

## UNIVERSITY OF COLORADO SCHOOL OF MEDICINE

**JENNIFER LEIGH ARMSTRONG, MD, MPH, FAHA***Formerly Armstrong-Wells*

- ❖ *To bring the highest level of integrity in research administration, regulation, and safety to serve the participant, the researcher team, the university, and the community at-large*
- ❖ *To push boundaries and effect creative solutions for advancing research, clinical practice, and leadership administration*
- ❖ *To provide the highest level of comprehensive fetal-neonatal brain care beyond the newborn period, while working in a team-based approach to determine the mechanisms and consequences of injury and long-term outcomes associated with placental dysfunction*
- ❖ *To educate and champion inclusivity and diversity in all realms of a well-rounded, academic career*

**1. Current Position**

Associate Professor of Pediatrics (Section of Neurology), Neurology, and OB/GYN (Division of Basic Reproductive Sciences)

University of Colorado Anschutz Medical Campus

Child Neurology, Children's Hospital Colorado

13123 E. 16<sup>th</sup> Avenue, B-155

Aurora, CO 80045

Cell: 415-215-9116

Fax: 720-777-7285

e-Mail: jennifer.armstrong@cuanschutz.edu

**2. Education**

<b><u>School/Program</u></b>	<b><u>Degree</u></b>	<b><u>Date</u></b>
University of California, San Diego	B.A. (Bio-Anthropology & Archaeology with Honors, Cum Laude)	1991-1996
University of California, San Francisco	M.D.	1997-2002
University of California, Berkeley	M.P.H. (Epidemiology & Biostatistics)	2000-2001
University of California, San Francisco	Intern (Pediatrics)	2002-2003
University of California, San Francisco	Resident (Pediatrics)	2003-2004
University of California, San Francisco	Resident (Adult Neurology)	2005-2006
University of California, San Francisco	Fellow (Child Neurology)	2006-2008

**3. Academic appointments**

<u>Academic Institutions</u>	<u>Rank</u>	<u>Date</u>
University of California, San Francisco	Adjunct Assistant Professor Dept of Neurology	2008-2016
University of Colorado Anschutz Medical Campus	Assistant Professor Dept of Pediatrics, Section of Neurology & Dept of Neurology	2008-2016
University of Colorado Anschutz Medical Campus	Assistant Professor Dept of OB/GYN, Division of Basic Reproductive Sciences	2010-2016
University of Colorado Anschutz Medical Campus	Associate Professor Dept of Pediatrics, Section of Neurology & Dept of Neurology & Dept of OB/GYN, Division of Basic Reproductive Sciences	2016-present

**4. Hospital, government or other professional positions**

Director of Clinical Research

CU-Anschutz Hemophilia and Thrombosis Center 2014-2018 (0.35 FTE)

- Oversaw over 60 clinical trials and investigator-initiated research projects, directly supervised 8 clinical research associates/study coordinators, a statistician and data manager, developed Standard Operating Procedures for all aspects of research operations, Sponsor/Pharma interface and education, conducted research visits in when hematology not available

Clinician-Scientist

CPC Clinical Research, ARO/CRO 2018-2020 (0.15-0.30 FTE)

- Clinical Trialist and Pharmacovigilance: protocol and ICF development, client recruiter and educator, content expert (Neurology, Neurovascular, Thrombosis, Inclusion and Equity in Research), mentorship and teaching of clinical trialist fellow
- Medical Monitor: <https://clinicaltrials.gov/ct2/show/NCT02964325>;
- Protocol Developer assist, Medical Safety Officer (MSO, CRO): <https://clinicaltrials.gov/ct2/show/NCT04104451>;
- Endpoint Adjudicator: <https://clinicaltrials.gov/ct2/show/NCT01991795>;  
<https://clinicaltrials.gov/ct2/show/NCT03629236>;  
<https://clinicaltrials.gov/ct2/show/NCT02504216>

<b>Inpatient Medical Director, Child Neurology</b>	2022-present (0.20 FTE, inc to
Department of Pediatrics, Children’s Hospital Colorado	0.40 FTE 10/2022)

## 5. Honors, special recognitions and awards

### • Medical school, graduate school, residency

1999	Western Society for Pediatric Research Student Research Award
2000	University Fellowship, UC Berkeley
2002	Ralph W. Ellison National Minority in Medicine Award Finalist
2002	Alpha Omega Alpha
2007	Scholarship Recipient, Virginia Commonwealth University Pediatric Epilepsy
2007-2008	Chief Resident, Adult and Child Neurology
2008	Kaiser Award for Excellence in Research in Neuroscience, San Francisco Neurological Society

### • Clinical

2015	Honored health care provider, Strike out Stroke Day with the Colorado Rockies
2015	“Best Doctors in the US” Honoree – Neurology, Neonatal Neurology
2016	“Best Doctors in the US” Honoree – Neurology, Neonatal Neurology
2017	“Best Doctors in the US” Honoree – Neurology, Neonatal Neurology
2018	Featured physician, Children’s Hospital Colorado “Big Book” Annual Report
2018	Featured physician, Children’s Hospital Colorado promotional video “Why I…”
2018	“Best Doctors in the US” Honoree – Neurology, Neonatal Neurology
2019	“Best Doctors in the US” Honoree – Neurology, Neonatal Neurology
2019	University of Colorado President’s Diversity Award Nominee
2020	“Best Doctors in the US” Honoree – Neurology, Neonatal Neurology

### • Teaching

2010	University of Colorado, Department of Adult Neurology, Excellence in Inpatient Teaching
2010-2011	Colorado Clinical and Translational Sciences Institute (CCTSI) Co-Mentor Program (role: mentee; mentor: Virginia Winn, MD/PhD)
2012	Research Award, 27 <sup>th</sup> Annual University of Colorado School of Medicine Student Research Forum, Best Poster Child Maternal Health and Reproductive Sciences (mentee: Whitney Hoover Giamberardino)
2012	Golden Stethoscope Honoree (Excellence in Clinical Education), University of Colorado School of Medicine & Colorado Area Health Education Center
2013	Golden Stethoscope Honoree
2014	Golden Stethoscope Honoree
2015	Golden Stethoscope Honoree
2015	CCTSI Co-Mentor Program (role: mentor; mentee: David Mirsky, MD)

### • Research

2009-2011	Colorado Clinical and Translational Sciences Institute, Clinical Faculty Scholar
2010-2014	NIH Building Interdisciplinary Research Careers in Women’s Health Scholar

- 2011           Featured researcher speaker, CU Anschutz Center for Women’s Health Research Community Kick-off
- 2011           CCTSI Research Case Study in Team Science (My research was selected as a case study on how to successfully perform multidisciplinary research)
- 2017           My Life, Our Future (MLOF) Champion of the Year, recognizing Hemophilia and Thrombosis Center Clinical Research Program (when I was Director of Clinical Research)
- 2018-2019     CCTSI Leadership for Innovative Team Science (LITeS) Program
- 2019           Featured researcher speaker, CU Anschutz Center for Women’s Health Research Community Kick-off
- 2019           *Neurology Today*, Highlighted Child Neurology Society Annual Meeting Researcher, “Neuroplacentology”

• **Service**

- 2016           Woman of the Year, Alpha Chi Omega National Sorority
- 2018           American Academy of Neurology Diversity Leadership Program

• **Elected/honorary society memberships/honorary fellowships**

- 2013           Elected Fellow of the American Heart Association/American Stroke Association
- 2022           Women Leaders Association, Denver Women Leaders Chapter

**6. Membership in professional organizations**

- 2002-2004     American Academy of Pediatrics
- 2005-present   American Academy of Neurology
- 2006-present   American Heart Association/American Stroke Association – Stroke Council
- 2007-2020     Child Neurology Society  
Co-chair, Stroke Special Interest Group (2011-2013)
- 2008-present   International Pediatric Stroke Study  
Co-chair, Neonatal Stroke Subgroup (2011-2016)
- 2008-present   American Academy of Neurology – Stroke Section
- 2012-present   International Child Neurology Association
- 2013-present   International Society for Developmental Origins of Health and Disease
- 2019-present   Newborn Brain Society
- 2019-present   Overseas Fellow, Royal Society of Medicine
- 2019-present   Public Responsibility in Medicine and Research (PRIM&R)
- 2022-present   National Hispanic Medical Association

**7. Major Committee and Service Responsibilities (bold= leadership position)**

• **Departmental**

- 2020-present   **Program Director**, Neonatal-Stroke-Inpatient-Neurocritical Care (NSINC), Child Neurology
- 2020-present   Peer Support Mentor, Child Neurology
- 2020-present   Peer Support Mentor, Hemophilia and Thrombosis Center
- 2021-2021     **COVID Official**, CU-Anschutz Hemophilia and Thrombosis Center

- Monthly CU-Anschutz leadership meetings to meet needs of systematized safety (PPE utilization, environmental safety, traffic control) in changing pandemic environment in clinical research spaces
  - Developed screening plan, space plan, PPE plan, cleaning protocols, clinical research pull back and reactivation plan for Hemophilia and Thrombosis Center
  - Dissemination of this information and guidance to Hemophilia and Thrombosis Center staff, including monthly educational all-staff meetings
  - 24/7 call for COVID emergencies and guidance regarding Hemophilia and Thrombosis Center staff and patient/participant exposures
- 2021-present **Creator and Program Director**, Justice, Equity, Diversity & Inclusivity (JEDI), Child Neurology Section, Department of Pediatrics
- Curriculum development and course teaching for child neurology residents, faculty, and staff
  - Facilitator book club and interest group
  - Ongoing assessments of quality and effectiveness
  - Mentorship
  - Recruitment of residents and faculty
  - Peer mentor/coach
  - Work with campus leadership for cross-collaboration
- 2021-present **Co-Program Director**, Justice, Diversity, Equity & Inclusion (JEDI), Adult Neurology, Department of Neurology
- Developed curriculum for adult neurology residency program
  - Ongoing teaching
  - Monthly interest group meetings

• **School of Medicine**

- 2009-present Faculty preceptor, Foundations of Doctoring
- 2018 Facilitator, IDPT 500: Foundations of Doctoring 1: Clinical Interlude Debrief
- 2018-present Medical Students Promotions Committee
- 2018-2020 Clinical Curriculum Reform Committee, School of Medicine, Preclerkship Subgroup
- 2020 Judge, Mentored Scholarly Activity Research Symposium
- 2021-present Mentor, FirstUP Program, mentee Teresa Hackler
- 1<sup>st</sup> generation medical school faculty paired with 1<sup>st</sup> generation medical students

• **University (University of Colorado Anschutz Medical Campus, CU-Anschutz/CU-Denver)**

