, Casey Allen and Matthew I. Goldsmith. *A pharmacologic screen to uncover novel pathways in fin regeneration.* 7th International Conference on Zebrafish Development and Genetics; 2006. |
| 7. | Matthew I. Goldsmith, Kathryn M. Iovine and Stephen L. Johnson . *Nutrition, metabolism and growth: A developmental transition during zebrafish caudal fin development.* 7th International Conference on Zebrafish Development and Genetics; 2006. |
| 8. | Matthew I. Goldsmith, M. Kathryn Iovine and Stephen L. Johnson . *A developmental transition from nutrient-resistant to nutrient-sensitive growth during zebrafish caudal fin development.* Second Strategic Conference of Zebrafish Investigators: Asilomar, CA; 2007. |
| 9. | Jennifer J. Taylor, Anna Hindes, Eva Maria Siepert, Stephen L. Johnson and Matthew I. Goldsmith. *Dissecting the genetic and physiologic basis of growth control in the rapunzel mutant.* 5th European Zebrafish Genetics and Development Meeting; 2007. |
| 10. | Jennifer J. Taylor, Julie Green, Stephen L. Johnson and Matthew I Goldsmith . *A gain of function mutation causing skeletal overgrowth in the rapunzel mutant.* 8th International Conference on Zebrafish Development and Genetics; 2008. |
| 11. | Julie Green, Jennifer J. Taylor and Matthew I. Goldsmith. *Exploring the role of rapunzel in growth and development.* 8th International Conference on Zebrafish Development and Genetics; 2008. |
| 12. | Julie Green, Patricia Jeremais, Stephen L. Johnson and Matthew I. Goldsmith. *A gain of function mutation causing skeletal overgrowth in the rapunzel mutant.* Third Strategic Conference of Zebrafish Investigators: Asilomar, CA; 2009. |
| 13. | Darline Santana, Natalie Villafranco and Matthew I. Goldsmith . *Severe malnutrition and refeeding syndrome in a child with neurologic disability.* SCCM; 2012. |
| 14. | Jillian G. Buchan, John M. Gansner, Bendi Gong, Christina A. Gurnett and Matthew I. Goldsmith. *Whole genome sequencing in skolios, a zebrafish mutant with progressive curvature of the vertebral column.* 10th International Conference on Zebrafish Development and Genetics; 2012. |
| 15. | Kyungsoo Ha, Jillian Buchan, David Alvarado, Kevin McCall, Anupama Vydyanath, Pradeep K. Luther, Matthew I. Goldsmith, Matthew Dobbs, Christina Gurnett. *Mybpc1 mutations impair skeletal muscle function in zebrafish models of arthrogryposis.* Washington University School of Medicine; 2013. |
| 16. | Jillian G. Buchan, Christina A. Gurnett and Matthew I. Goldsmith. *Cloning and characterization of skolios, a zebrafish idiopathic scoliosis mutant.* Pediatric Academic Societies Annual Meeting: Washington, DC; 2013. |

