

CURRICULUM VITAE

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Education and Training**Undergraduate**

6/1982-6/1985 Diploma Nursing, Uniontown Hospital School of Nursing and Penn State University Fayette Campus, Uniontown, PA

1989 - 1992 B.S.N. Nursing, California University of Pennsylvania, California, PA

Graduate

1996-1998 M.S.N Nursing - Critical Care Clinical Nurse Specialist Track, La Roche College, Pittsburgh, PA

2010-2012 Ph.D. Nursing, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA.
 Dissertation title: *The Role of Estradiol on the Development of Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage*
 Dr. Paula Sherwood, mentor

Fellowships and Training**Training**

October 2001 Comprehensive Brain Anatomy and Neurological Assessment Course

Appointments and Positions**Academic**

9/2015- current Assistant Professor, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA
 Assistant Professor
 9/2012 - 8/2015 Research Assistant Professor, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA
 2009 - 4/2012 Research Associate-Project Director, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA,
Developing Goal Directed Perfusion Therapy in SAH Neurocardiac Injury (R01NR014221, PI: Hravnak)
 2009-2014 Research Associate-Project Director, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA,
Determining Genetic and Biomarker Predictors of DCI and Long Term

Outcomes after aSAH (R01NR004339, PI: Sherwood)

- 2004-2009 Research Associate-Project Director, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA, *Myocardial Ischemia and Vasospasm in Aneurysmal SAH* (R01HL074316, PI: Horowitz)
- 2004-2009 Research Associate-Project Director, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA, *Role of 20-HETE on Vasospasm-Induced Ischemia after SAH* (R01NR004339, PI: Hoffman)
- 3/2000-2004 Research Associate-Project Director, Department of Acute and Tertiary Care, School of Nursing, University of Pittsburgh, Pittsburgh, PA, *Methods of Detecting Delayed Cerebral Vasospasm after Aneurysmal Subarachnoid Hemorrhage*, (R01NR004339, PI: Kerr)
- 1992-2012 Instructor: Continuing Education Nursing and Allied Health Westmoreland County Community College, Youngwood, PA

Non-Academic

- 2001-present Staff nurse (casual) Emergency department, Excelsa Health, Greensburg, PA
- 2001-present Educator (casual – Critical Care Class, Emergency department orientation, Stroke Education, ICP monitoring), Excelsa Health, Greensburg, PA,
- 1998 – 2000 Case Manager (Emergency department, Intensive care unit, Medical surgical unit), Westmoreland Hospital, Greensburg, PA
- 1994 – 1998 Staff nurse Emergency department, Westmoreland Hospital, Greensburg, PA
- 1992 – 1994 Assistant Nurse Manager Emergency department, Westmoreland Hospital, Greensburg, PA
- 1987 – 1992 Staff nurse Intensive care unit, Westmoreland Hospital, Greensburg, PA
- 1985 – 1987 Staff nurse Intensive care unit, Shadyside Hospital, Pittsburgh, PA
- 1985 Staff nurse Intensive care unit, Peninsula General Medical Center, Salisbury, MD

Certification and Licensure

- 1985 Pennsylvania State Board of Nursing, RN licensure, RN285221-L, Active
- 1985 Maryland State Board of Nursing RN licensure, Inactive
- 1986 American Heart Association, Advanced Cardiac Life Support Provider and Instructor, Active
- 1986 American Heart Association, Pediatric Advanced Life Support Provider and Instructor, Active
- 1992 American Association of Critical Care Nurses, Certification in Critical Care Nursing, Inactive
- 1994 Emergency Nurses Association, Certification in Emergency Nursing, Inactive

Membership in Professional and Scientific Societies

- 1990-present American Association of Critical Care Nurses
- 1992-present Emergency Nurses Association

2022	ENA Foundation Research Grant Committee (appointed)
2000-present	Society of Critical Care Medicine- member nursing, research and neuroscience sections
2009-2011	Chair - nursing research committee
2013-2015	Society Research Committee (appointed)
2018-2021	Patient and Family Advocacy Committee (appointed)
2019-present	Nursing Year in Review task force
2000-present	Council for the Advancement of Nursing Science
2000-present	Eastern Nursing Research Society
2004-present	American Association of Neuroscience Nurses Pittsburgh Chapter American Association of Neuroscience Nurses
2004-present	Society of Neurocritical Care
2005-present	Emergency Nurses Association
2011-present	Sigma Theta Tau Nursing Society – Eta Chapter
2019	Chapter Secretary
2016 - present	International Society of Nursing Genetics
2016-2018	Membership committee
2019-present	Research committee

Awards and Honors

2009	Society of Critical Care Medicine Annual Scientific Award
2011	Society of Critical Care Medicine Presidential Citation
2011	Ruth Perkins Kuehn Award for Scholarship Sigma - ETA Chapter
2011	Nightingale of Pennsylvania Scholarship Award Doctoral Student
2012	Society of Critical Care Medicine Neurology Abstract Award
2012	Neurocritical Care Society Distinguished Abstract
2013	Society of Critical Care Medicine Neurology Abstract Award
2013	Neurocritical Care Society Distinguished Abstract Award
2015	Society of Critical Care Medicine Neurology Abstract Award
2015	Society of Critical Care Medicine Presidential Citation
2016	Society of Critical Care Medicine Snapshot Abstract Award
2017	Society of Critical Care Medicine STAR Abstract Award
2017	Society of Critical Care Medicine STAR Abstract Award
2019	Society of Critical Care Medicine STAR Abstract Award
2019	Society of Critical Care Medicine Neurology Abstract Award
2021	Society of Critical Care Medicine Neurology Abstract Award
2021	Deans Distinguished Teaching Award University of Pittsburgh School of Nursing

Publications

Refereed Articles * = Data Based; £ = Senior Author; §= with student

1. * § £ Lorenzi, L., Kerr, M.E., Yonas, H., Alexander, S., **Crago, E.** (2003). Influence of Delaying Treatment after Symptoms Develop from Subarachnoid Hemorrhage: A Preliminary Analysis. *Journal of Neuroscience Nursing*, 35(4), 210-214.
2. * **Crago, E.**, Kerr, M.S., Kong, Y., Baldisseri, M., Horowitz, M., Yonas, H., Kassam, A. (2004). The Impact of Cardiac Complications on Outcome in the SAH Population. *Acta Neurologica Scandinavica*, 110, 248-253.
3. * Poloyac, S.M., Crago, E., Sherwood, P., Bies, R., Hoffman, L.A., Kerr, M.E. (2005). Temporal Profile of 20-HETE, a CYP Metabolite of Arachidonic Acid, in the CSF of Subarachnoid Hemorrhage Patients. *Drug Metabolism Reviews*, 37 (4), 725.

4. * Stippler, M., **Crago, E.**, Levy, E., Kerr, M., Yonas, H., Horowitz, M., Kassam, A. (2006). Magnesium Infusion for Vasospasm Prophylaxis after Subarachnoid Hemorrhage. *Journal of Neurosurgery*, 105, 1-7.
5. Sherwood, P., & **Crago, E.** Spiro, R., Okonkwo, D. (Cover article) (2007). Cervical Spine Injuries: Preserving Function, Improving Outcomes. *American Nurse Today*, 2, 26-29.
6. * Gupta, R., **Crago, E.**, Gallek, M., Hoffman, L., Horowitz, M., Yonas, H. (2008). Reduced Ipsilateral Hemispheric Cerebral Blood Flow at Admission is Predictive of Vasospasm with Infarction after Aneurysmal Subarachnoid Hemorrhage. *NeuroCritical Care*, 9 (1), 27-30.
7. * § Barr, T., Alexander, S., Kerr, M.E., **Crago, E.**, Horowitz, M.B., Yonas, H. (2008). The Impact of Endovascular Coiling Versus Surgical Clipping on Functional Outcome Following Intracranial Aneurysm Rupture. *Neurosurgery Quarterly*, 18 (1), 16-21.
8. * Kim, SR., Vora, N., Jovin, T.G., Gupta, R., Tomas, A., Kassam A., Lee, K., Gologorsky, Y., Jankowitz, B., Panapitiya, N., Aleu, A., Sandhu, E., **Crago, E.**, Hricik, A., Gallek, M., Horowitz, M.B. (2008). Anatomic Results and Complications of Stent-assisted Coil Embolization of Intracranial Aneurysms. *Interventional Neuroradiology*, 14, (3), 267-84.
9. * Jankowitz, B., Thomas, A., Vora, N., Gupta, R., Soong-Rim, K., Levy, E., Yamamoto, J., Kassam, A., Gologorsky, Y., Sandur, E., Panapitiya, N., **Crago E.**, Hricik, A., Lee, K., Gallek, M., Jovin, T., Horowitz, M.B. (2008). Risk of Hemorrhage and Stroke in Combined Neuroform Stenting and Coil Embolization of Acutely Ruptured Aneurysms. *Interventional Radiology*, 14, 385-396.
10. * § Hamilton, J., Korn-Naveh, L., **Crago, E.** (Continuing Education Article) (2008). Myocardial Dysfunction after Acute Aneurysmal Subarachnoid Hemorrhage: Case Studies. *Journal of Neuroscience Nursing*, 40 (5), 269-274.
11. § Carwile, E., Wagner, A., **Crago, E.**, Alexander, S. (Continuing Ed. Article) (2009). Estrogen and Stroke: A Review of the Current Literature. *Journal of Neuroscience Nursing*, 41(1), 18-25.
12. * Tanabe, M., **Crago, E.**, Suffoletto, M., Hravnak, M., Kassam, A., Horowitz, M., Gorcsan, J. Clinical Significance of Cardiac Troponin-I Elevations in Patients with Aneurysmal Subarachnoid Hemorrhage. (2008). *American Journal of Cardiology*, 102, 1545-50.
13. * Frangiskakis, J.M., Hravnak, M., **Crago, E.**, Tanabe, M., Kip, K., Gorcsan, J., Kassam, A., Horowitz, M., London, B. (2009). Ventricular Arrhythmia Risk after Subarachnoid Hemorrhage. *NeuroCritical Care*, 10 (3), 287-294.
14. * Hravnak, M., Frangiskakis, M., **Crago, E.**, Chang, Y., Tanabe, M., Gorcsan, J., Horowitz, M. (2009). Elevated Cardiac Troponin I and Relationship to Persistence of Electrocardiographic and Echocardiographic Abnormalities After Aneurysmal Subarachnoid Hemorrhage. *Stroke*, 40 (11), 3478-3484.
15. * Miller, T., Donnelly, M., **Crago, E.**, Roman, D., Sherwood, P., Horowitz, M., Poloyac, S. (2009). Rapid, Simultaneous Quantitation of Mono and Deoxygenated Metabolites of Arachidonic Acid in Human CSF and Rat Brain. *Journal Chromatography B: Biomedical Sciences and Applications*, 877(31), 3991-4000.
16. * Newberry, A., Sherwood, P., Hricik, A., Bradley, S., Kuo, J., **Crago, E.**, Hoffman, L., Given, B. (2010). Understanding Recruitment and Retention in Neurological Research. *Journal of Neuroscience Nursing*, 42 (1), 47-57.
17. * £ Miketic, J., Hravnak, M., Sereika, S., **Crago, E.** (2010). Relationship between Elevated Cardiac Troponin I and Functional Recovery and Disability in Patients after Aneurysmal Subarachnoid Hemorrhage. *American Journal of Critical Care*, 19 (6), 522-528.
18. * § Yousef, K., **Crago, E.**, Kuo, C.J., Horowitz, M., Hravnak, M. (2010). Predictors of Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage: A Cardiac Focus. *NeuroCritical Care*, 13, 366-372.
19. * Kanaan, H., Jankowitz, B., Aleu, A., Kostov, D., Lin, R., Lee, K., Panapitiya, N., Gologorsky, Y., Sandhu, E., Rissman, L., **Crago, E.**, Chang, Y., Kim, S., Jovin, T., Horowitz, M. (2010). In-Stent

Thrombosis and Stenosis after Neck-Remodeling Device-Assisted Coil Embolization of Intracranial Aneurysms. *Neurosurgery*, 67 (6), 1523-32.

