

THE WRIGHT STATE – LAKE CAMPUS 2018 – 2019 SCHOLARLY REVIEW



* ANNUAL RESEARCH REPORT (2018)

* RESEARCH SYMPOSIUM PROGRAM (2019)

Lake Campus Research Report - 2018

Research Initiative Program Overview

The Lake Campus is home to numerous technical, associates, bachelors, and graduate programs. These programs are run across a student population of approximately 1,500 students and facilitated by approximately 40 full time faculty. The scholarly achievements contained in this report represent faculty's commitment to pedagogy and their areas of study as they contribute to their classrooms, disciplines, and community.

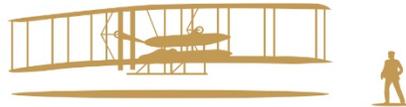
The Lake Campus Research Initiative provides a unique campus framework to encourage scholarship of faculty and students. The program is designed to help drive scholarly production by providing monies for research infrastructure, supplies, travel, and publishing costs as well as sponsoring events that contribute to the campus research mission.

The Lake Campus Research Coordinator is pleased to present the fourth annual Lake Campus Scholarly Review. This report provides a listing of the scholarly endeavors from Lake Campus during the 2018 calendar year spanning across disciplines. Congratulations to Lake Campus for their success and much encouragement for the future.



Strategic Highlights from 2018

- The third annual Lake Campus Research Symposium was held in Dicke Hall. The event grew to be centered around well over 30+ research projects presented by 75+ faculty and students and was attended by over 250 people from the campus community.
- The internal grants and scholarly expenses program that was launched in 2015 continued to provide research support to both faculty and students. This research support since 2015 has served as the impetus for numerous publications, professional presentations, and externally funded proposals.
- Research and teaching related workshops specific to getting students involved in projects, building proposals, writing research papers, and identifying grant support were also held again this year.
- For the third year in a row, faculty and faculty mentored students produced over 100 units of research - spanning peer reviewed journal articles, contracts and grants, books, book chapters, book reviews, novelettes, reference works, short fiction works, plays, and scholarly presentations.



WRIGHT STATE UNIVERSITY

LAKE CAMPUS

Mission of the Lake Campus Research Initiative:

To advance scholarship and encourage lifelong learning of students and faculty by providing access to project funding, facilitating project resources and support, and hosting the Annual Research Symposium.

Research Articles

- Attariani H, Rezaei SE, Momeni K. *Accepted – In Press*. Mechanical Property Enhancement of One-dimensional Nanostructures through Defect Mediated Strain Engineering. *Extreme Mechanic Letters*.
- Attariani H, Rezaei SE, Momeni K. 2018. Defect Engineering, a New Path to Make Ultra-High Strength Low-dimensional Nanostructures. *Computational Material Science* 151: 307-316.
- Cavanaugh J, Huelskamp D. *Accepted – In Press*. College Grad Seeking Employment: How to Help Students Succeed with a Job Fair. *The Association for University Regional Campuses of Ohio (AURCO) Journal*.
- Daniel D. *Accepted*. The Authenticity of Paracelsus's *Astronomia Magna* and *Brief an die Wittenberger Theologen*: Toward a Diagnostic Rubric Clarifying Authentic and Spurious Elements in Paracelsus's Oeuvre on the Basis of Theological Motifs. *Pseudo-Paracelsus Alchemy and Forgery in Early Modern Medicine and Natural Philosophy*.
- Doll JC, Jacquemin SJ. 2018. Introduction to Bayesian Modeling and Inference for Fisheries Scientists. *Fisheries* 43(3): 152-161.
- Ebersole J, Jacquemin SJ. 2018. A Late Miocene (Hemphillian) freshwater fish (Osteichthyes) fauna from Mobile County, Alabama, USA. *Historical Biology*: 1-14.
- Follo G. 2018. Autoethnography: Examining Gender and Body in Martial Arts. *SAGE Research and Methods Cases*.
- Follo G. 2018. On the Road to Redemption and Recovery: How Feminist Self-Defense Supports Empowerment and Life Skills Goals. *Journal of Behavioral and Social Sciences* 4 (4).
- Hochstein DD. *Accepted – In Press*. Student Attitudes and Anxiety for Online Practice Quizzes. *The Association for University Regional Campuses of Ohio (AURCO) Journal*.
- Hochstein DD. 2018. The Effects of Course Type and Participant Characteristics on College Students' Studying Time. *The Association for University Regional Campuses of Ohio (AURCO) Journal* 24: 105-128.
- Jacquemin SJ, Johnson LT, Dirksen, TA, McGlinch G. 2018. Changes in Water Quality of Grand Lake St. Marys Watershed Following Implementation of a Manure Application Ban. *Journal of Environmental Quality* 47(1): 113-120.

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- Junker C. *Accepted – In Press*. Writing Habitability: Disability, Bodies, and Space in Wallace Stegner's *Angle of Repose*. *Studies in Humanities*.
- Junker C. *Accepted – In Press*. Introduction to Special Issue on Disability Studies and Ecocriticism. *Studies in Humanities*.
- Kich M. 2018. Richard Powers and the Postmodern Novel of the Ideas: Part 2: The First Four Novels. *Texture*.
- Kich M. *Accepted – In Press*. Richard Powers and the Postmodern Novel of the Ideas: Part 3: The First Four Novels. *Texture*.
- Li L, Wang WS, Shin E, Subramanyam G. 2018. Tunable Inductors Using Integrated Vanadium Dioxide Phase Change Thin Films. *Advances in Condensed Matter Physics*: 1-7.
- Mitchell MG, Ciampaglio CN, Jacquemin SJ. 2018. Convergent Evolution in Tooth Morphology of Filter Feeding Lamniform Sharks. *Southeastern Geology* 53(2).
- Nichols C, Smith A, Huelsman S, Schemmel C, Doll JC, Jacquemin SJ. 2018. Preliminary Understanding of Complexities in Swimming Performance of Common Minnow (Cyprinidae) Taxa. *The Ohio Journal of Science* 118(2): 16-24.
- Shin E, Pan K, Wang WS, Subramanyam G, Vasilyev V, Leedy K, Quach T. 2018. Tungsten-doped Vanadium Dioxide Thin Film Based Tunable Antenna. *Materials Research Bulletin* 101: 287-290.
- Simons CW, Hall C, Vatansever S. 2018. Production of resistant starch (RS3) from Edible Bean Starches. *Journal of Food Processing and Preservation* 42: 1-6.
- Vandegrift G, Stommel J. 2018. A Card Game for Bell's Theorem and its Loopholes. *WikiJournal of Science* 1.1.
- Yakopcic C, Wang S, Wang WS, Shin E, Boeckl J, Subramanyam G, Taha TM. 2018. Filament Formation in Lithium Niobate Memristors Supports Neuromorphic Programming Capability. *Neural Computing and Applications* 30(12): 3773-3779.
- Wilson DH. 2018. William S. Burroughs. *Entropy Magazine*.
- Wilson DH. 2018. Repo Man. *Oxford Bibliographies*. Oxford: Oxford University Press.
- Zhang W. *Accepted – In Press*. A Uniformly Convergent Numerical Method Using Weak Formulation for Singularly Perturbed Differential Equations. *Journal of Mathematics and System Science*.