# Clinician Educator Portfolio

## CLINICAL CONTRIBUTIONS

## Summaries of ongoing clinical activities

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| 2002 - Pres | Attending Physician, Code Team, St. Louis Children's Hospital   * The SLCH code team responds to all codes that occur in SLCH, including the inpatient and outpatient venues, as well as the non-clinical areas. This includes responding to codes for patients, families, and employees. * The code team responded to ~130 events in 2019. * The code team typically involves a PICU charge nurse, respiratory therapist, fellow and attending. This group is augmented by a hospital pharmacist, and when available, providers from anesthesia and the emergency department. * The Code team is responsible for resuscitation and stabilization of all patients that they see, and then transitioning these individuals to the PICU (inpatients), ER (outpatients) or the adult ER (staff or family members). |
| 2002 - Pres | Attending Physician, Pediatric Intensive Care Unit, Department of Pediatrics, Division of Critical Care Medicine, St. Louis Children's Hospital   * Attending physician, St. Louis Children's Hospital (SLCH) Pediatric Intensive Care Unit (PICU), 8-12 weeks/year. Responsibilities include: * Clinical management of a multidisciplinary medical-surgical unit with up to 40 critically ill infants, children, adolescents, and on occasion, young adults cared for in the PICU at SLCH. The PICU at SLCH admits ~2000 children/year. * Direct supervision of residents (pediatric and emergency medicine), fellows (pediatric critical care, pediatric emergency medicine, pediatric anesthesia) and nurse practitioners. * Daily teaching rounds with the medical team including residents, fellows, nurse practitioners, bedside nurses, pharmacists, dietitians, social workers, respiratory therapists, and families. * Daily documentation which includes daily progress notes, attestation of admission notes and procedure notes. * Daily management and supervision of procedures including tracheal intubation, central venous catheter placement, arterial catheter placement, pleural tube placement, thoracentesis, paracentesis +/- peritoneal drain placement, paresis catheter placement, lumbar puncture, and bronchoscopy. * Procedural sedation for both in unit, and off unit procedures. * Management of respiratory failure including management of both invasive and non-invasive modalities of ventilatory support. Invasive ventilatory support includes non-conventional support such as high frequency oscillatory ventilation (HFOV), volume percussive ventilation (VDR), Heliox, inhaled nitric oxide (iNO) and extracorporeal support (ECMO) for pediatric respiratory failure. * Management of circulatory failure and shock including the use of vasoactive infusions, invasive hemodynamic monitoring and extracorporeal support (ECMO) for circulatory failure. * Management of acute kidney injury and renal replacement therapy, as well as acute, post-surgical management of patients following kidney transplant. * Management of acute hepatic failure, including acute, post-surgical management of all patients immediately following liver transplant, and the management of patients with acute hepatic failure requiring advanced medical management for coagulopathy, hepatorenal syndrome, encephalopathy and cerebral edema requiring management of intracranial hypertension and liver dialysis. * Management of neurologic failure, including severe traumatic brain injury, status epilepticus, pediatric brain tumors, neuromuscular disease, CNS infections (e.g. meningitis and encephalitis) and other causes of encephalopathy. * Management of acute trauma in infants, children and adolescents, including non-accidental trauma, blunt trauma with orthopedic and solid organ injuries, penetrating trauma, burns, and severe multi system trauma including traumatic brain injury. Critical care faculty provide the primary bedside care, 24/7, to all trauma patients in the PICU. * Management of all post-operative patients requiring ICU-level care including, otolaryngology, orthopedic, spine, general surgical, plastics, and neurosurgical patients. * Medical control for pediatric transports coming directly to the PICU (see transport team responsibilities). * Multidisciplinary care conferences. Lead discussions at multidisciplinary care meetings. * Night call. Solo attending coverage of the 40-bed PICU at night, including supervision of residents, fellows and nurse practitioners, as well as supervising all rapid responses (see rapid response team responsibilities) and codes (see code team responsibilities). * CCICU (cross cover ICU attending) attending. Supervise the care of 6-12 patients in both the Pediatric Intensive Care Unit and Cardiac Intensive Care Unit. Similar responsibilities as above, including supervising the nurse practitioners, leading rounds, performing procedures, and documentation. * Rapid responses. See section on rapid response team member. * Code team responsibilities. See section on code team member. |
| 2002 - Pres | Attending Physician, Pediatric Transport Team, St. Louis Children's Hospital   * St. Louis Children's Hospital operates an active fixed wing, rotor wing, and ground transport program, transporting approximately 500 critically ill neonates, infants and children directly to the PICU every year. * Pediatric Critical Care Medicine faculty serve in the role of medical control for all children brought directly to the PICU by the SLCH transport team. * Medical control provides direct medical guidance for patient stabilization and transport, both to the referring facility prior to the arrival of the transport team, as well as to the transport team during transport. Support begins from the time a call to refer a child from an outside facility is received, until that child arrives safely in the SLCH PICU. |
| 2002 - Pres | Attending Physician, Rapid Response Team, St. Louis Children's Hospital   * The Pediatric Critical Care Medicine Division operates the Rapid Response Team (RRT) at SLCH. * The RRT provides urgent (<15 minutes) consultation to patients on the SLCH inpatient wards (outside of the PICU) who are either decompensating, or at risk of decompensating, with the goal of preventing further deterioration and cardiopulmonary arrest. * The Rapid Response Team sees ~550 rapid responses per year, a number that doubled between 2018 and 2019. * Identified patients are seen by a consultative team from the PICU, including a respiratory therapist, charge nurse, nurse practitioner, and either a pediatric critical care fellow or attending. Patients are either stabilized or transported to the PICU, or recommendations are made vis-à-vis stabilization on the ward and follow-up is provided. |
| 2014 - Pres | Attending Physician, ECMO Transport Team, Department of Pediatrics, Division of Critical Care Medicine, St. Louis Children's Hospital   * St. Louis Children's Hospital operates one of the few teams in the country that is able to transport children receiving extracorporeal life support (ECMO or cardiopulmonary bypass). * Five Pediatric Critical Care Medicine faculty support the ECMO Transport Team. These five faculty travel with other team members (nurses, respiratory therapists, perfusionists) to transport children supported by ECMO to St. Louis Children's Hospital. * The ECMO transport team transports ~5 patients/year. |
| 2019 - Pres | Attending Physician, Cardiac Intensive Care Unit (CICU), Department of Pediatrics, Division of Critical Care Medicine, St. Louis Children's Hospital   * Provide care to 12-16 critically ill children in the Cardiac Intensive Care Unit (CICU) at St. Louis Children's Hospital. * Responsibilities include medical, post-operative and post-cardiac catheterization care of neonates, infants and children with congenital and acquired heart disease. This includes children with structural heart disease, arrhythmias, pulmonary hypertension, heart failure, transplants patients (lung transplants, heart/lung transplants), and children requiring extracorporeal support (ECMO, VAD, PELAD). |

