Nursing

## **CURRICULUM VITAE**

Name: SHEILA ANN ALEXANDER, PhD, RN

**Business Address:** University of Pittsburgh Telephone (412) 624-3831 School of Nursing FAX (412) 383-7227

School of Nursing 336 Victoria Building 3500 Victoria Street Pittsburgh, PA 15261

Email Address: salexand@pitt.edu

**EDUCATION** 

B.S.N.

Secondary Appointment

<u>Undergraduate</u> 1984-1989 University of Pittsburgh

D'usland DA

Pittsburgh, PA

<u>Graduate</u> 1996-2004 University of Pittsburgh PhD Nursing

Pittsburgh, PA

2002 National Institute of Nursing Research/ Summer Genetics Institute

Georgetown University Washington, D.C.

**APPOINTMENTS AND POSITIONS** 

**Academic** 

1999-2004 University of Pittsburgh Research Associate

School of Nursing

Department of Acute/Tertiary Care

Pittsburgh, PA

2005 - 2014 University of Pittsburgh Assistant Professor

School of Nursing

Department of Acute/Tertiary Care

Pittsburgh, PA

2012 - 2014 University of Pittsburgh Assistant Professor

School of Medicine Critical Care Medicine

Pittsburgh, PA

2014 - present University of Pittsburgh Associate Professor

School of Nursing

Department of Acute & Tertiary

Care

Pittsburgh, PA

2014 - present University of Pittsburgh Associate Professor

School of Medicine Secondary Appointment

Critical Care Medicine

Pittsburgh, PA

2018 - 2022 Clemson University Adjunct Professor

School of Nursing

College of Behavioral, Social

and Health Sciences

Clemson, SC

2022-present University of Pittsburgh Department Chair

School of Nursing

Department of Acute & Tertiary Care

Pittsburgh, PA

Non-Academic

1988 – 1989 University of Pittsburgh Medical Clinical Nurse III

Center, Montefiore University Neuro/General Surgical Unit

Hospital, Pittsburgh, PA

1989 – 1996 University of Pittsburgh Medical Clinical Nurse III / Charge Nurse

Center, Presbyterian University Neurovascular Intensive Care Unit

Hospital, Pittsburgh, PA

1996 – 1999 University of Pittsburgh Medical Assistant Nurse Clinical Manager

Center, Western Psychiatric Institute Geriatric Program

and Clinic, Pittsburgh, PA

**LICENSURE AND CERTIFICATION** 

Expires 10/31/24 RN Licensure RN 303668-L Pennsylvania

2012-2016 Emergency Neurological Life Support Certification

MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

1992 - present American Association of Neuroscience Nurses

2010-2018 Clinical Practice Guidelines (CPG) Editorial Board Member

2012, 2015,

2018-present Grant Review Committee

2017-2022 Abstract reviewer

2019-2022 Clinical Science Committee Neuroscience Research Agenda Task Force

1998 - 2004 **Doctoral Nursing Student Organization** 1999 - 2000 Vice President 2000 - 2002 President 1999 -present Sigma Theta Tau, National Honor Society in Nursing (Eta Chapter) 2005-2012, 2014, 2016 Member, Grant Review Committee 2010-2011 Chair 2005-2007 Governance Committee 2007-2009 President 2000- present Society of Critical Care Medicine 2006-present Abstract Reviewer 2000-present **Nursing Section** 2006-2022 Research Committee 2018-2020 Chair Elect 2020-2021 Chair 2021-2022 Immediate Past Chair Neuroscience Section, member 2006-present 2006-2015 Research Committee/Scientific Review Committee 2012-2015 Vice-chair/Chair/Immediate Past Chair 2008-2012 Practice Survey Committee 2010-present Moderator, Professor Walk Rounds at annual congress **Benchmarking Committee** 2011-2014 2012-2014 Vice-chair/Chair 2012-2019 Norma J. Shoemaker Nursing Excellence Award Committee 2014-present Research Section Member 2014-2020 Research Section Steering Committee Member Secretary/Treasurer 2016 2017-2020 Chair-Elect/Chair/Immediate Past Chair 2015-2016 Research Clinical Trials Taskforce **Congress Planning Committee** 2015-2019 2016-present Discovery Research Network Steering/Oversight Committee 2021-2022 Chair-Elect 2022-2023 Chair 2023-2024 Immediate Past Chair 2017-2023 Critical Care Knowledge Assessment Program (MCCKAP) Chair-Elect 2018-2020 2020-2021 Chair 2021-2022 Immediate Past Chair 2018-2020 SCCM Critical Care Research Methodology and Career Trajectory Foundation Course, Planner, Moderator and Faculty 2021-present Council member 2021-present Audit committee member Diversity, Equity, and Inclusion in Awards Taskforce 2022 SCCM Editor-in-Chief Search Taskforce 2023-present 2000-2018 Eastern Nursing Research Society 2005-2009 Abstract Reviewer

American Association of Critical Care Nurses

2001-present

2005-2008 2010-2013	Member, Grant Review Committee Member, Grant Review Committee	
2001-2009	Association of Clinical Research Professionals	
2004-present 2005-2008 2006-2016 2006-2009 2009 2007-2009 2019-present 2009-2011	International Society of Nurses in Genetics Member, Policy and Procedure Committee Abstract Reviewer Annual Conference Planning Committee Conference Planning Committee Co-chair  Research Committee Member-At-Large	
2011-2014 2012-2018	Chapters Taskforce Education Committee	
2012-2 2014-2015 2013-2016	2014 Co-chair Annual Conference Planning Committee President Elect/President/Immediate Past President	
2005-2017 2009-2017	Council for the Advancement of Nursing Science Abstract Reviewer	
2007-present 2010-2012 2007-present	National Neurotrauma Society Abstract Reviewer Women in NeuroTrauma Research (WINTR) member	
2010-present 2011-2012 2012-2013 2012-present 2013-2016 2018-2019	Neurocritical Care Society Conference Planning Committee Moderator, Professor Walk Rounds at annual congress Women in Neurocritical Care (WINC) member Abstract Reviewer Thought Leader/Faculty, 5 <sup>th</sup> Annual Neurocritical Care Research Conference: The future of Neurocritical Care Research- Looking for a Blue Ocean.	
2020-2023 2020-2024	Neurocritical Care Society Curing Coma Campaign Faculty NINDS Common Data Elements for Coma and Disorders of Consciousness: Biospecimens Workgroup member	
2021-present	Neuroprognostication Guideline workgroup	
2015-present	American Nurses Association/Pennsylvania State Nurses Association	
2018-present	Association of Women in Science	
<u>HONORS</u>		
1999 Sigma The	eta Tau, International Honor Society of Nursing member	

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2004	Elizabeth Lloyd Noroian Scholarship, University of Pittsburgh School of Nursing
2008	Sigma Theta Tau, International Honor Society of Nursing Eta Chapter Leadership in Nursing Research Award

2009	Research Award, Neurology Specialty, Society of Critical Care Medicine.
2009	Semi-finalist, Robert Wood Johnson Nurse Faculty Scholars Program
2010	Presidential Citation for outstanding contributions to the Society of Critical Care Medicine
2010	Fellow, Provost Faculty Diversity Seminar
2011	Dean's Distinguished Teaching Award Recipient
2011	Abstract Presentation Judge, 9 <sup>th</sup> Annual Safar Symposium
2012	International Society of Nurses in Genetics Founders Award for Excellence in Education
2015	Presidential Citation for outstanding contributions to the Society of Critical Care Medicine
2016	Fellow, Academy of Critical Care Medicine
2016	Presidential Citation for outstanding contributions to the Society of Critical Care Medicine
2016	Abstract Presentation Judge, 14th Annual Safar Symposium
2017	PA Nightingale Award for Nursing Research Awardee
2018	Thought Leader/Faculty, $5^{th}$ Annual Neurocritical Care Research Conference: The future of Neurocritical Care Research- Looking for a Blue Ocean.
2018	Presidential Citation for outstanding contributions to the Society of Critical Care Medicine
2018	Most Valuable Professor, Women's Basketball team
2019	Abstract Presentation Judge, 17 <sup>th</sup> Annual Safar Symposium
2019	University of Pittsburgh Women in Academic Leadership (WIN-AL) program
2019	Presidential Citation for outstanding contributions to the Society of Critical Care Medicine
2019-2020	International Neuroscience Nursing Research Symposium speaker (annual)

# **PUBLICATIONS**

# **Refereed Articles** (\* = data-based)

1. Lovasik, D., Kerr, M.E., **Alexander, S.** (2001). Traumatic brain injury (TBI) research: A review of clinical studies. *Critical Care Nursing Quarterly*, *23*(4), 24-41. PMID: 11852948.

- 2. \*Lorenzi, L., Kerr, M.E., **Alexander, S.**, Crago, E., Yonas, H. (2003). Influence of delaying treatment after symptoms develop from subarachnoid hemorrhage (SAH) on outcome. *Journal of Neuroscience Nursing*, *35* (4), 210-214. PMID: 12942655
- 3. \*Alexander, S., Kerr, M.E., Yonas, H., Marion, D.W. (2004). The effects of admission alcohol level on CBF and outcomes after severe TBI. *Journal of Neurotrauma*, 21(5), 575-583. PMID: 15165365
- 4. \*Kerr, M.E., Kamboh, M.I., Kong, Y., **Alexander, S.**, Yonas, H. (2006). Apolipoprotein E genotype and CBF in traumatic brain injured patients. *Advances in Experimental Medicine and Biology*, *578*; 291-296. PMID: 16927707
- 5. \*Alexander, S., Kerr, M.E., Kim, Y., Kamboh, M.I., Beers, S.R., Conley, Y. (2007). APOE 4 allele presence and functional outcomes after severe traumatic brain injury. *Journal of Neurotrauma*, 24(5), 790-797. PMID: 17518534
- 6. \* Lanterna, L., Ruigrok, Y., **Alexander, S.**, Tang, J., Biroli, F., Dunn, L.T., Poon, W.S. (2007). Metaanalysis of APOE genotype and subarachnoid hemorrhage: clinical outcome and delayed ischemia. *Neurology*, 69(8), 776-84. PMID: 17709709
- 7. \*Barr, T., **Alexander, S.**, Crago, E., Horowitz, M.B., Yonas, H., Kerr, M.E. (2008). Endovascular coiling versus surgical clipping and outcomes after SAH. *Neurosurgery Quarterly*. *18*(1); 16-21.
- 8. **Alexander, S. A.**, Beach, M. (2008). Genes and acute neurologic disease and injury: A primer for the neurological intensive care nurse. *Critical Care Nursing Clinics of North America*.20(2);203-12. doi: 10.1016/j.ccell.2008.01.001.PMID: 18424349
- 9. \*Alexander, S. A., Kerr, M.E., Balzer, J., Horowitz, M., Kassam, A., Kim, Y., Hoffman, L., Conley, Y. (2008). Cerebrospinal fluid apolipoprotein E, calcium and cerebral vasospasm after subarachnoid hemorrhage. *Biological Research for Nursing*. *10*(2); 102-112. PMID: 18829593
- \*Gallek, M., Sherwood, P., Horowitz, M. B., Kassam, A., Conley, Y., **Alexander, S.** (2009). APOE genotype and functional outcome following aneurysmal subarachnoid hemorrhage. *Biological Research for Nursing*. 10 205-212. doi: 10.1177/1099800408323221. PMID: 19017669. PMCID: 2744368.
- 11. Carwile, E., Wagner, A., Crago, E., **Alexander, S.** (2009). Estrogen and Stroke: A review of the literature. *Journal of Neuroscience Nursing*. *41*(1): 18-25. PMID: 19368068.
- 12. Presciutti, M., **Alexander, S.**, Schmidt, M. (2009). Neuro-monitoring in intensive care focus on microdialysis and nursing implications. *Journal of Neuroscience Nursing*. 41(3): 131-139. PMID: 19517763
- \*Puccio, A. M., Hoffman, L. A., Bayir, H., Zullo, T. G., Fischer, M. Darby, J., **Alexander, S.,** Dixon, C. E., Okonkwo, D. O., Kochanek, P. M. (2009). Effect of Short Periods of Normobaric Hyperoxia on Local Brain Tissue Oxygenation and Cerebrospinal Fluid Oxidative Stress Markers in Severe Traumatic Brain Injury. *Journal of Neurotrauma*, 36; 1241-1249. doi: 10.1089/neu.2008-0624. PMID: 19505175. PMCID: 2850254.
- 14. \*Alexander, S. A., Poloyac, S. M., Hoffman, L., Gallek, M., Ren, D., Balzer, J., Kassam, A., B., Conley, Y. (2009). Endothelial Nitric Oxide Synthase Tagging Single Nucleotide Polymorphisms and Recovery from Aneurysmal Subarachnoid Hemorrhage. *Biological Research for Nursing*. 11 (1): 42-52. doi:

- 10.1177/1099800409334751. PMID: 19419976. PMCID: 2938012
- \* Chuang P, Conley YP, Poloyac SM, Okonkwo DO, Ren D, Sherwood PR, Hravnak MT, **Alexander S.A**. (2010) Neuroglobin genetic polymorphisms and their relationship to functional outcomes after traumatic brain injury. *Journal of Neurotrauma*. 2010; 27 (6):999-1006. doi: 10.1089/neu.2009.1129. PMID: 20345238. PMCID: 2943497.
- 16. \* Hoh, N. Z., Wagner, A. K., **Alexander, S.**, Clark, R., Beers, S. R., Okonkwo, D. O., Ren, D., Conley, Y. P. (2010) BCL2 Genotypes: Functional and Neurocognitive Outcomes after Severe Traumatic Brain Injury. *Journal of Neurotrauma*. 27(8): 1413-1427. doi: 10.1089/neu.2009.1256. PMID: 20504155. PMCID: 2967822. PMCID: 2967822.
- 17. Barr, T., **Alexander, S.**, Conley, Y. (2011). Gene Expression Profiling for Discovery of Novel Targets in Human Traumatic Brain Injury. Biological Research for Nursing. 13(2): 140-53. doi: 10.1177/1099800410385671. PMID 21112922
- \*Thampatty B.P., Sherwood P.R., Gallek M., Crago E.A., Hricik A.J., Kuo C.J., Klamerus M.M., Alexander S.A., Bender C., Hoffman L.A., Horowitz M.B., Kassam A.B., Poloyac S.M. (2011) Role of endothelin-1 in human aneurysmal subarachnoid hemorrhage: Associations with vasospasm and delayed cerebral ischemia. *Neurocritical Care*. 15(1): 19-27. doi: 10.1007/s12028-011-9508-9. PMID: 21286855. PMCID: 3134137.
- 19. \*Gallek M., **Alexander S.**, Crago E., Sherwood P., Horowitz M., Poloyac S., Conley Y. (2013) Endothelin-1 and Endothelin Receptor Gene Variants and Their Association with Negative Outcomes Following Aneurysmal Subarachnoid Hemorrhage. *Biological Research for Nursing*.15(4): 390-7. doi:10.1177/109980041245964. PMID: 22997346. PMCID: 3758781.
- 20. \*Conley, Y.P., Okonkwo, D., Deslouches, S., **Alexander, S.,** Puccio, A., Beers, S., Ren, D. (2014). Mitochondrial Polymorphisms Impact Outcomes after Severe Traumatic Brain Injury. *Journal of Neurotrauma*.31(1): 34-41. doi: 10.1089/neu2013.2855. PMID: 23883111. PMCID: 3880110.
- \*Kantor, E. Bayir, H., Ren, D., Provencio, J. J., Watkins, L., Crago, E., Horowitz, M.B., Ferrell, R.E. Conley, Y.P., **Alexander, S., A.** (2014). Haptoglobin Genotype and Functional Outcome after Aneurysmal Subarachnoid Hemorrhage. *Journal of Neurosurgery*. 120(2) 386-90. DOI: 10.3171/2013.10.JNS13219. PMID 24286153. PMCID: 4544750.
- 22. \*Alexander, S., Ren, D., Gunn, S., Kochanek, P., Tate, J., Ikonomovic, M., Conley, Y. (2014) Interleukin-6 and apolipoprotein E as predictors of acute brain dysfunction and survival in ICU Patients. *American Journal of Critical Care*. 23(1): 49-57. doi: 10.4037/ajcc2014578. PMID: 24382617. PMCID: 4809634. Highlighted in AJCC 'Evidence-based review and discussion points' with interview by guest editor R. Hickman.
- 23. Li, Z., & Alexander, S.A. (2015) Current Evidence in the Management of Post-stroke Should Pain. Journal of Neuroscience Nursing. 47(1): 10-19. doi: 10.1097/JNN.000000000000109. PMID 25503543.
- 24. \*Gallek, M.J., **Alexander, S.A.,** Crago, E., Sherwood, P.R., Klamerus, M., Horowitz, M.B., Poloyac, S.M., & Conley, Y. (2015) Endothelin-1 gene polymorphisms influence cerebrospinal fluid endothelin-1 levels following aneurysmal subarachnoid hemorrhage. *Biological Research for Nursing*. 17(2):185-90. doi: 10.1177/1099800414536261. PMID: 24852947.
- 25. Gopalakrishna, A. & Alexander, S. A. (2015). Understanding Parkinson disease: A complex and

- multifaceted illness. *Journal of Neuroscience Nursing*.47(6):320-26. doi: 10.1097/JNN.0000000000162. PMID: 26528949.
- \*Giorgino, M.M., Kress, T., **Alexander, S. A.** & Beach, M. (2015). Emergency preparedness education for nurses: Core competency familiarity measured utilizing an adapted emergency preparedness information questionnaire (EPIQ). *Journal of Trauma Nursing*. 22(5); 240-8. doi: 10.1097/JTN .000000000000148. PMID: 26352654
- \*Hoffman, S.L., Kaufman, R., Ferrari, S., **Alexander, S.,** Rosenzweig, M., & Wesmiller, S. (2016). Beyond BRCA: A pilot program to assess and improve knowledge of pharmacogenomic testing among advanced practice providers in a breast cancer treatment setting. *Journal of the Advanced Practitioner in Oncology*, 7, 382-9. doi:10.6004/jadpro.2016.7.4.2
- 28. \*Khalil, H., Sereika, S.M., Dai, F., **Alexander, S.**, Conley, Y., Gruen, G., Meng, L., Siska, Pl, Tarkin I., & Henker, R. (2016). OPRM1 and COMT gene-gene interaction is associated with postoperative pain and opioid consumption after orthopedic trauma. *Biological Research for Nursing*, 19(2); 170-179. doi: 10.1177/10990800416680474.
- \*Osier, N.D., Bales, J.W., Pugh, B., Shin, S., Wyrobek, J., Puccio, AM., Okonkwo, D.O., Ren, D., Alexander, S., Dixon, C.E., Conley, Y.P. (2017) Variation in PPP3CC is associated with long-term recovery after severe brain injury. *Journal of Neurotrauma*, 34(1); PMID: 27225880 doi:10.1089/neu2015.4343
- 30. Osier, N. D., Pham, L., Savarese, A., Sayles, K., & **Alexander, S.** (2016) Animal models in genomic research: Techniques, applications and roles for nurses. *Applied Nursing Research*, 32; 247-56. Doi:10.1016/j.anpr.2016.07.016.
- \*Osier, N.D., Pham, L., Pugh, B.J., Puccio, A., Ren, D., Conley, Y.P., **Alexander, S.**, & Dixon, C.E. (2017) Brain injury results in lower levels of melatonin receptors subtypes MT1 and MT2. *Neurosci Lett.* 650; 18-24. doi: 10.1016/j.neulet.2017.03.053. Epub 2017 Apr 2. PMID:28377323
- 32. **Alexander, S.A.**, Kalmakis, K., Stewart Fahs, P. S., Groth, S. W. & Chasens, E. R. (2017) Biological markers in nursing research. *Journal of Nursing Measurement*, 25(2); 275-91. http://dx.doi.org/10.1891/1061-3749.25.2.1
- \*Smithburger, P.L., Korenoski, A.S., **Alexander, S.A.**, & Kane-Gill, S.L. (2017). Perceptions of family members, nurses, and physicians on involving the patients' families in delirium prevention activities: A qualitative study. *Critical Care Nurse*, 37 (6): e1-e9. doi: 10.4037/ccn2017485.
- 34. \*Smithburger, P.L., Korenoski, A.S., Kane-Gill, S.L., & **Alexander, S.A.** (2017). Perceptions of family members, nurses, and physicians on involving patients/families in delirium prevention. *Critical Care Nurse*, 37(6): 48-57. doi: 10.4037/ccn2017901.
- 35. \*Anderson, M., Elmer, J., Shutter, L., Puccio, A., & **Alexander, S.** (2018). Integrating quantitative pupillometry into regular care in a Neuro-Trauma Intensive Care Unit. *Journal of Neuroscience Nursing*, 50(1); 30-36. doi: 10.1097/JNN.0000000000000333. PMID: 29303836.
- \*Wright Heinsberg, L., Turi, E., Ren, D., Crago, E., **Alexander, S.**, Grimes Stanfill, A., & Conley, Y. (2018). Association of APOE genotype with activities of daily living following aneurysmal subarachnoid hemorrhage. *Biological Research for Nursing*, 20(2); 177-82. doi: 10.1177/1099800417746504. PMID: 29258400. PMCID: PMC5942520.

- 37. Bulters D., Gaastra B., Zolnourian A., **Alexander S.,** Ren D., Blackburn S., Borsody M., Doré S., Galea J., Iihara K., Nyquist P. & Galea I.. (2018). Haemoglobin scavenging in intracranial bleeding: biology and clinical implications. *Nature Reviews Neurology*, published online 06-20-2018. doi: 10.1038/s41582-018-0020-0. PMID: 29925923.
- 38. \*Paik G.P., Henker H., Appel N., Meng L., Bircher N., Sereika S., **Alexander S.A.**, & Henker R. (2018). Accuracy of temporal artery thermometry as an indicator of core body temperature in patients receiving general anesthesia. *Journal of PeriAnesthesia Nursing*. 34(2): 330-337. doi: 10.1016/j.jopan.2018.05.001. PMID: 30033001
- 39. Osier N., McGreevy E., Pham L., Puccio A., Ren D., Conley Y.P., **Alexander S.,** & Dixon C.E. (2018). Melatonin as a therapy for traumatic brain injury: A review of published evidence. *International Journal of Molecular Science*. 19; 1539. doi:10.3390/ijms19051539. PMID:29786658. PMCID: PMC5983792.
- \*Gaastra, B., Ren, D., **Alexander, S.,** Bennett, E.R., Bielawski, D.M., Blackburn, S. L., Borsody, M.K. Dore, S., Galea, J., Garland, P., He, T., Iihara, K., Kawamura, Y., Leclerc, J.L., Meschia, J.F., Pizzi, M.A., Tamargo, R. J., Yang, W., Nyquist, P.A., Bulters, D.O., and Galea, I., (2019). Haptoglobin genotype and aneurysmal subarachnoid hemorrhage: Individual patient data analysis. *Neurology*, *92*(18): e2150-e2164. Doi:10.1212/WNL.00000000000007397. PMCID: PMC6512887.
- 42. **Alexander, S. A.** (2019). Genetics of Neurodegenerative Diseases for the Advanced Practice Provider. *Journal of the American Association of Nurse Practitioners*, 31(5); 282-284. doi:10.1097/JXX.000000000000237.
- 43. Hocker, S., Shah, S., Vespa. P., Provencio, J.J., Calvillo, E., Olson, D., Rau, C.V., Hemphill, C., Helbok, R., Human, T., Kamel, H., Madden, L., Nyquist, P., Bentho. O., O'Phelan, K., Lewin, J., **Alexander, S.**, Zai, W., Chou, S., Rincon, F., McNett, M., Ko, N., Zink, E., Rhoney, D., Diringer, M., Stevens, R., Robertson, C., Silva, G. S., Shutter, L., Ling, G., Rehman, M., Mahmoud, S.H., Yeager, S., Livesay, S., & Suarez, J. (2019). The future of neurocritical care research: Proceedings and recommendations from the fifth neurocritical care research network conference. *Neurocritical Care*, *32*: 311-16. doi: 10.1007/s12028-019-00767-8.
- \*Mellett, K., Ren, D., **Alexander, S.**, Osier, N., Beers, S. R., Okonkwo, D. O., Puccio, A.M., & Conley, Y.P. (2020). Relationship between variation in the TP53 gene and patient outcomes following severe traumatic brain injury. *Biologic Research for Nursing*, 22(3): 334-40. epub ahead of print. doi: 10.1177/109980042091233. PMID: 32207313. PMCID: PMC7492776.
- 45. Gao, W., Baumgartel, K.L., & **Alexander, S.** (2020). The gut microbiome as a component of the gutbrain axis in cognitive health. *Biologic Research for Nursing*, 22(4): 485-94. doi: 10.1177/1099800420941923. PMID: 35176247.
- 46. **Alexander, S.** (2020). Targeted temperature management. *The Chinese Journal of Emergency and Critical Care Nursing*.
- 47. **Alexander, S.** (2021). Intensive care unit nursing priorities in the US. *Critical Care Nursing Clinics of North America*. *33*(1): 1-108. doi: 10.1016/j.cnc.2020.10.001. PMID: 33516194.
- 48. Verhoef, P.A., Kannan, S, Sturgill, J.L., Tucker, W.W., Morris, P.E., Miller, A.C., Sexton, T.R., Koyner, J.L., Hejal, R, Brakenridge, S.C., Moldawer, L.L., Hotchkiss, R.S., Blood, T.M., Mazer, M.B., Bolesta, S., **Alexander, S.A.**, Armaignac, D.L., Shein, S.L., Jones, C., Hoemann, C.D., Doctor, A., Friess, S.H.,