20. *§ Thampatty, B., Sherwood, P., Gallek, M., **Crago, E.**, Ren, D., Hricik, A., Kuo, J., Klamerus, M., Alexander, S., Bender, C., Hoffman, L., Horowitz, M., Kassam, A., Poloyac, S. (2011). Role of Endothelin-1 in Human Aneurysmal Subarachnoid Hemorrhage: Associations with Vasospasm and Delayed Cerebral Ischemia. *Neurocritical Care*, 15(1),19-27.
21. * **Crago, E.**, Thampatty, B., Sherwood, P., Kuo, C., Bender, C., Balzer, J., Horowitz, M., Poloyac, S. (2011). CSF 20-HETE is Associated with Delayed Cerebral Ischemia and Poor Outcomes after Aneurysmal Subarachnoid Hemorrhage. *Stroke*, 42 (7), 1872-7.
22. * § Adkins,K., **Crago, E.**, Kuo,C. J., Horowitz, M., Sherwood, P. (2012) Correlation Between Emergency Department Symptoms and Clinical Outcomes in the Patient with Aneurysmal Subarachnoid Hemorrhage. *Journal of Emergency Nursing*, 38 (3), 226-233.
23. * Kim, H., **Crago, E.**, Kim, M., Sherwood, P., Conley, Y., Poloyac, S., Kerr, M. (2013). Cerebral Vasospasm after Subarachnoid Hemorrhage as a Clinical Predictor and Phenotype for Genetic Association Study. *International Journal of Stroke*, 8 (8). 10.1111/j.1747-4949.2012.00823.PMCID PMC3475757
24. * § 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. *Biologic Research Nursing*, 15 (4), 390-397. PMID: 24852947
25. * **Crago, E.**, Kerris, K., Kuo, C.J., Sherwood, P., Hravnak, M., Crippen, D., Horowitz, M. (2014). The Effect of Beta Blockers and Ace Inhibitors on Cardiac Abnormalities after Aneurysmal Subarachnoid Hemorrhage. *American Journal of Critical Care*, 23 (1), 30-9. PMID: 24382615
26. * Kantor, E., Bayir, H., Ren, D., Provencio, J., Watkins, L., **Crago, E.**, Horowitz, M., Conley, Y., Alexander, S. (2014). Haptoglobin Genotype and Functional Outcome after Aneurysmal Subarachnoid Hemorrhage. *Journal of Neurosurgery*, 120 (2), 386-390. doi: 10.3171/2013.10.JNS13219. PMID: 24286153.
27. * Yousef, K., Balzer, J., **Crago, E.**, Poloyac, S., Sherwood, P. (2014). Transcranial Regional Cerebral Oxygen Desaturation Predicts Delayed Cerebral Ischemia and Poor Outcomes After Subarachnoid Hemorrhage: A Correlational Study. *Intensive & Critical Care Nursing*, 30(6), 346-52. DOI: 10.1016/j.iccn.2014.05.001. PMID: 24933608.
28. * **Crago, E.**, Sherwood, P., Bender, C., Balzer, J., Ren, D., Poloyac, S. (2015). Plasma Estrogen Levels Are Associated with Severity of Injury and Outcomes after Aneurysmal Subarachnoid Hemorrhage. *Biological Research in Nursing*, 17(5), 558-566. doi:101177/1099800414561632. PMID: 25548393.
29. * § Donnelly, M.K., Conley, Y.P, **Crago, E.A.**, Ren, D., Sherwood, P.R., Balzer, J.R., Poloyac, S.M. (2015). Genetic Markers in the EET Metabolic Pathway Are Associated with Outcomes in Patients with Aneurysmal Subarachnoid Hemorrhage. *Journal of Cerebral Blood Flow Metabolism*, 35 (2), 267-76. doi: 10.1038/jcbfm.2014.195. PMID: 25388680.
30. * § Donnelly, M.K., **Crago, E.A.**, Conley, Y.P., Balzer, J.R., Ren, D., Ducruet, A.F., Kohanek, P.M., Sherwood, P.R., Poloyac, S.M. (2015). 20-HETE is Associated with Unfavorable Outcomes in Subarachnoid Hemorrhage Patients. *Journal of Cerebral Blood Flow Metabolism*, 35(9),1515-22. doi: 10.1038/jcbfm.2015.75. PMID: 25920956.
31. Al-Zaiti, S., **Crago, E.**, Hravnak, M., Kozik, T., Pelter, M., Carey, M. (2015). Cardiac Dysfunction after Neurologic Injury. *American Journal of Critical Care*, 24(5), 453-4. doi: 10.4037/ajcc2015618. PMID: 26330440.
32. *§ **Crago, E.**, Price, T.J., Bender, C., Ren, D., Poloyac, S., Sherwood, P. (2016). Impaired Work Productivity Following Aneurysmal Subarachnoid Hemorrhage. *Journal of Neuroscience Nursing*, 48(5), 260-268. doi:10.1097/JNN.0000000000000209.

33. * Panczykowski, D., Pease, M., Zhao, Y., Weiner, G., **Crago, E.**, Jankowitz, B., Ducruet, A. (2016). Prophylactic Antiepileptic Medications and Seizure Incidence Following Subarachnoid Hemorrhage: A Propensity Score-Matched Analysis. *Stroke*, 47(7), 1754-60. doi: 10.1161/STROKEAHA.116.013766. PMID: 27301932.
34. * § McAteer, A., Hravnak, M., Chang, Y., **Crago, E.**, Gallek, M., Yousef, K. (2017). The Relationship Between BNP, Neurocardiac Injury Severity, Noninvasive Cardiac Output, and Outcomes after Aneurysmal Subarachnoid Hemorrhage *Biological Research in Nursing*, 19 (5):531-537. doi: 10.1177/1099800417711584. PMID: 28627225.
35. * Yousef, K.M., **Crago, E.A.**, Lagatutta, T.F., Hravnak, M. (2018). Clinical Presentation to the Emergency Department Predicts Subarachnoid Hemorrhage – Associated Myocardial Injury. *Journal of Emergency Nursing*, 44(2), 132-138. doi: 10.1177/1099800417711584. PMID: 28712527.
36. * Stanfill, A., Simpson, C., Sherwood, P., Poloyac, S., **Crago, E.**, Kim, H., Conley, Y. (2017). A Pilot Study on the Impact of Dopamine, Serotonin, and BDNF Genotype on Long Term Functional Outcomes after Subarachnoid Hemorrhage. *SAGE Open Medicine*. 2017; 5:2050312117726725. doi: 10.1177/2050312117726725.
37. * § Heinsberg L., Turi, E., Ren, D., **Crago, E.**, Alexander, S., Stanfill, A., Conley, Y. (2018). Evaluation of APOE Genotype and Ability to Perform Activities of Daily Living Following Aneurysmal Subarachnoid Hemorrhage. *Biologic Research in Nursing*, 20 (2): 177-182. doi: 10.1177/1099800417746504. PMID: 29258400.
38. * Yousef, K., **Crago, E.**, Chang, Y., Lagattuta, T., Mahmoud, K., Shutter, L., Balzer, J., Pinsky, M., Friedlander, R., Hravnak, M. (2018). Vasopressor Infusion after Subarachnoid Hemorrhage Does Not Increase Regional Cerebral Tissue Oxygenation. *Journal of Neuroscience Nursing*, 50(4): 225-230. doi: 10.1097/JNN.0000000000000382. PMID: 29985275.
39. * § Turi, E., Conley, Y., **Crago, E.**, Sherwood, P., Poloyac, S., Ren, D., Stanfill, A. (2019). Psychosocial Comorbidities Related to Return to Work Rates Following Aneurysmal Subarachnoid Hemorrhage. *Journal of Occupational Rehabilitation*, 29(1):2015-211. doi:10.1007/s10926-018-9780-z. PMID: 29781055.
40. * Kagiya, N., Sugahara, M., **Crago, E.**, Qi, Z., Lagattuta, T., Yousef, K., Friedlander, R., Hravnak, M., Gorcsan, J. (2020). Neurocardiac Injury Assessed by Strain Imaging is Associated with In-hospital Mortality in Patients with Aneurysmal Subarachnoid Hemorrhage. *JACC Cardiovascular Imaging*, 13 (2 Pt 2):535-546. doi:10.1016/j.jcmg.2019.02.023. PMID: 31103578.
41. * § Heinsberg, L.W., Arockiaraj, A.I., **Crago, E.A.**, Ren, D., Shaffer, J.R., Sherwood, P.R., Sereika, S.M., Weeks, D.E., Conley, Y.P. (2020). Genetic Variability and Trajectories of DNA Methylation May Support a Role for HAMP in Patient Outcomes after Aneurysmal Subarachnoid Hemorrhage. *NeuroCritical Care*, 32(2): 550-563. doi:10.1007/s12028-019-00787-4. PMID: 31346934.
42. * § Heinsberg LW, Bender CM, Rohay JM, Sherwood PR, **Crago EA**. Psychometric Properties of the Patient Assessment of Own Functioning Inventory Following Aneurysmal Subarachnoid Hemorrhage. (2020). *J Nurs Meas*, 28(2):205-228. PMID: 32341171.
43. * § Heinsberg, L.W., Alexander, S.A., **Crago, E.A.**, Minster, R., Poloyac, S.M., Weeks, D.E., Conley, Y.P. (2020). Genetic Variability in the Iron Homeostasis Pathway and Patient Outcomes after Aneurysmal Subarachnoid Hemorrhage. *NeuroCritical Care*, 33(3): 749-758. doi:10.1007/s12028-020-00961-z. PMID: 32246437.
44. *§ Heinsberg, L.W., Weeks, D.E., Alexander, S.A., Minster, R.L., Sherwood PR, Poloyac SM, Deslouches S, **Crago EA**, Conley YP. (2021). Iron Homeostasis Pathway DNA Methylation Trajectories Reveal a Role for STEAP3 Metalloreductase in Patient Outcomes after Aneurysmal Subarachnoid Hemorrhage. *Epigenetic Communications*, 1:4. doi:10.1186/s43682-021-00003-5.conley

45. *Liu, D., Arockiaraj, A., Shaffer, J., Poloyac, S., Sherwood, P., Alexander, S., **Crago, E.**, Weeks, D., Conley, Y. (2021). *ANGPT1* Methylation is Associated with Delayed Cerebral Ischemia after Acute Subarachnoid Hemorrhage – An Epigenome-wide Association Study. *Epigenetics Communications*, 1:3. Doi.org/10.1186/s43682-021-00001-7.

In Review

1. * **Crago, E.**, Kagiya, N., Sugahara, M., Fisher, A., Lagattuta, T., Friedlander, R., Hravnak, M., Gorcsan, J. (In Review). *Neurocardiac Injury Assessed by Strain Imaging is Associated with 12-month Outcomes in Patients with Aneurysmal Subarachnoid Hemorrhage*. JACC Cardiovascular Imaging. 2021.
2. * **Crago, E.**, Miller, T., Kagiya, N., Sugahara, M., Fisher, A., Friedlander, R., Hravnak, M., Gorcsan, J. (In Review). *The Relationship Between Circulating Estrogen levels and Neurocardiac Injury Assessed by Strain Imaging in Patients with Aneurysmal Subarachnoid Hemorrhage*. Frontiers in Neurology. 2021.
3. Bedner, K., **Crago, E.** *What a Rat Race-A Case Study of Rat Bite Fever*. (Accepted) Journal of Emergency Nursing. 2022.