## Development of clinical guidelines or care paths

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|  | BJC Comprehensive Sepsis Guideline   * Provided expert opinion on content development for BJC system-wide pediatric sepsis guidelines. |
|  | BJC COVID-19 Management Guideline   * Member of the BJC COVID-19 Critical Care Task Force that developed and continues to revise therapeutic and management guidelines for critically ill children and adults with COVID-19 disease. |
|  | Diabetic ketaocidosis (DKA) guideline/care pathway for PICU patients   * Development of care pathway for patients with DKA being cared for in the PICU. This care pathway was developed in conjunction with the pediatric critical care nurse practitioners. |
|  | Diabetic ketoacidosis (DKA) guideline and order set for SLCH   * Development of SLCH hospital-wide DKA guidelines and the corresponding order set. |
|  | Garden Extubation Protocol   * Development of a care pathway/guideline for assisting PICU families who want end of life (terminal) extubations to occur outside of the ICU. |
|  | Occult Fracture Project   * Ongoing project to develop a strategy to screen for and identify patients at high risk for occult fractures in the PICU and development of specific strategies to mitigate this risk. |
|  | OR-PICU Handoff   * Creation of an OR-PICU handoff tool to facilitate timely and complete communication between surgery/anesthesia and the PICU, for patients being admitted from the OR to the PICU and transiting through the post-anesthesia recovery unit. |
|  | Pediatric Liver Transplant Guideline   * Developed guideline, with the pediatric nurse practitioner team, for care of the post-operative liver transplant patient. |
|  | PICU Pediatric Sepsis Guideline   * Development of a pediatric sepsis guideline for management of patients in the PICU. * Developed in conjunction with the pediatric nurse practitioner team. |
|  | PICU-Floor Transfer Checklist   * Development of a tool to help improve the fidelity of information transfer for patients being transferred from the PICU to other inpatient services. |
|  | Protection against contrast nephropathy   * Clinical best practice guideline established for the prevention of contrast-induced nephropathy in critically ill patients. |
|  | Pulmonary Embolism Protocol   * Ongoing development of a protocol for management of life-threatening pulmonary embolism, including indications for systemic thrombolysis. |
|  | SLCH Death by Neurologic Criteria Guideline   * Led the working group that overhauled the SLCH Death by Neurologic Criteria guideline in 2017. |