Technical Reports

- Jaynes D, Reinhart B, Hay C, Isenhardt T, Jacquemin SJ, Kjaersgaard J, Nelson K, Utt N. 2018. Questions and Answers About Saturated Buffers for the Midwest. Transforming Drainage Extension Publication (ABE-160). *Purdue University*.
- Jacquemin SJ, Pheasant Forever. 2018. Four Mile Creek Agriculture Runoff and Retention Project. Brochure. *Pheasants Forever*.

Books and Edited Collections

- Ebersol JA, Cicimurri DJ, Jacquemin SJ, Stringer GL, Ciampaglio CN. *Forthcoming - Editorial Review and Press*. Fossil Sharks and Bony Fishes of Alabama. Book, *University of Alabama Press*.
- Wilson DH. *In Press - 2020*. *Outré*. Novel. Raw Dog Screaming Press.
- Wilson DH. *In Press - 2019*. *The Psychotic Dr. Schreber*. Fiction & Theory. Stalking Horse Press.
- Wilson DH. 2018. *Natural Complexions*. Fiction & Docufiction. Equus Press.

Book Chapters, Short Fiction, and Articles in Collections

- Faragher M. *In Press - 2019*. The Fourth 'R' is Rooted Belief: Rex Warner and the Politics of Revisionist Classicism. *Literature & History*.
- Faragher M. *In Press - 2019*. Big Data and Universal Design in *The Home Market. Humans at Work in the Digital Age: Forms of Digital Textual Labor*. Eds.
- Faragher M. 2018. Celetoids and the City: Tabloidization of the Working Class in *White Teeth* and *Lionel Asbo: State of England*. *Twenty-First Century Fiction and the City*.
- Kich M. 2018. Michigan. *State by State History of Race and Racism in the United States*. Santa Barbara, California: Greenwood.
- Kich M. 2018. The Murder of Vincent Chin. *25 Events That Shaped Asian American History*. Santa Barbara, California: ABC-CLIO.

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- Kich M. 2018. On a Forgotten Front: *Miracle at St. Anna* and the Fiction of the Italian Front during World War II. *James McBride*. Critical Insight Series. Ipswich, Maryland: Gray House/EBSCO.
- Kich M. 2018. Reading James McBride: A Literature Review of the Secondary Sources in His Works. *James McBride*. Critical Insight Series. Ipswich, Maryland: Gray House/EBSCO.
- Kich M. 2018. Unlikely Witnesses to Conclusive and Consternating History: The Narrators of James McBride's *The Good Lord Bird* and Thomas Berger's *Little Big Man*. *James McBride*. Critical Insight Series. Ipswich, Maryland: Gray House/EBSCO.
- Wilson DH. 2018. Velvet Sunshine. *Die Novelle*. Issue 8.
- Wilson DH. 2018. The Shape of Daylight. *555: Volume 4*. Chicopee: Carrion Blue 555.

Book Reviews and Literary Critiques

- Faragher M. *In Press* - 2019. Review of *The Politics of 1930s British Literature: Education, Class, Gender*. *George Orwell Studies*.
- Junker C. *Accepted – In Press*. Review of “*Disability Studies and the Environmental Humanities: Toward an Eco-crip Theory*”. ISLE: Interdisciplinary Studies in Literature and Environment. <https://doi.org/10.1093/isle/isz014>.
- Wilson DH. *In Press* - 2019. Review of *Applied Ballardianism: Memoirs from a Parallel Universe*, by Simon Sellars. *Foundation: The International Journal of Science Fiction*.
- Wilson DH. *In Press* - 2019. Experimental (Auto). Review of *Room to Dream*, by David Lynch and Kristine McKenna. *Extrapolation* 60.1.
- Wilson DH. 2018. Review of *The Asylum of Dr. Caligari*, by James Morrow. *Foundation: The International Journal of Science Fiction*.
- Wilson DH. 2018. Biography of the Last Angry Man. Review of *A Lit Fuse: The Provocative Life of Harlan Ellison*, by Nat Segaloff. *Extrapolation* 59.3.
- Wilson DH. 2018. Review of *Deleuze and Baudrillard: From Cyberpunk to Biopunk*, by Sean McQueen. *Journal of Science Fiction Film & Television*. 11.3.

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- Wilson DH. 2018. SF Key Works by Authors, Editors, and Critics. Review of *Science Fiction Criticism: An Anthology of Essential Writings*, ed. By Rob Latham. *Extrapolation* 59.1: 109-10.
- Wilson DH. 2018. Biopunk SF in Liquid Modernity. Review of *Biopunk Dystopias: Genetic Engineering, Society and Science Fiction*, by Lars Schmeink. *Extrapolation* 59.1: 118-21.