Published Abstracts

1. *Kerr M., Nemoto, E., Yonas, H., Kassam, A., **Crago, E.**, Alexander, S. (2000). Vasospasm Detection Following SAH Using Cerebral Oximetry. [Abstract]. *Critical Care Medicine*, 28(Suppl. 12) A208.
2. ***Crago E.**, Kerr, M., Kassam, A., Yonas, H. (2000). Clinical Presentation of Fever, Vasospasm and Clinical Neurologic Deterioration Following Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 28(Suppl. 12) A206.
3. * § Lorenzi, L., Kerr, M.E., Yonas, H., Kassam, A., Alexander, S., **Crago, E.** (2000). Delaying Treatment after Symptoms Develop from Subarachnoid Hemorrhage (SAH) on Outcome: A Preliminary Analysis. [Abstract]. *Critical Care Medicine*, 28(Suppl. 12) A209.
4. *Ward, S., Valenta, C., **Crago, E.**, Michalic, D., Mitchell-Perry, R., Reilly, E., Kerr, M.E., Yonas, H. (2000). Implementation and Evaluation of a Neurologic Data Set for the SAH Patient. [Abstract]. *Critical Care Medicine*, 28(Suppl. 12,) A210.
5. * § **Crago, E.**, Kerr, M.E., Fails, M., Yonas, H. (2001). Effect of preexisting cardiac disease on cardiac complications, angiographic vasospasm and neurological deterioration following subarachnoid hemorrhage. [Abstract]. *Critical Care Medicine*, 29(Suppl. 12), A33.
6. *Kerr, M.E., **Crago, E.**, Alexander, S., Kim, Y., Kamboh, I, & Marion, D. (2002). Conditions Associated with Neurologic Deterioration in the SAH Patient. [Abstract]. *Critical Care Medicine*, 30(Suppl. 12), A5.
7. ***Crago, E.**, Kerr, M.E., Baldesseri, M., Horowitz, M., Kassam, A., Yonas, H. (2002). Impact of Cardiac Complications on Outcomes in Patients with Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 30(Suppl. 12), A6.
8. ***Crago, E.**, Kong, Y., Kerr, M., Yonas, H., Horowitz, M., & Kassam, A. (2003). Relationship Between Aneurysm Site and Outcomes Following Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 31(Suppl. 12), A15.
9. *Beatty, M., Kerr, M., Condon, I., Kong, Y., Alexander, S., **Crago, E.**, Horowitz, M., Yonas, H. (2003). Comparison of Coiling Verses Clipping on 6-Month Outcomes Following Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 31(Suppl. 12), A90.
10. *Kong, Y., Kerr, M., **Crago, E.**, & Yonas, H. (2003). A Multifactorial Model and Lindegaard Ratio for Vasospasm Prediction Following Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 31(Suppl. 12), A94.

11. ***Crago E.**, Kerr, M.E., Levy, E., Horowitz, M., Yonas, H., Kassam, A., Stippler, M., (2004). Effect of Continuous Magnesium Infusion on Cerebral Vasospasm and 3-month Outcomes Following Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 32(Suppl. 12), A19.
12. *Poloyac, S., **Crago, E.**, Sherwood, P., Bies, R., Hoffman, L.A., Kerr, M.E. (2005). Temporal Profile of 20-HETE, a CYP Metabolite of Arachidonic Acid, in the CSF of Subarachnoid Hemorrhage Patients. [Abstract]. *Drug Metabolism Reviews*, 37, 725.
13. *Hravnak, M., **Crago, E.**, Kong, Y., Hricik, A., Horowitz, M. (2005). Relationship Between Race, Vasospasm and Outcomes in African-American and Caucasian Patients with Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 33(Suppl. 12), A22.
14. ***Crago, E.**, Hravnak, M., Kong, Y., Sherwood, P., Horowitz, M. (2005). Relationship of Catecholamines on Markers of Myocardial Ischemia in Patients with Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 33(Suppl. 12), A 102.
15. *Tanabe, M., Horowitz, M.B., Cannesson, M., Hravnak, M., **Crago, E.A.**, Gorcsan, J. (2006). The Relationship between Regional Left Ventricular Wall Motion and Troponin-I Levels in Patients with Subarachnoid Hemorrhage: Results of the SAHMII study. [Abstract]. *Journal of American College of Cardiology*.
16. *Hravnak, M., **Crago, E.**, Kong, Y., Horowitz, M.B. (May 2006). Prevalence of Electrocardiographic Abnormalities in Patients with Subarachnoid Hemorrhage. Oral Abstract Award Winner, American Association of Critical Care Nurses National Teaching Institute, Anaheim, California. [Abstract]. *American Journal of Critical Care*, 15, 324.
17. *Hravnak, M., **Crago, E.**, Horowitz, M. (2006). Prolonged QT Interval after Aneurysmal Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 34(Suppl. 12), A81.
18. *Hravnak, M., **Crago, E.**, Horowitz, M. (2007). Relationship between Serum Glucose and Outcomes in Patients with Subarachnoid Hemorrhage. [Abstract]. *American Journal of Critical Care*.
19. *Tanabe, M., **Crago, E.A.**, Hravnak, M., Horowitz, M.B., Gorcsan, J. (2007). Relationship of Mild Troponin-I Elevations to Cardiac Function and Pulmonary Congestion in Patients with Subarachnoid Hemorrhage: Results of the SAHMII Study. [Abstract]. *Journal of the American College of Cardiology*, 49 (Suppl. 1), 338A.
20. *Tanabe, M., **Crago, E.A.**, Hravnak, M., Horowitz, M.B., Gorcsan J. (2007). Relationship of Acute Cardiac Dysfunction with Clinical Severity of Subarachnoid Hemorrhage: Results of the SAHMII study. [Abstract]. *Journal of the American College of Cardiology*, 49 (Suppl. 1), 338A.
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Month Neuropsychological Outcomes in Patients Following Aneurysmal Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*, 35 (Suppl. 12), A204.

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39. *Hravnak, M., Thampatty, B., Poloyac, S., Yao, J., **Crago, E.**, Horowitz, M. (2010). Persistence of Monoamines in Aneurysmal Subarachnoid Hemorrhage Patients with Myocardial Injury. [Abstract]. *Critical Care Medicine*, 38(Suppl. 12), 318.
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53. * **Crago, E.**, Sherwood, P., Bender, C., Balzer, J., Ren, D., Poloyac, S. (2013). Plasma Estrogen Levels are Associated with Adverse Outcomes Following Acute Aneurysmal Subarachnoid Hemorrhage. [Abstract]. *Neurocritical Care*; 19: S1-S331, page S31. (*DISTINGUISHED ABSTRACT*)
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76. ***Crango, E.**, Miller, T., Poloyac, S., Park, S., Wagner, A. (2017). Plasma Insulin Growth Factor Levels are Associated with Clinical Severity and Outcomes after Aneurysmal Subarachnoid Hemorrhage. [Abstract]. *Neurocritical Care*.27 (suppl 2): 391.
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80. ***Crango, E.**, Kagiyama, N., Sugahara, M., Fisher, A., Chang, Y., Lagattuta, T., Gorcsan, J., Hravnak, M. (2018). Reduced Global Longitudinal Strain is Associated with Poor Executive Function after aSAH. [Abstract]. *Critical Care Medicine*, 46 (1): 347.
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83. ***Crango, E.**, Kagiyama, N., Chang, Y., Mahmoud K, Fisher, A., Lagattuta, T., Gorcsan, J., Hravnak, M. (2018). Abnormal Global Longitudinal Strain is More Associated with aSAH Outcomes than Traditional Echocardiogram Parameters. [Abstract]. *NeuroCritical Care*. 20 (suppl 1):2.
84. *Yousef, K.M., **Crango, E.**, Fisher, A., Mahmoud, K., Lagattuta, T., Hravnak, M. (2019). Grading scales in Subarachnoid Hemorrhage: Which Scale to Control for When Studying Outcomes? [Abstract]. *Critical Care Medicine*. 47(1):2, January 2019.
85. *Hravnak, M., **Crango, E.**, Fisher, A., Chang, Y., Yousef, K.M., Mahmoud, K., Lagattuta, T., Pinsky, M.R., Friedlander, R.M. (2019). Lower Blood Pressure After Subarachnoid Hemorrhage Associated to Late Neuropsychological Dysfunction. [Abstract]. *Critical Care Medicine*. 47(1):3, January 2019.

86. * **§ Crago, E.**, Kagiya, N., Chang, Y., Fisher, A., Lee, C., Lagattuta, T., Gorcsan, J., Hravnak, M. (2019). Global Longitudinal Strain May Be a Determinant of Quality of Life After Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*. 47(1):330, January 2019.
87. * Yousef, K., **Crago, E.**, Fisher, A., Lagatutta, T., Hravnak, M. (2020). Mean Flow Velocity of the Middle Cerebral Artery Predicts Poor Outcome After Subarachnoid Hemorrhage. [Abstract]. *Critical Care Medicine*. 48(1):19, January 2020.
88. * **§ Crago, E.**, Ren, D., Greenwald, A., Fisher, A., Miller, T., Poloyac, S., Wagner, A. (2020). The Association Between Plasma Testosterone and Functional Outcomes after Aneurysmal SAH. [Abstract]. *Critical Care Medicine*. 48(1):349, January 2020.
89. ***Crago, E.**, Miller, T., Fisher, A., Ren, D., Poloyac, S., Wagner, A. (2021). Association of Plasma Insulin Growth Factor to Memory and Cognition 12 Months after Aneurysmal SAH. [Abstract]. *Critical Care Medicine*. 49(1):2, January 2021.

Invited Articles and Position Papers

1. Sherwood, P., & **Crago, E.** Spiro, R., Okonkwo, D. (Cover article) (2007). Cervical spine injuries: Preserving Function, Improving Outcomes. *American Nurse Today*, 2, 26-29.
2. **Crago, E.** Core Principles of Acute Neurology: Identifying Neuro-emergencies (Book Review). 2016. *Critical Care Medicine*. 45 (1):e122.

Book Chapters

1. Kerr, M.E. & **Crago, E.** (2004). Acute Intracranial Pressure Monitoring. In S.M. Lewis, M.M. Heitkemper, & S.R. Dirksen (Eds.), *Medical-surgical nursing* (6th ed.). St. Louis: Mosby.
2. Sherwood, P., & **Crago, E.** (2007). Autonomic Dysreflexia. In B. Ackley, G. Ladwig, B. Swan, & S. Tucker (Eds.), *An Evidence-based Guide to Planning Care* (8th ed., pp. 157-160). St. Louis: Mosby, p. 157-160.
3. Sherwood, P., & **Crago, E.** (2007). Autonomic Dysreflexia. In B. Ackley & G. Ladwig (Eds.), *Nursing Diagnosis Handbook* (8th ed.).
4. Sherwood, P., & **Crago, E.** (2014). Autonomic dysreflexia. In B. Ackley, G. Ladwig, B. Swan, & S. Tucker (Eds.), *Nursing Diagnosis Handbook: An Evidence-based Guide to Planning Care* (10th ed.). St. Louis: Mosby.

Other Publications

1. Li, Lingjue (2019) Alteration of Cerebral Blood Flow after Neurovascular Injury. Committee member. Doctoral Dissertation, University of Pittsburgh.(Unpublished) <http://d-scholarship.pitt.edu/36590/>

Research

Current Research

Role: Principal Investigator

NIH/NINR R01NR018160 (PI: Crago)

Sex Steroids and IGF1 in the CNS Following aSAH and Their Relationship to Patient Outcomes

Funding period: 09/20/2018 – 7/31/2021; NCE 8/1/2021-12/31/2022

Role: Principal Investigator

Center for Research Evaluation, Pilot Funding, Pitt SON

Examining the Relationship Between Cognitive Function and Plasma Levels of Estrogens,

Androgens and Insulin Growth Factor in Healthy Older Adults

Funding period: 1/1/2021 – 12/31/2021

Role: Co-Principal Investigator

Internal Funded (PI: Crago)

An Evaluation of Sleep Patterns in Hospitalized Patients

Funding period 12/2021-

Completed Research

Role: Principal Investigator

Central Research Development Fund, Pitt SON

The Effect of IGF1 Gene Variants on Functional Outcomes after aSAH

Funding period: 7/1/2017-6/30/2018

Role: Principal Investigator

Leslie A. Hoffman Endowed Research Award, Pitt SON

Assessing the Relationship of Cerebral Vascular Reactivity to Outcomes after Aneurysmal Subarachnoid Hemorrhage

Funding period: 1/1/2017 – 12/31/2017

Role: Co-Investigator

PI: Marilyn Hravnak, RN, PhD Institution: University of Pittsburgh School of Nursing

Robert Friedlander, MD Institution: University of Pittsburgh School of Medicine

NIH/NINR R01 NR 014221

Developing goal directed perfusion therapy in SAH neurocardiac injury

Funding period: 2014-2018

Role: Co-Investigator

PI: Yvette Conley, PhD, Institution: University of Pittsburgh School of Nursing

NIH/NINR R01 NR013610

Epigenomics of Patient Outcomes after Aneurysmal SAH

Funding period:

Role: Principal Investigator

Competitive Medical Research Fund U of Pitt

The Relationship of Hormone Levels to Outcomes After Acute Aneurysmal Subarachnoid Hemorrhage

Funding period: 7/15/2014- 7/15/2015

Role: Principal Investigator

Neuroscience Nursing Foundation

The Role of Estrogen in the Development of Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage

Funding period: 2011-2012

Role: Principal Investigator

Nightingale Scholarship of Pennsylvania

The Role of Estrogen in the Development of Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage

Funding period: 2011-2012

Role: Co-Investigator

PI: Tudor Jovin, MD: University of Pittsburgh Medical Center

Internal
XeCt Safety Study
Funding period: 2005-2010

Other Scholarly Activities

Training Grant

Core Faculty/Training Grant
University of Pittsburgh School of Nursing
T32NR009759

Targeted Research and Academic Training for Nurses in Genomics

National Institute of Nursing Research

Grant Reviewer

2010-present	Small Grant Reviewer American Association Neuroscience Nursing Foundation
2011-present	Grant Reviewer Neuroscience Nursing Foundation (NNF) Grants
2016	Grant Reviewer Leslie Hoffman Scholarship Award University of Pittsburgh School of Nursing
2019	STT Eta chapter Research and Quality Improvement Award Reviewer

Abstract Reviewer

2010 – present	American Heart Association International Stroke Conference
2016	Society of Critical Care Medicine
2017	International Society of Nursing Genetics

Editorial Reviewer

2006	AACN AANN protocols for practice focusing on the critical neuro population – Monitoring Technologies in the Critically Ill Neuroscience Patient
2016	Critical Care Medicine Core Principles of Acute Neurology: Identifying Neuro Emergencies.