- 2008-2017 CU-Anschutz Brain Injury Research Group (disbanded after our leader Dr. Dick Traystman’s death)
- 2012-2014 UCHealth Stroke Council
- 2012-present Colorado Multiple Institutional Review Board (COMIRB) Member/Reviewer
- Initial and continuing review of full board, expedited and exempt pediatric and adult clinical research protocols including but not limited to protocol review,

	informed consent (ICF), amendments, protocol deviations and unanticipated problems, investigational drug/devices, humanitarian use drugs/devices
	<ul style="list-style-type: none"> <li>• 2012-2019: Panel C member (pediatrics research panel)</li> <li>• 2019-present: Panel B (adult non-oncological research), Panel D (adult oncological research). Additionally, Panels C (pediatrics), A (adult non-oncological research), S (social science research) reviews and expertise as needed</li> <li>• Content expert: Neurology/Neurosurgery, Neurovascular and Vascular (including devices), Thrombosis, Hemostasis, Pregnancy, Fetal Medicine and the Placenta, Biomarkers, Pediatric Subspecialties including Oncology, Psychiatry, LGBTQ+</li> </ul>
2012-2013	Center for the Prevention of Preterm Birth Transdisciplinary Committee
2012-2015	Pilot Grant Reviewer, Colorado Clinical & Translational Sciences Institute (CCTSI) Child Maternal Health Program
2015, 2016	Faculty, Camp Neuro (High School Summer Camp Program through CU-Anschutz)
2017	Perinatal Research Network Committee
2018-2019	Child Health Research Work Group, Building Connectivity of Child Health Research Across the Campus subgroup)
2018-2020	<b>Executive Planning Committee</b> , CU-Anschutz LGBTQ+ Resource Center (LGBTQ+ Hub)
	- Monthly strategic planning with Dionisia de la Cerda and Jacob McWilliams
2019	Faculty and Group Sub Facilitator, Interprofessional Education and Development (IPED)
2019-present	<b>Colorado Multiple Institutional Review Board (COMIRB) Chair</b> , Panel B
	<ul style="list-style-type: none"> <li>• Along with responsibilities as described in COMIRB above:</li> <li>• Chair full board meetings (review all protocols, education of panel members, adjudication), chair other Panel meetings when needed</li> <li>• Weekly office hours for study teams</li> <li>• Represent COMIRB, along with the Director, during audits and official review or visits by officials of regulatory agencies and accrediting organizations and/or during meetings with institutional leaders and stakeholders</li> <li>• Lead projects including writing new guidance documents for researchers, training materials for IRB members and staff</li> <li>• Author COMIRB white papers/guidelines of COMIRB</li> <li>• See Other Products of Scholarship: <ul style="list-style-type: none"> <li>○ Guidance on Research in Pregnant Participants</li> <li>○ Guidance on Research in the Fetus/Placenta/Neonate</li> <li>○ Guidance on Gender Inclusive Research</li> </ul> </li> </ul>
2019-present	CU-Anschutz Office of Regulatory Affairs
	<ul style="list-style-type: none"> <li>• Compliance Board (monthly)</li> <li>• Medical Safety Officer (MSO) and Dose Escalation Committee for <a href="https://clinicaltrials.gov/ct2/show/NCT04104451">https://clinicaltrials.gov/ct2/show/NCT04104451</a> (2020-present)</li> </ul>
2020-present	CU-Anschutz LGBTQ+ Hub Research Committee

- 2020-present COVID Official
- Monthly CU-Anschutz leadership meetings to meet needs of systematized safety (PPE utilization, environmental safety, traffic control) in changing pandemic environment in clinical research spaces
- 2020-present Peer Support Mentor
- 2020-present **Co-chair, CU-Anschutz COVID Clinical Research Reactivation Ramp-up Committee**
- Created and appointed by CU Vice-Chancellor of Research Dr. Thomas Flaig in response to COVID-19 pandemic to pull back and restart clinical research in a rapidly changing global environment to 1.) maintain safety for participants and research staff, 2.) follow CU-Anschutz COVID regulations
  - Co-chair with Alison Lakin, CU Associate Vice Chancellor for Regulatory Compliance and Research Integrity Officer
  - Weekly meetings for entire committee, **additional ad hoc co-chair meetings**
  - Developed the entire clinical reactivation re-activation process for over 1000 clinical research trials involving CU-Anschutz, University of Colorado Hospital, and Children’s Hospital Colorado and affiliates including but not limited to writing standard operating procedures for protocol prioritization integrating medical need, participant and staff safety requirements and resource utilization, non-hospital space access and operations, resources needed to minimize risk, remote monitoring
  - Worked with COMIRB Director to create and implement protocol amendment guidance for transition to teleresearch, eConsent, sponsor engagement, off-campus procedures
  - Developed detailed clinical research pause and reintroduction guidelines/process with second Colorado COVID spike in November 2020
  - See Paper Publications below #39
  - See Other Products of Scholarship:
    - Standard Operating Procedure, COVID-19 Principles and Framework Guiding a Phased Approach to Restarting Clinical Research Activity
    - Standard Operating Procedure - COVID-19 Clinical Research Reconstitution Plan
    - Standard Operating Procedure - COVID-19 Clinical Research Rollback Plan in Response to COVID Spike
- 2020-2021 **Co-chair, Clinical Research Reactivation Protocol Review Committee**
- Co-chair and sole physician on 5-person CU-Anschutz key clinical research experts, weekly meetings
  - Strategically developed to keep small to capitalized on rapidly acquired expertise, swift turnaround of reviews/approvals, consistent and uniform review
  - developed REDCap portal database for study team submission, committee review, and protocol tracking
  - Protocol reviews of approximately 500 clinical research studies on campus requesting reactivation

- 2020-present Community/Off-Campus Research Reactivation Review Committee
  - 6-person CU-Anschutz key community research experts
  - Similar to Clinical Research Protocol Review Committees
  - Developed REDCap portal database for study team submission, committee review, and protocol tracking
  - Ongoing protocol reviews, with weekly (2020) to biweekly (2021-present) meetings
- 2021-present Strategic Approach to Investigation Drug and Devices (IND/IDE) Planning Committee
  - Physician and COMIRB representative to 5-person committee assembled to create the new CU-Anschutz Office of IND/IDE, including key personnel, budget, and overall goals
  - Monthly meetings
- 2021-present CU-Anschutz Clinical Research Committee
  - Key clinical research stakeholders, including hospital partners, to prioritize, streamline, and collaborate of common clinical research themes
  - Includes, but not limited to research staff retention, recruitment, equity and diversity in research, centralized resources, leadership consensus, research pharmacy oversight, Clinical and Translational Sciences Award (CTSA) grant renewal
  - Quarterly meetings with subcommittee breakouts in-between as needed
- 2021-present **Executive Committee/Co-chair**, CU-Anschutz Clinical Research Committee
  - Monthly meetings to strategize clinical research priorities and agendas for CU-Anschutz Clinical Research Committee
  - Monthly meetings
- 2022-present **Health Equity in Action Lab (HEAL) Trainer**, inaugural cohort
  - Justice, equity, diversity and inclusion educator for CU-Anschutz campus
  - Minimum 2 hours per month

• **University at large (University of Colorado CU-System)**

- 2017-2019 Equity, diversity, and inclusivity planning with Dr. Brenda Allen
- 2017-present CU Advocate – fundraising and community engagement to benefit CU-System
- 2020-present CU Faculty Grievance Committee (formerly Privilege and Tenure Committee)

• **Children’s Hospital Colorado (CHCO)**

- 2008-2014 Fetal medicine pre-delivery counseling
- 2009-present Designated vascular neurologist, Sturge-Weber Foundation Center of Excellence
- 2009-present Neuroscience Institute Research Committee
- 2012-2014 Children’s Hospital Colorado Foundation Fundraising Events
- 2015-2016 CHCO/UCHealth Neonatal Intensive Care Nursery Clinic Follow-up Committee
- 2017 Child Health Research Enterprise, Future of Child Health Research Initiative
- 2019-2020 Neonatal Intensive Care Nursery Neurodevelopmental Discharge Clinic strategic plan and director job description committee
- 2020-present Peer Support Mentor



2020-present CHCO Faculty Well-Being Advisory Committee – Hospitalist Team

• **Local**

2011 Denver News 9 Feature Story, “Babies have strokes, too”

2015 Speaker, American Heart Association Corporate Health Committee Conference, Denver, CO

2015 Denver CBS4 Feature Story, “Researcher works to determine why babies have strokes”

2016 Faculty/presenter, Neonatal Potpourri Conference, St. Joseph’s Hospital, Denver, CO

• **State/Regional/Rocky Mountain Area**

2009-present Designated vascular neurologist, Sturge-Weber Foundation Center of Excellence

2009 Grand Rounds, “Perinatal Stroke Assessment and Management”, Poudre Valley Medical Center, Fort Collins, CO

2012 Speaker, Colorado Center for Blood Disorders

2014 Preceptor (2 students), Colorado Collegiate for Health Professional Development (CO-HPD) Scholar Program, Colorado Area Health Education Center (COAHEC)

- Partners historically underrepresented in medicine physicians with historically underrepresented high school students interested in health care careers

2016 **Co-creator**, Pediatric Stroke Support Group

2016-present Pediatric Stroke Support Group

2018-2021 Board of Directors, The Health Education and Resources Institute (THEARI, formerly Central Colorado Area Health Education Center/CCAHEC)

- Non-profit that partners to create and implement inclusive educational programs for health care students and providers, as well as community health education, with specific focus on historically underrepresented, socio-economically marginalized, and LGBTQ+ education and support.

2018-2021 **Executive Committee**, The Health Education and Resources Institute/THEARI

2019-2020 **Board President**, The Health Education and Resources Institute/THEARI

2021-present Emeritus Board, The Health Education and Resources Institute/THEARI

• **National**

2009-2011 National Institutes of Health/National Institute of Neurological Diseases Stroke Common Data Elements, Biospecimens and Biomarkers Working Group

• Product of scholarship – see Paper publication #13 below

2011-2013 **Co-Moderator**, Stroke Special Interest Group, Child Neurology Society

• Product of scholarship – Stroke provider toolkit (webpage, expired 2015)

• Host Stroke Special Interest Group Meetings at Annual Child Neurology Society Meetings, 2011, 2012, 2013

• Work closely with Child Neurology Society and American Academy of Neurology executive leadership in symposium planning, educational initiatives

- 2011-2019 Neonatal Special Interest Group, Child Neurology Society. This group separated from Child Neurology Society to form the Newborn Brain Society professional organization (above, Professional Organizations)
- 2016-2017 American Academy of Neurology, Topic Working Group Advisory Panel, Child Neurology
- Tasked with planning all educational endeavors for child neurology associated with American Academy of Neurology annual meetings
- 2017-2018 American Academy of Neurology, Clinical Research Subcommittee
- Tasked with planning all educational endeavors in clinical research education and training associated with American Academy of Neurology annual meetings
- 2017-2019 Child Neurology Society, Ethics Committee
- Tasked with planning all educational endeavors and crafting ethics standards associated with annual meetings and the society at-large
- 2022-present National Organization for Rare Disorders Rare Disease Centers of Excellence (NORD RD CoE) Program, Diversity, Equity and Inclusion (DEI) Working Group
- One of 25 invited national experts to identify, propose, and draft initiatives and legislation addressing inequities in access to rare disease treatment, education and research
- 2022-present **Diversity, Equity and Inclusion Representative/Lead**, National Organization for Rare Disorders Rare Disease Centers of Excellence (NORD RD CoE) Program, Telemedicine/Inter-site Consultation Working Group
- One of 20 invited national experts to identify factors limiting telemedicine and teleresearch in rare diseases, advocacy and legislation for state/federal/insurance policy changes, accessibility and equity
- **International**
- 2007-present International Pediatric Stroke Study (IPSS)
- Collaborative team research repository, research project and writing groups, clinical care cooperative
  - Role – **neonatal stroke expert/lead, biomarker and coagulation expert/site lead** for research projects
  - Site PI, American Heart Association/Bugher Stroke Center of Excellence in Hemorrhagic Stroke Research (in collaboration with IPSS), 2021-present
  - Site PI, Seizures in Pediatric Stroke (SIPS I 2011- 2012 and II 2016-2020)
  - Products of scholarship (8) – see Paper publications #2, 11,12, 24, 25, 27, 28, 33 below
  - **Co-chair**, Neonatal Stroke Subgroup 2011-2016
- 2013-2014 Sturge-Weber Syndrome Expert Consensus Panel
- Unfortunately, we could not come to consensus as a group and no consensus statement was formulated. One does not exist to this day given this issue.
- 2014-present International Neuroplacentology Group

- **Maternal/placental/fetal coagulation disorder expert, as well as the perinatal stroke expert**, responsible for both educational talks as well as research papers (see Paper publication #36)
  - Transdisciplinary group we assembled in 2014 to bring together clinical, basic science, and translational research experts in how the in-utero environment and placental influences both short and longterm neurological outcomes in the fetus and child.
  - Plan ongoing and future research collaborations
- 2013-present Fellow in the American Heart Association
- advisory, committee, and mentorship responsibilities expected to maintain standing

**8. Licensure and board certification**

- 2004 Medical Licensure, California (active)  
 2008 Medical Licensure, Colorado (active)  
 2009 Diplomat in American Board of Psychiatry and Neurology (Child Neurology Board Certification, 10 year)  
 2018 Diplomat in American Board of Psychiatry and Neurology (Maintenance of Certification, 10 year)