Conference Presentations and Proceedings

- Attariani H, Momeni K, Rezaei E. 2018. Novel Intrinsic Phase Transition and Strengthening in Low-dimensional Nanostructures Through Defect Engineering. *MACH Conference*, Hopkins Extreme Materials Institute - Annapolis, Maryland.
- Cavanaugh J, Huelskamp D. 2018. Does the Major Matter? *24th Annual Association for University Regional Campuses of Ohio (AURCO) Conference*, The Ohio State University – Mansfield, Mansfield, Ohio.
- Ciampaglio CN, Clayton AA, Fuelling LJ, Cobb C. 2018. Preliminary Optimization of the Aqueous Formic-Acid Solution Formulation and Dissolution Procedures used in the Removal of Fossil Vertebrate Material for Carbonate Rocks. *Annual National Geological Society of America Conference*, Indianapolis, Indiana. Published Abstract Vol. 50.
- Ciampaglio CN, Clayton AA, Fuelling LJ, Poore P. 2018. Consolidation of Unconsolidated and Soft Sediments for use in Thin Section and Core Analysis. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Clayton A, Ciampaglio CN. 2018. Faunal Description and Analysis of Fossiliferous Lag Layer Identified Along the Clapp Creek Tributary in Williamsburg County, South Carolina. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Clayton A, Ciampaglio CN, Fuelling LJ, Cobb C. 2018. Acidic Breakdown of Calcium Carbonate Rich Sedimentary Rocks. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.

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- Clayton A. 2018. Consolidation of Unconsolidated and Soft Sediments for Use in Thin Section and Core Analysis. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Clayton A. 2018. Acidic Breakdown of Calcium Carbonate Rich Rocks. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Clayton A. 2018. Kingstree, SC. An Investigation into Two Bone Rich Layers. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Daniel D. 2018. Paracelsus vs. the Mauerkirche: Inter-Confessional Paracelsianism and Its Seventeenth-Century Detractors. *Sixteenth Century Society and Conference*, Albuquerque, New Mexico.
- Daniel D. 2018. Paracelsus and His Religious Legacy: Radical Theology and Spiritualism in Interconfessional Paracelsianism. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Daniel D. 2018. Lake Campus International Programs. *UCIE Brown Bag Lunch*, Wright State University Dayton Campus, Dayton, Ohio.
- Faragher M. 2018. The Scale of Public Opinion: Utopianism and Polling in Olaf Stapledon and H.G. Wells. *Modernist Studies Association Conference*, Columbus, Ohio.
- Faragher M. 2018. Pride in the British Achievement: Propaganda and Minutiae in *Britain in Pictures*. *The Space Between Society Conference*, University of Northern Colorado – Greeley, Colorado.
- Faragher M. 2018. Pride in the British Achievement: *Britain in Pictures* and the Quantification of Propaganda. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Faragher M. 2018. Camp Fascism: Isherwood's Arthur Norris and the Aestheticization of Politics. *Modern Language Association Conference*, New York City, New York.
- Follo G. 2018. Body Empowerment Leads to Body Liberation. *The Society for the Study of Social Problems*, Philadelphia, Pennsylvania.
- Follo G. 2018. The Development of 'I ROCK' Kids Empowerment Program: The First Two Years. *The Society of Social Problems Annual Meeting*, Philadelphia, Pennsylvania.

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- Hochstein DD. 2018. The Effects of Course Type and Participant Characteristics on College Students' Studying Time. *24th Annual Association for University Regional Campuses of Ohio (AURCO) Conference*, The Ohio State University – Mansfield, Mansfield, Ohio.
- Fulks M. 2018. The 'P' Word: Parents. Developing a Better Relationship with Your Students' Parents. *Ohio Middle Level Association State Conference*, Sandusky, Ohio.
- Fullks M. 2018. The Top 10 Things Middle School Students Wish You Knew. *Ohio Middle Level Association State Conference*, Sandusky, Ohio.
- Huelskamp D. 2018. Teaching Cell Organelles Game-Style Using 3D Printing. *Ohio Middle Level Association Regional Workshop*, Wright State University - Lake Campus, Wright State University – Lake Campus, Celina, Ohio.
- Huelskamp D, Cavanaugh J. 2018. What Characteristics Are Important to Job Interviewers? *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Hoenig MMJ, Ciapaglio CN. 2018. Additional Vertebrates from the Carboniferous Burlington-Keokuk Bone Bed of the Illinois Basin. *Annual National Geological Society of America Conference*, Indianapolis, Indiana. Published Abstract Vol. 50.
- Hoenig MMJ, Shell RC, Ciampaglio CN. 2018. Spatial Variation and Diversity in Chondrichthyan Assemblages within the Burlington-Keokuk Bone Bed (Mississippian, Viséan). *Annual National Geological Society of America Conference*, Indianapolis, Indiana. Published Abstract Vol. 50.
- Hoenig MMJ, Shell RC, Ciampaglio CN. 2018. Telescoping in a Cephalopod Assemblage from the Maquoketa Formation (Ordovician). *American Geophysical Union National Meeting*, Washington D.C.
- Jacquemin SJ. 2018. Changes in Grand Lake St. Marys Watershed: Moving Towards an Improved Understanding of Water Quality Over the Past Decade. *Watershed and Water Management, North American Lake Management Society*, Cincinnati, Ohio.
- Jacquemin SJ. 2018. Changes in Grand Lake St. Marys Watershed: Moving Towards and Improved Understanding of Water Quality Over the Past Decade. *Indiana Certified Crop Advisor Conference*, Purdue University, Indianapolis, Indiana.
- Jacquemin SJ. 2018. Changing Nutrients and Water Quality in Grand Lake St. Marys Watershed Over the Past Decade. *Emerging Ag Conference*, Wright State University – Lake Campus, Celina, Ohio.