Journal Reviewer

2013	Journal of NeuroCritical Care
2014	British Journal of Neuroscience Nursing
2017	PLOS One
2017t	Neuroscience Nursing

Consultation

2016, July	Kazakhstan Professional Development Program Module 7: Care of the Hospitalized Patient -Assigned to unit 8 - Care of the patient with altered mental status and Unit 12 - care of the patient with trauma. The modules were formatted to consist of 30 hours of lecture with power points and 30 hours of learning activities to accompany the lectures.
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Scholarships and Traineeships

2011	Ruth Perkins Kuehn Award Sigma Theta Tau Eta Chapter University of Pittsburgh School of Nursing
2011	Nightingale of Pennsylvania Scholarship – Doctoral Student

Presentations

International

1. *Nemoto, E., Kerr, M.E. Yonas, H., Kassam, A., Alexander, S., **Crago, E.** (2000, August). *Continuous Assessment of Cerebrovascular Regulation after Subarachnoid Hemorrhage (SAH) by Near-infrared Spectroscopy (NIRS)*. Podium. International Society on Oxygen Transport to Tissue, Nijmegen, Netherlands.
2. *Kerr M, Nemoto, E., Yonas H, Kassam, A., **Crago E.** (2000, August). *Vasospasm Detection following SAH Using Cerebral Oximetry*. Podium. International Society on Oxygen Transport to Tissue, Nijmegen, Netherlands.
3. ***Crago, E.**, Kerr, M., Kassam, A., Yonas, H. (2001, January). *Clinical Presentation of Fever, Vasospasm and Clinical Neurologic Deterioration Following Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 30th International Educational and Scientific Symposium, San Francisco, Ca.
4. *§ Lorenzi, L., Kerr, M.E., Yonas, H., Kassam, A., Alexander, S., **Crago, E.** (2001, January). *Delaying Treatment after Symptoms Develop from Subarachnoid Hemorrhage (SAH) on Outcome: A Preliminary Analysis*. Poster. Society of Critical Care Medicine 30th International Educational and Scientific Symposium, San Francisco, Ca.
5. *Ward, S., Valenta, C., **Crago, E.**, Michalic, D., Mitchell-Perry, R., Reilly, E., Kerr, M.E., Yonas, H. (2001, January). *Implementation and Evaluation of a Neurologic Data Set for the SAH Patient*. Poster. Society of Critical Care Medicine 30th International Educational and Scientific Symposium, San Francisco, Ca.
6. *§ **Crago, E.**, Kerr, M., Falls, M., Yonas, H. (2002, January). *Effect of Preexisting Cardiac Disease on Cardiac Complications, Angiographic Vasospasm and Neurological Deterioration following Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 31st International Educational & Scientific Symposium, San Diego, CA.
7. *Kerr, M.E., **Crago, E.**, Alexander, S., Kim, Y. Kamboh, I, Marion, D. (2003, January). *Conditions Associated with Neurologic Deterioration in the SAH Patient*. Podium. Society of Critical Medicine 32nd International Educational & Scientific Symposium, San Antonio, TX.
8. ***Crago, E.**, Kerr, M.E., Baldesseri, M., Horowitz, M., Kassam, A., Yonas, H. (2003, January). *Impact of Cardiac Complications on Outcomes in Patients with Subarachnoid Hemorrhage*. Podium. Society of Critical Medicine 32nd International Educational & Scientific Symposium, San Antonio, TX.
9. ***Crago, E.**, Kong, Y., Kerr, M., Yonas, H., Horowitz, M., Kassam, A. (2004, February). *Relationship between Aneurysm Site and 2-year Outcomes in Patients following Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 33rd International Educational & Scientific Symposium, Orlando, FL.
10. *Beatty, M., Kerr, M., Condon, I., Kong, Y., Alexander, S., **Crago, E.**, Horowitz, M., Yonas, H. (2004, January). *Comparison of Coiling Verses Clipping on 6-month Outcomes Following Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 33rd International Educational & Scientific Symposium, Orlando, FL.
11. *Kong, Y., Kerr, M., **Crago, E.**, Yonas, H., (2004, February). *A Multifactorial Model and Lindegaard Ratio for Vasospasm Prediction following Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 33rd International Educational & Scientific Symposium, Orlando, FL.
12. ***Crago, E.**, Kerr, M., Levy, E., Horowitz, M., Yonas, H., Kassam A., Stippler, M. (2005, January). *Effect of Continuous Magnesium Infusion on Cerebral Vasospasm and 3-month Outcomes following Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 34th International Educational & Scientific Symposium, Phoenix, AZ.
13. Poloyac, S., **Crago, E.**, Sherwood, P., Bies, R., Hoffman, L.A., Kerr, M.E. (2005, January). *Temporal Profile of 20-HETE, a CYP Metabolite of Arachidonic Acid, in the CSF of Subarachnoid Hemorrhage Patients*. Poster. International Society for the Study of Xenobiotics, Maui, HI
14. *Hravnak, M., **Crago, E.**, Kong, Y., Hricik, A., Horowitz, M. (2006, January). *Relationship between Race, Vasospasm and Outcomes in African-American and Caucasian Patients with Subarachnoid*

Hemorrhage. Podium. Society of Critical Care Medicine 35th International Educational & Scientific Symposium, San Francisco, CA.

15. ***Crago, E.**, Hravnak, M., Kong, Y., Sherwood, P., Horowitz, M. (2006, January). *Relationship of Catecholamines on Markers of Myocardial Ischemia in Patients with Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 35th International Educational & Scientific Symposium, San Francisco, CA.
16. *Hravnak, M., **Crago, E.**, Horowitz, M. (2007, February). *Prolonged QT Interval after Aneurysmal Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 36th International Educational & Scientific Symposium, Orlando, FL.
17. *§ **Crago, E.**, Gupta, R., Gallek, M., Chang, Y., Horowitz, M., Yonas, H. (2007, February). *Early Lower Global Hemispheric CBF on Initial Xenon CT in Patients with Aneurysmal Subarachnoid Hemorrhage is Predictive of Poor 3-month Outcomes*. Poster. Society of Critical Care Medicine 36th International Educational & Scientific Symposium, Orlando, FL.
18. *§ **Crago, E.**, Gupta, R., Gallek, M., Chang, Y., Horowitz, M., Yonas, H. (2007, February). *Early Lower Ipsilateral Hemispheric Cerebral Blood Flow on Initial Xenon CT is Predictive of the Development of Cerebral Vasospasm after Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 36th International Educational & Scientific Symposium, Orlando, FL.
19. *§ Gallek, M., Sherwood, P., **Crago, E.**, Alexander, S., Hoffman, L., Horowitz, M., Poloyac, S. (2007, February). *Endothelin-1 Cerebrospinal Fluid Levels are Associated with the Development of Cerebral Vasospasm in Aneurysmal Subarachnoid Hemorrhage Patients*. Poster. Society of Critical Care Medicine 36th International Educational & Scientific Symposium, Orlando, FL.
20. *§ Hravnak, M., **Crago, E.**, Miketic, J., Chang, Y., & Horowitz, M. (2008, February). *Admission Serum Glucose and Outcomes in Patients with Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 37th International Educational & Scientific Symposium, Honolulu, HI.
21. *Sherwood, P., **Crago, E.**, Gallek, M., Hricik, A., Ren, D., Hoffman, L., Poloyac, S. (2008, February). *Endothelin and Neuropsychological Outcomes in Aneurysmal Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 37th International Educational & Scientific Symposium, Honolulu, HI.
22. *Hricik, A.J., **Crago, E.A.**, Bender, C.M., Lu, X., Kassam, A.B., Horowitz, M.B., Hoffman, L.A. (2008, February). *Coiling Versus Clipping following Subarachnoid Hemorrhage: 3 & 12-month Evaluation of Neuropsychological Outcomes*. Poster. Society of Critical Care Medicine 37th International Educational & Scientific Symposium, Honolulu, HI.
23. ***Crago, E.**, Sherwood, P., Tanabe, M., Hricik, A., Chang, Y., Hravnak, M., Horowitz, M., Kassam, A., Gorcsan, J., Bender, C. (2008, February). *The Relationship between Myocardial Dysfunction and 12-month Neuropsychological Outcomes in Patients following Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 37th International Educational & Scientific Symposium, Honolulu, HI.
24. **Crago, E.** (2008, February). *Nursing Year in Review; Rapid Response Teams*. The SCCM 37th International scientific and educational meeting; Honolulu, HI.
25. *Hricik, A.J., Sherwood, P., **Crago, E.**, Hoffman, L., Horowitz, M.B., Bender, C. (2008, February). *Prevalence of Cognitive Dysfunction 1-year following Subarachnoid Hemorrhage*. Poster. International Neuropsychological Society 36th Annual Meeting, Waikoloa, HI.
26. *§ Hravnak, M., Frangiskakis, M., **Crago, E.**, Gallek, M.J., Chang, Y., Horowitz, M. (2008). *Elevated Cardiac Troponin I and Electrocardiographic and Echocardiographic Abnormalities after Aneurysmal Subarachnoid Hemorrhage*. Podium. 21st ESICM Congress, Lisbon, Portugal.
27. ***Crago, E.**, Sherwood, P., Kuo, J., Hricik, A., Horowitz, M., Kassam, A., Poloyac, S. (2009, January). *Cerebrospinal Fluid 20-HETE is Associated with Poor Neuropsychological Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 38th International Educational & Scientific Symposium, Nashville, TN.