- Parker, R.L., Rotta, A.T., and Remy, K.E. for the Basic and Translational Science Committee of the Research Section for the Society of Critical Care Medicine. (2021). SARS-CoV-2 infection and organ dysfunction in the ICU: Opportunities for translational research. *Critical Care Explorations*, *3*(3): e3074. doi: 10.1097/CCE.00000000000000374.ecollection 2021 MAR. PMID: 33786450. PMCID: PMC7994036.
- 49. \*Liu, D., Arockiaraj, A.I., Shaffer, J. R., Poloyac, S. M., Sherwood, P.R., **Alexander, S.A.**, Crago, E. A., Weeks, D. E., & Conley, Y.P. (2021). ANGPT1 methylation and delayed cerebral ischemia in aneurysmal subarachnoid hemorrhage patients. *Epigenetics Communications 1*:3. doi: 10.1186/s43682-021-00001-7. PMID: 35359917. PMCID: PMC8967216.
- Claassen, J., Akbari, Y., Alexander, S., Bader, M.K., Bell, K., Bleck, T.P., Boly, M., Brown, J., Chou, S., Diringer, M.N., Edlow, B., Foreman, B., Giacino, J.T., Gosseries, O., Green, T., Greer, D.M., Hanley, D., Hartings, J., Helbok, R., Hemphill, J.C., Hinson, H., Hirsch, K., Human, T., James, M., Ko, N., Kondziella, D., Livesay, S., Madden, L., Mainali, S., Mayer, S., McCredie, V., McNett, M.M., Meyfroidt, G., Monti, M.M., Muehlschlegel, S., Murthy, S., Nyquist, P., Olson, D.M., Provencio, J.J., Rosenthal, E., Sampaio, G., Sarasso, S., Schiff, N.D., Sharshar, T., Shutter, L., Stevens, R., Vespa, P., Videtta, W., Wagner, A., Ziai, W., Whyte, J., Zink, E., & Suarez, J.I., (2021). Proceedings of the first Curing Coma Campaign NIH symposium: challenging the future of research for coma and disorders of consciousness. *Neurocritical Care*, 35: S4-S23. doi: 10.1009/s12028-021-01260-x . PMID: 34236619. PMCID: PMC8264966.
- \*Heinsberg, L.W., Weeks, D.E., **Alexander, S.A.,** Min, P.R., Poloyac, S.M., Deslouches, S., Crago, E.A., & Conley, Y.P. (2021). Iron homeostasis pathway DNA methylation trajectories reveal a role for STEAP3 metalloreductase in patient outcomes after aneurysmal subarachnoid hemorrhage. *Epigenetics Communications*, 1:4. doi: 10.1186/s43682-021-00003-5. PMID: 35083470. PMCID: PMC8788201.
- 52. Gaastra, B., Alexander, S., Bakker, M.K., Bhagat, H., Bijlenga, P., Blackburn, S., Collins, M.K., Dore, S., Griessenauer, C., Hendrix, P., Hong, E.P., Hostettler, I.C., Houlden, H., Ilhara, K., Jeon, J.P., Kim, B.P., Kumar, M., Morel, S., Nyquist, P., Ren, D., Ruigrok, Y.M., Werring, D., Galea, I., Bulters, D., & Tapper, W. (2021). Genome-wide association study of clinical outcome after aneurysmal subarachnoid hemorrhage: Protocol. *Translational Stroke Research*, doi: 10.1007/s12975-021-00978-2. PMID: 34988871.
- 53. Gaastra, B., Alexander, S., Bakker, M. K., Bhagat, H., Bijlenga, P., Blackburn, S. L., Collins, M. K., Doré, S., Griessenauer, C. J., Hendrix, P., Hong, E. P., Hostettler, I. C., Houlden, H., Ilhara, K., Jeon, J. P., Kim, B. J., Li, J., Morel, S., Nyquist, P., Ren, D., ... Bulters, D. (2022). A Genome-Wide Association Study of Outcome After Aneurysmal Subarachnoid Haemorrhage: Discovery Analysis. *Translational stroke research*, doi:10.1007/s12975-022-01095-4. Advance online publication. Doi:10.1007/s12975-022-01095-4. PMID: 36264420.
- 54. Hinkle, J.L., Alexander, S.A., Avanecean, D., Batten, J., Bautista, C., Hundt, B., & Rhudy, L. (2022). Research priority setting: The current landscape of neuroscience nursing research. *JNN*, 54(2): 55-60. doi:10.1097/JNN.000000000000638. PMID: 35149626. PMID: 35149624.
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- Mainaili, S., Aiyagari, V., Alexander, S., Bodien, Y., Boerwinkle, V., Boly, M., Brown, E., Brown, J., Claasen, J., Edlow, B.L., Fink, E., Fins, J.J., Foreman, B., Frontera, J., Geocadin, R.G., Giacino, J., Gilmore, E.J., Gosseries, O., Hammond, F., Helbok, R., Hemphill, J.C., Hirsch, K., Kim, K., Laureys, S., Lewis, A., Ling, G., Livesay, S.L., McCredie, V., McNett, M., Menon, D., Molteni, E., Olson, D., O'Phelan, K., Park, S., Polizzotto, L., Provencio, J.J., Puybasset, L., Rao, C.P.V., Robertson, C., Rohaut, B., Rubin, M., Sharshar, T., Shutter, L., Silva, G.S., Smith, W., Stevens, R.D., Thibaut, A., Vespa, P., Wagner, A.K., Ziai, W.C., Zink, E., Suarez, J.I., & the Curing Coma Campaign collaborators. (2022). Proceedings of the Second Curing Coma Campaign NIH Symposium: Challenging the Future of Research for Coma and Disorders of Consciousness. *Neurocritical Care*. 37; 326-350. PMID: 35534661. doi: 10.1007/s12028-022-01505-3
- 60. \*Gaastra, B., Ren, D., **Alexander, S.,** Blackburn, S., Dore, S., Nyquist, P., Butters, D., & Galea, I. (2022). Evidence-based interconversion of the Glasgow outcome and modified Rankin scales: Pitfalls and best practices. *Journal of Stroke and Cerebrovascular Disease*. 31 (12); 106845. PMID: 36309002. doi: 10.1016/j.jstrokecerebrovasdis.2022.106845.
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- \*Perpetua, Z., Hayden, P., **Alexander, S.** (2023). Increasing Self-efficacy and Knowledge of Cardiac Arrhythmias for Medical Surgical Nurses. *MEDSURG Nursing*
- \*Rajajee, V., Muehlschlegel, S., Wartenberg, K.E., **Alexander, S.A.,** Busl, K.M., Chou, S.H.Y., Creutzfeldt, C.J., Fontaine, G.V., Fried, H., Hocker, S.E., Hwang, D.Y., Kim, K.S., Madzar, D., Mahanes, D., Mainali, S., Meixensberger, J., Montellano, F., Sakowitz, O.W., Weimar, C., Westermaier, T., Varelas, P.N. (2023). Guidelines for Neuroprognostication in Comatose Adult Survivors of Cardiac Arrest. *Neurocrit Care*, doi: 10.1007/s12028-023-01688-3. Epub ahead of print. PMID: 36949360.
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- \*Busl, K.M., Fried, H., Muehlschlegel, S., Wartenberg, K.E., Rajajee, V., **Alexander, S. A.**, Creutzfeldt, C. J., Fontaine, G. V., Hocker, S.E., Hwang, D. Y., Kim, K. S., Madzar, D., Mahanes, D., Mainali, S., Meixensberger, J., Sakowitz, O.W., Varelas, P.N., Westermaier, T., Weimar, C. (2023). Guidelines for Neuroprognostication in Adults with Guillain-Barre Syndrome. *Neurocrit Care*, doi: 10.1007/s12028-023-01707-3. PMID: 36964442

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- 67. Hwang, D.Y., Kim, K.S., Muehlschlegal, S., Wartenberg, K.E., Rajajee, V., Alexander, S.A., Busl, K.M., Creutzfeldt, C.J., Fontaine, G.V., Hocker, S.E., Madzar, D., Mahanes, D., Mainali, S., Meixensberger, J., Sakowitz, O.W., Varelas, P.N., Weimer, C., Westermaier, T., & Meixensberger, J. Guidelines for Neuroprognostication in Adults with Intracerebral Hemorrhage. *Neurocrit Care*. doi.org/10.1007/s12028-023-01854-7
- 68. Mahanes, D., Muehlschlegal, S., Wartenberg, K.E., Rajajee, **Alexander, S.A.,** Busl, K.M., Creutzfeldt, C.J., Fontaine, G.V., Hocker, S.E., Hwang, D.Y., Kim, K.S., Madzar, D., Mainali, S., Meixenberger, J., Varelas, P.N., Weimer, C., Westermaier, T., & Sakowitz, O. (2023). Guidelines for Neuroprognostican in Adults with Spinal Cord Injury. *Neurocrit Care*. https://doi.org/10.1007/s12028-023-01845-

## **Text and Chapters**

- 1. **Alexander, S.** (2013). **Evidence-Based Nursing Care for Stroke and Neurovascular Conditions.** Wiley-Blackwell, Ames, IA.
- 2. **Alexander, S.** (2016) .**Chapter 12. Neurologic System.** In **Genomic Essentials for Graduate Level Nurses**, Editors: Diane Seibert, Quannetta Edwards, Ann Maradiegue, and Susan Tinley. Destech Publications, Lancaster, PA. ISBN: 978-1-60595-094-5
- 3. Alexander, S. & Groves, M. (2019). Chapter 3. Molecular Biology and Genetics In Advanced Physiology and Pathophysiology: Essentials for Clinical Practice, Editor: Nancy Tkacs.
- 4. Lozano, M. & Alexander, S. (2021). Chapter 2. Cellular Physiology of the Nervous System in Section 1. Neuroscience Foundations and Concepts, American Association of Neuroscience Nurses Core Curriculum. Editors: DaiWai Olson & Molly McNett.
- 5. Alexander, S. & Groves, M. (2022). Chapter 3. Molecular Biology and Genetics In Advanced Physiology and Pathophysiology: Essentials for Clinical Practice, 2<sup>nd</sup> Edition, Editor: Nancy Tkacs.

## **Other Invited Publications**

- 1. **Alexander, S.A.,** Gallek, M., Presciutti, M., Zrelak, P. (2008). Care of the patient with subarachnoid hemorrhage: A guide for clinical nurses. American Association of Neuroscience Nurses Clinical Practice Guideline Series (<a href="http://www.aann.org/pubs/guidelines.html">http://www.aann.org/pubs/guidelines.html</a>).
- 2. Conley, Y.P. & **Alexander**, **S**. (2011). Genomic, Transcriptomic, and Epigenomic Approaches to Recovery following Acquired Brain Injury. *Physical Medicine & Rehabilitation*; S52-58. doi: 10.1016/j.pmrj.2011.04.004. PMID: 21703581.
- 3. **Alexander, S.A.** & Provencio, JJ. (2014) Editorial Response: Haptoglobin Genotype. *Journal of Neurosurgery*, 120(2); 384-5. PMID: 24645183.
- 4. Puccio, A.M. & **Alexander, S.A.** (2015) Genomics, Transcriptomics and Epigenomics in TBI Research.