**9. Inventions, intellectual property and patents held or pending**

N/A

**Review and referee work**

• **Service on editorial board**

- 2021-present Associate Editor, Journal of Developmental Origins of Health and Disease  
 2021-2022 Review Editor/Editorial Board, Frontiers in Stroke (Stroke in the Young)  
 2022-present Associate Editor, Frontiers in Stroke (Stroke in the Young)

• **Grant review committees and study sections**

- 2012-2015 CCTSI Child Maternal Health Pilot Grant Reviewer

• **Service as ad hoc reviewer for journals professional societies or scientific meetings**

- 2010 Journal of Pediatrics  
 2011 American Academy of Neurology Continuum  
 2011 Journal of Stroke and Cerebrovascular Diseases  
 2011-2013 Abstract Reviewer, American Heart Association International Stroke Conference (3-year term)  
 2013-present Pediatrics  
 2013-present Circulation  
 2013-present Stroke  
 2014-present Journal of Maternal-Fetal and Neonatal Medicine  
 2014 Acta Paediatrica  
 2015-present Pediatric Neurology  
 2016-present Placenta  
 2016-present Frontiers in Neurology

2019-2022 Abstract Reviewer, American Heart Association International Stroke Conference (3-year term)

### **10. Invited extramural lectures, presentations and visiting professorships**

#### **• Local**

2010 Center for Women's Health Research Summer Kick-off, "The Importance of Community Support for Junior Faculty Researchers"

2010 Center for Women's Health Research Fundraising Luncheon, "Why I'm a Researcher, and What it Means to Be One"

2016 Invited lecturer/faculty, Neonatal Potpourri 2016 Conference, St. Joseph's Hospital, Denver, CO, "Perinatal Stroke Assessment and Treatment"

2017 Invited panelist, Pediatric Summit of Patient/Family Experience, Children's Hospital Colorado

#### **• Regional**

2012 Colorado Center for Blood Disorders Coagulation Conference, "Hemorrhagic Stroke in Children"

2016 Pediatric Stroke Support Group, "A Parent's Guide to Stroke"

2019 The Area Health Education and Resources Institute (THEARI, formerly Central Colorado Area Health Education/CCAHEC), "Inclusive Language and Stewardship to Support a Diverse Health Care Network", Annual Strategic Planning Meeting (April)

2019 The Area Health Education and Resources Institute (THEARI, formerly Central Colorado Area Health Education/CCAHEC), "How Stewardship Not Only Benefits Students, But Our Community: My Personal Experience as Chicana Physician"

#### **• National**

2011 Centers for Disease Control (CDC) National Center on Birth Defects and Developmental Disabilities Connects with the Community, Denver, CO, "How Placental Inflammation Impacts the Fetal Inflammatory Response and Adverse Neurological Outcomes"

2013 March of Dimes, Frontiers in Pregnancy Symposium, Denver, CO, "Biomarkers of Inflammation and Coagulation in Pregnancies Complicated by Preterm Premature Rupture of Membranes and Preeclampsia"

2019 Child Neurology Society, Charlotte, NC, "Neuroplacentology"

#### **• International**

2011 Pediatric Stroke Symposium Moderator, American Heart Association International Stroke Conference, Los Angeles, CA

2013 International Neuroplacentology Group, "Thrombophilia, Preterm Birth, and Adverse Neurological Outcomes"

2013 American Heart Association International Stroke Conference, Honolulu, HI, "How Does the Fetal Environment Affect the Neonate?"

2015 Society for Maternal Fetal Medicine, San Diego, CA, "Placental Inflammatory Pattern, the Fetal Inflammatory Response, and Neurologic Disability"

- 2015 Bayer Hematology Clinical Research Group, “Pediatric Stroke Education”
- 2015 Bayer Hematology Clinical Research Group, “Inflammation and Coagulation as Biomarkers in Perinatal Stroke Research”
- 2015 Forum Co-Moderator, “Infection and Inflammation in Pregnancy – Neuroplacentology: Linking placental inflammation with fetal neurologic outcomes.” Society for Maternal Fetal Medicine, San Diego, CA
- 2015 Invited Speaker, “Placental Inflammatory Patterns, the Fetal Inflammatory Response, and Neurologic Disability.” Society for Maternal Fetal Medicine, San Diego, CA
- 2016 CSL Behring Hematology Clinical Research Group, Aurora, CO, “Pediatric Stroke Education”
- 2016 CSL Behring Hematology Clinical Research Group, Aurora, CO, “Biomarkers of Coagulations in Research Studies of Perinatal Stroke”
- 2018 Pediatric Stroke Symposium Moderator, American Heart Association International Stroke Conference, Los Angeles, CA
- 2019 NovoNordisk Cardiovascular Clinical Research Group, Aurora, CO, “Stroke Education and Clinical Trials”
- 2021 PRA Health Sciences, “Racial Equity in Clinical Trials” (remote due to pandemic)

### Teaching record

#### • High School

- 2014 Preceptor (2 students), Colorado Collegiate for Health Professional Development (CO-HPD) Scholar Program, Colorado Area Health Education Center (COAHEC)
- Partners historically underrepresented in medicine physicians with historically underrepresented high school students interested in health care careers
- 2015, 2016 Faculty, Camp Neuro (High School Summer Camp Program through CU-Anschutz)
- “Fetal Brain Development and a Real-Life Patient Experience”

#### • Undergraduate

- 2009-2011 Cassie Ross, University of Colorado Denver Undergraduate, Research Mentor
- Weekly meetings teaching nuts and bolts of clinical research, project design, data analysis, abstract, and thesis writing

#### • Medical/Graduate Students

- 2009-present Faculty preceptor, Foundations of Doctoring
- 1-2 clinic sessions per week
  - 1-2 medical students per year (mentee list below)
- 2011-2015 Roxanne Martinez (Hooder for medical school graduation)
- 2011-2015 Whitney Hoover Giamberardino (Hooder for medical school graduation)
- 2014-2016 Charles Behnfield (Hooder for medical school graduation)
- 2016-2020 Colton Sauer (virtual Hooder for medical school graduation)

- 2017-present Amelia Burch (MD/PhD candidate in Neuroscience)  
 2019-present Sarah Zyck (MD/PhD candidate in Neuroscience)
- 2011-2015 CU-Anschutz School of Medicine Research Tract Mentor, Whitney Hoover Giamberardino
- Weekly meetings teaching nuts and bolts of clinical research, project design, data analysis, abstract and manuscript writing, article revisions, research presentations
  - Research Award, 27<sup>th</sup> Annual University of Colorado School of Medicine Student Research Forum, Best Poster Child Maternal Health and Reproductive Sciences (2012)
- 2013-2014 Research mentor and advisor, Emily Shelkowitz, Brown University School of Medicine Student
- Weekly meetings teaching nuts and bolts of clinical research, project design, data analysis, medical student project writing
- 2014-2015 Master's committee and thesis co-advisor, Taylor Blades, Masters of Clinic Science candidate, CU-Anschutz Clinical Science Graduate Program
- 2014-2018 Research mentor and thesis advisor, Cassie Ross, Doctoral Student, American School of Professional Psychology at Argosy University
- 2014-2018 Research mentor, Emily Maxwell, Neuropsychology Student and Intern. CU-Anschutz
- 2016-2017 Mentor and research advisor capstone project, Laura Paulson, MPH Candidate, CU-Anschutz School of Public Health
- 2018 Facilitator, IDPT 500: Foundations of Doctoring 1: Clinical Interlude Debrief
- 2018-2021 Research mentor, Alexandra Sotiros, Medical Student, CU-Anschutz
- 2019 Faculty and Group Sub-Facilitator, Interprofessional Education and Development (IPED)
- 2020-2022 Mentor, Molly Brown, MPH Candidate, Baylor School of Public Health

• **Residents/Fellows**

- 2008-present CU-Anschutz Child Neurology Residency Weekly Case Conference
- 2008-present CU-Anschutz Hemophilia and Thrombosis Center Monthly Coagulation Conference
- 2009-present CU-Anschutz Child Neurology Fellow Education Conference
- Yearly didactic primer teaching on assessment, management, and practicalities when evaluating patients with perinatal stroke, neonatal encephalopathy, and acute or subacute ischemic stroke, vascular malformations or hemorrhagic strokes
- 2010 CU-Anschutz Maternal-Fetal-Medicine Fellows, “Placental dysfunction and the preterm brain”
- 2010-2013 CU-Anschutz Adult Neurology Resident Teaching Conference
- Yearly primer for adult residents managing perinatal and childhood hemorrhagic stroke emergencies while on call
- 2010 CU-Anschutz Pediatrics Residents, “Perinatal Arterial Ischemic Stroke”
- 2019 CU-Anschutz Child Neurology Fellows, “Implicit Bias in Health Care”
- 2020 CU-Anschutz Child Neurology Fellows, “Equity, Diversity, and Inclusion”

- 2021 CU-Anschutz Child Neurology Fellows:
- “How to Be an Anti-Racist” (April)
  - “Ableism and Disability in Television – Part 1” (April)
  - “Ableism and Disability in Television – Part 2” (May)
  - “Justice, Equity, Diversity and Inclusion Primer” (August)
  - “What is Privilege?” (September)
  - “Implicit Bias in the Age of Zoom” (October)
  - “Privilege in Health Care” (November)
- 2022 CU-Anschutz Child Neurology Fellows:
- “Intersectionality: Transgender and Disability” (January)
  - “Caste Theory and How it Applies to Medicine” (February)
  - “Black History Month #1 – The African-American Experience as Patient” (March)
  - “Black History Month #2 – How to Utilize Community as a Health Partner” (April)
  - “Disability Activism” (May)
  - Year in review (June)

• **Faculty/Staff/Health Care Professionals**

- 2010 Children’s Hospital Colorado, Emergency Medical Service Conference, “Acute Stroke Care for Children”
- 2010 Grand Rounds, University of Colorado Neonatology, “Perinatal Stroke – Management and Research Updates”
- 2011 Invited Speaker, CU-Anschutz Perinatal Research Group, “Biomarkers of Inflammation and Hypercoagulability in Preterm Premature Rupture of Membranes”
- 2011 Grand Rounds, University of Colorado Department of Neurology, “Biomarkers of Inflammation in Perinatal Stroke”
- 2012 Grand Rounds, CU-Anschutz Department of OB/GYN Basic Reproductive Sciences, “Biomarkers of Inflammation in Preterm Premature Rupture of Membranes”
- 2014-2018 Clinical research education teaching to Clinical Research Assistants and research team staff, CU-Anschutz Hemophilia and Thrombosis Center
- 2015 Speaker, CU-Anschutz Department of Neurology Research Retreat, “Coagulation Disorders in Preterm Pregnancy and Infant Outcomes”
- 2016 Invited panelist, 5<sup>th</sup> Annual Clinical Concepts and Conundrums in Pediatric Hospital Medicine, Children’s Hospital Colorado, “Pediatric Stroke Dilemmas”
- 2016 Grand Rounds, CU-Anschutz Department of Neurology, “Basic and Clinical Translational Research for Fetal Brain Protection”
- 2019 CPC Clinical Research, “Racial Bias in Clinical Trials”
- 2019 Invited speaker, 10<sup>th</sup> Annual Neonatal Advanced Practice Conference, Children’s Hospital Colorado, “Perinatal Stroke 101”
- 2019 Children’s Hospital Colorado Child Neurology Faculty, “Implicit Bias in Health Care”

- 2019 Grand Rounds, CU-Anschutz Department of Neurology, “Diversity and Inclusion in Neurology: Recommendations to the American Academy of Neurology”
- 2019 Colorado Multiple Institutional Review Board (COMIRB), “Single IRB Primer”
- 2020 Colorado Multiple Institutional Review Board (COMIRB), “Ethics and Operationalization of Shared Ventilation in a Pandemic”
- 2020 CPC Clinical Research, “Addressing Incidental Findings in Pragmatic Clinical Trials”
- 2020-2021 COVID updates and guidance presentations to CU-Anschutz Hemophilia and Thrombosis Center, monthly
- 2021 Colorado Multiple Institutional Review Board (COMIRB), “Research in Pregnant Women”
- 2021-present Children’s Hospital Colorado (Anschutz and Colorado Springs) Child Neurology Faculty “JEDI Soundbytes”
  - Monthly Justice, Equity, Diversity and Inclusion (JEDI) brief bulleted educational pieces dispersed in the Child Neurology Newsletter
- 2022 Children’s Hospital Colorado (Anschutz and Colorado Springs) Child Neurology Faculty and Staff, “Implicit Bias in Medical Communications”
- 2022 Colorado Multiple Institutional Review Board (COMIRB), “Research Involving the Fetus and Placenta”