28. *Hravnak, M., **Crago, E.**, Frangiskakis, M., Chang, Y., Gorscan, J., Horowitz, M. (2009, January). *Relationship between Left Ventricular Motion Abnormalities and Markers of Neurocardiac Injury in Patients with Aneurysmal Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 38th International Educational & Scientific Symposium, Nashville, TN.
29. **Crago, E.** (2010, January). *Nursing Year in Review*. The 39th SCCM International scientific and educational meeting; Miami, FL.
30. *§ **Crago, E.**, Adkins, K., Kuo, C., Horowitz, M., Sherwood, P. (2010, January). *Initial Symptom Presentation as a Predictor of Mortality and Length of Stay in the Patient with Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 39th International Educational & Scientific Meeting; Miami, FL.
31. *§ Yousef, K., **Crago, E.**, Kuo, C., Hravnak, M. (2010, January). *Predictors of Ventricular Ectopy after Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 39th International Scientific and Educational Meeting; Miami, FL.
32. *Hravnak, M., Poloyac, S., Yao, J., **Crago, E.**, Chang, Y., Gorscan, Y., Horowitz, M. (2010, January). *Relationship between Catecholamines and Neurocardiac Injury in Patients with Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 39th International Scientific and Educational Meeting; Miami, FL.
33. *Alexander, S., Poloyac, S., Ren, D., **Crago, E.**, Conley, Y. (2010, January). *DDAH2 Genotype Predicts Outcome after Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 39th International Scientific and Educational Meeting; Miami, FL.
34. *Watkins, L., Alexander, S., Ren, D., **Crago, E.**, Conley, Y., Kagan, V., Bayir, H. (2010, January). *Haptoglobin Containing A2 Subunit Favor Angiographic Vasospasm in Aneurysmal Subarachnoid Hemorrhage (SAH)*. Poster. Society of Critical Care Medicine 39th International Scientific and Educational Meeting; Miami, FL.
35. *Kantor, E., Conley, Y., Ren, D., Bayir, H., Provencio, J., **Crago, E.**, Horowitz, M., Alexander, S. (2010, January). *Haptoglobin Genotype and Functional Outcome after Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 39th International Scientific and Educational Meeting; Miami, FL.
36. *§ Chuang, P., Donovan, H., Sherwood, P., Hricik, A., **Crago, E.**, Kuo, C.J., Bender, C. (2010, April). *Factors Associated with Poor Neuropsychological Outcomes following Aneurysmal Subarachnoid Hemorrhage*. Poster. Annual Society of Behavioral Medicine Conference, Seattle, WA.
37. ***Crago, E.**, Kuo, C., Sherwood, P., Horowitz, M., Poloyac, S. (2011, January). *Cerebrospinal Fluid 20-hydroxyicosatetraenoic Acid is Associated with Delayed Cerebral Ischemia and Poor Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 40th International Scientific and Educational Meeting; San Diego CA.
38. *§ Yousef, K., **Crago, E.**, Kuo, C., Horowitz, M., Hravnak, M. (2011, January). *Elevated Intracranial Pressure Predicts Poor Function and Death after Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 40th International Scientific and Educational Meeting; San Diego, CA.
39. *Hravnak, M., Thampatty, B., Poloyac, S., Yao, J., **Crago, E.**, Horowitz, M. (2011, January). *Persistence of Monoamines in Aneurysmal Subarachnoid Hemorrhage Patients with Myocardial Injury*. Poster. Society of Critical Care Medicine 40th International Scientific and Educational Meeting; San Diego, CA.
40. *Watkins, L., Alexander, S., Alexander, K., Ren, D., **Crago, E.**, Conley, Y., Kaga, V., Bayir, H. (2011, January). *Possible Role for Haptoglobin and Hemoglobin Aggregates in Patho-mechanism of Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 40th International Scientific and Educational Meeting; San Diego, CA.

41. Kim, H., **Crago, E.**, Kim, M., Conley, Y., Sherwood, P., Poloyac, S., Kerr, M. (2011, February). *Genome-wide SNP Association for Cerebral Vasospasm in Subarachnoid Hemorrhage Patients*. Podium. International Stroke Conference, Los Angeles, CA.
42. *Yousef, K., **Crago, E.**, Hamilton, J., Duursma, M., Colorito, P., Balzer, J., Sherwood, P. (2011, September). *Relationship between Mean Arterial Pressure and Cerebral Blood Flow Velocities in Patients with Subarachnoid Hemorrhage*. Poster. Neurocritical Care Society 9th Annual Meeting, Montréal, QC, Canada.
43. ***Crago, E.**, Donnelly, M., Sherwood, P., Kuo, C., Balzer, J., Horowitz, M., Poloyac, S. (2011, September). *The Association of Metabolites of Arachidonic Acid in CSF on the Incidence of Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage*. Poster. Neurocritical Care Society 9th Annual Meeting, Montréal, QC, Canada.
44. *Hravnak, M., Thampatty, B., Poloyac, S., Yao, J., **Crago, E.**, Horowitz, M. (2012, October). *Persistently Elevated Monamines are Associated with Severity of Aneurysmal Subarachnoid Hemorrhage*. Podium. European Society of Intensive Care Medicine 24th Annual Conference, Berlin, Germany.
45. *Hravnak, M., Thampatty, B., Poloyac, S., Yao, J., **Crago, E.**, Horowitz, M. (2012, February). *Monoamine Relationship to Blood Load following Aneurysmal Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 41st International Scientific and Educational Meeting; Houston, Texas. (SCCM Neurology Award 2012).
46. *§ Yousef, K., Kuo, C., **Crago, E.**, Balzer, J., Poloyac, S., Sherwood, P. (2012, February). *The Impact of Sodium Level on Neurologic Deterioration after Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 41st International Scientific and Educational Meeting; Houston, TX.
47. ***Crago, E.**, Donnelly, M., Ren, D., Sherwood, P., Horowitz, M., Poloyac, S. (2012, February). *Cerebrospinal Fluid 11-12 and 14-15 DHET after Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 41st International Scientific and Educational Meeting, Houston, TX.
48. *Thampatty, B., Poloyac, S., Yao, J., **Crago, E.**, Horowitz, M., Hravnak, M. (2012, February). *Endogenous Monoamine Metabolites and Relationship to Gender after Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 41st International Scientific and Educational Meeting; Houston, TX.
49. *§ Chuang, P.Y., Hricik, A., Kuo, C.W., **Crago, E.**, Bender, C., Sherwood, P. (2012, February). *Factors Associated with Poor Neuropsychological Outcomes following Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 41st International Scientific and Educational Meeting, Houston, TX.
50. *§ Yousef, K., Choi, C.J., **Crago, E.**, Poloyac, S., Balzer, J., Sherwood, P. (2012, October). *Aneurysmal Subarachnoid Hemorrhage: Comparing the Performance of Grading Scales in Predicting Complications and Outcomes*. Poster. Neurocritical Care Society 10th Annual Meeting, Denver, CO. (Distinguished Poster Award)
51. ***Crago, E.**, Sherwood, P., Bender, C., Balzer, G., Ren, D., Poloyac, S. (2012, October). *The Association of Cerebrospinal Fluid Estrogen Levels to Injury and Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Poster. Neurocritical Care Society, 10th Annual Meeting, Denver, CO.
52. *Hravnak, M., Chang, Y., **Crago, E.**, Price, T., Horowitz, M. (2013, January). *Impact of Myocardial Injury after Subarachnoid Hemorrhage (SAHMI) Upon Perfusion*. Podium. Society of Critical Care Medicine 42nd Critical Care Congress, San Juan, Puerto Rico. (SCCM Neurology Award).
53. ***Crago, E.**, Sherwood, P., Bender, C., Balzer, J., Ren, D., Poloyac, S. (2013, January). *The Relationship between Plasma Estrogen Levels and Severity of Injury and Delayed Cerebral Ischemia after Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 42nd Critical Care Congress, San Juan, Puerto Rico.

54. *§ Yousef, K., Balzer, J., **Crago, E.**, Poloyac, S., Sherwood, P. (2013, January). *Transcranial Regional Cerebral Oxygen Desaturation Predicts Delayed Cerebral Ischemia and Poor Outcomes After Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 42nd Critical Care Congress, San Juan, Puerto Rico.
55. ***Crago, E.**, Sherwood, P., Bender, C., Balzer, J., Ren, D., Poloyac, S. (2013, October). *Plasma Estrogen Levels are Associated with Adverse Outcomes following Acute Aneurysmal Subarachnoid Hemorrhage*. Poster. NeuroCritical Care Society 11th Annual Meeting, Philadelphia, Pa. (Distinguished Poster Award)
56. *Hravnak, M., Chang, Y.; Price, T.J.; **Crago, E.**, Jankowitz, B., Friedlander, R.M. (2013, October). *Cerebral Perfusion Pressure is Lower in Patients with Myocardial Injury after Subarachnoid Hemorrhage*. Podium. European Society of Critical Care Medicine, Paris, France.
57. *§ Donnelly, M., Conley, Y., **Crago, E.**, Sherwood, P., Balzer, J., Poloyac, S. (2014, January). *Association of SNPS on Genes Affecting EET Levels and Delayed Cerebral Ischemia in aSAH Patients*. Poster. Society of Critical Care Medicine 43rd Critical Care Congress, San Francisco, CA.
58. *Hravnak, M., Chang, Y., **Crago, E.** (2015, January). *Impact of Age on Perfusion Abnormalities in Patients with Myocardial Injury after Subarachnoid Hemorrhage*. Podium. Society of Critical Care Medicine 44th Critical Care Congress, Phoenix, AZ. (SCCM Abstract Award).
59. *§ **Crago, E.**, Price, T., Horowitz, M. (2015, January). *The Effect of Aneurysmal Subarachnoid Hemorrhage on Work Productivity*. Podium. Society of Critical Care Medicine 44th Critical Care Congress, Phoenix, AZ. (SCCM Neurology Award).
60. *§ Yousef, K., **Crago, E.**, Price, T., Lagatutta, T., Sherwood, P. (2015, January). *Vasopressors Do Not Improve Outcomes of Delayed Cerebral Ischemia After Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 44th Critical Care Congress, Phoenix, AZ.
61. *§ Stanfill, A., **Crago, E.**, Deslouches, S., Conley, Y. (2015, October). *Characterization of methylation status for dopaminergic and serotonergic genes in cerebrospinal fluid of subarachnoid hemorrhage patients*. Podium. International Society of Nurses in Genetics conference, Pittsburgh, PA.
62. ***Crago, E.**, Chang, Y., Yousef, K., Lagatutta, T., Poloyac, S., Hravnak, M. (2015, October). *Elevated Plasma Estrogen Levels Are Associated with Neurocardiac Injury after Aneurysmal Subarachnoid Hemorrhage*. Podium. Neurocritical Care Society 13th Annual Meeting, Scottsdale, AZ.
63. *§ Yousef, K.M., Lagatutta, T.F., Chang, Y., **Crago, E.**, Pinsky, M.R., Hravnak, M. (2015, October). *The Impact of Norepinephrine Administration on Cerebral and Peripheral Tissue Oxygen Saturation after Subarachnoid Hemorrhage*. Poster. Neurocritical Care Society 13th Annual Meeting, Scottsdale, AZ.
64. *§ **Crago, E.**, Yousef, K., Chang, Y., Lagatutta, T., Hravnak, M. (2016, January). *Relationship between cerebral tissue oxygenation and cardiac output after subarachnoid hemorrhage*. Poster. Society of Critical Care Medicine 45th Critical Care Congress, Orlando, FL.
65. ***Crago, E.**, Yabes, J., Balzer, J., Triulzi, L., Ducruet, A., Sherwood, P., Poloyac, S. (2016, January). *Aneurysmal Subarachnoid Hemorrhage Patients with Elevated 20-HETE have Higher Lindegaard Ratios*. Poster. Society of Critical Care Medicine 45th Critical Care Congress, Orlando, FL. (Snapshot Abstract Award).
66. *Hravnak, M., Yousef, K., Chang, Y., **Crago, E.**, Lagatutta, T., Pinsky, M.R. (2016, January). *Noninvasive Cardiac Output Monitoring to Evaluate Neurocardiac Injury after Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 45th Critical Care Congress, Orlando, FL.
67. ***Crago, E.**, Wagner, A., Sherwood, P., Poloyac, S., Conley, Y. (2016, August). *The Impact of Aromatase Genotypes on Long Term Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Podium. International Society of Nurses in Genetics World Conference, Dublin, Ireland.