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- Jacquemin SJ, Poore P, McDonald G, Birt J, Driksen T. 2018. Constructed Wetlands and Nutrient Removal in Grand Lake St. Marys Watershed. *Special Section on Ecological Engineering of Sustainable Landscapes to Protect Downstream Aquatic Ecosystems, North American Lake Management Society, Cincinnati, Ohio.*
- Jacquemin SJ, Poore P, Mazzone N, Ricketts T, Gnau N. 2018. Nutrient Removal Potential of Constructed Wetlands in Grand Lake St. Marys Watershed. *The Ohio Journal of Science Abstracts with Programs 118(1)*, Bowling Green State University, Bowling Green, Ohio.
- Jacquemin SJ. 2018. Improving Grand Lake St. Marys Using Watershed Management Approaches. *Stormwater Management & Design Seminar, Norton Engineering, Piqua, Ohio.*
- Jacquemin SJ. 2018. Long Term Trends and Improvements in Water Quality of Grand Lake St. Marys Watershed. *Conservation Tillage & Technology Conference (26th Annual Conference)*, Ohio Northern University, Ada, Ohio.
- Jacquemin SJ. 2018. Long Term Changes in Water Quality of Grand Lake St. Marys. *Ohio Federation of Soil & Water Conservation Districts 75th Annual Partnership Meeting*, Columbus, Ohio.
- Momeni K, Attariani H, LeSar R. 2018. Size-Extreme Loading Duality in Low-dimensional Materials. *MACH Conference*, Hopkins Extreme Materials Institute - Annapolis, Maryland.
- Peterman DJ, Ciampaglio CN, Barton CN. 2018. The Hydrostatics of Paleozoic Orthoconic Cephalopods (Nautiloidea) with Implications for Early Colonization of the Pelagic Zone. *Annual National Geological Society of America Conference*, Indianapolis, Indiana. Published Abstract Vol. 50.
- Nathan H, Simons CW. 2018. Color Evaluation of Canned Black Beans. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Peterman DJ, Ciampaglio CN, Barton CN. 2018. How Stable were Orthoconic Cephalopods? Hydrodynamic Analyses of Restoring Moments from Neutrally Buoyant, 3D Printed Models of Ectocochleate Cephalopods. *Annual National Geological Society of America Conference*, Indianapolis, Indiana. Published Abstract Vol. 50.

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- Shell RC, Ciampaglio CN. 2018. Hybodont Sharks as Linkages between Terrestrial and Marine Food Webs in the Permian Period. *Annual National Geological Society of America Conference*, Indianapolis, Indiana. Published Abstract Vol. 50.
- Shell RC, Ciampaglio CN. 2018. Early Permian Marine Vertebrate Communities of the Borth American Great Plains. *Annual National Geological Society of America Conference*, Indianapolis, Indiana. Published Abstract Vol. 50.
- Shell RC, Ciampaglio CN. 2018. Permian Eugenodont “Shark” Distributions in North America. *American Geophysical Union National Meeting*, Washington D.C.
- Simons CW, Nathan H. 2018. Effect of Pinto Bean Starch Fortification on Bread Texture and Glycemic Index. *AACC International Conference*, London, UK.
- Simons CW, Nathan H. 2018. Process for Making Resistant Starch from Pinto Beans. *AACC International Conference*, London, UK.
- Simons CW, Nathan H. 2018. Effect of Pinto Bean Starch Fortification on Bread Texture and Glycemic Index. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Simons CW, Nathan H. 2018. Process for Making Resistant Starch from Pinto Beans. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Simons CW. 2018. Instructional Design for Online Learning. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Simons CW. 2018. Competency-Based Education: A New Pedagogical Model. *Lake Campus Annual Research Symposium*, Wright State University – Lake Campus, Celina, Ohio.
- Yang Z, Johnson M. 2018. Velocimetry Based on Dye Visualization for a Pulsatile Tubing Flow Measurement. *Dayton Engineering Sciences Symposium*, Wright State University – Dayton Campus, Dayton, Ohio.
- Zhang W. 2018. Mathematical Constant ϕ . *24th Annual Association for University Regional Campuses of Ohio (AURCO) Conference*, The Ohio State University – Mansfield, Mansfield, Ohio.
- Zhang W. 2018. A Numerical Method Using Weak Formulation for Singular Perturbation Problems. *Ohio River Analysis*, University of Kentucky - Lexington, Kentucky.

Contracts and Grants

- Attariani H. 2018. Shape Shifting Robot. Amount: \$500. Funding Source: Lake Campus Research Initiative.
- Attariani H. 2018. Spherical Robot Phase II. Amount: \$1,000. Funding Source: Western Ohio Educational Foundation.
- Attariani H. 2018. Crystallography Software. Amount: \$1,159. Funding Source: Lake Campus Research Initiative.
- Clayton A. 2018. Taphonomic Examination of Vertebrate Material in Soft Rock Construct. Amount: \$778.92. Funding Source: Lake Campus Research Initiative.
- Clayton A. 2018. Student Employment and Work Study in the Sciences. Amount: \$1,500. Funding Source: Lake Campus Research Initiative.
- Clayton A. 2018. Promotional Material for the ISS Program. Amount: \$500. Funding Source: Western Ohio Educational Foundation.
- Crites B. 2018. STEM Camp. Amount: \$1,000. Funding Source: Donation.
- Crites B. 2018. Working with Kindergarten, 2nd Grade, and Big Brothers Big Sisters of Mercer Auglaize Counties (year 2 of 3 years). Amount: \$8,000. Funding Source: First Inspire.Org Jr. Lego League Grant.
- Crites B. 2018. Working with Kindergarten, 2nd Grade, and Big Brothers Big Sisters of Mercer Auglaize Counties (year 3 of 3 years). Amount: \$8,000. Funding Source: First Inspire.Org Jr. Lego League Grant.
- Crites B, Richter T, Ciampaglio C. 2018. 3-D Printing is Changing the Possibilities of Classroom Learning (in conjunction with Science and Graphics). Amount: \$2,000. Funding Source: Lake Campus Research Initiative.
- Crites B. 2018. STEM at the Lake 2 Day Summer Camp. Amount: \$1,000. Funding Source: Mercer County Civic Foundation.
- Crites B. 2018. STEM Resource Books. Amount: \$200. Funding Source: Western Ohio Educational Foundation.
- Crites B. 2018. Awards for Science Day. Amount: \$150. Funding Source: Western Ohio Educational Foundation.
- Daniel D. 2018. Lake Campus Student 2019 Study Abroad Tour of Ireland and Northern Ireland. Amount: \$1,500. Funding Source: Western Ohio Educational Foundation.