• **Ward/clinic attending duties**

- 2008-2013 Stroke Attending Call, Children’s Hospital Colorado
  - 6 months per year (every other month), 24/7 coverage of hyperacute and acute treatment, and non-acute clinical concerns for Children’s Hospital Colorado and entire Rocky Mountain Region at-large
- 2008-2010 Childhood Stroke Clinic, Children’s Hospital Colorado, Center for Cancer and Blood Disorders Clinic
  - 2 clinic sessions per month, 1 of 2 neurologists
  - Serves greater Rocky Mountain Region and beyond
  - Multidisciplinary Clinic including Neurology, Hematology, Rehabilitation, Neuropsychology
  - Diagnoses seen: Pediatric arterial ischemic stroke, moya-moya disease, arterial dissections, cerebral sinus venous thrombosis
  - Supervise and educate hematology and rehabilitation fellows during clinic
- 2008-2015 Outpatient General Neurology Clinic, Child’s Hospital Colorado
  - 1-2 clinic sessions per week
- 2008-2015 Attending Neurologist, Inpatient (ward) Service, Children’s Hospital Colorado Child Neurology
  - 6 weeks per year including weekends
  - In-person neurologic consultation for emergency room, floor, intensive care units
  - Outside hospital phone consultation
  - Supervise: 1-2 child neurology fellows, 1-2 adult neurology residents, 1-2 advanced practice provider (i.e., nurse practitioner or physician assistant)
  - Other learners: 1-2 medical students, child psychiatry and pediatric residents



- 2009-2011
  - Ongoing bedside and didactic teaching of trainees and patient team members
  - “Doc of the Week”, Children’s Hospital Colorado Child Neurology
  - Weekly (Wednesday) coverage of:
    - o All outside provider calls for neurologic consultation (Rocky Mountain Region and beyond)
    - o Urgent/emergency patient calls
    - o Non-urgent calls and medical refills for out-of-office colleagues
    - o Urgent in-person clinic appointments
- 2009-2010
  - Pediatric Hemorrhagic Stroke Clinic, Hemophilia and Thrombosis Center Building 500
  - 1 clinic session per month, sole Neurologist
  - Serves greater Rocky Mountain Region and beyond
  - Multidisciplinary Clinic including Neurology, Hematology, Rehabilitation, Neuropsychology, Social Work
  - Diagnoses seen:
    - o Central nervous system bleeds secondary to hemophilia
    - o Vascular malformations
    - o Primary hemorrhagic strokes
- 2010-present
  - Stroke Clinic, Hemophilia and Thrombosis Center, CU-Med Building
  - 4-5 clinic sessions per month, 1 of 3 neurologists
  - Serves greater Rocky Mountain Region and beyond
  - Multidisciplinary Clinic including Neurology, Hematology, Rehabilitation, Neuropsychology, Neurosurgery, Social Work, Psychology
  - Diagnoses seen:
    - o Pediatric stroke (arterial ischemic, moya-moya, arterial dissections, cerebral sinus venous thrombosis)
    - o Perinatal stroke (arterial ischemic, hemorrhagic, venous stroke, cerebral sinus venous thrombosis, intraventricular hemorrhage)
  - Supervise and educate neurology, hematology, and rehabilitation fellows during clinic
- 2010-present
  - Neonatal Neurology/Newborn Brain Injury Clinic, Hemophilia and Thrombosis Center, CU-Med Building
  - 4-5 clinic sessions per month
  - Serves greater Rocky Mountain Region and beyond
  - Multidisciplinary program with Neuropsychology, Psychology, Rehabilitation, Neurosurgery partners
  - Diagnoses seen:
    - o Preterm birth < 34 weeks gestation regardless of brain injury, hypoxic-ischemic encephalopathy, neonatal meningitis, in-utero substance exposure
  - Supervise and educate child neurology fellows, neonatology fellows, rehabilitation fellows, behavioral pediatric fellows, pediatric residents
- 2013-present
  - Acute Stroke Attending Call, Children’s Hospital Colorado

- 2013-present
  - 8 weeks per year, 24/7 coverage of hyperacute and acute treatment for Children’s Hospital Colorado and entire Rocky Mountain Region at-large
  - Non-acute Stroke Attending Call, Children’s Hospital Colorado
  - 15 weeks per year (approximately every 3 weeks), 24/7 coverage of stroke-related management for Children’s Hospital Colorado and entire Rocky Mountain Region at-large
- 2015
  - Child Neurology Advanced Practice Practitioner Clinic
  - 1 clinic session per week
  - Staff and educate 1-2 child neurology nurse practitioners and/or physician assistants
- 2015-present
  - Child Neurology Resident and Fellow Education Clinic, Children’s Hospital Colorado
  - Available as back-up attending as needs vary
- 2015-2018
  - Attending Neurologist, Neurocritical Care Service, Children’s Hospital Colorado
  - 6 weeks per year
  - 3-6 weekends per year covering all Neurology services
  - In-person neurologic consultation for pediatric, cardiac, and neonatal intensive care units
  - Outside hospital phone consultation
  - Supervise: 1-2 child neurology fellows, 1-2 adult neurology residents, 1-2 advanced practice provider (i.e., nurse practitioner or physician assistant)
  - Other learners: 1-2 medical students, child psychiatry and pediatric residents
  - Ongoing bedside and didactic teaching of trainees and patient team members
- 2018-present
  - Attending Neurologist, Neurocritical Care Service, Children’s Hospital Colorado
  - 4-5 weeks per year
  - 2 weekends per year covering all Neurology services
  - Duties, learners as above
- 2018-2019
  - Attending Neurologist, General Inpatient Neurology Service, Children’s Hospital Colorado
  - 1 week per year
  - In-person neurologic consultation for emergency room, floor, intensive care units
  - Outside hospital consultations
  - Learners as above

• **Key administrative positions**

- 2009-2022
  - **Creator and Clinical Program Director**, Childhood Hemorrhagic Stroke Clinic
    - First multidisciplinary childhood hemorrhagic stroke clinic in the nation
      - o Neurology, Hematology, Rehabilitation, Neurosurgery, Neuropsychology, Psychology, Social Work
    - Housed within the Hemophilia and Thrombosis Center
    - Multiple regional Hemophilia and Thrombosis Centers around the country have based their Hemorrhagic Stroke Clinic on this clinic
      - o Provided education to Oregon Health Sciences and University of Minnesota Hemophilia and Thrombosis Centers

- Approximately 200 existing patients, serving greater Rocky Mountain Region and beyond
  - Grown from initial 1 neurologist (Armstrong) to current 4 neurology providers
- 2010-present **Creator and Clinical Program Director**, Perinatal Stroke Clinic
- First multidisciplinary perinatal stroke clinic in the nation
    - o Neurology, Hematology, Rehabilitation, Neurosurgery, Neuropsychology, Psychology, Social Work
  - Housed within the Hemophilia and Thrombosis Center
  - Approximately 1000 existing patients, serving greater Rocky Mountain Region and beyond
  - Grown from initial 1 neurologist (Armstrong) to current 3 neurology providers
- 2010-present **Creator and Clinical Program Director**, Neonatal Neurology/Newborn Brain Injury Clinic
- Multidisciplinary:
    - o Neurology, Hematology, Rehabilitation, Neurosurgery, Neuropsychology, Psychology, Social Work
  - Approximately 1000 patients, serving greater Rocky Mountain Region and beyond
  - Grown from initial 1 neurologist (Armstrong) to current 4 neurology providers
- 2019-present **COMIRB Chair**, Panel B
- Along with responsibilities as described in COMIRB above:
  - Chair full board meetings (review all protocols, education of panel members, adjudication), chair other Panel meetings when needed
  - Weekly office hours for study teams - education, research questions
  - Lead projects including writing new guidance documents for researchers, training materials and guidance training for IRB members and staff
  - Lead COMIRB white papers/guidelines of COMIRB
- 2020-present **COVID Official**, CU-Anschutz
- Monthly CU-Anschutz leadership meetings to meet needs of systematized safety (PPE utilization, environmental safety, traffic control) in changing pandemic environment in clinical research spaces
  - Work with CU-Anschutz leadership to monitor pulse of COVID pandemic/endemic, react with urgent safety and research decisions as appropriate
- 2020-2021 **COVID Official**, CU-Anschutz Hemophilia and Thrombosis Center
- Monthly CU-Anschutz leadership meetings to meet needs of systematized safety (PPE utilization, environmental safety, traffic control) in changing pandemic environment in clinical research spaces
  - Developed screening plan, space plan, PPE plan, cleaning protocols, clinical research pull back and reactivation plan for Hemophilia and Thrombosis Center
  - Dissemination of this information and guidance to Hemophilia and Thrombosis Center staff, including monthly educational all-staff meetings

- 24/7 call for COVID emergencies and guidance regarding Hemophilia and Thrombosis Center staff and patient/participant exposures
- 2020-present **Co-chair**, CU-Anschutz COVID Clinical Research Reactivation Ramp-up Committee
- Created and appointed by CU Vice-Chancellor of Research Dr. Thomas Flaig in response to COVID-19 pandemic to pull back and restart clinical research in a rapidly changing global environment to 1.) maintain safety for participants and research staff, 2.) follow CU-Anschutz COVID regulations
  - Co-chair with Alison Lakin, CU Associate Vice Chancellor for Regulatory Compliance and Research Integrity Officer
  - Weekly meetings for entire committee, **additional ad hoc co-chair meetings**
  - Developed the entire clinical reactivation re-activation process for over 1000 clinical research trials involving CU-Anschutz, University of Colorado Hospital, and Children’s Hospital Colorado and affiliates including but not limited to writing standard operating procedures for protocol prioritization integrating medical need, participant and staff safety requirements and resource utilization, non-hospital space access and operations, resources needed to minimize risk, remote monitoring
  - See Paper Publications below #39
  - See Other Products of Scholarship:
    - o Standard Operating Procedure, COVID-19 Principles and Framework Guiding a Phased Approach to Restarting Clinical Research Activity
    - o Standard Operating Procedure - COVID-19 Clinical Research Reconstitution Plan
    - o Standard Operating Procedure - COVID-19 Clinical Research Rollback Plan in Response to COVID Spike
  - Worked with COMIRB Director to create and implement protocol amendment guidance for transition to teleresearch, eConsent, sponsor engagement, off-campus procedures
  - Developed detailed clinical research pause and reintroduction guidelines/process with second Colorado COVID spike in November 2020
- 2020-present **Program Director**, Neonatal-Stroke-Inpatient-Neurocritical Care (NSINC) Team, Child Neurology, Children’s Hospital Colorado
- Direct and lead team of 10 NSINC team members (attendings, advanced practice practitioners, nurses)
  - Advocate for NSINC specific issues to Neurology and Children’s Hospital Leadership
  - Facilitate monthly team meetings
  - Member of Child Neurology Section Operational Leadership Team
- 2021-present **Creator, Curriculum Developer and Program Director**, Justice, Equity, Diversity & Inclusivity (JEDI), Child Neurology Section, Department of Pediatrics
- Innovative curriculum development and course teaching for child neurology residents, faculty, and staff

- Facilitator book club and interest group
  - Ongoing assessments of quality and effectiveness
  - Mentorship
  - Recruitment of residents and faculty
  - Peer mentor/coach
  - Work with campus leadership for cross-collaboration
- 2021-present **Co-program director**, Diversity, Equity & Inclusion (DEI), Adult Neurology, Department of Neurology
- Developed innovative curriculum for adult neurology residency program
  - Ongoing teaching
  - Monthly interest group meetings