- Annual Reviews in Nursing Research, 33(1): 75-109. doi: 10.1891/0739-6686.33.75. PMID: 25946384.
- 5. **Alexander, S.A.** (2017). Announcing the Primer in Genetics and Genomics Series. *Biological Research for Nursing*, 19(1); 5-6. Doi: 10.1177/1099800416677094.
- 6. Maserati, M. & **Alexander**, **S**. (2018). Genetics and genomics of acute neurologic disorders. *AACN Advanced Critical Care*. 29(1); 57-75.
- 7. **Alexander, S.A.** (2018). Primer in Genetics and Genomics Series: Final Remarks. *Biological Research for Nursing*, 20(3); 253-254.
- 8. **Alexander, S.A.** (2018). Five ways to find research opportunities outside academia. *Critical Connections*, July, 2018

### **Published Abstracts**

- 1. **Alexander, S.,** Kerr, M.E., Bullian, L., Marion, D. (2001). Effect of alcohol intoxication on cerebral blood flow and outcomes following a severe traumatic brain injury. *Critical Care Medicine*, 28(12) A206 (Suppl.).
- 2. Kerr, M.E., Nemoto, E. Yonas, H., Kassam, A., Crago, E., **Alexander, S.** (2001). Vasospasm detection following SAH using cerebral oximetry. *Critical Care Medicine*, 28 (12) A208 (Suppl).
- 3. Lorenzi, L., Kerr, M.E., Yonas, H., Kassam, A, **Alexander, S.**, Crago, E. (2001). Influence of delaying treatment after symptoms develop from subarachnoid hemorrhage (SAH) on outcome: A preliminary analysis. *Critical Care Medicine*, 28 (12) A 209 (Suppl).
- 4. Kerr, M.E., **Alexander, S.,** Kim, Y., Kamboh, I., Marion, D. (2001). Effect of Apolipoprotein E genotype on cerebral blood flow in traumatic brain injured patients. *Critical Care Medicine*, *29* (12) A6 (Suppl).
- 5. **Alexander, S.,** Kim, Y., Kerr, M.E., Yonas, H. (2002). A Comparison of psychometric qualities of the SF-36 Physical Function Subscale and the Barthel Index in the subarachnoid hemorrhage population. *Critical Care Medicine*, 29 (12) A133 (Suppl).
- 6. Beatty, M.G., Kerr, M.E., **Alexander, S.,** Beers, S., Marion, D. (2002). Effects of the APOE Allele on memory following traumatic brain injury (TBI). *Critical Care Medicine*, *29* (12) A33 (Suppl).
- 7. Puccio, A.M., Kim, Y., Kerr, M.E., Beers, S.R., Wagner, A., **Alexander, S. A.,** and Marion, D.W. (2002). Psychometric analysis of the functional independence measure in severe traumatic brain injury: A comparison to the Glasgow outcome scale. *Critical Care Medicine, 30* (12), A283 (Suppl).
- 8. Kim, Y., Kerr, M.E., **Alexander, S.,** and Yonas, H. (2002). Use of structural equation modeling (SEM) in quality of life measurement in the subarachnoid hemorrhage population. *Quality of Life Research*, *11*(7), 671 (Suppl).
- 9. Kim, Y., Kerr, M.E., Puccio, A.M., Beers, S.R., **Alexander, S.,** and Crago, E. A. (2003). Repeatability and responsiveness of the FIM, DRS, and NRS in patients with severe traumatic brain injury. *Critical Care Medicine*, *30* (12), A565 (Suppl).
- 10. Puccio, A.M., Kim, Y., Kerr, M.E., Beers, S.R., Wagner, A., Alexander, S., and Marion, D.W. (2003).

- Reliability and validity of the Functional Independence Measure in severe traumatic brain injury, *Eastern Nursing Research Society*, p. 116 [The Best Student Presentation Award].
- 11. **Alexander, S.,** Kerr, M.E., Yonas, H., (2004). Cerebrospinal fluid (CSF) calcium as a biomarker of vasospasm after subarachnoid hemorrhage (SAH). *Critical Care Medicine, 31* (12) A11 (Suppl).
- 12. **Alexander, S.**, Kerr, M.E., Conley, Y., Yonas, H. (2005). Cerebrospinal fluid calcium levels and cerebral vasospasm after subarachnoid hemorrhage. *Biological Research for Nursing*, 6 (4) p. 301.
- 13. Alexander, S., Kerr, M.E., Conley, Y., Kong, Y., Yonas, H. (2004). Apolipoprotein E Genotype and outcomes in the subarachnoid hemorrhage population. *Nursing and Health Sciences*, 7 (2), pp 143-44.
- 14. **Alexander, S.,** Walter, K., Conley, Y. (2006). APOE genotype and Glasgow Coma Score after severe traumatic brain injury. *Critical Care Medicine*, *33*:A293 (Suppl.).
- 15. **Alexander, S.,** Gallek, M., Poloyac, S., Horowitz, M., Kassam, A., Conley, Y. (2007). eNOS Tagging SNPs and CV after SAH. *Critical Care Medicine*, *34* (Suppl.).
- 16. Gallek, M.J., Sherwood, P., Crago, E., **Alexander, S.**, Hoffman, L.A., Poloyac, S.M., Horowitz, M. (2007). Edothelin-1 cerebrospinal fluid levels are associated with the development of cerebral vasospasm in aneurysmal subarachnoid hemorrhage patients. *Critical Care Medicine*, *34*:A80 (Suppl).
- 17. **Alexander, S.,** Poloyac, S., Balzer, J., Hoffman, L., Gallek, M., Kassam, A., Ren, D., Conley, Y. (2008) NO Pathway Biomarkers and CV after SAH. *Critical Care Medicine*. *36*:A11(Suppl).
- 18. Chuang, P.Y., Conley, Y., **Alexander, S.,** Ren, D., Hravnak, M. (2008) Neuroglobin Genetic Polymorphisms and Their Relationship to Functional Outcome Following Traumatic Brain Injury. *Critical Care Medicine 36*: A10 (Suppl).
- 19. Kantor, E., Conley, Y.P., Ren, D., Bayir, H., Provencio, J. J., Crago, E., Horowitz, M., **Alexander, S.** (2009) Haptoglobin Genotype and Functional Outcome after Aneurysmal Subarachnoid Hemorrhage. *Critical Care Medicine 37:* A368 (Suppl).
- 20. Watkins, L., **Alexander, S.**, Ren, D., Crago, E., Conley, Y., Kagan, V., Bayir, H. (2009) Haptoglobins Containing α-2 Subunit Favor Angiographic Vasospasm in Aneurysmal Subarachnoid Hemorrhage. *Critical Care Medicine 37:* A19 (Suppl).
- 21. **Alexander, S.,** Poloyac, S., Ren, D., Crago, E., Horowitz, M., Conley, Y.P. (2009) DDAH2 Genotype Predicts Outcome after Subarachnoid Hemorrhage. *Critical Care Medicine 37:* A156 (Suppl).
- 22. NeSmith, E.G., Catravas, J.D., Marsland, A.L., **Alexander, S.A.**, Hawkins, M.L., Medeiros, R.S. (2009). The influence of accelerated biologic aging, chronic stress, and inflammatory response on outcomes following trauma. *Brain, Behavior, and Immunity*, 23(2), S51.
- 23. **Alexander, S.,** Tate, J., Ren, D., Gunn, S., Ely, E. W. (2010) Interleukin 6 and Delirium in ICU patients *Critical Care Medicine 38 (12): A326* (Suppl).
- 23. Watkins, L., **Alexander, S.**, Kapralov, A., Ren, D., Crago, E., Conley, Y., Kagan, V., Bayir, H. (2010) Possible Role for Haptoglobin and Hemoglobin Aggregates in Pathomechanism of Aneurysmal Subarachnoid Hemorrhage. *Critical Care Medicine* 38 (12): A154 (Suppl).

- 24. **Alexander, S.**, Tate, J. Ren, D., Gunn, S., Conley, Y. (2011) APOE Genotype, Inflammation and Delirium in ICU Patients. *Critical Care Medicine*. *39* (12):A7 (Suppl).
- 25. **Alexander, S.,** Conley, Y. (2013) Inflammatory Gene Methylation in ICU Patients with and without Delirium. *Critical Care Medicine*. *41* (12): A104 (Suppl). DOI: 10.1097/01.ccm.0000439574.72890.33
- 26. **Alexander, S.** (2014) Gene-Protein Interaction: A Methodology for Integration of Biomarkers into Nursing Research. *Nursing Research*, 63(2): E66.
- 27. **Alexander, S.,** Ren, D., McVerry, B.M., Gunn, S.M. (2014) Preadmission Smoking and Inflammation and Delirium in ICU Patients. *Critical Care Medicine*.42 (12): A1501 (Suppl). DOI: 10.1097/01.ccm.0000458083.70730.b4
- 28. Smithburger PL, **Alexander SA**, Gries CJ, Korenoski AS, Kane-Gill SL. (2015) Provider and family perceptions of family involvement in delirium prevention in an ICU. *Critical Care Medicine* 43(12)
- 29. **Alexander, S.** (2015) Medical History, Delirium and Recovery from the ICU. *Critical Care Medicine* 43(12)
- 30. **Alexander, S. A.,** Conley, Y., Girard, T.D., McVerry, B., & Ren, D. (2019) Inflammatory gene methylation profiles in critically ill patients with and without delirium. *Critical Care Medicine*, 48(1):361 (Suppl)
- 31. Eaton, T., Lewis, A., **Alexander, S.,** Seaman, J., & Scheunemann, L. (2022). Exploring the intersection between palliative care and critical illness survivorship, *Critical Care Medicine*, *50*(1):419.
- 32. Eaton, T., Lewis, A., Donovan, H., Scheunemann, L., & **Alexander**, **S**. (2022). Exploring the landscape of symptom burden in critical illness survivors. *Critical Care Medicine*, *50*(1):221.

### **RESEARCH**

### Research Awards as PI

Role: Principal Investigator Dates: 2003, Nov – 2004, Oct.

Type: Professional Organization

Funding Agency: American Nurses Foundation John Merck Scholar

Title: Biomarkers to Predict Cerebral Vasospasm after Subarachnoid Hemorrhage.

Award: \$5,000

Role: Principal Investigator Dates: 2004, July – 2005, June

Type: Professional Organization

Funding Agency: Neuroscience Nursing Foundation

Title: The Impact of Isoform Specific ApoE-Calcium Interaction on Cerebral Vasospasm after Subarachnoid

Hemorrhage. Award: \$2,200

Role: Principal Investigator Dates: 2004, Sept – 2005, Aug

Type: Professional Organization

Funding Agency: Sigma Theta Tau International Research Award, Eta Chapter

Title: APOE Genotype and Cerebral Vasospasm and Outcomes after Subarachnoid Hemorrhage.

Award: \$1,500

Role: Principal Investigator Dates: 2004, Sept - 2005, August

Type: School of Nursing Endowed Research Award

Funding Agency: The Leslie A. Hoffman Endowed Acute Care Nursing Research Fund Title: The Effect of Apolipoprotein E and Calcium on Cerebral Vasospasm after SAH.

Award: \$ 750

Role: Principal Investigator Dates: 2005, July - 2009, January

Type: University of Pittsburgh

Funding Agency: Central Research Development Fund

Title: CSF Ca<sup>++</sup> APOE protein and genotype and CV after TBI.

Award: \$ 16,000

Role: Principal Investigator 0% Dates: 2008, February 2011, February

Type: Norma J. Shoemaker Grant for Critical Care Nursing Research

Funding Agency: Society for Critical Care Medicine

Title: Apolipoprotein E, Inflammatory Markers and Delirium in ICU Patients.

Award: \$16,000

Role: Principal Investigator 0% Dates: 2008, September –2010, August

Type: School of Nursing Endowed Research Award

Funding Agency: Ruth Perkins Kuehn Research Award 2008

Title: ADMA and Cerebral Vasospasm after Subarachnoid Hemorrhage.

Award: \$12,828

Role: Principal Investigator 27% Dates: 2008, September- 2011, July

Type: R03 NR01152-01 Funding Agency: NIH, NINR

Title: Long Term Outcomes in ICU Patients: Delirium & Apolipoprotein E.

Award: \$99,831

Role: PI 0% Dates: 2015, July- 2016, June

Type: Pilot study

Funding Agency: University of Pittsburgh School of Nursing Genomics Hub Title: Epigenetic Changes Promoting Delirium after Intensive Care Unit Admission.

Award: \$5,000

Role: Principal Investigator 2.5% Dates: 2017, January – 2018, December

Type: Weill Research Grant Funding Agency: SCCM

Title: Temporal Inflammatory Gene Methylation Profiles and ICU Delirium.

Award: \$50,000

Role: Principal Investigator 20% Dates: 2019, September- 2023, June

Type: R21AG059167 Funding Agency: NIH, NIA

Title: Epigenetic Changes and Delirium after Intensive Care Unit Admission.

Award: \$430,375

Role: Principal Investigator 20% Dates, 2019, September – 2021, December

Funding Agency: Shadyside Foundation

Title: Noise Reduction Improving Sleep

Award: \$80,000

Research Awards as Co-I / Mentor

Role: Co-Investigator 10% (PI Yvette Conley, PhD)

Dates: 2005, July - 2009, June

Type: R01 NR008424 Funding Agency: NIH, NINR

Title: Mitochondrial Genetics of Recovery after Brain Injury.