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- Faragher M. 2018. Research Funds for Book Project: *The Psychographic Turn*. Amount: \$2,000. Funding Source: Lake Campus Research Initiative.
- Franck L. 2018. Equipment for Nursing Lab-Laerdal Sim Mom and Baby Birthing Simulator. Amount: \$100,000. Funding Source: Rapids II Grant.
- Franck L. 2018. CPR Training Equipment. Amount: \$1,500. Funding Source: Western Ohio Educational Foundation.
- Follo G. 2018. Data management. Amount: \$416.77. Funding Source: Lake Campus Research Initiative.
- Hance D. 2018. Lake Campus Student Centered Mini Grant for an Autonomous Vehicle Project. Amount: \$200. Funding Source: Lake Campus Research Initiative.
- Hance D. 2018. Programmable Logic Controller Trainer System Development. Amount: \$1,250. Funding Source: Western Ohio Educational Foundation.
- Hance D. 2018. Lake Campus Student Centered Mini Grant for Robotic Engineering Research at the University of Applied Sciences, Jena, Germany. Amount: \$500. Funding Source: Lake Campus Research Initiative.
- Jacquemin SJ, Westrick J. 2018. Collection of Fish Tissue from Grand Lake St. Marys Fish Assemblage to Test for Microcystin Accumulation. Amount: \$5,471. Funding Source: CURES Pilot Project Program.
- Jacquemin SJ, Dirksen T. 2017-2018. Nutrient and Sediment Retention Potential of Treatment Trains in the Grand Lake St. Marys Watershed. Amount: \$62,646. Funding Source: Mercer County and St. Marys Community Foundations.
- Jacquemin SJ, McGlinch G, Dirksen T. 2017-2019. Maumee River Sediment and Nutrient Reduction Project. Nutrient and Sediment Retention Potential by Controlled Pond and Riparian Tile Buffer Systems. Amount: \$96,783. Funding Source: Ohio EPA, Great Lakes Restoration Initiative (GLRI).
- Vandegrift G. 2018. Software Development for Printing Wikiquizzes. Amount: \$1,700. Funding Source: Western Ohio Educational Foundation.
- Wang WS. 2018. Regional Schools and University Collaboration with STEM Research and Competitions. Amount: \$1,200. Funding Source: Lake Campus Research Initiative.
- Wang WS. 2018. Autonomous Vehicles for Multivehicle Team Competition. Amount: \$1,500. Funding Source: Western Ohio Educational Foundation.

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- Wang WS. 2018. Autonomous Material Handling Vehicle. Amount: \$500. Funding Source: Lake Campus Research Initiative.
- Wang W, Johnson M, Attariani H, Hance D, Jacquemin SJ. 2018. Design and Development of a Customizable and Low-Cost Water Quality Monitoring Platform for Grand Lake St. Marys. Amount: \$2,000. Funding Source: Lake Campus Research Initiative.



Lake Campus Research Symposium - 2019

Event Program



April 18, 2019

Dicke Hall

11:00 am - 1:30 pm

Research Symposium Overview

The Lake Campus Research Committee is pleased to present the fourth annual Lake Campus Research Symposium. The Lake Campus Research Symposium provides an opportunity for the campus to showcase the scholarly achievements of faculty and students and represents one of the pillars of the Lake Campus Research Initiative. The presentations in the symposium demonstrate faculty and student commitment to pedagogy and their respective disciplines as they advance classrooms, study areas, and community. Congratulations to Lake Campus faculty and students for their success and much encouragement as they continue in the future.

2019 Symposium Presentation Abstracts

- Albers A, Post J, Stallings R, Campbell N, Tuttle M. 2019. Spherical Robot Project.
Here, we designed and fabricated a novel spherical robot for application in precision agricultural. The proposed robot can be used to collect the necessary data for agricultural purposes-e.g. temperature, humidity, location, and live streaming. The Spherical robots are lightweight and can traverse rough terrain without significant impact on the soil. Also, this low-cost robot provides a stable platform for data acquisition equipment. Farmers would use gathered data to yield a better crop; accessing data like humidity and temperature of the field helps farmers to predict soil degradation.
- Brown A, Brown C, Goulet T. 2019. Do Poor Eating Habits of College Students Influence Incidence of Diabetes?
Our study details the following PICOT question: "In college students who have poor eating habits, how does eating healthy compared to eating unhealthy influence the rate of diabetes during the course of a four-year term?" During college, students tend to have less time to worry about eating and want more time to study. When prioritizing self-care in college, healthy diets are generally the last priority, which can have an effect on many things including the overall health of a student.

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- Bruns A, Hess C, Kiel K, Hager M. 2019. Hispanic American Culture and Healthcare.

Hispanic Americans make up the largest minority group in the United States and are expected to grow even more in the next couple of years. Hispanics are a religious and family oriented culture, so their Christian faith must be considered when providing care to them. Some Hispanics often adapt to the American diet lifestyle placing them at a greater risk for obesity, diabetes, and other chronic diseases. Hispanics also have the highest dropout rate in high school and college, which could essentially affect the way healthcare providers educate the patient. This presentation will focus on healthcare practices and other important factors of the Hispanic culture including history, gender roles, common illnesses, religion, nutrition, aging and death. Since the Hispanic culture is continuing to grow, healthcare providers must have a thorough understanding of how to provide culturally competent care.

- Burd D, Broering D, Puthoff R. 2019. Intelligent Material Handling Vehicle.

Wright State University Lake Campus senior engineering students work in teams to produce a product during a year-long Senior Capstone sequence of courses. For our project, our team of Wright State University Lake Campus senior engineering students designed and fabricated an intelligent material handling vehicle project. Our vehicle can be controlled either remotely or perform functions autonomously. The vehicle is able to lift and transport 5 lb. payloads from a designated pick-up location to a dedicated shipping area. The vehicle is able to pick-up target boxes from heights of zero to 36 inches above the driving surface. This vehicle is intended to show a small-scale version of autonomous warehousing methods. This project is beneficial to both the students and the university. The students were able to experience a full project management and design process, while demonstrating their ability to work as future engineers. The university has gained an exciting project that could entice future students, as well as a future platform for a continued senior design project. Upon completion, the vehicle will be displayed and presented on April 27, 2019 at the Wright State University Dayton Campus at the annual Engineering Showcase.

- Break K, Davis B, Deal S, Grube S, Luchnenko G, Oswald A, Secaur N, Slater B, Vandegrift G. 2019. Creating a Bank So Students Won't "Break the Bank": An Open Source Bank of Exam and Quiz Questions.

In an era where the answer to almost any question is available on the internet, the testing of competencies across various subjects has become increasingly problematic. Additionally, tuition is tens of thousands of dollars when an online textbook barely costs fifty. This diminishes the effort to use technology to significantly reduce the cost of higher education by forcing students to pay to establish their competency in the subject. A partial solution is the creation of a bank of sample questions open to the students and large enough to prevent memorization. This bank could be used as a preliminary exam for entrance to a course; a grading system with a pass fail basis; provide a means for other students to tutor their peers; or even enable students to receive credit for writing the sample questions. In addition to the open bank of questions, each professor could maintain a private bank of questions not available to students.