## Clinical administrative responsibilities

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| 2002 - Pres | Recruitment of trainees, nurse practitioners, nurse managers, and WUSM faculty, Department of Pediatrics, Division of Critical Care Medicine, Washington University School of Medicine & St. Louis Children's Hospital   * Participate in the recruitment of pediatric residents, pediatric critical care fellows, pediatric critical care faculty, pediatric critical care nurse practitioners as well as candidates for nursing leadership positions (assistant managers, managers, educators, patient safety specialists). * Interview and evaluate 8-10 pediatric residency applicants per year, 4-8 pediatric critical care fellowship applicants per year (~40 applicants per year during the years when serving as Program Director), and a variable number of faculty candidates as well as candidates for nursing positions. * Participate in the evaluation and recruitment of Pediatric faculty outside the Division of Critical Care Medicine. |
| 2004 - 2014 | Program Director, Pediatric Critical Care Fellowship, Department of Pediatrics, Division of Critical Care Medicine, Washington University School of Medicine & St. Louis Children's Hospital   * During the 10 years as Program Director, the fellowship program doubled in size, from 6 fellows (spread over three years of training) to a program with 12 fellows. Responsibility and oversight over the entire aspect of the Pediatric Critical Care Fellowship, included: * Fellow recruitment. 50-80 fellowship applications reviewed every year, with 30-45 applicants coming to St. Louis for interviews. * Fellow evaluation. * Semi-annual meetings. * Clinical scheduling. * Clinical oversight. * GME compliance. * ACGME compliance. * Fellow scholarly activity. * Career planning. * Fellow education. * National Pediatric Critical Care Medicine. |
| 2010 - Pres | State of Missouri Collaborative Practice Agreement (CPA) with Pediatric Critical Care Nurse Practitioners, St. Louis Children's Hospital   * Pediatric critical care nurse practitioners are required to have a CPA with a pediatric critical care faculty. * Have had CPA's with 3 pediatric critical care nurse practitioners (Ashley Larsen, Katherine Huffer and Holly Hanak). * CPA requirements include formal supervision, ongoing chart reviews and feedback. |
| 2010 - 2015 | Co PI, Acute Liver Failure Study Group, Department of Pediatrics, Division of Critical Care Medicine, Washington University School of Medicine & St. Louis Children's Hospital   * Serving as a co-PI for the Pediatric Acute Liver Failure multi-institutional grant. * Responsible for helping to develop protocols and order sets pertaining to the evaluation and management of pediatric acute liver failure. |
| 2014 - Pres | Attending Physician, PICU Unit Based Joint Practice Team End Of Life Subcommittee, St. Louis Children's Hospital   * Unit Based Joint Practice Team meets bi-monthly to discuss issues and develop pathways and processes pertaining to end of life care in the pediatric intensive care unit. * Serve as the PICU interface with our regional OPO, MidAmerica Transplant. |
| 2014 - Pres | Critical Care Representative, SLCH Trauma Physician Peer Review (TPPR) Committee, St. Louis Children's Hospital   * Meets monthly. * American College of Surgery mandated PSQI activity for the review of all patients admitted/referred to the SLCH trauma program. |
| 2015 - Pres | CCM Representative, ECMO Steering Committee, Department of Pediatrics, Division of Critical Care Medicine, Washington University School of Medicine & St. Louis Children's Hospital   * Meets monthly. * Representatives from the NICU, CICU, PICU, pediatric surgery, cardiothoracic surgery, nursing and perfusion. * Discuss any issues related to extracorporeal life support including review of all patients who receive ECMO. * Responsible for developing guidelines pertinent to ECMO support (e.g. anticoagulation guidelines). |
| 2018 - Pres | Lead Physician, Continuous Renal Replacement Therapy (CRRT) Leadership Group, St. Louis Children's Hospital   * Meets monthly. * Beginning in 2018, nursing responsibility for continuous renal replacement therapy in the PICU shifted from the Dialysis & Pheresis Unit to the Pediatric Intensive Care Unit. * This group meets monthly to discuss processes and develop protocols (medical and nursing) for the PICU renal replacement program. The group also has oversight over nursing and physician training for dialysis, and conducts quarterly simulations with nurses and physicians to help train for dialysis-related emergencies. |