68. *§ Stanfill, A., Sherwood, P., Poloyac, S., **Crago, E.**, & Conley, Y. (2016, August). *The Impact of Dopamine, Serotonin, and BDNF Genotype on Long-term Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Podium. International Society of Nurses in Genetics world conference, Dublin, Ireland.
69. *Hravnak, M., Yousef, K.M., Chang, Y., **Crago, E.**, Friedlander, R.M. (2016, October). *Cerebral Regional Tissue Oxygenation in Patients with Neurocardiac Injury after Subarachnoid Hemorrhage*. Poster. European Society of Intensive Care Medicine, Milan, Italy.
70. *Yousef, K.M., **Crago, E.A.**, Chang, Y., Lagattuta, T.F., Hravnak, M. (2017, January). *Vasopressors Use in Subarachnoid Hemorrhage: Does it Improve Cerebral Oxygenation?* Podium. Society of Critical Care Medicine 46th Critical Care Congress, Honolulu, HI.
71. *Yousef, K.M., **Crago, E.A.**, Lagattuta, T.F., Hravnak, M. (2017, January). *Admission Predictors of Subarachnoid Hemorrhage-Associated Myocardial Injury*. Poster. Society of Critical Care Medicine 46th Critical Care Congress, Honolulu, HI.
72. ***Crago, E.**, Miller, T., Poloyac, S., Wagner, A. (2017, January). *The Association between Serum Insulin Growth Factor and Estrogen to Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 46th Critical Care Congress, Honolulu, HI.
73. * § Yousef, K.M., Kagiya, N., **Crago, E.**, Lagattuta, T., Mahmoud, K., Friedlander, R.M., Gorcsan, J., Hravnak, M. (2017, October). *Modest Elevation in Troponin Predicts Functional Myocardial Impairment by Echocardiogram after Aneurysmal Subarachnoid Hemorrhage*. Podium. European Society of Intensive Care Medicine, Vienna, Austria.
74. * § Heinsberg, L., Ren, D., **Crago, E.**, Sherwood, P., Poloyac, S., Conley, Y. (2017, November). *HAMP Gene Polymorphism and Patient Outcomes following Aneurysmal Subarachnoid Hemorrhage*. Poster. International Society of Nurses in Genetics World Conference, Reston, VA.
75. ***Crago, E.**, Kagiya, N., Sugahara, M., Fisher, A., Chang, Y., Lagattuta, T., Hravnak, M., Gorcsan, J III. (2017, October). *Reduced Global Longitudinal Strain is Associated with Poor Memory Performance at 3 and 12 after Aneurysmal Subarachnoid Hemorrhage*. Poster. Neurocritical Care Society 15th Annual Meeting Waikoloa, HI.
76. ***Crago, E.**, Miller, T., Poloyac, S., Park, S., Wagner, A. (2017, October). *Plasma Insulin Growth Factor Levels Are Associated with Clinical Severity and Outcomes after Aneurysmal SAH*. Poster. Neurocritical Care Society 15th Annual Meeting Waikoloa, HI.
77. * § Hravnak, M., Yousef, K.M., Kagiya, N., Sugahara, M., **Crago, E.**, Mahmoud, K., Lagattuta, T., Gorcsan, J. (2018, February). *Persistent Global Longitudinal Strain Abnormality by Echocardiogram Predicted by Cardiac Troponin I*. Podium. Society of Critical Care Medicine 47th Critical Care Congress, San Antonio, TX. (STAR Abstract Award).
78. ***Crago, E.** Kagiya, N., Sugahara, M., Fisher, A., Chang, Y., Lagattuta, T., Gorcsan, J., Hravnak, M. (2018, February). *Reduced Global Longitudinal Strain is Associated with Poor Executive Function after aSAH*. Poster. Society of Critical Care Medicine 47th Critical Care Congress, San Antonio, TX.
79. * § **Crago, E.**, Kagiya, N., Sugahara, M., Mallampalli, G., O'Handley, A., Chang, Y., Gorcsan, J., Hravnak, M., Poloyac, S. (2018, February). *Elevated Plasma Estradiol is Associated with Global Longitudinal Strain after aSAH*. Podium. Society of Critical Care Medicine 47th Critical Care Congress, San Antonio, TX. (STAR Abstract Award).
80. * § Heinsberg, L., Arockiarah, A., **Crago, E.**, Ren, D., Shaffer, J., Weeks, D., Conley, Y. (2018, October). *Trajectory Patterns of HAMP DNA Methylation and Patient Outcomes Following Aneurysmal Subarachnoid Hemorrhage*. Podium. International Society of Nurses in Genetics World Conference, Orlando, Fla.
81. * § Hravnak M, **Crago E**, Chang Y, Mahmoud K, Yousef KM, Lagattuta T, Fisher A, Pinsky MR, Friedlander RM. (2018, October). *Elevated Cardiac Troponin I is Associated with Lower Blood Pressure on the First Admission Day after Aneurysmal Subarachnoid Hemorrhage*. Poster. European Society of Intensive Care Medicine, Paris, France.

82. * § **Crago, E.**, Kagiya, N., Chang, Y., Mahmoud K, Fisher, A., Lagattuta, T., Gorcsan, J., Hravnak, M. (2018, September). *Abnormal Global Longitudinal Strain is More Associated with aSAH Outcomes than Traditional Echocardiogram Parameters*. Poster. Neurocritical Care Society 16th Annual Meeting Boca Raton, Fla.
83. * § Yousef KM, **Crago E**, Fisher A, Mahmoud K, Lagattuta T, Hravnak M. (2019, February). *Grading scales in Subarachnoid Hemorrhage: Which Scale to Control for When Studying Outcomes?* Podium. Society of Critical Care Medicine 48th Critical Care Congress, San Diego, Ca. (STAR Abstract Award)
84. * § Hravnak M, **Crago E**, Fisher A, Chang Y, Yousef KM, Mahmoud K, Lagattuta T, Pinsky MR, Friedlander RM. (2019, February). *Lower Blood Pressure After Subarachnoid Hemorrhage Associated to Late Neuropsychological Dysfunction*. Podium. Society of Critical Care Medicine 48th Critical Care Congress, San Diego, Ca. (STAR Abstract Award)
85. * § **Crago E**, Kagiya N, Chang Y, Fisher A, Lee C, Lagattuta T, Gorcsan J, Hravnak M. (2019, February). *Global Longitudinal Strain May Be a Determinant of Quality of Life After Subarachnoid Hemorrhage*. Poster. Society of Critical Care Medicine 48th Critical Care Congress, San Diego, Ca.
86. * § Heinsberg, L.W., **Crago, E.A.**, Weeks, D.E., Conley, Y.P. (2019, November). *Associations between DNA Methylation of Aconitase 1 and 2 and Patient Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Podium. International Society of Nurses in Genetics World Congress, San Antonio, TX.
87. * **Crago, E.**, Chuang, Y., Conley, Y.P. (2019, November). *Association study of IGFBP1 and IGFBP3 Polymorphisms with Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage* [Abstract]. International Society of Nurses in Genetics World Congress San Antonio TX (Podium Presentation).
88. * Yousef K, **Crago E**, Fisher A, Lagatutta T, Hravnak M. (2020, February). *Mean Flow Velocity of the Middle Cerebral Artery Predicts Poor Outcome After Subarachnoid Hemorrhage*. Podium Presentation at the 49th Critical Care Congress, Orlando, Fla. (STAR Abstract Award).
89. * § **Crago E**, Ren D, Greenwald A, Fisher A, Miller T, Poloyac S, Wagner A. (2020, February). *The Association Between Plasma Testosterone and Functional Outcomes after Aneurysmal SAH*. [Abstract]. Poster presentation at the 49th Critical Care Congress, Orlando, Fla.
90. * § Gawron L, Heinsberg L, **Crago E**, Conley Y. (2020, November). *Oxytocin Gene (OXT) Single Nucleotide Polymorphism and Delayed Cerebral Ischemia after Subarachnoid Hemorrhage*. Poster presentation at the 2020 ISONG World Congress, Virtual.
91. * **Crago E**, Miller T, Fisher A, Ren D, Poloyac S, Wagner A. (2021, January). *Association of Plasma Insulin Growth Factor to Memory and Cognition 12 Months after Aneurysmal SAH*. [Abstract]. Podium presentation at the 50th Critical Care Congress, Virtual. (STAR Research Abstract Award Neurology).
92. * **Crago E**, Miller T, Ren D, Fisher A, Conley Y. (2021, November). *Association of IGF and IGFBP Polymorphisms with Circulating IGF and IGFBP Levels and Ischemic Outcomes after Aneurysmal Subarachnoid Hemorrhage*. [Abstract]. Podium presentation at the 2021 ISONG World Congress, Virtual.
93. * **Crago E**, Heinsberg L, Meyer L, Fisher A, Wagner A, Conley Y. (2022, November). *The impact of aromatase genotypes on functional outcomes after aneurysmal subarachnoid hemorrhage*. [Abstract]. Poster presentation at the 2022 ISONG World Congress, Durham, North Carolina.

National

1. * **Crago, E.**, Kerr, M., Fails, M., Yonas, H. (2002, October). *Effect of Preexisting Cardiac disease on cardiac complications, angiographic vasospasm and neurological deterioration following subarachnoid hemorrhage*. Podium. State of the Science, Washington, D.C.

2. ***Crango, E.**, Kong, Y., Kerr, M., Yonas, H., Horowitz, M., Kassam, A. (2004, March). *Relationship between aneurysm site and 2 year outcomes in patients following subarachnoid hemorrhage*. Poster. National Congress for the State of the Science in Nursing, Washington, D.C.
3. *Tanabe, M., Horowitz, M.B., Cannesson, M., Hravnak, M., **Crango, E.A.**, Gorcsan, J. (2006, March). *The relationship between regional left ventricular wall motion and Troponin_I levels in patients with subarachnoid hemorrhage: Results of the SAHMI study*. Podium. Presented at the American Association of Cardiologists 55th Annual Meeting, Atlanta, GA.
4. *Bender, C., Sherwood, P., Hricik, A., **Crango, E.**, Hoffman, L. (2006, April). *Neuropsychological sequelae following aneurysmal subarachnoid hemorrhage*. Podium. American Association of Neuroscience Nurses 38th Annual Meeting, San Diego, CA.
5. * Hravnak, M., **Crango, E.**, Kong, Y., & Horowitz, M.B. (2006, April). *Prevalence of electrocardiographic abnormalities in patients with subarachnoid hemorrhage*. Podium. American Association of Critical Care Nurses National Teaching Institute. (AACN Research Abstract Award).
6. *Tanabe, M., **Crango, E.A.**, Hravnak, M., Horowitz, M.B., Gorcsan, J. (2007, March). *Relationship of mild Troponin-I elevations to cardiac function and pulmonary congestion in patients with subarachnoid hemorrhage: Results of the SAHMI study*. Podium. American Association of Cardiologists 56th Annual Meeting, New Orleans, LA.
7. *Tanabe, M., **Crango, E.A.**, Hravnak, M., Horowitz, M.B., Gorcsan, J. (2007, March). *Relationship of acute cardiac dysfunction with clinical severity of subarachnoid hemorrhage: Results of the SAHMI study*. Podium. American Association of Cardiologists 56th Annual Meeting, New Orleans, LA.
8. ***Crango, E.**, Hravnak, M., Kong, Y., Sherwood, P., Horowitz, M. (2006, April). *Relationship of catecholamines on markers of myocardial ischemia and outcomes in patients with subarachnoid hemorrhage*. Poster. American Association of Neuroscience Nurses 38th Annual Conference, San Diego, California.
9. *Hravnak, M., **Crango, E.**, Hricik, A., & Horowitz, M.B. (2007, May) *Relationship between serum glucose and outcomes in patients with subarachnoid hemorrhage*. Podium. AACN National Teaching Institute, Atlanta, Georgia. (AACN Research Abstract Award).
10. *Sherwood, P., **Crango, E.**, Poloyac, S., Bies, R., Hoffman, L., Gallek, M., Kerr, M. (2006, October). *Mechanisms involved in cerebral vasospasm following aneurysmal subarachnoid hemorrhage*. Podium. National Congress on the State of the Science Nursing Research Conference, Washington, D.C.
11. ***Crango, E.**, Hravnak, M., Kong, Y., Sherwood, P., & Horowitz, M. (2006, October). *Relationship of catecholamines on markers of myocardial ischemia in patients with subarachnoid hemorrhage*. Podium. National Congress on the State of the Science Nursing Research Conference, Washington, D.C.
12. *Frangiskakis JM, Tanabe M, Hravnak M, **Crango E.A.**, Gorcsan J, Horowitz MB, London, B. (2007). *B-adrenergic receptor polymorphism predicts ventricular arrhythmia after subarachnoid hemorrhage*. Podium. Heart Rhythm Society, Denver, CO.
13. *Frangiskakis, J.M., Tanabe, M., Hravnak, M., **Crango, E.A.**, Gorcsan, J., Horowitz, M.B., London, B. (2007, November). *The MinK G38S polymorphism associates with atrial arrhythmias after subarachnoid hemorrhage*. Poster. American Heart Association Scientific Session, Orlando, FL.
14. ***Crango, E.**, Thomas, A., Gallek, M., Hricik, A., Horowitz, M. (2008, March). *Combined neuroform stenting and coil embolization of acutely ruptured aneurysms: Report of 41*. Poster. American Association of Neuroscience Nurses, 40th Annual Educational Meeting, Nashville, TN.
15. *Sherwood, P., Kassam, A., Hricik, A., Mintz, A., **Crango, E.**, Donovan, H. (2008, March). *Patient outcomes following endoscopic endonasal approach for tumor removal*. Poster. American Association of Neuroscience Nurses, 40th Annual Educational Meeting, Nashville, TN.