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- Cavanaugh J, Huelskamp D. 2019. What is AURCO?

AURCO is the acronym for the Association for University Regional Campuses of Ohio. This organization started at the Lake Campus 1993 in response to a state recommendation to convert all university regional or branch campuses into community colleges. The major drive for the establishment of this organization was to strengthen the voice of regional campuses and advance their distinction as complementary campuses to their affiliated universities. AURCO has annual conferences held at different regional campus where faculty and students share ideas and learn from authors and nationally renowned speakers. The AURCO Journal has been in publication since the organizations founding. The journal is peer reviewed and is online in full text on EBSCO. Although the scope of AURCO has grown over the years, the underlining commitment to regional campus faculty, education, and their communities remains at the core of the organization.

- Ciampaglio CN, Clayton AA, Fuelling LJ, Cobb C. 2019. Preliminary Optimization of the Aqueous Formic Acid Solution Formulation and Dissolution Procedures Used in the Removal of Fossil Vertebrate Material for Carbonate Rocks.

The purpose of this study is to investigate the optimization of the formic acid dissolution procedure by: (1) comparing the efficacy of buffered formic acid solution in contrast to unbuffered formic acid solution; (2) preventing formation of calcium formate crystals and increased reaction rate via continual heating and stirring of the acid solution; and (3) determining the effective length of time the acid solution retains the ability to dissolve carbonate matrix. Results found no statistical difference between the number of micro- and microfossil returns in buffered and unbuffered solutions. Carbonate matrix breakdown was most effective when the acid solution was heated and stirred, with no calcium formate crystal formation noted. Analysis of a possible correlation between pH and carbon dioxide levels, when stirring and heating was applied, suggest the effectiveness of the acid solution dropped exponentially, reaching an inert state after approximately two days.

- Ciampaglio CN, Fuelling LJ, Clayton AA. 2019. Improved Imaging of Macro- and Microfossils via Focus-Stacked Photography.

Photography is a vital process in the modern documentation of paleontological finds. Having accurate, in-depth pictures is essential, as certain physical features are often used to identify and categorize specific organismal groups and species. Technological advances in both photography and microscopy have greatly increased the ability of researchers to define traits earlier scientists may have been unable to determine in microscopic and small macro specimens. High-resolution microscopy includes the use of scanning electron microscopes (SEM) and transmission electron microscopes (TEM), which are able to analyze the surface of objects smaller than a nanometer, but require expensive equipment and regular maintenance. The optics, mechanics, and picture resolution of current digital single-lens reflex (DSLR) cameras likewise possess increasingly greater ranges of focus, precision, and detail at a relatively lesser cost, however, photographic detail is restricted by lens type and depth of field. Focus-stacked photography/imaging is a recent technique developed to generate an image of an object entirely in focus from a set of pictures. For this study, utilizing a DSLR camera and attached objective lens, multiple photographs were taken at set distances in order to capture various focal points of the subject. The images were then stacked together in the computer program Helicon Focus 7 to produce a single picture of the

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subject. Focus-stacked images provide excellent depth of field and detail of the subject, while retaining the original color and other aspects that may be lost using other macrophotography techniques.

- Clark T, Doseck T, Greene L, Lautzenheiser C, Marlow B, Wilson A, Ricker J. 2019. The Effects of the Presence of Technology on Cognitive Abilities.

Research is mixed on whether or not memory recall is impaired or strengthened by the presence of technology. The current study attempts to examine how the presence of technology affects working memory during the performance of a cognitive based task. Psychology students from Wright State University—Lake Campus participated in a game of Memory® in the presence of various stimuli. The control group performed the task with no stimuli present, and the two experimental groups had either a non-technological stimulus or a technology-based stimulus. The proposed hypothesis is that the presence of technology will hinder the participants' working memory. Performance will be assessed by recording the total number of flips required to complete the task. More flips would equate to a possible distraction resulting from the presence of technology. With the prevalence of technology in our society, it is important to understand how cognitive abilities are influenced by the presence of electronic stimuli.

- Cobb C. 2019. Exploring the Impact of Microbial Presence on Compost Decomposition.

It is well known that microbial bacteria play a significant role in the decomposition of organic material breakdown within the soil. However, little is known about how significant the role of microbial bacteria is on the composting process when soil is not a factor. This study explores the efficacy of compost decomposition within unadulterated soil in comparison to soil that has been sterilized to eliminate all biotic decomposers. It was found that the lack of biotic decomposers within the soil did not have a significant effect on the mass or rate of loss in the breakdown of green and brown compost. Percent change in mass was most significant within in the first three weeks and then stabilized in the following weeks. It is possible that bacteria (particularly of the genus Actinomycetes) was already prevalent enough within the compost that the absence of biotic decomposers in the soil had no effect on the decomposition rate or mass lost.

- Condon M. 2019. The Negative Impacts Portrayal of Comic Book Characters Have on Adolescents.

Body dimensions in superheroes have been increasing in the last 80 years and show no sign of slowing down. The proposed study is to observe the effects that the portrayal of these heroes can have on boy's body satisfaction. Five-hundred infants will be introduced to superheroes in the form of action figures, cartoons, and comics, and interviewed at different ages about how they feel about their appearance, such as how satisfied they with their appearance are, what they want to look like, what they think they should look like, etc. Afterwards, we will look at the data collected from when they were infants up to 18 years of age, and see how their responses and body dissatisfaction changes over the years. We expect to find a positive correlation between superhero body portrayal (BMI), and body dissatisfaction in males.

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- Daniel A. 2019. Demystifying the Process for Becoming a Learning Organization: A Case Study.

As companies vie for market share in an increasingly dynamic environment, leaders have needed to become more deliberate and creative with regard to steering their organizations. One area of focus for organizational leadership has been related to the thriving, survival and longevity that can be accomplished by Learning Organizations. Senge referred to Learning Organizations as entities that engaged in transformative action in the present to meet anticipated future needs. Senge identified five critical skills that organizations needed to master in order to survive and thrive in a complex world. These skills include personal mastery, shared vision, mental models, team learning, and the fifth discipline, systems thinking. Systems thinking was delineated as the most critical and most elusive of the five disciplines. Without this discipline the organization would be unable to endure the test of time. Watkins and Marsick developed the Dimensions of Learning Organizations Questionnaire in order to measure if indeed organizations were Learning Organizations based on Senge's five disciplines and the way leaders harnessed and leveraged learning within the organization. Although much has been written about the measurement of Learning Organizations, details on the process on how an entity develops into one remains elusive. The descriptive case study is aimed at unearthing some of the people, structure and learning elements that are required for the successful transition from an ordinary firm into a learning organization.