• **Other mentorship**

- 2009-2011 Teri Schreiner, MD, Children’s Hospital Colorado Child Neurology Fellow (research mentor)
- 2010-2014 John Binder, MD, Children’s Hospital Colorado Child Neurology Fellow (research mentor)
- 2010-present Andra Dingman, MD, Children’s Hospital Colorado Child Neurology Fellow (clinical, research, and career mentor, perinatal stroke fellowship advisor)
- 2011-2013 Meghan Donnelly, MD, CU-Anschutz Maternal Fetal Medicine Fellow (research mentor)
- 2012-2015 David Mirsky, MD, Children’s Hospital Colorado Neuroradiology, Assistant Professor (research mentor)
- 2014-2017 Jason Santiago, CU-Anschutz Medical Student (career and underrepresented in medicine mentor, Hooder at medical school graduation)
- 2020-present Emily Wheat, PhD, CU-Anschutz Hemophilia and Thrombosis Center Assistant Professor (research mentor)
- 2022-present Ryan Kammeyer, MD, Children’s Hospital Colorado Child Neurology, Assistant Professor (research mentor)
- 2022-present Scott Rosenthal, MD, Children’s Hospital Colorado Child Neurology Fellow (clinical and career mentor)
- 2022-present Michael Enriquez, MD, Children’s Hospital Colorado Child Neurology Fellow (clinical and career mentor)

• **Diversity, Equity, and Inclusion (DEI)**

**Leadership**

- 2018 American Academy of Neurology (AAN) Diversity Leadership Program
- Competitive program for intensive leadership training for underrepresented in neurology faculty (10 faculty) with special focus on developing DEI initiatives
  - Product of scholarship: 2018 Diversity Leadership Program strategic plan and toolkit
    - Presented to AAN Board of Directors (2019)
    - Implemented by AAN after recommendation of Board of Directors (2019)
- 2018-2020 CU Anschutz LGBTQ+ Hub plan, monthly strategic meetings with Dionisia De La Cerda, Jacob McWilliams

- 2022-present **Health Equity in Action Lab (HEAL) Trainer**, inaugural cohort
- Justice, equity, diversity and inclusion educator for CU-Anschutz campus
  - Minimum 2 hours per month

**Teaching**

- 2019 The Area Health Education and Resources Institute (THEARI, formerly Central Colorado Area Health Education/CCAHEC), “Inclusive Language and Stewardship to Support a Diverse Health Care Network”, Annual Strategic Planning Meeting (April)
- 2019 Children’s Hospital Colorado (Anschutz and Colorado Springs) Child Neurology Faculty, “Implicit Bias in Health Care”
- 2019 Grand Rounds, CU-Anschutz Department of Neurology, “Diversity and Inclusion in Neurology: Recommendations to the American Academy of Neurology”
- 2019 CU-Anschutz Child Neurology Fellows, “Implicit Bias in Health Care”
- 2020 CU-Anschutz Child Neurology Fellows, “Equity, Diversity, and Inclusion”
- 2021 CU-Anschutz Child Neurology Fellows:
- “How to Be an Anti-Racist” (April)
  - “Ableism and Disability in Television – Part 1” (April)
  - “Ableism and Disability in Television – Part 2” (May)
  - “Justice, Equity, Diversity and Inclusion Primer” (August)
  - “What is Privilege?” (September)
  - “Implicit Bias in the Age of Zoom” (October)
  - “Privilege in Health Care” (November)
- 2021-present Children’s Hospital Colorado (Anschutz and Colorado Springs) Child Neurology Faculty “JEDI Soundbytes”
- Monthly Justice, Equity, Diversity and Inclusion (JEDI) brief bulleted educational pieces dispersed in the Child Neurology Newsletter
- 2022 CU-Anschutz Child Neurology Fellows:
- “Intersectionality: Transgender and Disability” (January)
  - “Caste Theory and How it Applies to Medicine” (February)
  - “Black History Month #1 – The African-American Experience as Patient” (March)
  - “Black History Month #2 – How to Utilize Community as a Health Partner” (April)
  - “Disability Activism” (May)
- 2022 Children’s Hospital Colorado (Anschutz and Colorado Springs) Child Neurology Faculty and Staff, “Implicit Bias in Medical Communications”

**Additional training and/or committees**

- 2018-present American Academy of Neurology DEI Interest Group
- Weekly discussion forum
- 2018-present American Academy of Neurology Women in Neurology Interest Group
- Weekly discussion forum
- 2019-present American Academy of Neurology LGBTQ+ Interest Group
- Weekly discussion forum

2019	CU Anschutz Neurology Grand Rounds: “Equity, Diversity, and Inclusion in Academic Neurology: Recommendations to the AAN”
2020	“Gender This” training course, CU-Denver
2020	CU-Denver Social Justice Teach-in “Whose Black Lives Matter”, Oct 16
2020	“The Impact of Skin Color and Ethnicity on Clinical Diagnosis and Research”, NEJM and VisualDx teaching program, Oct 28
2020	Equity Certificate, CU Denver/Anschutz
2020-present	CU Anschutz LGBTQ+ Hub, Research Committee
2020	Implicit Bias Trainer certification, training in process
2020	Inclusive Leadership Certificate, CU-Denver, Dr. Brenda Allen
2021	CU Denver Queer Theory training
2022	Health Equity in Action Lab (HEAL) Trainer Training

### **Grant support**

#### **Active:**

- 1.) Maternal Child Health Bureau 340B  
 ROLE: Researcher and clinician, maternal-placental-fetal lead (PI, Marilyn Manco-Johnson, CU-Anschutz Hemophilia and Thrombosis Center)  
 FUNDING: Health Services and Research Administration  
 DATES: ongoing and active, clinical research assistant, statistician, and database management support  
 % EFFORT: 15%
- 2.) Prospective, Inception Cohort Study of Individuals with Thrombosis, Stroke, Thrombophilia and Prothrombotic Conditions (THROMBO-PICS)  
 ROLE: Co-Investigator, maternal-placental-fetal lead (PI, Marilyn Manco-Johnson MD)  
 FUNDING: National Center for Birth Defects and Developmental Disabilities  
 DATES: 2008-present
- 3.) Towards the Establishment of Standards of Practice and the Initiation of Multi-Center, Multi-National Clinical Trials for Neonates and Children with Stroke  
 ROLE: Co-Investigator (PI, Gabrielle DeVeber MD)  
 FUNDING: International Pediatric Stroke Study (Investigator-initiated)  
 DATES: 2008-present
- 4.) Prospective, Inception Cohort Study of Individuals with Suspected Bleeding Disorders (HEMO-PICS)  
 ROLE: Co-Investigator, maternal-placental-fetal and hemorrhagic stroke leads (PI, Marilyn Manco-Johnson MD)  
 FUNDING: NIH Challenge Grant  
 DATES: 03/19/2010-11/30/2011; 12/01/2011-present investigator-initiated
- 5.) Center of Excellence for Pediatric Hemorrhagic Stroke Research: International Pediatric Stroke Study Pediatric Hemorrhagic Study  
 ROLE: Site PI (PI, Heather Fullerton MD, University of California San Francisco)  
 FUNDING: American Heart Association/Bugher Foundation for Stroke Research  
 DATES: 04/01/2021-03/31/2024

% EFFORT: per patient

**Completed:**

- 1.) CentriMag Ventricular Assist System (VAS): Treatment of Failure-to-Wean from Cardiopulmonary Bypass for Pediatric Patients  
ROLE: Consultant, Neurovascular  
FUNDING: Levitronix  
DATES: 3/2009-2/2013  
% EFFORT: Per patient reimbursement
- 2.) In-Utero Inflammation as a Risk Factor for Symptomatic Perinatal Brain Injury  
ROLE: PI  
FUNDING: Colorado Clinical and Translational Sciences Institute: Child and Maternal Health Pilot Award  
DATES: 01/01/2010-12/31/2013 (study in long-term follow-up funded through 340B funding)  
% EFFORT: 0% salary support  
TOTAL DIRECT COSTS: \$20,000
- 3.) In-Utero Inflammation in Preterm Premature Rupture of Membranes as a Biomarker in Perinatal Brain Injury  
ROLE: K12 (mentored PI; PI Judy Regensteiner and Nanette Santoro)  
FUNDING: NIH Building Interdisciplinary Research Careers in Women's Health (BIRCWH) KDHD057022  
DATES: 03/01/2010-02/28/2014 (study in long-term follow-up funded through 340B funding)  
% EFFORT: 50% salary support  
TOTAL DIRECT COSTS: \$440,000
- 4.) Biomarkers of Hypercoagulability in Perinatal Brain Injury  
ROLE: PI  
FUNDING: CU-Anschutz Center for Women's Health Research  
DATES: 09/01/2010-12/31/2012  
TOTAL DIRECT COSTS: \$25,000
- 5.) In-Utero Inflammation as a Risk Factor in Perinatal Stroke  
ROLE: PI  
FUNDING: American Heart Association SouthWest Affiliates (formerly Pacific Mountain) Clinical Research Grant 10CRP3670014  
DATES: 07/01/2010-06/30/2013 (study in long-term follow-up funded through 340B funding)  
% EFFORT: 0% salary support  
TOTAL DIRECT COSTS: \$100,000
- 6.) The Impact of Seizures in Infants and Children with Ischemic Stroke (SIPS)  
ROLE: Site PI, manuscript writing group  
FUNDING: International Pediatric Stroke Study  
DATES: 07/01/2011-08/01/2012



TOTAL DIRECT COSTS: \$5,000

- 7.) In-Utero Inflammation and Hypercoagulability in Perinatal Brain Injury  
ROLE: PI  
FUNDING: CU-Anschutz School of Medicine Academic Enrichment Fund Bridge  
Funding  
DATES: 07/01/2012-06/30/2013 (study in long-term follow-up funded through 340B  
funding)  
% EFFORT: 0 % salary support  
TOTAL DIRECT COSTS: \$50,000
- 8.) In-Utero Inflammation and Hypercoagulability in Perinatal Stroke and Brain  
ROLE: PI  
FUNDING: American Heart Association SouthWest Affiliates Beginning Grant-in-Aid  
13BGIA16340010  
DATES: 07/01/2013-06/30/2016(study in long-term follow-up funded through MCHB  
340B funding)  
% EFFORT: 15% salary support  
TOTAL DIRECT COSTS: \$120,000
- 9.) Stroke Neuropsychological and Quality of Life Outcomes: Exploring lesion-specific plasticity  
in the developing brain  
ROLE: Co-Investigator (PI, Richard Traystman PhD, American Stroke  
Association/Bugher Foundation Stroke Collaborative Research Center)  
Project 1, AIM 3 Lead: Quality of Life after Stroke  
Subproject Lead and Mentor: Developmental Progression Following Perinatal Arterial  
Ischemic Stroke  
FUNDING: American Stroke Association and Bugher Foundation  
DATES: 04/01/2014-03/31/18 (no cost extension through 03/31/19)  
% EFFORT: 5% salary support  
TOTAL DIRECT COSTS: \$2,416,000
- 10.) A Phase I/III Open-Label, Multicenter, Crossover Safety, Efficacy and Pharmacokinetic  
Study of Recombinant Coagulation Factor VIII (rFVIII) Compared to Recombinant  
Human Antihemophilic Factor VIII (rFVIII; INN: octocog alfa) in Subjects with  
Hemophilia A, and a Repeat PK, Safety and Efficacy Study (Adult and Pediatric studies)  
ROLE: Co-Investigator (PI, Michael Wang MD)  
FUNDING: CSL Behring  
DATES: 2014-2019
- 11.) A Phase III Open Label, Multicenter, Extension Study to Assess the Safety and Efficacy of  
Recombinant Coagulation Factor VIII (rVIII-SingleChain, CSL627) in Subjects with  
Severe Hemophilia A (Extension study)  
ROLE: Co-Investigator (PI, Michael Wang MD)  
FUNDING: CSL Behring  
DATES: 2014-2019