16. *Stippler, M., **Crago, E.**, Levy, E.I., Horowitz, M.B., Kassam, A. (2008, April). *Effect of Continuous Magnesium Infusion on Cerebrospinal Fluid Magnesium Concentration after Aneurysmal Subarachnoid Hemorrhage*. Podium. The 76th Annual American Association of Neurological Surgeons. Chicago, Ill.
17. ***Crago, E.**, Sherwood, P., Tanabe, M., Kricik, A., Chang, Y., Hravnak, M., Horowitz, H., Kassam, A., Gorcsan, J., Bender, C. (2008, October). *The relationship between myocardial dysfunction and 12 month neuropsychological outcomes in patients following aneurysmal subarachnoid hemorrhage*. Podium. National State of the Science Congress on Nursing Research Council for the Advancement of Nursing Science, Washington, D.C.
18. *Hricik, A. J., Sherwood, P., **Crago, E.**, Hoffman, L., Horowitz, M.B., Bender, C. (2008, October). *Prevalence of cognitive dysfunction 1 year following subarachnoid hemorrhage*. Podium. National State of the Science Congress on Nursing Researching Council for the Advancement of Nursing Science, Washington, D.C.
19. *Sherwood, P., Kassam, A., Hricik, A., Mintz, A., **Crago, E.**, Donovan, H. (2008, October). *Patient outcomes following endoscopic endonasal approach for tumor removal*. Podium. National State of the Science Congress on Nursing Research Council for the Advancement of Nursing Science, Washington, D.C.
20. Newberry, A., Sherwood, P., Hricik, A., Bradley, S., **Crago, E.**, Hoffman, L. (2008, October). *Recruitment and Retention in Neurological Research: Strategies to Improve Success*. Podium. National State of the Science Congress on Nursing Research Council for the Advancement of Nursing Science. Washington, D.C.
21. *§ Miketic, J., Hravnak, M., Horowitz, M., **Crago, E.** (2009, May). *Impact of Myocardial Injury in Patients after Subarachnoid Hemorrhage*. Poster. American Association of Critical Care Nurses National Teaching Institute, New Orleans, La.
22. *§ Donnelly, M., **Crago, E.**, Sherwood, P., Horowitz, M., Conley, Y., Hricik, A., Kuo, C., Kassam, A., Poloyac, S. (2009, March). *CYP4F2 polymorphic variants are linked to 20-HETE CSF levels and neuropsychological outcomes in aSAH patients*. Poster. 11th International Winter Eicosanoid Conference; Baltimore, MD.
23. *§ Donnelly M, **Crago E**, Sherwood P, Horowitz M, Hricik A, Kuo J, Poloyac S. (2009, March). *20-HETE CSF levels are linked to neuropsychological outcomes in aSAH patients*. Poster. The 11th International Winter Eicosanoid conference; Baltimore, MD.
24. *Quolke, V., Bender, C., Kuo, C., **Crago, E.**, Poloyac, S., Sherwood, P. (2010, October). *Objective versus subjective measures of cognitive function following aneurysmal subarachnoid hemorrhage*. Podium. National Nursing State of the Science Meeting, Washington, D.C.
25. *§ Knisely, D., Kuo, C., Quolke, V., **Crago, E.**, Connely, Y., Poloyac, S., Sherwood, P. (2011, March). *Serotonin transporter gene polymorphisms (5-HTTLPR and 5HTTVNTR) and APOE as genetic markers of depression following aneurysmal subarachnoid hemorrhage*. Poster. The National Undergraduate Research Meeting, Ithaca, NY.
26. *§ Donnelly, M., **Crago, E.**, Sherwood, P., Poloyac, S. (2011, October). *Cytochrome P450 eicosanoid levels in cerebrospinal fluid and delayed cerebral ischemia in subarachnoid hemorrhage*. Podium. American College of Clinical Pharmacology, Annual Meeting, Pittsburgh, PA.
27. *Qi, Z., Sugahara, M., **Crago, E.A.**, Chang, Y.F., Lagattuta, T.F., Yousef, K., Friedlander, R.M., Hravnak, M.T., Gorcsan J 3rd. (2016, April). *Association of Global Longitudinal Strain with Severity of Neurocardiac Injury in Patients with Subarachnoid Hemorrhage*. Poster. American College of Cardiology National Meeting 2016, Orlando, FL.
28. *Qi, Z., Sugahara, M., **Crago, E.A.**, Chang, Y.F., Lagattuta, T.F., Yousef, K., Friedlander, R.M., Hravnak, M.T., Gorcsan J 3rd. (2016, April). *Neurocardiac Injury in Patients with Subarachnoid Hemorrhage is associated with Regional Left Ventricular Discoordination*. Poster. American College of Cardiology National Meeting 2016, Orlando, FL.

29. *Qi Z, Sugahara M, **Crago EA**, Chang YF, Lagattuta TF, Yousef K, Friedlander RM, Hravnak MT, Gorcsan J 3rd. (2016, June). *Changes in echocardiographic global longitudinal strain are associated with neurocardiac injury in patients with subarachnoid hemorrhage*. Poster. American Society of Echo cardiologists, Seattle, WA.
30. *Qi, Z., Sugahara, M., **Crago, E.A.**, Chang, Y.F., Lagattuta, T.F., Yousef, K., Friedlander, R.M., Hravnak, M.T., Gorcsan J 3rd. (2016, June). *Dispersion of Left Ventricular Segmental Peak Longitudinal Strain as a New Marker of Neurocardiac Injury in Patients with Subarachnoid Hemorrhage*. Poster. American Society of Echo cardiologists, Seattle, WA.
31. *Kagiyama, N., Sugahara, M., **Crago, E.A.**, Lagattuta, T.F., Yousef, K.M., Hravnak, M.T., Gorcsan, J. (2017, June). *Right Ventricular Strain as a New Marker of Neuro-cardiac Injury in Patients with Subarachnoid Hemorrhage*. Poster. American Society of Echocardiography National Meeting, Baltimore, MD.
32. * Kagiyama, N., Sugahara, M., **Crago, E.A.**, Lagattuta, T.F., Yousef, K.M., Hravnak, M.T., Gorcsan, J. (2017, June). *Reduced Global Longitudinal Strain is associated with In-hospital Mortality in Patients with Subarachnoid Hemorrhage and Preserved Ejection Fraction*. Poster. American Society of Echocardiography National Meeting, Baltimore, MD.
33. *Kagiyama, N., Sugahara, M., Hasselberg, N.E., **Crago, E.A.**, Lagattuta, T.F., Yousef, K.M., Hravnak, M.T., Gorcsan, J III. (2017, February). *Biventricular Cardiac Dysfunction on Neurocardiac Injury Assessed by Strain Imaging is associated with In-hospital Mortality in Subarachnoid Hemorrhage*. Poster. American Heart Association National Meeting, Houston, TX.
34. *Kagiyama, N., Sugahara, M., Hasselberg, N.E., **Crago, E.A.**, Lagattuta, T.F., Yousef, K.M., Hravnak, M.T., Gorcsan, J III. (2017, February). *Biventricular Strain as a New Marker of Severity of Neurocardiac Injury in Patients with Subarachnoid Hemorrhage*. Poster. American Heart Association National Meeting, Houston, TX.
35. *§ OHandley, A., Slas, E., Chuang, Y., **Crago, E.** (2018, April). *Age and Gender Influence Survival after aSAH*. Podium. National Undergraduate Research Conference, Oklahoma City, OK.
36. *Tuite P, **Crago E.** (2018, November). *Using Structure Telehealth Simulated Experiences with Senior and Graduate Level Nursing Students to Promote Clinical Reasoning in Community Settings*. Poster. American Association of Colleges of Nursing Baccalaureate Education Conference, New Orleans, LA.
37. *§ Slas, E., Chuang, Y., **Crago, E.** (2019, April). *The Association Between Plasma Estrogen, Neurocardiac Injury and Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Podium. National Undergraduate Research Conference, Kennesaw, Ga.
38. *§ Greenwald, A., Ren, D., Fisher, A., **Crago, E.** (2020, April). *The Association Between Fatigue and Functional Outcomes after Aneurysmal Subarachnoid Hemorrhage*. Podium. National Undergraduate Research Conference, Bozeman, Montana. (Conference canceled).
39. *Tuite P, **Crago E.** (2020, April). *Using Structure Telehealth Simulated Experiences to Promote Clinical Judgement*. Podium. 2020 Institute for Educational Excellence Conference Opening Doors to Transform Nursing Education, Raleigh Durham, SC. (Conference canceled).
40. *Heinsberg LW, Weeks DE, Alexander SA, **Crago EA**, Minster RL, Poloyac SM, Conley YP. (2020, October). *Associations Between DNA Methylation Trajectories for Genes Regulating Iron Homeostasis and Patient Outcomes Up to One Year After Subarachnoid Hemorrhage*. Poster. 70th Meeting of the American Society of Human Genetics, Virtual.

Regional

1. *Kerr, M., Nemoto, E., Yonas, H., Kassam, A., **Crago, E.** (2001, March). *Vasospasm detection following SAH using cerebral oximetry*. Podium. Eastern Nursing Research Society 13th Annual Scientific Sessions, Atlantic City, NJ.

2. ***Crago, E.**, Kerr, M., Kassam, A., Yonas, H. (2001, March). *Clinical presentation of fever, vasospasm and clinical neurologic deterioration following subarachnoid hemorrhage*. Podium. Eastern Nursing Research Society 13th Annual Scientific Sessions, Atlantic City, NJ.
3. ***Crago, E.**, Kerr, M., Fails, M., Yonas, H. (2002, March). *Effect of preexisting cardiac disease on cardiac complications, angiographic vasospasm and neurological deterioration following subarachnoid hemorrhage*. Podium. Eastern Nursing Research Society 14th Annual Scientific Sessions, University Park - Penn State University, PA.
4. Kerr, M., **Crago, E.**, Yonas, H. (2002, March). *Standardizing criteria for measuring vasospasm, neurological deterioration and ischemia following subarachnoid hemorrhage*. Podium. Eastern Nursing Research Society 14th Annual Scientific Sessions, University Park - Penn State University, PA.
5. *§ **Crago E**, Kerr M, Fails M, Yonas H. (2002, March). *Effect of preexisting cardiac disease on cardiac complications, angiographic vasospasm and neurological deterioration following subarachnoid hemorrhage*. Poster. Eastern Nursing Research Society 14th Annual Scientific Sessions, Penn State University, PA.
6. ***Crago, E.**, Kerr, M.E., Baldesseri, M., Horowitz, M., Kassam, A., Yonas, H. (2003, March). *Impact of cardiac complications on outcomes in patients with subarachnoid hemorrhage*. Podium. Eastern Nursing Research Society 15th Annual Scientific Sessions, New Haven, CT.
7. ***Crago, E.**, Kong, Y., Kerr, M., Yonas, H., Horowitz, M., Kassam, A. (2004, March). *Relationship between aneurysm site and 2 year outcomes in patients following subarachnoid hemorrhage*. Podium. Eastern Nursing Research Society 16th Annual Scientific Symposium, Boston, MA.
8. ***Crago E.**, Kerr, M., Levy, E., Horowitz, M., Yonas, H., Kassam A., Stippler M. (2005, March). *Effect of continuous magnesium infusion on cerebral vasospasm and 3 month outcomes following subarachnoid hemorrhage*. Podium. Eastern Nursing Research Society 17th Annual Scientific Symposium, New York, NY.
9. *Kong, Y., Kerr, M., **Crago, E.**, (2005, March). *Temperature changes by treatment groups after aneurysmal subarachnoid hemorrhage (SAH)*. Poster. Eastern Nursing Research Society 17th Annual Scientific Sessions, New York, NY.