- Daniel D. 2019. The Pseudonymous *Astrologia Theologizata*: Synthesizing Paracelsus and Weigel in Seventeenth-Century Radical Spiritualism.

*To get a sense of the confusing and sometimes contradictory assortment of religious views forwarded by early seventeenth-century followers of Theophrastus Bombast von Hohenheim, or Paracelsus (1493/4-1541)—and thus the conflation between Paracelsus, Valentin Weigel (1533-1588), and pseudonymous authors—one need merely explore a work that was eventually called a pseudo-Weigel publication, namely, the *Astrologia Theologizata*. The original Latin edition was published in Frankfurt by Johann Bringer in 1617. The text presents astrology in a manner very similar to the way in which Paracelsus depicts “astronomy.” Actually, the obviously pseudonymous work attributed to Weigel could have almost equally as well been falsely attributed to Paracelsus, as is readily apparent in a comparison of Paracelsus's concept of astronomy in the *Astronomia Magna* with the pseudographical depiction of ‘astrology’ in the *Astrologia Theologizata*. I am comparing Paracelsus's ‘astronomy’ with Pseudo-Weigel's ‘astrology’ while discussing the creation and characteristics of the influential and controversial spiritualist theology that incorporated elements of both Paracelsus's and Weigel's Christian cosmology.*

- Didier L. 2019. Examining the Effects of Race and Having an Incarcerated Parent on Children.

This proposed study is designed to examine the effects of having an incarcerated parent on the children of those parents. Participants will be interviewed to assess their levels of anxiety, depression, guilt, etc. Additionally, relationships with family and peers will be examined along with school performance. Interviews with the children's teachers and adult caregivers will also be conducted. A focus will be given to the African American community due to the current disproportionate rates of African Americans in the United States' prison system, with White children acting as the control. It is expected that the children of incarcerated parents will show higher

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levels of anxiety, depression, guilt, etc. when compared to children without an incarcerated parent. It is also expected that the children with an incarcerated parent will face more difficulties in school as well as in familial and peer relationships.

- Ewing C, Kinney B, Axe B, Danylchuk H, Grube S, Senger Z, Posada A, Schmursal D, Jacquemin SJ. 2019. On the Potential for Wetlands to Remediate Harmful Pathogenic Fecal Coliform Bacteria from Stream Waters.

*Wetlands are increasingly becoming a cornerstone of stream remediation in the highly eutrophic regions of the Midwestern United States. Wetlands have numerous advantages over other technologies as they incorporate natural biological process resultant from plants and bacteria while also providing an increase in wildlife habitat and greenspaces rather than relying on costly and technologically complex processes to treat waterways. The capacity for wetlands to remediate nutrients and improve water clarity is well established. However, less is known about their potential to affect changes in the pathogenic microbial communities (such as *E. coli*) commonly associated with runoff in agricultural areas with high populations of livestock and manure runoff. The objective of our research study was to assess remediation potential by quantifying stream bacterial concentration of fecal coliforms before and after flowing through a wetland. Our research was conducted in Grand Lake St Marys watershed and has implications for stream water quality, lake water quality, as well as public exposure through recreation and drinking water. The study is currently ongoing and will consist of weekly monitoring for a one year period (2019-2020). Preliminary results from spring 2019 indicate a majority reduction in bacterial load, suggesting positive potential for wetland remediation of fecal coliforms in waterways.*

- Faragher M. 2019. Ministries and Moles: Literary Information Networks at the Ministry of Information.

*This poster articulates the relationship between two wartime novelists – Cecil Day-Lewis and Elizabeth Bowen – and the Ministry of information during World War II. Both authors were sought to provide information to the Ministry regarding home front morale. While Day-Lewis took on a role at the Ministry of Information in the Publications Division, Elizabeth Bowen took an informal role, sending letters to the Ministry of Information indicating Irish public opinion on England’s wartime policies. Despite their differing interactions with the MOI, both authors incorporate discussion of the institution’s home front policies covert in their fiction. Writing under the nom de plum Nicholas Blake, Day-Lewis’ wartime detective novels consistency register the strategies through which the Ministry of Information collects morale data, even incorporating ‘observers’ that recorded civilian discussions about wartime policy and sent them to the Ministry. Likewise, Bowen’s novel *The Heat of the Day* dramatizes the type of informational policies the Ministry pursued during the war. This poster will demonstrate the policies of MOI and its emergence in the fiction of Cecil Day-Lewis and Elizabeth Bowen.*

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- Felver C, Will B, Meckstroth C, Benanzer T, Stammen T, Jacquemin SJ. 2019. Design and Implementation of a Swimming Performance Chamber for Ecological Research.

Proliferation of stream flow alterations on a global scale via dams and modifications of existing waterways have created fragmented habitats which reduce the spatial distribution potential of aquatic organisms. Habitat fragmentation as a result of flow alterations away from the natural flow regime has had a drastically negative effect on fish species globally. The way to solve this problem is to create waterways where fish can travel through, thus facilitating population increases of specific fish across a wider distribution. However, this solution is predicated on the availability of basic swimming performance life history information of fishes. Basic information, which at this point, is lacking. The objective of our team was to create a swimming chamber that provides a laminar flow velocity up to 150 cm/s to be used to establish more life history information of fishes. To design this chamber we developed a cad model using solid works 2018 software. Logix pro was used to develop the code we applied for our PLC program. We used a combination of literature review, numerical analysis, and preliminary testing to design a fully functional swimming performance chamber with the ability to simulate different flows and habitat conditions. Total budget spanning multiple years of research and development was approximately \$2,500, suggesting that the device is an affordable option for ecological research labs everywhere.

- Felver J, Menker M, Schneider. 2019. Are Children from Lower Socioeconomic Status at Higher Risk for Health Issues Over their Lifespan?