- 12.) Longitudinal Study of Intra-Uterine Growth Restriction  
ROLE: Co-Investigator (PI, John Hobbins MD), neonatal neurology and placenta expert  
FUNDING: Private donor endowment  
DATES: 04/01/2015-03/31/2019  
% EFFORT: 10% salary support
- 13.) Impaired Angiogenesis in Preterm Infants After Maternal Complications of Pregnancy  
ROLE: Co-Investigator (PI, Christopher Baker, MD), neonatal neurology and biomarker expert  
FUNDING: NIH K23 HL121090-01A1  
DATES: 2016-2018  
% EFFORT: in kind
- 14.) The Role of Umbilical Cord Blood-Derived Endothelial Progenitor Cells in Brochopulmonary Dysplasia, a Chronic Lung Disease of Prematurity  
ROLE: Co-Investigator (PI, Christopher Baker, MD), neonatal neurology and biomarker expert  
FUNDING: Colorado Clinical and Translational Sciences Institute (NIH 1 UL1 RR025780)  
DATES: 2016-2018  
% EFFORT: in kind
- 15.) Seizure in Pediatric Stroke II (SIPS II)  
ROLE: Site PI (PI, Christine Fox, MD, UCSF)  
FUNDING: American Epilepsy Foundation  
DATES: 04/01/2016-03/31/2020  
% EFFORT: per patient

**Other Unfunded Investigator-Initiated**

- 1.) Anti-Epileptic Drug Prophylaxis in Acute Childhood Hemorrhage Stroke  
ROLE: PI  
FUNDING: Investigator-initiated  
DATES: 2009-2014
- 2.) Quality of Life Outcomes in Childhood Hemorrhagic Stroke and Pediatric Multiple Sclerosis  
ROLE: PI  
FUNDING: Investigator-initiated, 340B  
DATES: 2010-present
- 3.) Improving Access to Early Intervention from the Neonatal Intensive Care Unit to a Neonatal Neurology Outpatient Practice  
ROLE: PI  
FUNDING: Investigator-initiated, 340B  
DATES: 2021-present
- 4.) Risk factors for development and biomarkers for diagnosis of neuropsychiatric disorders in systemic lupus erythematosus

ROLE: Mentor, sex/gender research consultant (PI Ryan Kammeyer, MD, CU-Anschutz Surgical/Subspecialist Clinical Outcomes Research (SCORE) Fellow, Adult and Child Consortium for Health Outcomes Research and Delivery Science (ACCORDS))

FUNDING: Pending

DATES: 2022-present

## 11. Bibliography

### • Papers published in peer-reviewed journals

1. Tausch HW, Martinez AM, Partridge JC, Sniderman S, **Armstrong-Wells J**, Fuentes-Afflick E. Pain During Mogen or Plastibell Circumcision. Journal of Perinatology 2002;22(3):214-8. PMID: 11948384. DOI: 10.1038/sj.jp.7210653
2. Timothy J. Bernard, MD; Neil A. Goldenberg, MD; **Jennifer Armstrong-Wells, MD, MPH**; Catherine Amlie-Lefond, MD; Heather J. Fullerton, MD, MAS. Treatment of Childhood Arterial Ischemic Stroke. Annals of Neurology, 2008;63:679-696. PMID: 18496844. DOI: 10.1002/ana.21406
3. **Jennifer Armstrong-Wells, MD, MPH**; S. Claiborne Johnston, MD, PhD; Yvonne W. Wu, MD, MPH; Stephen Sidney, MD, MPH; Heather J. Fullerton, MD, MAS. Prevalence and Predictors of Perinatal Hemorrhage Stroke. Pediatrics, 2009;123:823-828. PMID: 19255009. DOI: 10.1542/peds.2008-0874
4. **Jennifer Armstrong-Wells, MD, MPH**; Barbara Grimes, PhD; Stephen Sidney, MD, MPH; Daniel Kronish, MD; Stephen Shiboski, PhD; Robert J. Adams, MD; Heather J. Fullerton, MD, MAS. Utilization of Transcranial Doppler Ultrasonography Screening for Primary Stroke Prevention in Children with Sickle Cell Disease. Neurology, 2009 Apr 14;72(15):1316-21. PMID: 19365052. DOI: 10.1212/WNL.0b013e3181a110da
5. James S. Waldron, MD; Steven W. Hetts, MD; **Jennifer Armstrong-Wells, MD, MPH**; Christopher F. Dowd, MD; Heather J. Fullerton, MD, MAS; Nalin Gupta, MD, PhD; Michael T. Lawton, MD. Multiple Intracranial Aneurysms and Moyamoya Disease Associated with Microcephalic Osteodysplastic Primordial Dwarfism Type II: Surgical Considerations. Journal of Neurosurgery (Pediatrics), 2009 Nov;4(5):439-44. PMID: 19877776. DOI: 10.3171/2009.6.PEDS08137
6. Potter CA, **Armstrong-Wells J**, Fullerton HJ, Young WL, Higashida RT, Dowd CF, Halbach VV, Hetts SW. Neonatal Giant Pial Arteriovenous Malformation: Genesis or Rapid Enlargement in the Third Trimester. J Neurointerv Surg. 2009 Sep 5;1(1):151-153. PMID: 20625463. DOI: 10.1136/jnis.2009.000299
7. Timothy J. Bernard, MD; Laura Z. Fenton, MD; Susan D. Apkon, MD; Richard Boada, PhD; Greta N. Wilkening, PsyD; Charles Wilkinson, MD; Jennifer B. Soep, MD; Shelley D. Miyamoto, MD; Mark Tripputi, MS; **Jennifer Armstrong-Wells, MD, M.P.H**; Timothy A. Benke, MD, PhD; Marilyn J. Manco-Johnson, MD; Neil A. Goldenberg, MD, PhD. Biomarkers of Inflammatory Hypercoagulability in Childhood Arterial Ischemic Stroke: Prevalence and Association with Persistent/Progressive Cerebral Arteriopathy. J Pediatr. 2009 Dec 17. PMID: 200223.40. DOI: 10.1016/j.jpeds.2009.10.034

8. **Jennifer Armstrong-Wells, MD, MPH**; Timothy J. Bernard, MD; Richard Boada, PhD; Marilyn Manco-Johnson, MD. Neurocognitive Outcomes after Neonatal Encephalopathy. NeuroRehabilitation. 2010 Jan 1; 26(1):27-33. PMID: 20130353. DOI: 10.3233/NRE-2010-0553
9. **Jennifer Armstrong-Wells MD, MPH** and Neil Goldenberg MD, PhD. Institution-Based Prospective Inception Cohort Studies in Neonatal Rare Disease Research. Seminars in Fetal and Neonatal Medicine. Aug 4, 2011. PMID: 21820983. DOI: 10.1016/j.siny.2011.07.004
10. Stence NV, Fenton LZ, Goldenberg NA, **Armstrong-Wells J**, Bernard TJ. Craniocervical Arterial Dissection in Children: Diagnosis and Treatment. Current Treatment Options in Neurology. 2011;13 (6). 2011 Dec;13(6):636-48. PMID: 21979145. DOI: 10.1007/s11940-011-0149-2
11. Adam Kirton MD, **Jennifer Armstrong-Wells MD, MPH (co-first)**, Taeun Chang MD, Gabrielle deVeber MD, Michael J Rivkin MD, Marta Hernandez MD, Jessica Carpenter MD, Jerome Y Yager MD, John K Lynch DO, Donna M Ferriero MD for the IPSS Investigators. Symptomatic neonatal arterial ischemic stroke: The International Pediatric Stroke Study. Pediatrics. 2011 Dec;128(6): e1402-10. PMID: 22123886. DOI: 10.1542/peds.2011-1148
12. Timothy J. Bernard, MD; Marilyn J. Manco-Johnson, MD; Warren Lo, MD; Mark T. MacKay, MD; Vijeya Ganesan, MBChB, MD; Gabrielle deVeber, MD; Neil A. Goldenberg, MD, PhD; **Jennifer Armstrong-Wells, MD, MPH**; Michael M. Dowling MD, PhD, MSCS; E. Steve Roach, MD, FAHA; Mark Tripputi, PhD; Heather J. Fullerton, MD, M.A.S; Karen L. Furie, MD, MPH; Susanne M. Benseler, MD; Lori C. Jordan, MD, PhD; Adam Kirton, MD; Rebecca Ichord, MD. Towards a Consensus-Based Classification of Childhood Arterial Ischemic Stroke. Stroke. 2012 Feb;43(2):371-7. PMID: 22156694. DOI: 10.1161/STROKEAHA.111.624585
13. Saver JL, Warach S, Janis S, Odenkirchen J, Becker K, Benavente O, Broderick J, Dromerick AW, Duncan P, Elkind MS, Johnston K, Kidwell CS, Meschia JF, Schwamm L; National Institute of Neurological Disorders and Stroke (NINDS) **Stroke Common Data Element Working Group**. Standardizing the structure of stroke clinical and epidemiologic research data: The National Institute of Neurological Disorders and Stroke (NINDS) Stroke Common Data Element (CDE) project. Stroke. 2012 Apr;43(4):967-73. PMID:22308239 DOI: 10.1161/STROKEAHA.111.634352
14. Kedia S, Stence N, Manco-Johnson M, **Armstrong-Wells J**, Bernard TJ. Late Cytotoxic Edema in 2 Children with Hemiplegia: Hemiplegic Migraine or Stroke? Headache. 2012 Apr;52(4):674-678. PMID: 22404149. DOI: 10.1111/j.1526-4610-2012.02116.x
15. Bernard TJ, **Armstrong-Wells J**, Goldenberg NA. The Institution-Based Prospective Inception Cohort Study: Design, Implementation, and Quality Assurance in Pediatric Thrombosis and Stroke Research. Semin Thromb Hemost. 2012 Dec 26. PMID: 23269572. DOI: 10.1055/s-0032-1329551
16. Goldenberg NA, Jenkins S, Jack J, **Armstrong-Wells J**, Fenton LZ, Stence NV, Oleszek J, Boada R, Wilkening GN, Wilkinson C, Soep JB, Miyamoto SD, Bajaj L, Mourani PM, Manco-Johnson MJ, Bernard TJ. Arteriopathy, D-Dimer, and Risk of Poor Neurologic

- Outcome in Childhood-Onset Arterial Ischemic Stroke. J Pediatr. 2012 Dec 19. PMID: 23260102. DOI: 10.1016/j.jpeds.2012.11.035
17. Goldenberg NA, Bernard TJ, Hillhouse J, **Armstrong-Wells J**, Galinkin J, Knapp-Clevenger R, Jacobson L, Marcovina S, Manco-Johnson MJ. Elevated lipoprotein (A), small APO (A), and the risk of arterial ischemic stroke in U.S. children. Haematologica. 2013 Jan 24. PMID: 23349301. DOI: 10.3324/haematol.2012.973833
  18. **Armstrong-Wells J**, Post MD, Donnelly M, Manco-Johnson MJ, Fisher BM, Winn VD. Patterns of Placental Inflammation in Preterm Premature Rupture of Membranes. J Dev Orig Health Dis. 2013 Jun;4(3):249-255. PMID: 23828732. DOI: 10.1017/S2040174413000056
  19. Joachim E, Goldenberg NA, Bernard TJ, **Armstrong-Wells J**, Stabler S, Manco-Johnson MJ. The methylenetetrahydrofolate reductase polymorphism (MTHFR c.677C>T) and elevated plasma homocysteine levels in a U.S. pediatric population with incident thromboembolism. Thromb Res. 2013 Aug;132(2):170-4. PMID: 23866722. DOI: 10.1016/j.thromres.2013.06.005
  20. Sabry A, Hauk PJ, Jing H, Su HC, Stence NV, Mirsky DM, Nagel MA, Abbott JK, Dragone LL, **Armstrong-Wells J**, Curtis DJ, Cohrs R, Schmid DS, Gilden D, Gelfand EW. Vaccine strain varicella-zoster virus-induced central nervous system vasculopathy as the presenting feature of DOCK8 deficiency. J Allergy Clin Immunol. 2014 Jan 10. Pii: S0091-6749(13)01854-X. PMID: 244. 18481. DOI: 10.1016/j.jaci.2013.11.031
  21. **Armstrong-Wells J**, Ferriero D. Diagnosis and management of acute perinatal arterial ischemic stroke. Neur Clin Pract. 2014 Oct;4(5):378-385. PMID: 25317375. DOI: 10.1212/CPJ.0000000000000077
  22. **Armstrong-Wells J**, Donnelly M, Post MD, Manco-Johnson MJ, Winn VD, Sébire G. Inflammatory predictors of neurologic disability after preterm premature rupture of membranes. Am J Obstet Gynecol. 2015 Feb;212(2): 212.e1-9. PMID: 25223243. DOI: 10.1016/j.ajog.2014.09.016
  23. Stence NV, Mirksy DM, **Armstrong-Wells J**. Paradoxical Centrally Increased Diffusivity in Perinatal Arterial Ischemic Stroke. Ped Rad. 2016, Jan;46(1):82-6. PMID: 26238967. DOI: 10.1007/s00257-015-3442-5
  24. Bernard TJ, Beslow LA, Manco-Johnson MJ, **Armstrong-Wells J**, Boada R, Weitzenkamp D, Hollatz A, Poisson S, Amlie-Lefond C, Lo W, deVeber G, Goldenberg NA, Dowling MM, Roach ES, Fullerton HJ, Benseler SM, Jordan LC, Kirton A, Ichord RN. Inter-Rater Reliability of the CASCADE Criteria: Challenges in Classifying Arteriopathies. Stroke. 2016 Oct;47(10):2443-9. PMID: 27633024. DOI: 10.1161/STROKEAHA.116.013544
  25. Fox CK, Mackay MT, Dowling MM, Pergami P, Titomanlio L, DeVeber G; **SIPS Investigators**. Prolonged or recurrent acute seizures after pediatric arterial ischemic stroke are associated with increasing epilepsy risk. Dev Med Child Neurol. 2017 Jan;59(1):38-44. PMID: 27422813. DOI: 10.1111/dmcn.13198
  26. Howell K, **Armstrong J**. Vascular Endothelial Growth Factor (VEGF) in Neurodevelopmental Disorders. Curr Behv Neurosci Rep. 2017 Dec;4(1):299-208. DOI: 10.1007/S40473-017-0130-9