Award: \$800,000

Role: Co-Investigator 5% (Co-PIs S. Poloyac, P. Sherwood) Dates: 2009, August-2014, July

Type: R01 NR004339

Funding Agency: NIH, NINR

Title: Determining genetic and biomarker predictors of DCI and long term outcomes after aSAH.

Award: \$3,365,222

Role: Co- Mentor 0% (PI-Nesmith) Dates: 2010, August- 2013, June

Type: K01 NR011471

Funding Agency: NIH, NINR

Title: Accelerated Biological Aging and Risk for Sepsis and Organ Failure Following Trauma.

Award: \$93.363

Role: Sponsor (PI- Osier) Dates: 2014, September – 2016, August

Type: F31 NR014957

Funding Agency: NIH, NINR

Title: Mechanism of Melatonin-Induced Neuroprotection in Traumatic Brain Injury.

Award: \$85,796

Role: Co-Investigator 5% (PI- Conley)

Dates: 2012, September- 2017, June

Type: R01 NR 013610 Funding Agency: NIH, NINR

Title: Epigenomics of Patient Outcomes after Aneurysmal SAH.

Award: \$2,749,754

Role: Faculty Dates: 2006, July- 2026, June

Type: T32 NR009759

Funding Agency: NIH, NINR

Title: Targeted Research and Academic Training of Nurses in Genomics.

Award: \$223,876

Role: Co-Investigator 10% contributed effort (PI- Arbor)

Dates: 2022, April-2023, March

Type: Pilot Project Grant

Funding Agency: Quebec Pain Research Network

Title: Pupillometry to Predict Procedural Pain in Critically Ill Sedated Patients with Traumatic Brain Injury.

Award: \$25,000

Role: Co-Investigator (PI-Arbor)

Dates: 2023, April-2024, March

Type: Pilot Project Grant

Funding Agency: Quebec Network of Nursing Intervention Research

Title: Quantitative pupillometry to predict delirium in sedated and mechanically ventilated patients with a

traumatic brain injury: A preliminary study. Award: \$50 000

# **Other Scholarly Activities**

# **Research Grant Reviews**

2006-2015	Society of Critical Care Medicine Vision grant reviewer
2007-2013 2021-present	Department of Defense Congressionally Directed Medical Research Program Post-Traumatic Stress Disorder and Traumatic Brain Injury Research Program – Traumatic Brain Injury Award grant reviewer
2008- 2013 2021	United States Army Medical Material Development Activity grant reviewer
2005-2011, 2013, 2014, 2017	Sigma Theta Tau International, Eta chapter grant reviewer
2010- 2013	American Association of Critical Care Nurses, grant reviewer
2010- 2013	Italian Ministry of Health grant reviewer
2012- 2014, 2018-present	Neuroscience Nursing Foundation grant reviewer
2013-present 2015-2	Department of Veterans Affairs (Neurobiology C) grant reviewer 2020 Permanent Member
2015-2016	Society of Critical Care Medicine THRIVE Grant reviewer
2016-2021	The Defense and Veterans Brain Injury Center (DVBIC) intramural research grant science reviewer
2017	University of Pittsburgh Central Research Development Fund Grant reviewer
2017	National Institutes of Health/National Institute on Aging, Special Emphasis Panel. ZAG1 ZIJ-3(01). Relationship between Delirium and Alzheimer's disease
2017-present	Society of Critical Care Medicine Research Grant reviewer- Weil and Discovery grants
2017	International Society for Nurses in Genetics Grant reviewer.
2019	
	United States Army Medical Material Research and Command, 2019 Broad Agency Announcement, Combat Casualty Care Research Program (CCCRP) grant reviewer.

Medical/Surgical Specialists' Transition to Aging Research.

National Institutes of Health/National Cancer Institute, Special Emphasis Panel/Scientific Review

Group 01 ZCA1 SRB-P (J1) S. Ad hoc reviewer with expertise in gut dysbiosis.

2020-2022 National Institutes of Health/National Institute on Aging. Special Emphasis Panel/Scientific

Review Group, ZAG1 ZIJ-D (M1), Clarifying the Relationship between Delirium and

Alzheimer's Disease and Related Dementias.

National Institutes of Health Chronic Dysfunction and Neurodegeneration Scientific Review

Group. Ad hoc reviewer with expertise in delirium.

## Editorial Board/Regular Manuscript Reviewer

2005-present Journal of Neuroscience Nursing, regular reviewer

2020-present Editorial Board Member

2007-present Biological Research for Nursing, regular reviewer

2016-2018 Guest Editor, 'Primer in Genetics and Genomics Series'

2018-present Editorial Board Member

2007- 2012 Nursing Research, regular reviewer

2008- present Journal of Neurotrauma, ad hoc reviewer

2010-2014 Open Critical Care Medicine Journal, regular reviewer, Editorial Advisory Board member

2012-present PLOS One, regular reviewer

2014-2021 Editorial Board Member

2014-present Pediatric Critical Care Medicine, ad hoc reviewer

2014-2021 Journal of the Neurological Sciences, ad hoc reviewer

2014-present Stroke, ad hoc reviewer

2014-present Heart & Lung: The Journal of Acute & Critical Care, ad hoc reviewer

2015 Biomarkers, ad hoc reviewer

2015 BMC Neurology, ad hoc reviewer

2017-present Journal of Nursing Measurement, reviewer

2018-2020 Nursing: Research and Reviews, ad hoc reviewer

2018 Neurology Reviews, ad hoc reviewer

2018-present Neurocritical Care, ad hoc reviewer

2021-present Critical Care Explorations, Editorial Board Member

2021-present Chinese Journal of Emergency and Critical Care Nursing, Editorial Board Member

2022-present Critical Care Medicine, Editorial Board Member

## **PRESENTATIONS**

## **International**

### Paper

- 1. (2000, August). Continuous assessment of cerebrovascular regulation after subarachnoid hemorrhage (SAH), by near- infrared spectroscopy (NIRS). International Society on Oxygen Transport to Tissue. Nijmegen, Netherlands.
- 2. (2004, February). Cerebrospinal fluid (CSF) calcium as a biomarker of vasospasm after subarachnoid hemorrhage (SAH). Society of Critical Care Medicine 33<sup>rd</sup> International Educational and Scientific Symposium. Orlando, FL.
- 3. (2004, October). Apolipoprotein E genotype and outcomes in the subarachnoid hemorrhage population. International Society of Nurses in Genetics, Annual International Conference. Toronto, Canada.
- 4. (2007, February). Nursing year in review. Society of Critical Care Medicine 36<sup>th</sup> Critical Care Congress. Orlando, FL.
- 5. (2008, October). Influence of the Endothelial Nitric Oxide Synthase Gene and Recovery from SAH. 21<sup>st</sup> Annual ISONG Conference.
- 6. (2009, February). NO Pathway Biomarkers of CV after SAH. Society of Critical Care Medicine 38<sup>th</sup> Annual Critical Care Congress. Nashville, TN.
- 7. (2010, October). DDAH2 Genotype Predicts Outcome after Subarachnoid Hemorrhage. International Society of Nurses in Genetics 23<sup>rd</sup> Annual Conference. Dallas, TX.
- 8. (2012, February). APOE Genotype, Inflammation and Delirium in ICU Patients. Society of Critical Care Medicine 40<sup>th</sup> Annual Critical Care Congress. Houston, TX.
- 9. (2012, October) Genetics Influences on Risk of Stroke and Stroke Recovery. International Society of Nurses in Genetics, 25<sup>th</sup> Annual Conference. Philadelphia, PA.
- 10. (2014, November) Inflammatory Gene Methylation Profile as a marker of ICU Delirium. International Society of Nurses in Genetics 27<sup>th</sup> Annual Congress. Philadelphia, PA, USA.
- 11. (2017, November) ICU Delirium and Changes in IL6ST Methylation. International Society of Nurses in Genetics 30<sup>th</sup> Annual Congress, Reston, VA, USA.

#### **Poster**

- 1. (2000, August). Vasospasm detection following SAH using cerebral oximetry. International Society on Oxygen Transport to Tissue. Nijmegen, Netherlands.
- 2. (2002, January). Effect of Apolipoprotein E genotype on cerebral blood flow in traumatic brain injured

- patients. Society of Critical Care Medicine 31st International Educational and Scientific Symposium. San Diego, CA, USA.
- 3. (2005, October). APOE ε2 allele, clotting, and hemorrhage in traumatic brain injury. International Society of Nurses in Genetics Annual International Conference. Salt Lake City, UT, USA.
- 4. (2008, February). eNOS Tagging SNPs and CV after SAH. Society of Critical Care Medicine 37<sup>th</sup> International Educational and Scientific Symposium. Honolulu, HI, USA.
- 5. (2010, February). DDAH2 Genotype Predicts Outcome after Subarachnoid Hemorrhage. Society of Critical Care Medicine 39<sup>th</sup> Critical Care Congress. Miami, FL, USA.
- 6. (2011, January) Interleukin 6 and Delirium in ICU Patients. Society of Critical Care Medicine 40<sup>th</sup> Critical Care Congress. San Diego, CA, USA.
- 7. (2011, October) APOE Genotype and Delirium in an ICU Population. International Society of Nurses in Genetics 24<sup>th</sup> Annual International Conference. Montreal, Canada.
- 8. (2014) Inflammatory Gene Methylation in ICU Patients with and without Delirium. Society of Critical Care Medicine, 42<sup>nd</sup> Annual Critical Care Congress. San Francisco, CA, USA.
- 9. (2016) Medical History, Delirium and Recovery from the ICU. Society of Critical Care Medicine, 44<sup>th</sup> Annual Critical Care Congress, Orlando, FL, USA.
- 10. (2020) Inflammatory gene methylation profiles in critically ill patients with and without delirium. Society of Critical Care Medicine, 49<sup>th</sup> Annual Critical Care Congress, Orlando, FL, USA.

### **National**

#### **Paper**

- 1. (1999, March). Charting the course for standardizing neurologic assessment in the ICU. 31st Meeting & Exposition of the American Association of Neuroscience Nurses. Philadelphia, PA.
- 2. (2002, September). An analysis of the SF-36 function subscale and the Barthel index for use in the subarachnoid hemorrhage population. State of the Science in Nursing Research. Washington, D.C.
- 4. (2004, October). Cerebrospinal fluid calcium levels and cerebral vasospasm after subarachnoid hemorrhage. National Congress on the State of the Science in Nursing Research. Washington, D.C
- 5. (2006, April). Apolipoprotein E and outcome after subarachnoid hemorrhage. American Association of Neuroscience Nurses 38<sup>th</sup> Annual Meeting. San Diego, CA.
- 6. (2007, May). Basic genetics for nurses. National Teaching Institute & Critical Care Exposition. Atlanta, GA.

#### **Poster**

1. (2015, June). Smithburger, P. L., **Alexander, S.A.,** Kane-Gill, S., Korenoski, A., Gries, C.J. Healthcare provider perception of delirium prevention and family involvement in a medical intensive care unit. The 5th Annual American Delirium Society Meeting, Baltimore MD

## Regional

## **Paper**

- 1. (2001, April). Vasospasm detection following SAH using cerebral oximetry. 13<sup>th</sup> Annual Scientific Session of the Eastern Nursing Research Society. Atlantic City, N.J.
- 2. (2001, April). Effect of alcohol intoxication on cerebral blood flow and outcomes following a severe traumatic brain injury. 13<sup>th</sup> Annual Scientific Session of the Eastern Nursing Research Society. Atlantic City, N.J.
- 3. (2002, April). A comparison of psychometric qualities of the SF-36 physical function subscale and the Barthel index in the subarachnoid hemorrhage population. 14<sup>th</sup> Annual Scientific of the Session of the Eastern Nursing Research Society. State College, PA.
- 4. (2005, April). Apolipoprotein E genotype and outcomes in the subarachnoid hemorrhage population. 17<sup>th</sup> Annual Scientific Session of the Eastern Nursing Research Society. New York City, NY.
- 5. (2006, April). APOE genotype and cognitive outcomes after severe TBI. Eastern Nursing Research Society 18th Annual Scientific Sessions. Cherry Hill, NJ.
- 6. (2008, March). Endothelial Nitric Oxide Synthase Tagging Single Nucleotide Polymorphisms and Outcome after Aneurysmal Subarachnoid Hemorrhage. Eastern Nursing Research Society 20<sup>th</sup> Annual Scientific Sessions. Philadelphia, PA.
- 7. (2009, March). Bringing Genetics into Your Program of Nursing Research. Eastern Nursing Research Society 21<sup>st</sup> Annual Scientific Sessions. Boston, MA.
- 8. (2014, April). Gene-Protein Interaction: A Methodology for Integration of Biomarkers into Nursing Research. Eastern Nursing Research Society 26<sup>th</sup> Annual Scientific Sessions. Philadelphia, PA
- 9. (2015, April). Consent and Human Subject Issues for Genetic and Genomic Research. Eastern Nursing Research Society 27<sup>th</sup> Annual Scientific Sessions, Washington, D.C.
- 10. (2016, April). Special Populations: Conducting Genetic, Genomic and Physiologic Research in Cognitively Impaired, Critically Ill Adults. Eastern Nursing Research Society 28<sup>th</sup> Annual Scientific Sessions, Pittsburgh, PA.