## EDUCATIONAL CONTRIBUTIONS

## Direct teaching

### Clinical

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| 2002 - Pres | Attending Physician, Pediatric Intensive Care Unit, St. Louis Children's Hospital/Washington University School of Medicine   * Responsible for daily clinical teaching when attending in the Pediatric Intensive Care Unit (PICU). * Attend in the PICU 8-12 weeks/year, as well as 30-35 nights per year. Attending physicians in the PICU are responsible for all clinical teaching. This teaching occurs in the early morning (7:30-8:00am) when residents have a daily didactic teaching session, during morning teaching rounds, and on an ad hoc basis in the workroom, or at the bedside, throughout the day and night. This is the fundamental mechanism by which trainees learn clinical medicine. In addition to residents, attending's are responsible for clinical teaching for the on-service fellows, as well as nurse practitioners, bedside nurses, and respiratory therapists. |
| 2008 | Lecturer, Department of Pediatrics Tuesday Case Conference, St. Louis Children's Hospital |
| 2017 - Pres | Facilitator, End of Life Teaching Days, St. Louis Children's Hospital   * Helped facilitate a program on end of life care for the pediatric intensive care unit bedside nurses. * The program involves simulations and facilitated discussions of difficult conversations and situations that arise around end of life care. |
| 2017 - Pres | Faculty, Pediatric Resident Report, Washington University School of Medicine/St. Louis Children's Hospital   * Facilitate pediatric resident report one morning per month. * Lead discussion surrounding case presentations by pediatric residents with a focus on the recognition, stabilization and management of the critically ill child. |