27. Fox CK, Jordan LC, Beslow LA, **Armstrong J**, Mackay M, deVeber G, on behalf of the SIPS Investigators. Children with post-stroke epilepsy have poorer outcomes one year after stroke. Int J Stroke. 2018 Oct;13(8):820-823. PMID:2995659. DOI: 10.1177/1747493018784434
28. Felling RJ, Haanein SM, **Armstrong J**, Aversa L, Billingham L, Goldenberg N, Lee JE, Maxwell EC, Noetzel MJ, Lo WD. Treatment and Outcome of Childhood Cerebral Sinus Venous Thrombosis. Neurol Clin Pract. 2020 Jun;10(3):232-244. PMID: 32642325. DOI: 10.1212/CPJ.0000000000000720
29. Cain DW, Dingman AL (co-first authors), **Armstrong J**, Stence NV, Jensen A, Mirsky DM. Subpial Hemorrhagic of the Neonate. Stroke. 2020 Jan;51(1):315-318. PMID: 31694507. DOI: 10.1161/STROKEAHA.119.025987
30. Salehi Omran S, Parikh N, Poisson S, **Armstrong J**, Merkler A, Prabhu M, Navi B, Riley L, Fink M, Kamel, H. Association Between Pregnancy and Cervical Artery Dissection. Ann Neurol. 2020 Sep;88(3):596-602. PMID:32525238. DOI: 10.1002/ana.25813
31. Hoffman JE, Ryan M, Wittenberg B, **Armstrong J**, Greenan K, Wilkinson W. Successful Treatment of Hemorrhagic Brainstem Cavernous Malformation with Hematoma Evacuation and Postoperative Propranolol. Childs Nerv Syst. 2020 Sep;36(9):2109-2112. PMID: 32303883. DOI: 10.1007/s00381-020-04588-5
32. Smith N, Warren BB, Smith J, Jacobson L, **Armstrong J**, Kim J, DiPaola J, Manco-Johnson M. Antithrombin Deficiency: A Pediatric Disorder. Thromb Res. 2021 Mar 3; 202:45-51. PMID: 3372558. DOI: 10.1016/j.thromres.2021.02.029
33. Mineyko A, Kirton A, Billingham L, Tatishivilli NN, Wintermark M, deVeber G, Fox C; **SIPS Investigators**. Seizures and Outcome One Year After Neonatal and Childhood Cerebral Sinovenous Thrombosis. Pediatr Neurol. 2020 Apr;105:21-26. PMID: 31882182. DOI: 10.1016/j.pediatrneurol.2019.08.012
34. Flume PA, Berbaru EF, Viera L, Hess R, Higgins J, **Armstrong J**, Rice L, True L, Shaker R, Buse JB, Panettieri RA. Managing the Risks and Benefits of Clinical Research in Response to a Pandemic. JCTS, 2021 Vol 5(1): e105. PMID: PMC9201876, DOI: 10.1017/cts.2021.14
35. Paulson L, Thornhill D, **Armstrong J**. Clinic Follow up and Neurological Disability in Children Following Pregnancies Complicated by Preterm Rupture of Membranes and Preeclampsia. J Child Dev Disord, 2021 Vol 7, No 5:2. PMID: PMC9245330
36. Penn AA, Wintermark P, Chalak LF, **Armstrong J**, Redline R, Scher MS, Nelson KB on behalf of the Newborn Brain Society Guidelines and Publications Committee. Placental Contributions to Neonatal Encephalopathy. Semin Fetal Neonatal Med. 2021 Aug;26(4):101276. PMID 34420894, DOI: 10.1016/j.siny.2021.101276
37. Giamberardino W, Winn VD, **Armstrong J**. Risk Factors for Clinically Significant Intraventricular Hemorrhage in Pregnancies Complicated by Preterm Premature Rupture of Membranes. J Preg Neo Med, 2021 5:4. PMID: PMC9224317
38. Sotiros A, Thornhill D, Post MD, Winn VD, **Armstrong J**. Inflammatory Cytokines, Placenta Pathology, and Neurological Outcomes in Infants Born to Preterm Preeclamptic Mothers. PLoS One, 2021 Nov 15;16(11):e260094. PMID 34780565, DOI: 10.1371/journal.pone.0260094

39. **Armstrong J**, Lakin A, Blumberg-Romero L, Campbell T, Heldens J, Lieu C, Neiman J, Sandene E, Steinbeiss M, Thompson D, Tregellas J, Flaig T, Higgins J. Clinical Research Reactivation During the COVID-19 Pandemic: An Academic Center Process and Lessons for the Future. *J Trans Sci*, 2022 8:1-8, DOI: 10.15761/JTS.1000468

• **Book chapters, invited articles, & reviews in non-peer reviewed journals**

1. Richard H. Haas, MB, BChir & **Jennifer Armstrong-Wells, MD, MPH** (equal contributors). Vascular Disease in Infants and Children. In Clinical Pediatric Neurology, 3<sup>rd</sup> Edition, 2009, Ronald B. David, MD, editor. Demos Medical Publishing, New York.
2. **Armstrong-Wells, J**. Perinatal Stroke and Hypoxic Ischemic Encephalopathy Clinical Decision Support: Pediatrics, Decision Support in Medicine, LLC. Dr. Douglas Jones, editor. Peer-reviewed, electronic media database for physicians. 2010 and regular e-updates
3. **Jennifer Armstrong-Wells, MD, MPH** and Timothy J. Bernard, MD. Coma and Brain Death. In *Pediatric Decision Making*, 5<sup>th</sup> Edition, 2011, Stephen Berman, editor. Mosby Publishing.
4. **Jennifer Armstrong-Wells, MD, MPH** and Marilyn J. Manco-Johnson, MD (equal contributors). Hematology and Immunology: Coagulation Disorders. In Hematology, Immunology and Infectious Disease: Neonatology Questions and Controversies, 2<sup>nd</sup> Edition, 2012, Robin K Ohls and Akhil Maheshwari, editors. Elsevier Press, Philadelphia, PA.
5. **Jennifer Armstrong-Wells, MD, MPH** and Marilyn J. Manco-Johnson, MD (equal contributors). Neonatal Inflammation, In Neonatal Hematology, 2013. Pedro de Alarcon and Eric Weimer, editors. Cambridge University Press.

• **Other publications, non-published documents, reports, research or policy papers, lay press articles**

1. **Invited and Acknowledged (referenced) Expert Reviewer**, “Management of Stroke in Neonates and Children: A Scientific Statement from the American Heart Association/American Stroke Association”, Ferriero DM, Fullerton HJ, Bernard TJ, Billingham L, Daniels SR, DeBaun MR, deVeber G, Ichord RN, Jordan LC, Massicotte P, Meldau J, Roach S, Smith ER. *Stroke*. 2019. 50(3):e51-96. <https://doi.org/10.1161/STR.0000000000000183>
2. **Invited and Acknowledged (referenced) Expert Reviewer** “2019 American Heart Association Focused Update on Neonatal Resuscitation: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care”, Escobedo MB, Aziz K, Kapadia VS, Lee HC, Niermeyer S, Schmolzer GM, Szyld E, Weinder GM, Wyckoff MH, Yamada NK, Zaichkin JG. *Circulation*. 2019 140(24):e922-930. <https://doi.org/10.1161/CIR.0000000000000729>
3. **Neurology endpoint adjudicator lead**, Steg PG *et al*. Ticagrelor in Patients with Stable Coronary Disease and Diabetes. *N Engl J Med*. 2019 Sep 1. PMID: 31475798. doi: 10.1056/NEJMoa1908077.
4. **Neurology endpoint adjudicator lead (referenced)**, Bonaca MP, Bauersachs RM, Anand SS, Debus ES, Nehler MR, Patel MR, Fanelli F, Capell WH, Diao L, Jaeger N, Hess CN,

Pap AF, Kittelson JM, Gudz I, Matyas L, Krievins DK, Diaz R, Brodmann M, Muehlhofer E, Haskell LP, Berkowitz SD, Hiatt WR. Rivaroxaban in Peripheral Artery Disease after Revascularization. *N Engl J Med*. 2020 Mar 28. doi: 10.1056/NEJMoa2000052

5. **Invited Expert Reviewer**, “Determination of Brain Death/Death by Neurologic Criteria: The World Brain Death Project.” Greer DM, Shemie SD, Lewis A, et al. *JAMA*. 2020;324(11):1078–1097. doi:10.1001/jama.2020.11586
6. **Expert Commentator**, “Oral Factor Xa Inhibitors Pose Similar Risk as Aspirin for Subdural Hematomas”, Aug 6, 2020, *Neurology Today*
7. **Expert Commentator**, “What That Temporary Pause in J&J Vaccine Means for Neurology”, May 6, 2021, *Neurology Today*

• **Other products of scholarship**

**Clinical**

1. Developer and moderator of the International Pediatric Stroke Study Listserv, 2009-2011
2. Primary author/developer, Children’s Hospital Colorado, Subacute Stroke Protocol: Policy and Procedure Manual and Orderset, 2009
3. NIH/NINDS Stroke Common Data Elements, Biospecimens and Biomarkers Working Group, 2011: <http://www.commondataelements.ninds.nih.gov/Stroke.aspx>
4. Child Neurology Society Stroke Special Interest Group on-line educational materials & resources, 2011-2013. Update and revise annually jointly with Dr. Rebecca Ichord (CHOP)
5. **Creator**, Stroke Clinic Clinical Guidelines (2020)
6. **Project director and creator**: Neonatal Clinic and Stroke Clinic Telehealth eConsent template with billing framework

**Teaching**

1. The Health Education and Resources Institute (formerly Central Colorado Area Health Education Center Standard Operating Procedures (proprietary and confidential), 2018-2021
2. The Health Education and Resources Institute (formerly Central Colorado Area Health Education Center) By-Laws Revision (proprietary and confidential), 2018-2021
3. **Creator**, patient educational handouts (2020):
  - Welcome to Neonatal Neurology Clinic
  - Perinatal Arterial Ischemic Stroke,
  - Perinatal Cerebral Sinus Venous Thrombosis
4. **Creator**, Stroke Clinic Clinical Guidelines (2020):
  - Perinatal Arterial Ischemic Stroke
  - Perinatal Cerebral Sinus Venous Thrombosis
  - Perinatal Hemorrhagic Stroke
5. **Project director and creator**: Neonatal Clinic and Stroke Clinic Telehealth guidance framework (starting a visit, eConsent, billing, charting)
6. Developed innovative diversity, equity and inclusion curriculum, CU-Anschutz Adult Neurology residency program (2021)
7. Justice, Equity, Diversity and Inclusion (JEDI) academic curriculum, Children’s Hospital Colorado Faculty/Staff (2019-present)
  - Quarterly year-long curriculum