Local

1. *§ Lorenzi, L., Kerr, M.E., Yonas, H., Kassam, A., Alexander, S., **Crago, E.** (2000). *Influence of delaying treatment after symptoms develop from subarachnoid hemorrhage (SAH) on outcome: A preliminary analysis*. Podium. Greater Pittsburgh 12th Annual Nursing Research Conference, Pittsburgh, PA.
2. Newberry, A., Sherwood, P., Hricik, A., Bradley, S., **Crago, E.**, Hoffman, L. (2008, October). *Recruitment and retention in neurological research: Strategies to improve success*. Podium. Greater Pittsburgh Nursing Research Conference, Pittsburgh, PA.
3. *§ **Crago, E.**, Kerr, M., Fails, M., Yonas, H. (2002). *Effect of preexisting cardiac disease on cardiac complications, angiographic vasospasm and neurological deterioration following subarachnoid hemorrhage*. Poster. 3rd Annual Clinical and Research Poster Session Sponsored by Sigma Theta Tau Eta Chapter, University of Pittsburgh School of Nursing, Pittsburgh, PA.

Invited

1. Poloyac, S., Kohanic, P., **Crago, E.**, Sherwood, P. (2007, July). *Using interdisciplinary teams in research*. Clinical and Translational Science Institute (T32) Summer Internship Program, University of Pittsburgh, Pittsburgh, PA.
2. **Crago, E.**, (2012, February). *What is research and why do we do it*. Pittsburgh Aneurysm Support group, Pittsburgh, PA.

3. **Crango, E.**, (2012, March). *Vascular Stability after Neurological Insult*. 7th Annual Acute Stroke Management Conference, Pittsburgh, PA.
4. **Crango, E.**, (2013, February). *Transcranial Dopplers after Aneurysmal Subarachnoid Hemorrhage*. Pittsburgh Aneurysm Support group, Pittsburgh, PA.
5. **Crango, E.**, (2015, September). *Optimizing Hemodynamics and Perfusion after Stroke*. 1st Annual Excelsa Health Evidence Based Practice Symposium, Greensburg, PA.
6. **Crango, E.**, (2021, October). *Neurological Manifestations and Stroke in COVID 19*. 7th Annual Excelsa Health Evidence Based Practice Symposium, Greensburg, PA.

Teaching

Primary Teacher				
Term/Years	Course Number & Title	No. of Students	Level	Didactic or Clinical
2016-Current Summer, Fall, Spring	Primary Teacher NUR 1121 Advanced Clinical Decision Making	25-100	Senior BSN	Didactic
2016-Current Summer, Fall, Spring	Instructor NUR 1121 Advanced Clinical Decision Making	25-100	Senior BSN	Clinical
2020-current Fall Term	Instructor NUR0020 Pathophysiologic Foundations of Nursing Care	200	Sophomore BSN	Didactic
2016 Spring Term	Clinical Instructor NUR1121c	8	Senior BSN	Clinical - Emergency Department
2013	Co-Primary Instructor NUR 3030 Research Development	5	PhD-DNP	Didactic

Lecturer/Guest Lecturer				
Term/Years	Course Number & Title	No. of Students	Level	Topic
2006-2015 Fall	CNS Role Class	5-10	MSN/DNP	Overview of the role of CNS as a Researcher
2007-present	NURNP 2105 & NUR 2106 Critical Care & Cardiopulmonary Clinical Emphasis	10-20	ACNP/DNP	Intracranial Hemorrhage, Subarachnoid Hemorrhage & Other Life Threatening Headaches
2010	NUR 2000 Research for Evidence Based Practice I	56	Graduate	The interaction of theory, research, and clinical expertise in the development of evidence based nursing practice
2013	NUR 2031 Diagnostic Physical Exam Across the Lifespan	~67	Graduate	Competency testing for Physical Exam

2014	NUR 3030 Research Development	4	PhD	Pros and Cons of K99 application
2016	NUR 2004 Advanced Pathophysiology Across the Life Span	80	Graduate	Neurologic structure function and disorders

PhD Dissertations

Lingjue Li, PharmD, PhD

University of Pittsburgh School of Pharmacy

Alterations of Cerebral Blood Flow after Neurovascular Diseases

2017-2019; Committee Member

Lacey Wright Heinsberg, RN, PhD

University of Pittsburgh School of Nursing

Multi-omics of the Iron Homeostasis Pathway in Patient Outcomes Following aSAH

2016- 2020; Committee Member

Doctorate in Nursing Practice – Projects

Charles Warner, RN, ACNP, DNP

University of Pittsburgh School of Nursing

Standardized Labeling of Continuous Infusions to Reduce Errors in the Critical Care Transport Setting

2017-2018; Committee Member

Deborah Hess, RN, CNS, DNP

University of Pittsburgh School of Nursing

Evaluation of Music Intervention on Physiologic Indicators and Mood of Hospitalized Heart Failure Patients

2018-2020; Committee Member

J Julian Palmer-Davies, RN, BSN

University of Pittsburgh School of Nursing

Implementing and evaluating a hypotension management protocol in patients with sepsis in the emergency department based on dynamic monitoring from the EV1000 monitor and ClearSight cuff

2021-present; Committee Member

Natalie Lotter, BSN, BS, RN

University of Pittsburgh School of Nursing

Evaluating the Impact of a COPOT Based Pain Treatment Protocol on Opioid Usage in a Cardiothoracic Intensive Care unit

2021-present; Committee Member

Nursing School – PhD Students

Joyce Miketic, RN PhD

University of Pittsburgh School of Nursing

Relationship between Elevated Cardiac Troponin I and Functional Recovery and Disability in Patients after Aneurysmal Subarachnoid Hemorrhage

2007-2010; mentor

Khalil Yousef, RN, PhD

University of Pittsburgh School of Nursing

Elevated Intracranial Pressure Predicts Poor Function and Death after Subarachnoid Hemorrhage

2009-2014; Doctoral student, mentor

2016-2020; Post-Doctoral Scholar, mentor

Mujahid Altamimi, RN, BSN
University of Pittsburgh School of Nursing
2019-2021; mentor

Tara Davis, RN, BSN
University of Pittsburgh School of Nursing
2019-2021; mentor

Nursing School – Graduate Students

John James, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2002, mentor/instructor

Michelle Fails, RN, BSN
University of Pittsburgh, Graduate student
Effect of preexisting cardiac disease on cardiac complications, angiographic vasospasm and neurological deterioration following subarachnoid hemorrhage
2003: mentor

Ray Pentz, RN, BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2004, mentor/instructor

Melissa Fike, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2005, mentor/instructor

Jeanie Miller, RN, BSN
Duquesne University School of Nursing
Research Practicum CRNP
2005; mentor/instructor

Michelle Kaus, RN, BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2006, mentor/instructor

Lauren Korn-Naveh, RN BSN
University of Pittsburgh School of Nursing Graduate Student
Myocardial Dysfunction after Acute Aneurysmal Subarachnoid Hemorrhage: Case Studies
2007; mentor/instructor

Jason Hamilton, RN BSN
University of Pittsburgh School of Nursing Graduate Student
Myocardial Dysfunction after Acute Aneurysmal Subarachnoid Hemorrhage: Case Studies
2007; mentor/instructor

Heather Butler, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2008, mentor/instructor

Kristen Svardi, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2008, mentor/instructor

April Brewster, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2008, mentor/instructor

Lisa Matelan, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
2009, mentor/instructor

Kristin Adkins, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
Correlation Between Emergency Department Symptoms and Clinical Outcomes in the Patient with Aneurysmal Subarachnoid Hemorrhage
2009, mentor/instructor

Kelly Kerris, RN BSN
University of Pittsburgh School of Nursing Anesthesia Research Project
The Effect of Beta Blockers and Ace Inhibitors on Cardiac Abnormalities after Aneurysmal Subarachnoid Hemorrhage
2009, mentor/instructor

Thomas Price, BS
University of Pittsburgh Graduate research student
Impaired Work Productivity Following Aneurysmal Subarachnoid Hemorrhage
2012; Mentor

Grace Mallampalli RN, BSN
University of Pittsburgh Research Practicum
Elevated Plasma Estradiol is Associated with Global Longitudinal Strain after aSAH.
2017; Mentor

Nursing School – Honors Students

Amber McAteer, RN, BSN
The Relationship Between BNP, Neurocardiac Injury Severity, Noninvasive Cardiac Output, and Outcomes After Aneurysmal Subarachnoid Hemorrhage
2015-2015
Committee Member

Eleanor Turi, RN, BSN
Psychosocial Co-Morbidities Related to Return to Work Following Aneurysmal Subarachnoid Hemorrhage
2014-2016
Committee Member

Nursing School – Undergraduate Students

Ian Condon
Undergraduate Research project and presentation
Comparison of Coiling Verses Clipping on 6-Month Outcomes Following Subarachnoid Hemorrhage
2002; Mentor

Lauren Rissman
Undergraduate Research project manuscript development
2008; Mentor

Nicole Roselli

Undergraduate research student
2010; Mentor

Thomas Horsfall
Undergraduate student Clinical Neuroscience
Abstract Development
2013; Mentor

Allison O'Handley
Undergraduate research student
Podium presentation NCUR-Age and Gender Influence Survival after aSAH
2015-2018; Mentor

Albert Chandler Lee
Undergraduate research student
Global Longitudinal Strain May Be a Determinant of Quality of Life After Subarachnoid Hemorrhage
2018; Mentor

Emma Slas
Undergraduate research student
Podium presentation NCUR-The Association Between Plasma Estrogen, Neurocardiac Injury and Outcomes after Aneurysmal Subarachnoid Hemorrhage
2015-2019; Mentor

Amanda Greenwald
Undergraduate research student
Podium presentation NCUR-The Association Between Fatigue and Functional Outcomes after Aneurysmal Subarachnoid Hemorrhage
2019-2020; Mentor

Lauren Meyer
Undergraduate research student
2021-present
Mentor

Service

University of Pittsburgh School of Nursing

2008-2014	CPR Instructor
2015-present	BSN Council
2021	Clinical Competency revision task force
	Clinical Judgement Crosswalks
2016	Grant Reviewer Leslie Hoffman Scholarship Award
2016	Kazakhstan Professional Development Program Module 7: Care of the Hospitalized Patient -Assigned to unit 8 - Care of the patient with altered mental status and Unit 12 - care of the patient with trauma. The modules were formatted to consist of 30 hours of lecture with power points and 30 hours of learning activities to accompany the lectures.
2017-present	Faculty Practice Committee
2019-2022	Chair
2018-present	PhD Committee
2021-present	ATC Department Representative
2021-present	Holistic Admission Task Force
2019-present	Honors Committee

2021 Internal Research Funding Grant Reviewer

University of Pittsburgh Medical Center

2012-2015 Aneurysm Support Group, Pittsburgh Pa
2021-present Co-Primary Investigator/ Faculty consultant, - Shadyside Hospital study:
An Evaluation of Sleep Patterns in Hospitalized Patients
2020-present Consultant (Pease, PI; Neurological Surgery UPMC) – Development of a
Clinical Prediction Model of Vasospasm after aSAH Using Data Science
Techniques

Mutual Aid Ambulance Service

2022-present Dean, Paramedic Program
Mutual Aid-Excelsa Health Paramedic Training Center
2021-present Board Member – elected/appointed for 2-year term
Chair Health Safety and Training Committee
Member Personnel, Operations, Facility, Feasibility Committees

Community

1990-2010 Lecturer for the Pennsylvania State Police Camp Cadet on TBI, drinking
and driving
1990- 2010 Guest lecturer at various schools and community groups on trauma and
drunk driving
1990-present Yearly Paramedic Instruction at Mutual Aid Ambulance Service,
Greensburg, Pa: Neurological Emergencies, Toxicology, Hematology,
Immunology, Endocrinology, ACLS and PALS
2001-2010 Hempfield School District health fairs and job fairs
2001-present Community CPR and First Aid Instructor
2007-2020 Participate in Annual Comcast Cares activities in local community
2012-present Parish nurse CUMC Youngwood (appointed - not certified)
2015-present Westmoreland County Food Bank Volunteer