#### Local

## **Paper**

- 1. (1990, September). Care of the patient with an arterio-venous malformation. Nursing Grand Rounds. Montefiore University Hospital. Pittsburgh, PA.
- 2. (1994, May). Myasthenia Gravis. Nursing Grand Rounds. Montefiore University Hospital. Pittsburgh, PA.
- 3. (2000, October). Influence of delaying treatment after symptoms develop from subarachnoid hemorrhage (SAH) on outcome: a preliminary analysis. Greater Pittsburgh 12<sup>th</sup> Annual Nursing Research Conference. Pittsburgh, PA.

- 4. (2005, April). The effect of APOE genotype on outcome in severe traumatic brain injured adults. Brain Trauma Research Center Monthly Lecture Series. Pittsburgh, PA.
- 5. (2007, April). Apolipoprotein E and severe traumatic brain injury: Book 2. Safar Center for Resuscitative Research Monthly lecture series. Pittsburgh, PA.

#### **Poster**

1. (2002, February). Effects of the APOE 4 allele on memory following traumatic brain injury (TBI). Sigma Theta Tau, Eta Chapter Poster Presentation Night. Pittsburgh, PA.

## **Invited Lectures**

- 1. (2008, October). Traumatic Brain Injury: Saving Lives, Saving Brain. Pennsylvania State Nurses Association Annual Summit. State College, PA
- 2. (2009, March). Bringing Genetics into Your Program of Research. Eastern Nursing Research Biobehavioral Research Interest Group Sponsored Symposium. Boston, MA.
- 3. (2010, September). NO Means NO: Nitric Oxide as an Inhibitor of Cerebral Vasospasm after Subarachnoid Hemorrhage. Neurocritical Care Society, San Francisco, CA.
- 4. (2011, January). Apolipoprotein E, Inflammatory Markers and Delirium in ICU Patients. Nursing Section Business Meeting, Society of Critical Care Medicine. San Diego, CA.
- 5. (2011, June) Moderator. The Spectrum of Simulation- A Quest to Improving Healthcare Education. 9<sup>th</sup> Annual Safar Symposium. Pittsburgh, PA.
- 6. (2012, March). Blame It on Your Mother: Genetic Influences on Stroke and Recovery. UPMC Stroke Institute 12<sup>th</sup> Annual Acute Stroke Management Conference. Canonsburg, PA.
- 7. (2012, July). Pharmacogenetics/Pharmacogenomics: Science. National Nurse Practitioner Symposium, Copper Mountain, CO.
- 8. (2012, October). What can you do with a PhD? Academic Nursing Research. Nursing Section Breakfast, Neurocritical Care Society. Denver, CO.
- 9. (2012, October) Moderator. Found in Translation: What your patients need to know right now about translational research. Neurocritical Care Society. Denver, CO.
- (2013, January). Neurocritical Care Research: One Investigators' Journey Down the Road Less Traveled. Center for Bio-Behavioral Clinical Research, School of Nursing, Virginia Commonwealth University. Richmond, VA
- 11. (2013, January). Neuroscience Nurses in Academia and Research. Arbeitstagung für neurologische Intensiv- & Notfallmedizin (Workshop for Neurological Intensive Care & Emergency Medicine). Mannheim, Germany.
- 12. (2013, January). Nursing in the United States of America: Past, Present and Future. Duale Hochschule Baden-Württemberg Stuttgart (Dual Academy of Baden-Wurttemberg, Stuttgart), Stuttart, Germany.

- 13. (2013, February). Delirium: Risks, Recognition, Remedies and Recovery. Pulmonary, Allergy, and Critical Care Medicine Grand Rounds, Pittsburgh, PA.
- 14. (2013, May). Pharmacogenomics: Basic Science. National Conference for Nurse Practitioners. Nashville, TN.
- 15. (2013, May). Pharmacogenetics/Pharmacogenomics: Science. National Teaching Institute & Critical Care Exposition, Boston, MA.
- 16. (2013, September). Nursing Research in Neurocritical Care. Research Career Development Symposium in Neurocritical Care, 11<sup>th</sup> Annual Neurocritical Care Society Meeting, Philadelphia, PA.
- 17. (2013, October). Electronic Medical Records Improve Care in the NeuroICU Debate (Pro). 11<sup>th</sup> Annual Neurocritical Care Society Meeting, Philadelphia, PA.
- 18. (2013, October). Incorporating Genetics/Genomics into the MSN Curriculum to Meet the Essentials. ISONG Silver Anniversary Conference, Bethesda, MD.
- 19. (2014, November) Incoming Presidential Address, ISONG Annual Congress, Phoenix, Az.
- 20. (2014, November) Case Studies to Enhance Education: Unfolding Case Studies: Huntington Disease as an Exemplar for Multidisciplinary Pathophysiology Education. ISONG Annual Congress, Phoenix, Az.
- 21. (2015, July). The Science behind Pharmacogenetics/Pharmacogenomics: Basic Science. National Nurse Practitioner Symposium, Keystone, CO.
- 22. (2015, July). Delirium in the Intensive Care Unit. National Nurse Practitioner Symposium, Keystone, CO.
- 23. (2015, November). Presidential Welcome Message. ISONG Annual Congress, Pittsburgh, PA.
- 24. (2016, March/April). My Career as a Nurse Scientist: A Journey Down the Road Less Traveled. Honors Day Program, University of Pittsburgh, Pittsburgh, PA.
- 25. (2017, April). Clinical practice guidelines: Be part of the process. American Association of Neuroscience Nurses 49th Annual Meeting, Boston, MA.
- 26. (2017, November). Gut Microbiome Changes and ICU Delirium. Center for Microbiome & Medicine Data Blitz, Pittsburgh, PA.
- 27. (2018, February). How to be a good mentor; How to be a good Mentee. Roundtable discussion. Society of Critical Care Medicine 47<sup>th</sup> Critical Care Congress. San Antonio, Tx.
- 28. (2018, February). Temporal Inflammatory Gene Methylation Profiles and ICU Delirium. Distinguished Investigator Lecture and SCCM-Weil Research Grant Recipients Lectures, Society of Critical Care Medicine 47<sup>th</sup> Critical Care Congress. San Antonio, Tx.
- 29. (2018, March). SON Honors College Opportunities. Honors Day Program, Pittsburgh, PA.
- 30. (2019, February). Brain Bleed Essentials: Keeping the Brain Cool after Bleeds. Society of Critical Care Medicine 48th Critical Care Congress. San Diego, CA.

- 31. (2019, February). Meet the Nursing Professor: What Does an Academic Path Look Like? Roundtable discussion. Society of Critical Care Medicine 48<sup>th</sup> Critical Care Congress. San Diego, CA.
- 32. (2019, February). Candidate and Career Goals. Society of Critical Care Medicine Research Methodology and Career Trajectory Foundation Course (48<sup>th</sup> Critical Care Congress, Pre-Congress workshop). San Diego, CA.
- 33. (2019, August). Neurocritical Care Nursing Research: My Journey Down the Road Less Traveled. International Neuroscience Nursing Research Symposium. Austin, TX.
- 34. (2019, November). Big Data in Healthcare Research. 13<sup>th</sup> Annual Second International Nursing Forum. Hangzhou, China.
- 35. (2019, November). ICU Delirium Research: Where It's been and Where It's Going. 13<sup>th</sup> Annual Second International Nursing Forum. Hangzhou, China.
- 36. (2020, February). You Have to Keep the Patient at the Right Temperature. Society of Critical Care Medicine 49<sup>th</sup> Critical Care Congress, Orlando, FL.
- 37. (2020, June). Immune Response and Convalescent Plasma Therapy. COVID19 from a Physiologic Perspective for Nurses. (Online, Enduring).
- 38. (2020, July). Nursing Research: Improving Outcomes with Genetic Data. West China-Yale Nursing Development Forum. (Virtual).
- 39. (2020, August). Exploring Individual Variability in ICU Delirium. International Neuroscience Nursing Research Symposium. (Virtual).
- 40. (2020, August). Biomarkers of Delirium. Chinese Emergency Nursing Annual Conference. (Virtual).
- 41. (2020, September) Moderator. Biomarkers. Curing Coma Virtual Symposium. Neurocritical Care Society/National Institute of Neurologic Disease and Stroke. (Virtual).
- 42. (2020, September). Genomic and Proteomic Biomarkers of Recovery in Acute Brain Injury and Disorders of Consciousness. Neurocritical Care Society 18<sup>th</sup> Annual Meeting, Neurocritical Care: From Research to Recovery. (Virtual).
- 43. (2021, February). When Zombies Attack: Toxidromes in Neurocritical Care. Toxidromes Causing Seizures. Society of Critical Care Medicine 50<sup>th</sup> Critical Care Congress. (Virtual).
- 44. (2021, April). Genomic and Proteomic Biomarkers of Recovery in Acute Brain Injury and Disorders of Consciousness. World Coma Day 2021. (Virtual).
- 45. (2022, April). Moderator. Recent Research which will Impact Care 1. Society of Critical Care Medicine 51<sup>st</sup> Critical Care Congress. (Virtual).

- 46. (2022, April). Moderator. Recent Research Which Will Impact Care 2. Society of Critical Care Medicine 51st Critical Care Congress. (Virtual).
- 47. (2022, April). Moderator. Recent Research Which Will Impact Care 3. Society of Critical Care Medicine 51st Critical Care Congress. (Virtual).
- 48. (2022, April). Moderator. Late Breaking Research. Society of Critical Care Medicine 51st Critical Care Congress. (Virtual).
- 49. (2022, April). Moderator. Thought Leaders: Genetics and Genomics in Critical Care. Society of Critical Care Medicine 51st Critical Care Congress. (Virtual).
- 50. (2022, April). Research: Hope for the Future: Genomic and Proteomic Biomarkers of Recovery in Disorders of Consciousness. World Coma Day 2022. (Virtual).
- 51. (2022, May). Potential Biomarkers of Recovery in Acute Brain Injury and Disorders of Consciousness. West China-Pittsburgh Nursing Development Online Conference: Genomics and Precision Healthcare. (Virtual).
- 52. (2023, January). Moderator. Late Breaking Research. Society of Critical Care Medicine 52<sup>nd</sup> Critical Care Congress.
- 53. (2023, January). Journal Peer Review Academy; Tips from the Experts. Society of Critical Care Medicine 52<sup>nd</sup> Critical Care Congress.
- 54. (2023, June). Omics of Recovery from SAH. 16<sup>th</sup> International Conference for Subarachnoid Hemorrhage.

#### **Podcasts**

1. (2019, June). Targeted Temperature Management. <a href="https://www.sccm.org/Communications/iCritical-Care/All-Audio-iCritical-Care/SCCM-Pod-387-Targeted-Temperature-Management">https://www.sccm.org/Communications/iCritical-Care/SCCM-Pod-387-Targeted-Temperature-Management</a>.

### **TEACHING**

### **University of Pittsburgh Medical Center**

#### **Guest Lecturer**

1994	Transcranial Dopplers-Unit Based In-service. Neurovascular Intensive Care Unit. University of Pittsburgh Medical Center, Pittsburgh, PA.
1997-1999	Emergency Response Training. Western Psychiatric Institute and Clinic, Pittsburgh, PA.
1997-2001	Cardiopulmonary Resuscitation. University of Pittsburgh Medical Center, Pittsburgh, PA.
2005	Research Design. Physical Medicine and Rehabilitation. University of Pittsburgh Medical Center, Pittsburgh, PA.

2005 Research Methods. Physical Medicine and Rehabilitation. University of Pittsburgh Medical

Center, Pittsburgh, PA.