8. Justice, Equity, Diversity and Inclusion (JEDI) academic curriculum, Children’s Hospital Colorado Child Neurology residents/fellows (2021-present)
  - Mission Statement, Vision, Goals
  - 11-month academic year curriculum

### Research

1. CU-Anschutz Hemophilia and Thrombosis Center Clinical Research Standard Operating Procedures (proprietary and confidential), 2014-2015
  - Study start-up – sponsored
  - Study start-up – investigator initiated
  - Obtaining informed consent
  - Maintaining paper and electronic records
  - Study monitoring visits and audits
  - Study close-out
2. White Paper Standard Operating Procedure - COVID-19 Principles and Framework Guiding a Phased Approach to Restarting Clinical Research Activity
3. White Paper Standard Operating Procedure - COVID-19 Clinical Research Reconstitution Plan, 2020
4. White Paper Standard Operating Procedure - COVID-19 Clinical Research Rollback Plan in Response to COVID Spike, 2020
5. Guidance/White Paper, Colorado Multiple Institutional Review Board – Guidance on Research in Pregnant Subjects, 2021
6. Guidance/White Paper, Colorado Multiple Institutional Review Board – Guidance on Research in the Placenta/Fetus, Neonate, 2021
7. Guidance/White Paper, Colorado Multiple Institutional Review Board – Guidance on Gender Inclusivity in Research, 2022
8. Guidance/White Paper, Colorado Multiple Institutional Review Board – Guidance on Research in Suicide, 2022

### • Scientific abstracts published or presented at scientific meetings

#### ○ Competitive

1. **Jennifer L Armstrong-Wells**, Alma M Martinez, Gabriel J Escobar, Marla N Gardner, Sue Tico. Maternal and Infant Risk Factor for Neonatal Sepsis: A Comparison Between and Inner-City County Hospital and a Health Maintenance Organization. 1999 The American Pediatric Society and The Society for Pediatric Research Annual Meeting, Pacific Grove, CA (oral)
2. **Jennifer Armstrong-Wells**, S. Claiborne Johnston, Yvonne W. Wu, Steven Sidney, Heather J. Fullerton. Prevalence and Predictors of Perinatal Hemorrhagic Stroke. 2007 American Heart Association International Stroke Conference, New Orleans, LA (oral) and 2008 Child Neurology Society Annual Meeting, Santa Clara, CA (poster)
3. **Jennifer Armstrong-Wells**, Barbara Grimes, PhD; Stephen Sidney, Daniel Kronish, Stephen Shiboski, Robert J. Adams, MD, Heather J. Fullerton, MD, MAS. Utilization of Transcranial Doppler Ultrasonography Screening for Primary Stroke Prevention in Children with Sickle Cell Disease. 2008 Child Neurology Society Annual Meeting, Santa Clara, CA (poster)

4. Kirton A, **Armstrong-Wells J**, Chang T, Rifkin M, Hernandez M, Carpenter J, Yager J, Lynch J, and Ferriero D for the Members of the IPSS. Neonatal arterial ischemic stroke: Findings from the International Pediatric Stroke Study. 2010 Child Neurology Society Annual Meeting, Providence, RI (oral), [Annals of Neurology](#)
5. Profita T, Hoover W, Bernard TJ, Goldenberg NA, Manco-Johnson M, **Armstrong-Wells J**. Biomarkers of Hypercoagulability in Perinatal Arterial Ischemic Stroke. 2010 Child Neurology Society Annual Meeting, Providence, RI (poster), [Annals of Neurology](#)
6. C. Keator, T. Bernard, **J. Armstrong-Wells**, N. Goldenberg, M. Manco-Johnson and K. Knupp Probability of Developing Epilepsy in Pediatric Arterial Ischemic Stroke. 2010 American Epilepsy Society Annual Meeting, San Antonio, TX (poster)
7. Hoover (Giamberardino) W, Bernard TJ, Goldenberg NA, Manco-Johnson M, **Armstrong-Wells J**. Follow-up neuroimaging in acute symptomatic perinatal arterial ischemic stroke. 2011 American Heart Association International Stroke Conference, Los Angeles, CA (poster), [Stroke](#)
8. Kedia, S, Stence N, **Armstrong-Wells J**, Bernard T. Late Cytotoxic Edema in Two Children with Hemiplegia: Hemiplegic Migraine or Stroke? 2011 American Headache Society Annual Meeting, Washington D.C. (poster)
9. **Armstrong-Wells J**, Simpson M, Villalobos-Menuey E, Bernard TJ, Goldenberg NA, Manco-Johnson M. Thrombin and Plasmin Generation in Children Following Perinatal Arterial Ischemic Stroke. 2011 International Society of Thrombosis & Haemostasis Annual Meeting, Kyota, Japan, (poster) and 2011 Child Neurology Society Annual Meeting 2011, Savannah, GA (poster), [Annals of Neurology](#)
10. Schreiner T, Ross C, **Armstrong-Wells J**. Parent-Patient Quality of Life Perception in Children with Multiple Sclerosis. 2011 Child Neurology Society Annual Meeting, Savannah, GA (poster), [Annals of Neurology](#).
11. Stence NV, Hoover (Giamberardino) W, Bernard TJ, Goldenberg NA, Manco-Johnson M, **Armstrong-Wells J**. Follow-up neuroimaging in acute symptomatic perinatal arterial ischemic stroke: volumetric data. 2011 Child Neurology Society Annual Meeting, Savannah, GA (moderated poster), [Annals of Neurology](#)
12. **Armstrong-Wells J**, Post M, Hoover (Giamberardino) W, Winn V. Inflammatory Patterns in Placentas from Mothers with Preterm Premature Rupture of Membranes. 2011 Office of Research in Women's Health Annual Meeting, National Institutes of Health, Rockville, MD (poster), [Journal of Women's Health](#)
13. Donnelly MD, Post M, Manco-Johnson M, Winn VD, **Armstrong-Wells J**. Maternal fever and fetal inflammation associated with adverse neonatal neurologic outcome in preterm premature rupture of membranes. 2012 Society of Maternal Fetal Medicine Annual Meeting, Dallas, TX (poster)
14. **Armstrong-Wells J**, Post M, Donnelly MD, Manco-Johnson MJ, Winn VD. Inflammation and Newborn Brain Injury in Pregnancies Complicated by Preterm Premature Rupture of Membranes. 2012 Child Neurology Society Annual Meeting (poster), [Annals of Neurology](#)
15. **Armstrong-Wells J**, Donnelly MD, Post M, Winn VD, Manco-Johnson MJ. Fetal Cord Blood Thrombin and Plasmin Generation in Preterm Premature Rupture of Membranes.

- 2012 Office of Research in Women's Health Annual Meeting, National Institutes of Health, Rockville, MD (poster) Journal of Women's Health
16. **Armstrong-Wells J**, Donnelly MD, Post M, Manco-Johnson MJ, Winn VD. Fetal Inflammatory Response Patterns in Preterm Premature Rupture of Membranes, Preeclampsia, and Healthy Term Pregnancies. 2012 9<sup>th</sup> Annual Interdisciplinary Women's Health Research Symposium, National Institutes of Health (oral), Journal of Women's Health
  17. Stence NV, Bernard TJ, Manco-Johnson MJ, **Armstrong-Wells J**. Significance of Paradoxical Central Increased Diffusivity in Perinatal Arterial Ischemic Stroke. 2013 American Heart Association International Stroke Conference, Honolulu, HI (oral)
  18. Mirsky DM, Stence NV, Bernard T, **Armstrong-Wells J**. Reproducibility, reliability, and utility of ABC/2 in calculating infarct volumes in the perinatal arterial ischemic stroke population. 2013 American Society of Neuroradiology Annual Meeting, San Diego, CA (oral), and Child Neurology Society Annual Meeting (poster), Annals of Neurology
  19. Hoover (Giamberardino) W, Donnelly M, Winn VD, **Armstrong-Wells J**. Predictors of Adverse Neurological Outcomes in Preterm Premature Rupture of Membranes, 10<sup>th</sup> Annual Interdisciplinary Women's Health Research Symposium (poster), Journal of Women's Health
  20. Stence NV, Mirsky DM, **Armstrong-Wells J**, Bernard TJ. Acute Infarct Volume in Perinatal Stroke Can Be Accurately Estimated by Measuring Residual Uninfarcted Tissue on Follow-up MRI. 2015 American Heart Association International Stroke Conference, Nashville, TN (moderated poster)
  21. Knapp-Clevenger R, Kenny A, Boada R, Bernard TJ, **Armstrong-Wells J**. The Importance of Pediatric Stroke Family Support. 2016 American Heart Association International Stroke Conference, Los Angeles, CA (poster)
  22. Ross CN, Kenny A, Ostiguy P, **Armstrong-Wells J**. Differing Perceptions of Quality of Life Between Caregivers and Children with Stroke. 2016 American Psychological Association, Denver, CO (oral)
  23. Maxwell EC, Ballantyne T, Carlson K, Kenny A, Clevenger KC, **Armstrong-Wells J**, Bernard TJ, Boada R. Psychological Outcomes after Childhood Arterial Ischemic Stroke, 2017 American Heart Association International Stroke Conference, Houston, TX (poster)
  24. Cain DW, **Armstrong J**, Stence NV, Jensen A, Mirsky DM. Idiopathic Neonatal Leptomeningeal Hemorrhage. 2017 American Society of Neuroradiology Annual Meeting (presentation)
  25. Felling RJ, Hassanein SMA, **Armstrong J**, Aversa L, Bernard TJ, Billingham L, Goldenberg NA, Lee JE, Maxwell EC, Noetzel MJ, Lo W. Associations of Anticoagulation with Etiology and Outcome of Childhood Cerebral Sinovenous Thrombosis: Findings from the International Pediatric Stroke Study. 2018 Child Neurology Society Annual Meeting (platform presentation)
  26. Sotiros A, Thornhill D, Manco-Johnson M, **Armstrong J**. Inflammatory Predictors of Neurologic Disability in Infants After Preeclampsia. 2019 International Fetal Brain Symposium, Washington DC (poster)

27. Omran SS, Parikh NS, Poisson S, **Armstrong J**, Merkler AE, Prabhu M, Babk BN, Riley LE, Fink ME, Kamel H. Association Between Pregnancy and Cervical Artery Dissection. 2020 AHA International Stroke Conference, Los Angeles, CA (moderated poster).
  28. Gutierrez C, Porter A, Ajiboye N, **Armstrong J**, Mejia N, Spencer K, Sur N, Williams Roberson S, Wint D, Testa F Diversity and Inclusion: A Snapshot of the Academic Neurology Workforce. 2020 American Academy of Neurology Annual Meeting (poster)
  29. **Armstrong J**, Steinbeiss M, Heldens J, Lieu C, Higgins J, Flaig T, Lakin A. Clinical Research Reactivation Ramp-up Process in Response to COVID-19. 2020 CU-CSU CCTSI COVID Research Summit (moderated poster)
  30. **Armstrong J**, Steinbeiss M, Heldens J, Tregellas J, Flaig T, Lakin A. Phased Clinical Research Reactivation Review in Response to COVID-19. 2020 CU-CSU CCTSI COVID Research Summit (moderated poster)
  31. Nederveld C, Thompson V, Murray J, **Armstrong J**, Barry M, Bernard TJ. The Impact of a Dedicated Pediatric Stroke Discharge Plan Upon Parent Preparedness for Clinic: Before and After the Start of Covid-19. 2021 AHA International Pediatric Stroke Conference, Denver CO (moderated poster).
- **Non-competitive (invited platform)**
1. “How Does the Fetal Environment Affect the Neonate?” 2013 American Heart Association International Stroke Conference, Honolulu, HI
  2. “Placental Inflammatory Pattern, the Fetal Inflammatory Response, and Neurologic Disability” 2015 Society for Maternal Fetal Medicine, San Diego, CA