### Other

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| 2002 - Pres | Faculty, Pediatric Critical Care Didactic Fellow Conference, Washington University School of Medicine/St. Louis Children's Hospital   * In addition to bedside/clinical teaching when they are on clinical service, our Pediatric Critical Care fellows have 2 hours every week of protected time set aside for didactic/interactive teaching sessions. * The curriculum repeats over a one year cycle. * Responsible from 2004-2014, as the Program Director for the Pediatric Critical Care fellowship, for helping to teach various sessions in the curriculum, and also for the development and annual review of the curriculum/content. * From 2002-2004, and 2014-present, responsible for leading 2-4 of the weekly sessions every year. |
| 2003 | Course Faculty, Molecoolz, Washington University School of Medicine   * Course faculty for graduate student level course focusing on the molecular basis of disease. |
| 2004 | Lecturer, Medical Genetics, Washington University School of Medicine, Washington University School of Medicine   * Lecturer for advanced molecular genetics course for graduate students in the genetics program. |
| 2005 - 2008 | Course Faculty, Advanced Genetics, Washington University School of Medicine   * Course faculty/lecturer for advanced genetics course for upper year graduate students in the genetics program. Course focused on animal models for genetics research in the biomedical sciences. |
| 2005 | Course Faculty, Molecoolz, Washington University School of Medicine   * Course faculty for graduate student level course focusing on the molecular basis of disease. |
| 2010 - 2014 | Course Faculty, Annual Pediatric Critical Care Medicine Boot Camp, Philadelphia, PA, University of Pennsylvania/Children's Hospital of Philadelphia   * Course faculty for first year fellow pediatric critical care boot camp. * Traveled to Philadelphia every July with first year fellows for a three-day, intensive, simulation-based boot camp from 2010-2014. * Served as course faculty over the three days, leading and debriefing numerous critical care scenarios with 40-50 first year critical care fellows from across the United States. * In 2010, we were the first critical care fellowship from the midwest to join this program. * In 2016, helped Dr. Duncan launch the first (and now ongoing) midwest Boot Camp (see below). |
| 2013 - Pres | Course Faculty, Sessions on Shock/Septic Shock, Capstone, Washington University School of Medicine   * The 4th year Medical Student Capstone course is designed to complete the student’s preparation for internship. The course was created to provide the high value, practical knowledge and experiences required for a successful transition from medical student to intern. To accomplish this goal, the curriculum focuses on interactive didactic sessions in the morning which cover a broad spectrum of medicine and afternoon sessions which concentrate on procedural skills, acute care simulation, and intern skills workshops. Besides the general knowledge and skills that are covered in the main sessions, specialty-specific sessions are included which focus on giving students in specific career paths knowledge and skills particular to that specialty. The goal is that after this month rotation, the student will feel less anxious about beginning a career in medicine and will feel more prepared to face the challenges and thrills of patient care. * Taught the Capstone course to 4th year WUSM medical students every year, beginning in 2013. * Teach a didactic/interactive session on pediatric sepsis and shock. * Teach two separate 2-hour sessions every spring. |
| 2014 | Course Faculty, Pediatric Emergency Medicine Boot Camp, Washington University School of Medicine/St. Louis Children's Hospital   * The Pediatric Emergency Medicine Boot Camp was modeled after the Pediatric Critical Care Boot Camp. It is an intensive, 3-day, interactive didactic and simulation-based boot camp for first year pediatric emergency medicine fellows from across the United States. * Taught didactic and simulation-based sessions for this boot camp. |
| 2016 - Pres | Course Faculty, Annual Midwest Pediatric Critical Care Medicine Boot Camp, St. Louis, MO, Washington University School of Medicine/St. Louis Children's Hospital   * Course faculty for first year fellow pediatric critical care boot camp. * Modeled after the first year fellow critical care boot camp at U Penn/CHOP, Washington University School of Medicine began it's own national program in 2016. The boot camp is an intensive, three-day, interactive didactic and simulation-based session. * Serve as course faculty over the three days, leading and debriefing numerous critical care scenarios with 40-50 first year critical care fellows from across the United States. |
| 2017 - Pres | Course Faculty, PALS Provider Course, Washington University School of Medicine/St. Louis Children's Hospital   * Maintained instructor certification for Pediatric Advanced Life Support (PALS) since 2017. * Teach 3-4 PALS courses every year. These are both new certification and recertification courses. * PALS courses are taught through a centralized course program across the WUSM/BJC medical campus. Teach PALS to residents, nurses, nurse practitioners, attending physicians, respiratory therapists and any other WUSM/BJC employers who require PALS certification. * Courses consist of both didactic and simulation-based modules. each course takes 1-2 days, depending on whether it's an initial certification, or new certification. |
| 2017 - Pres | Course Faculty, ECMO Boot Camp, Washington University School of Medicine/St. Louis Children's Hospital   * ECMO Boot Camp is a two-day, intensive series of didactic and simulation-based scenarios focusing on the care of children requiring extracorporeal support. * Didactic sessions focus on the physiology and pathophysiology of disease states requiring extracorporeal support. * Simulation-based sessions focus on managing emergent scenarios that arise with patient who are being supported by ECMO. * Participants in this program include pediatric critical care, pediatric surgery, pediatric cardiology and neonatology fellows, as well as ECMO specialists (RN's and respiratory therapists). * The program is taught over two days, and occurs 1-2 times every year. |
| 2018 - Pres | Facilitator, Online Case Conferences, Riga Stradins University, Riga, Latvia, Washington University School of Medicine/Riga Stradins University   * Have facilitated an online clinical case review with pediatric residents and medical students at Riga Stradins University in Riga, Latvia. * The case conferences occur quarterly. Present interesting cases for discussion with the trainees in Riga, or trainees in Riga present cases to discuss and deliberate. * Dr. Reinis Balmaks, my colleague in Riga, helps to facilitate these discussions. |

## ANNUAL SUMMARIES

## OTHER