2007 Research Design and Methods. Physical Medicine and Rehabilitation, University of Pittsburgh

Medical Center, Pittsburgh, PA

2017- 2020 Research in Special Populations: Cognitively Impaired Adults, Clinical and Translational

Science, University of Pittsburgh, Pittsburgh, PA.

## **Children's Hospital of Pittsburgh**

2006-2008 Brain Anatomy (for Pediatric Trauma Nurse Fellows)

2006-2008 Brain Disorders (for Pediatric Trauma Nurse Fellows)

2009 Critical Care Awareness Month Lecture Series.

Seizures and Antiepileptic Medications

## **University of Pittsburgh School of Education**

June 2006 Cardiovascular Risk (for Exercise Physiology Students)

## **University of Pittsburgh School of Nursing**

### **Primary Teacher**

2005-present NUR 2004 Pathophysiology across the Lifespan. (Fall and Summer terms for 2005-

2006; Fall, Spring and Summer terms for 2006-present)

Core graduate course presented to approximately 150-200 students yearly enrolled in nurse practitioner, nurse anesthesia, clinical nurse specialist, nursing administration nursing education, informatics and research master's programs. This course is also offered to students from the School of Public Health (EPIDEM 2004), Health and

Rehabilitative Sciences (HRS 2004), and Psychology (PSYCH 2004).

2009-present NUR 2204/2004 Pathophysiology across the Lifespan. (Fall)

Core graduate course presented to approximately 5-10 students in the ONLINE Clinical

Nurse Leader program.

2012-present NUR 2004D Pathophysiology across the Lifespan. (Fall/Spring/Summer)

Core graduate course presented to 10-20 students yearly enrolled in select nurse practitioner programs. This course is offered via distance education and offered

synchronously with NUR 2004.

2015-2016 NUR 3050 Grant Writing. (Summer)

Doctorate level course presented to 5 students in select Online Doctor of Nursing Practice

Programs.

2015-2018 NUR 2008 Ethics for Advanced Practice Nurses (Fall/Spring/Summer)

Core graduate course presented to 25 students enrolled in various graduate programs in

the School of Nursing. This course is offered online.

2018-2019 NUR 1085 Ethics in Nursing and Healthcare (Fall/Spring/Summer)

Core undergraduate course presented to about 25 students enrolled in the second degree

undergraduate program in the School of Nursing.

2021-present NUR 0053 Introduction to Inclusion, Equity and Diversity in Healthcare (Spring)

Core undergraduate course presented to 8-15 students in traditional BSN program in the

school of nursing.

Trajectory.'

## **Guest Lecturer School of Nursing**

2001-2003	NUR 3030 Research Development. Annual lecture on 'Hiring Project Directors'.
February, 2004	NUR 1680 Introduction to Genetics and Molecular Therapies. 'DNA/RNA Replication'.
October, 2004	NUR 2004 Advanced Pathophysiology. 'Alterations in Neurologic Function'.
2007- 2016	NUR 3049 Doctoral Research Seminar. 'Genetic and Physiologic Neurologic Research'
2007- 2013	NUR 3040 Research Emphasis. 'Using Genetics to Understand Outcomes in Critically Ill Neuro Patients: Strategies for Success'
August, 2008	2008 Pharmacology Update. 'Genetic-driven Prescribing.'
September, 2008	NUR 1680 Introduction to Genetics and Molecular Therapies. 'Individualized Medical Management in the Genomic Era: Genetic Driven Therapies'
2009- 2013	NUR 3030 Research Development. 'Department of Defense Grants: Topics & Review Process'
2009- 2011	NUR 0067 Nursing research: Introduction to critical appraisal and evidence based practice. 'Genetic and Physiologic Neurologic Research'
June, 2009	2009 Pharmacology Update. Little People, Big Headaches: Medical Management of Migraines in Pediatric Populations.
June, 2009	2009 Pharmacology Update. Seizures and Epilepsy in Pediatric Populations: Concepts to Guide Medical Management.
March, 2010-2011	University of Pittsburgh Medical Center Health Plan Continuing Education Series. Lifetime Management of Sickle Cell Disease.
July, 2010-2017	NUR 3110 Research Instrumentation. 'Physiologic Research Methods.'
2017- 2019	NUR 0005 Honors Freshman Seminar. 'Brain Research'
2018-present	NUR 1085 Ethics in Nursing and Healthcare. 'Organ Donation and Transplantation.'
2020-present	NUR 3292 Responsibilities and Activities of Scientists. 'Mapping the Research

# **Clinical Supervision School of Nursing**

2006 (Spring)	Instructor: NUR 1033 Transitions into Nursing
2008 (Summer)	Instructor: NUR 1033 Transitions into Nursing
2009 (Fall)	NUR 0080 Foundations of Nursing Practice 1
2010 (Spring)	NUR 0081 Foundations of Nursing Practice 2
2018 (Spring)	Instructor: NUR 1033 Transitions into Nursing

# **Undergraduate Research Mentorship**

2005 -2008	Mollie Orr
2007 - 2009	Katie Flaherty
2007 -2010	Jenny Melchior
2007 - 2010	Ellen Kantor
2009 - 2010	Kelly Moon
2009	Tiffany Fletcher
2009 - 2011	Lyndsey Pretsch
2010	Emily Christopher
2010	Brooke Stewart
2010 -2012	Kristin Kamp
2010- 2012	Ariella Laiken
2011	Maryam Adebayo
2011	Sara Hervitz
2011-2013	Yelizaveta Tsyss
2011-2014	Apoorva Gopalakrishna
2012-2013	Meaghan Maydick
2012-2015	Lisa Nagy
2014-2016	Maeve O'Donnell
2016-2018	Grace Paik
2017-2019	Meryn Holtslander
2017-2019	Janette Kim
2017-2018	Hannah Beck
2018-2020	Akshay Roy
2019-2023	Jaime Woo
2021-present	Cameron Snyder
2022-present	Nicole Tan

# **Masters Research Practicum Preceptor**

2000 (Summer)	Kevin Gasior, MSN student
2000 (Fall)	Dwight Herman, MSN student
2001(Spring)	William Shaulis, MSN student
	Chris Yost, MSN student
2002 (Spring)	Marina Ogden, MSN student
2004 (Spring)	Brian Pelkey, MSN student
2006 (Spring)	Dawn Mudar, MSN student
	Shai Goel, MSN student
2006 (Summer)	Erin Carwille, MSN student
2009 (Spring)	Sarah Klein, MSN student

Christina Blewitt, MSN student Paul J. McMullen, MSN student
LaShonda Gray, MSN student
Jordan Thompson, MSN student Marissa Berg, MSN student
Nicole Cournoyer, MSN student Archana Shah, MSN student
Christina Sivak, MSN student Tawni Fuller, MSN student
David Gaggini, MSN student Shannon Barr, MSN student
James Durall, MSN student
Sean Griffith, MSN student
E. Jamaal Hawkins, MSN student
Allyson Heard, MSN student
Jessica J. Davis, MSN student

# **DNP Research Practicum Preceptor**

2018 (Spring)	Greg Romano, DNP student
2018 (Spring)	Kyle Sheerin, DNP student
2018 (Spring)	Shawn West, DNP student

# **Doctoral Practicum Preceptor**

2005 (Spring)	Coordinating Clinical Trials Practicum
	Taura Barr, RN, PhD student
2006 (Spring)	Manuscript Development Practicum
	Matt Gallek, RN, PhD student
2006 (Summer)	Neuroanatomy
	Peiying Chuang, PhD student
2008 (Spring)	Coordinating Clinical Trials Practicum
	Claire Shaler, PhD student
2013 (Spring)	Genetic Research Proposal Development
	Nicole Osier, RN, PhD student
2013 (Summer)	Genetic Research Proposal Development II
	Nicole Osier, RN, PhD student
2013 (Fall)	Research in Critical Care
	Tammy Eaton, RN, PhD student
2014 (Fall)	Animal laboratory methodologies in TBI research
	Nicole Osier, RN, PhD student
2017 (Spring)	Maighdlin Anderson, RN, DNP student
	Pupillometer Use in the Neuro-Trauma ICU
	Megan Maserati, RN, PhD student
	Biomarkers of Traumatic Brain Injury
2018 (Fall)	Megan Maserati, RN, PhD student
	Biomarkers of Traumatic Brain Injury; Specific Aims

# Theses, Capstones and Dissertations

Bachelor of Philosophy Thesis Chair

Ellen Kantor, SN. "An Analysis of Haptoglobin Genotypes and Recovery from

Aneurysmal Subarachnoid Hemorrhage". Final presentation, August 2011

### **BSN-Honors Thesis Committee**

Kaleigh Mellett, SN. "Relationship Between Variation in the TP53 Gene and Patient Outcomes Following Severe Traumatic Brain Injury." Final presentation, March 2019.

Emilie Loudenslager, SN. "The role of a PGC1-α variation in patient outcomes after severe traumatic brain injury." Final presentation, April 2020.

### **BSN-Honors Thesis Committee Chair**

Grace Paik, SN. "Is Temporal Artery Thermometry a Useful Indicator of Core Bod Temperature in Patients Receiving General Anesthesia?" Final presentation. April 2018.

Janette Kim, SN. "Does a Functional SNP Variant in Interleukin-6 Lead to Increased Physiology of Delirium in ICU Patients." Final presentation, March 2019.

#### MS Thesis Committee Member

Tian He, BE. Haptoglobin after Subarachnoid Haemorrhage: Individual Patient Level Data (IPLD) Analysis. Final presentation, April 2018.

## **DNP Doctoral Capstone Committee member**

Kim (Weinholdt) Shatz RN, BSN, CCRN. "ICU Delirium." Final presentation, April 2015.

Madeline Georgino, RN, BSN, PCCN, CCRN. "Emergency Preparedness and Disaster Response: Trauma Nurse Education at a Level 1 Trauma Center Utilizing the Emergency Preparedness Information Questionnaire (EPIQ)." Final presentation December 2014

### **DNP Doctoral Capstone Committee chair**

Maighdlin Anderson, RN, BSN, MSN, ACNP-BC. "Improved Care of Adult Patients with Severe Traumatic Brain Injury by the Use of an Automated Pupillometer During Regular Neurological Assessments." Final presentation March 2017.

#### PhD Doctoral Dissertation Committee member

Ava Puccio, RN, MSN, PhD "Effect of FiO<sub>2</sub> Elevation on Local Brain Tissue Oxygenation & Cerebrospinal Fluid Oxidative Stress Markers in Severe Traumatic Brain Injury." Defense, March, 2008

Matthew Gallek, RN, BSN, PhD "Endothelin-1 Polymorphisms and Endothelin-1 Cerebrospinal Fluid Protein Expression and their Relationships to Cerebral Vasospasm and Long Term Outcomes in Individuals Following Aneurysmal Subarachnoid Hemorrhage." Defense: May, 2008

Peiying Chuang, MSN, PhD "Neuroglobin Genetic Polymorphisms and Their Relationship to Functional Outcome Following Traumatic Brain Injury." Defense: May, 2008.

Nicole Zangrilli- Hoh, RN, BSN, PhD "BCL2 Genotypes and Outcomes after Traumatic Brain Injury." Defense: September, 2008

Taura L. Barr, RN, BSN, PhD "Gene Expression Profiling & Biomarker Discovery in

Ischemic Stroke." Defense: April, 2009.

Heba Khalil, RN "Gene-Gene Interactions and Opioid Response in Post-operative Pain Management." Defense: November, 2015.

Katie Edwards, RN (Clemson University School of Nursing/National Institute of Health, National Institute of Nursing Research Graduate Partners Program) "Peripheral Biomarkers of Inflammation Following Blast Exposure in a Clinical Population." Defense- March, 2018.

Letitia Graves, RN, BSN. 'Genetics and Symptomology after Spinal Cord Injury.' Defense- June, 2019.

Lacey Wright Heinsberg, RN, BSN. "Epigenetic Variation of the Iron Homeostasis Pathway in Patient Outcome Following Aneurysmal Subarachnoid Hemorrhage." Defense- June, 2020.

Frances M. Peterson-Burch, RN, BSN, BA. "Omics of Macular Degeneration." Defense-February, 2022.

#### PhD Doctoral Dissertation Committee Chair

Nicole Osier, RN, BSN PhD Student "Mechanism of Melatonin-induced Neuroprotection in Severe Traumatic Brain Injury." Defense: July, 2016.

Megan Maserati, RN, BSN, PhD Student. "Biomarkers of Mild and Moderate Traumatic Brain Injury"

Tammy Eaton, RN, BSN, MSN, PhD Student. "Palliative Care Intervention in the Context of an ICU Survivors Clinic." Defense: May, 2020

Children's Hospital of Pittsburgh/Safar Center for Resuscitative Research, Research Committee member Laura Watkins, MD Critical Care Medicine Fellow

Jonas Nurse Leader Scholar Program Mentor

Tammy Eaton, RN, BSN, MSN, PhD student, University of Pittsburgh Katie Edwards, RN, PhD student, Clemson University

## **Independent study**

2005 (Fall) Basic Neuroanatomy.

Taura Barr, PhD student

2006 (Spring) Manuscript development.

Taura Barr, PhD student

2006 (Summer) Neurologic and epidemiologic research methods.

Peiying Chuang, PhD student

2006 (Summer) Advanced Pathophysiology.

Kirsten Samuelson, pre-BSN student

2006 (Fall) Neuro-physiologic methods, analysis and manuscript development.

Erin Carwille, MSN student

2006 (Fall) Neuroscience and neuroscience nursing manuscript development.

Peiving Chuang, PhD student

2007 (Summer) Graduate level teaching.

Matthew Gallek, BSN, PhD student

2007 (Fall) Genetics in Neuroscience Nursing

Peiying Chuang, PhD student

2008(Fall) Genetic Based Research Strategies in Neuroscience

Karen Kovach, PhD student

2009 (Summer) Theory and Framework Driving Physiologic Research

Karen Kovach, PhD student

2009 (Summer) Advanced Pathophysiology.

Michelle Henritzy, pre-BSN student

2009 (Fall) Advanced Pathophysiology.

Deborah Woomer, MSN student

2010 (Fall) Evidenced based rehabilitation for stroke patients

Christian Page, MSN student

2011 (Fall) Neurologic Research in Acute Brain Injured Populations

Nicole Osier, PhD student

2011 (Fall) Concepts in Advanced Pathophysiology

Susan Albrecht, PhD, RN Teresa Lucchetti, MSN student Rebecca Robinson, MSN student

2011 (Fall) Professional Writing for Publication

Kristin Kamp, BSN student

2012 (Spring) Professional Writing for Publication

Kristin Kamp, BSN student Ariella Laiken, BSN student

2012 (Fall) Select Topics in Advanced Pathophysiology

Oliver Douglas Smith, MSN student Allyson Kornarhens, MSN student Amy Wojdyla, MSN student

2013 (Fall) Exploring Human Brain Injury
Nicole Osier, BSN, PhD student

Select Topics in Advanced Pathophysiology Justin Bala Hampton, PhD/DNP student

Julie Eiler, MSN student Heather Madera, MSN student Emily Matone, MSN student

International Healthcare Utilization Research

Lisa Nagy, BSN student

2014 (Spring) Manuscript Preparation (translational research dissemination)

Nicole Osier, BSN, PhD student

International Healthcare Utilization Research II

Lisa Nagy, BSN student

Select Topics in Advanced Pathophysiology

Joseph Kim, MSN student

2014 (Summer) PhD Dissertation (Thesis Research)

Nicole Osier, BSN, PhD student Capstone Project (Directed Studies)

Samuel Hoffman, BSN, MSN, DNP student

2014 (Fall) F31 Proposal Development

Tammy Eaton, RN, PhD student PhD Dissertation (Thesis Research)

2015 (Spring)	Nicole Osier, BSN, PhD student F31 Proposal Development
\ 1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Tammy Eaton, RN, PhD student
	PhD Dissertation (Thesis Research)
	Nicole Osier, BSN, PhD candidate
2015 (Summer)	Grant Proposal Development
	Megan Maserati, RN, DNP, PhD student
	PhD Dissertation (Thesis Research)
	Nicole Osier, BSN, PhD candidate
2015 (Fall)	Select Topics in Advanced Pathophysiology
	Roseanne DeCastro, MSN student
2017 (Spring)	Select Topics in Advanced Pathophysiology
	Janelle Pickering, DNP student
	Joshua Bentzen, MSN student
2017 (Spring)	Select Topics in Advanced Pathophysiology
	Martina Cade, DNP student
	Ajaypal Singh, DNP student
2018 (Fall)	Select Topics in Advanced Pathophysiology
	Jody Bodenschatz, BSN, DNP student
	Jeffrey Jurosky, BSN, DNP student
	Research Fundamentals
	Janette Kim, SN
	Select Topics in Nursing and Healthcare Ethics
	Bruce Egbudin, SN
	James Kunst, SN
	Raquel Ferris, SN
2019 (Spring)	IL6 Genotypes in Delirium: Research
	Janette Kim, SN
	Select Topics in Advanced Pathophysiology
	Thomas Hageman, BSN, DNP Student
2020 (Spring)	Select Topics in Advanced Pathophysiology
	Diane Adams, BSN, DNP Student
2020 (Fall)	Select Topics in Advanced Pathophysiology
	Salina Torgerson, BSN, DNP Student
2021 (Summer)	Dissertation Research: Mitochondrial energetics and TBI
	Megan Maserati, BSN, MSN, NP, PhD student
2022 (Fall)	Select Topics in Advanced Pathophysiology
	Kaitlyn Pella, BSN, Nurse Midwife Student

# **SERVICE**

# **University of Pittsburgh Medical Center**

1/92-7/96	Member, Unit based Quality Improvement Committee
6/93-7/96	Member, Unit based Patient Education Committee
8/93-7/96	Member, Primary Nursing Task Force
6/97-9/99	Member, Medical Emergency Committee, WPIC
11/98-9/99	Member, Nursing Documentation Committee
11/98-9/99	Member, Nursing Roles Committee
07/18-12/21	Passavant Hospital, Evidence Based Quality Research Council Member/Mentor.

**University of Pittsburgh** 

2009-present University of Pittsburgh Postdoctoral Association Data & Dine Symposium

Table host/Abstract judge

Women in Medicine & Science Forum, 'Self Promotion: Building Your Brand for Success' Group

Facilitator

2012-2018 Member, University of Pittsburgh Faculty Senate Library Committee

2013-2014 Chair

2018-present Member, University of Pittsburgh Bylaws and Procedures Committee

2019-2023 Facilitator, University of Pittsburgh Interprofessional Forum

2020-present Member, University of Pittsburgh Faculty Senate Nominations Committee

## **University of Pittsburgh School of Nursing**

4/03 – 9/04 Student representative, Search Committee, Assistant Dean for Scientific & International Affairs

2005-present Member, MSN Council

2005-2009

2018-present Member, Evaluation and Steering Committee

2005-2007 Member, Cameos of Caring Scholarship Review Committee

2005 Member, Scholarship Review Committee

2006 Member, Clinical Instruction Review Committee

2006, 2009,

2011, 2012,

2014 Grant Reviewer, Ruth Perkins Kuehn Research Review Committee

2006-2007 Chair, Evidenced Based Practice Implementation Evaluation Taskforce

2007-present Member, PhD Council

2009-2011 Member, PhD Program Outcome Evaluation subcommittee

2007, 2010,

2011, 2013 Grant reviewer, Leslie A. Hoffman Endowed Acute Care Nursing Research Fund Committee

2005-present Member, BSN Council

2008-2010 Member, PhD Curriculum Committee

2009 Chair

2008-2009 Chair, MSN Quality Improvement Committee

2012-present	Member, DNP Council	
2012	Member, PhD Council Career Development Task Force	
2012	Member, PhD Council Research Course Task Force	
2012	Member, Cameos of Caring Advanced Practice Award Selection committee member	
2013- 2015 Member, PhD Program Progression and Graduation Committee 2014-2015 Chair		
2014-2015	Refreshing the Curriculum Taskforce 10 Advocacy Education	
2015-2018	Member, Nursing University Honors College Committee	
2017-2021 2018-2	Member, Planning and Budget Committee 2020 Chair	
2018	Member, MSN Council Advancement, Progression and Graduation Taskforce.	
2018- present	Member, SON Honors College Committee	
2022	Member, SON Grant Review Committee	
2022	Member, PhD ETD Dissertation Guideline Revision Taskforce	
Consultation		
2005	Review of credentials for promotion to Associate Professor without tenure. Wayne State University, Detroit, MI	
2005	Genetics (1) and Neuroscience (4) chapter reviews. LeMone Publishing.	
2006-2010	Research program design Brain Trauma Research Center visiting physicians/fellows.	
2012-2015	Surviving Critical Care Clinic development committee, University of Pittsburgh Medical Center.	
2012-2016	Delirium assessment and management in the Intensive Care Units committee, University of Pittsburgh Medical Center.	
2013	Biological Research in Intensive Care/Acute Care Settings. Center for Bio-Behavioral Clinical Research, Virginia Commonwealth University.	
2013	Professional Nursing Development. Duale Hochschule Baden-Württemberg Stuttgart (Dual Academy of Baden-Wurttemberg, Stuttgart), Stuttgart, Germany.	
2014	Review of credentials for promotion to Associate Professor without tenure. Rush University, Chicago, Ill.	

2015	Family involvement in prevention of ICU Delirium. University of Pittsburgh Medical Center.
2015	Review of credentials for promotion to Associate Professor Duke University, Durham, NC.
2015	Faculty Mentor for Visiting Scholar, P. Amay-Ray, Professor, School of Nursing, Universidad Nacional de Colombia, Bogota, Columbia; Incorporating Genetics and Genomics into Nursing Research and Education.
2015	Review of Hartford Award for Research and Practice (HARP) Research Proposal, Oregon Health and Science University, Hartford Center of Gerontological Nursing Excellence at OHSU, Portland, OR.
2015	Review of credentials for promotion to Associate Professor University of California Los Angeles School of Nursing, Los Angeles, CA.
2016	Peer Review Committee (PRC): Review of credentials for promotion to Associate Professor without Tenure (Tenure Stream) University of Pittsburgh Johnstown, School of Nursing, Johnstown, PA.
2016	Review of credentials for promotion to Associate Professor with Tenure in the School of Nursing and Health Studies at Northern Illinois University, Dekalb, IL.
2017	Review of credentials for promotion to Associate Professor in the Tenure Stream University of Texas Health Science Center at Houston, School of Nursing, Houston, TX.
2017	Delirium in Nursing Home Residents, grant review. Asuzu Pacific Univeristy School of Nursing, Azusa, CA.
2018	Faculty Mentor for Visiting Scholar Yanwei Long, MSN, Xiangya Hospital, Changsha, P.R. China; Neuroscience Nursing Resarch and Education.
2019	Review of credentials for promotion to Associate Professor without Tenure in the Tenure Stream University of Tennessee Health Science Center, College of Nursing, Memphis, TN.
2019	Peer Review Committee (PRC): Review of teaching, scholarship and credentials for promotion to Associate Professor with Tenure. University of Pittsburgh Johnstown, School of Nursing, Johnstown, PA.
2019	Faculty Mentor for Visiting Scholar Zhumin Wang, Xinhua Hospital Affiliated to Shanghai Jiao Tong University School of Medicine, Department of Neurosurgery. Shanghai China.
2019-2021	Faculty Mentor for Visiting Scholar Gao Wen, PhD(c), Zheijiang University, Hangzhou, China.
2020	Review of credentials for promotion to Associate Professor with tenure at Duke University, Durham, NC.
2021	Consultation with External (University of Iowa) Post-doctoral trainee. Topic: Pediatric PICS, Nursing Research, Physiologic/Omics research.
2021	Consultation with University of Pittsburgh Critical Care Medicine Post-doctoral trainee. Topic:

	Critical Care Nursing Physiologic Research.
2021	Review of credentials for promotion to Associate Professor with Tenure at University of Kansas School of Nursing
2021	Review of credentials for promotion to Associate Professor at W.F. Connell School of Nursing, Boston College
2021	Interview Faculty Candidate for SON Health Promotion and Development Department.
2021	Interview Faculty Candidate for SON Health Promotion and Development Department.
2021	Interview Faculty Candidate for SON Health Promotion and Development Department.
2021	Interview Faculty Candidate for SON Health Promotion and Development Department.
2021	Consultation on Professional Development in Critical Care Research with X. J. (Faculty and John Hopkins University).
2022	Review of credentials for Tenure (Associate Professor) at University of Maryland School of Nursing.
2021-2022	Data analysis and presentation development for Magnet Site Review at UPMC Passavant Hospital.
2022	Interview/Discussion on Critical Care Nursing Research with J.J. (PhD student University of Utah).
2022	Consultation on Critical Care Nursing Research with K.P. (Post-doctoral trainee at University of Pittsburgh School of Medicine, Critical Care Medicine)
2022-present	Consultation on Pupillometry, Delirium, and Traumatic Brain Injury Research (C. A. Faculty at University of Montreal, Canada).
<b>Community</b>	

Volunteer, Young Women in Science Day