Our study addressed the following PICOT question: "Are children from lower socioeconomic classes compared to children raised in households without financial concerns at a higher risk for developing health issues over their lifespan?" Children and adolescents face many adversities as they venture into adulthood, influenced not only by their decisions but also by the decisions their parents make as well. Socioeconomic hardships affect many families worldwide, and unfortunately, many of the affected are children. While socioeconomic status has a great influence on children's well-being, many other factors attribute to the health of each individual. In this paper, we will discuss many factors that have the potential to influence children's lifelong health.

- Follo G. 2019. The Fluidity of Accepting the "New Normal": Self-Reflexivity in Research and Autoethnography.

The "Greying of Society" has left many living the sandwich generation. The sandwich generation is defined here as the sandwiching of a young family with older parents and navigating the caregiving of both groups. I have found myself in this situation. I am navigating between caregiving for my young children and my older parents who are in two separate facilities, long-term care and a retirement home. As a result, I am utilizing autoethnography to examine the experiences of others who are "living the sandwich generation" and the resources they access throughout the process. Autoethnography allows and understands the value of self-reflexivity within research. One aspect of this experience is "accepting the new normal". Through my lived experience of the sandwich generation, I have realized that "normal" changes all the time and that decision-making accompanies this changing normal. Since April 1, 2018, my mother has moved from her home to a long-term care facility and went from being able to walk to being in a wheelchair permanently. My father has moved to a retirement home and sold his house. As they transition to their normal, how do I accept this "new normal"?

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I see my parents and their “old selves” everywhere I turn, especially with my mother as her dementia progresses. Through self-reflexivity, this theme of “accepting the new normal” would not have been emphasized as much as if I had not experienced it. One is constantly comparing the “new” version of the parent to the “old” version, where I have to question will there ever be a time that I truly accept the “new normal”?

- Fonseca J, Fullenkamp M, Kettler S. 2019. Does Breastfeeding Compared to Bottle Feeding Affect an Infant’s Growth and Development within the First Five Years?

The objective of our study was to address the following PICOT question: “In infants, how does breastfeeding compared with bottle feeding affect the growth and development within the first five years of life?” This applies to our project because we have been researching the advantages and disadvantages of both breastfeeding and formula feeding in infants. There are many factors to take into consideration when choosing feeding options for children. We have found that most research studies recommend exclusively breastfeeding for at least the first six months of life because it can have long-term positive effects on the infant, including increases in motor and cognitive development and social interaction. However, breastfeeding is not always practical for all families. There are no detrimental effects related to bottle feeding, so ultimately the choice is up to the mother and her partner, and what works best for them.

- Grilliot Z, Parent T, Ruchty M, Homan J, Wang W. 2019. AMHV (Autonomous Material Handling Vehicle).

The Wright State University senior engineering group presents an Autonomous Material Handling Vehicle (AMHV). This is a single vehicle which can identify targets. The robot will operate in a scaled warehouse facility and transport targets to a predetermined destination. While autonomous, this vehicle must be capable of direct remote control. The vehicle will have sufficient sensors to detect potential collisions and actively avoid them. With extensible lifting and gripping mechanisms and a small frame, this robot will be able to be fielded in constrained areas to gather products from a height of three feet and return safely. There is a large demand in material handling industry for automation. Automation allows for the reduction of labor costs in material handling as well as a reduction of personnel injury and product damage. The pursuit of this project can help to advance research in the field of autonomy and provide a framework to begin designing an industrial grade version of this prototype. Our group will examine the different aspects of automation and expand our knowledge of the mechanical and electrical principles needed to accomplish project. Literature review and numerical analysis will also constitute a significant portion of information gathering. Successful completion of this project will see the construction of the AMHV and review of the possible future implementation.

- Grimes K, Sobe T. 2019. Does Delayed Umbilical Cord Clamping Affect Health Outcomes Over the First Year of Life?

Is standard practice always the best practice? Umbilical cord clamping is a common practice in many Obstetric units, but the timing has become a controversial topic in recent years. Multitudes of factors have to be studied to determine best practice; every delivery is unique for both the mother and the infant. The objective of our study was to address the following PICOT question: “In the newborn, how does delayed cord clamping compared with immediate cord clamping affect health outcomes over the first year of life?” Randomized controlled trials have been analyzed showing that delayed cord clamping (DCC) is safe and feasible in healthy and ill infants. Positive

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outcomes include a decreased frequency and amount of red blood cell transfusions, increased ferritin levels, and increased brain myelin, which leads to increased developmental levels at 4 months of age. These positive outcomes outweigh the risks including polycythemia and increased bilirubin levels that lead to phototherapy. In conclusion, DCC can be implemented as a standard of practice because the benefits outweigh the risks throughout the newborn's first year of life.

- Homan C, Jettinghoff L, Buening E. 2019. Amish Culture and Healthcare.

Ohio has the largest number of Amish residents; therefore, healthcare practitioners need to understand their culture to provide adequate care. The Amish culture emphasizes a simplistic way of life by shunning modern conveniences including electricity, automobiles, and conventional medicine. This presentation will focus on the Amish culture and examine how they live their everyday lives, their cultural values, education, nutrition, family structure, and health concerns. The purpose of this presentation is to inform healthcare providers of the significance of the Amish culture and to enhance the delivery of culturally competent care.

- Junker C, Deitsch T, Dieringer L, Drees J, Ewry A, Laux J, Robey C. 2019. Literature in Our Community: English 4110 & the Stream and Read Book Club.

Literature Practicum (English 4110) is a new course in the English major curriculum designed to help students take the disciplinary skills and knowledge they've gained in the major and bring them to a public forum and local community. This course offers both the instructor and students a great deal of flexibility in choosing how to meet the community's needs and learning objectives of the course. For Spring 2019, our class partnered with the Mercer District County Library. The library wanted our students to help generate interest in literature and an awareness of the library's vast array of services and resources among one of their hardest-to-reach audiences – New Adults (readers age 18-40). To accomplish both of these goals, students decided to create a new and innovative book club event designed to attract the target audience. Thus, Stream and Read was born. This poster explores the process of innovative pedagogy and learning that can occur during this course. It includes the course objectives, the students' project and community partnership, the learning outcomes, student and community experiences, and challenges of this kind of integrated and interactive course.

- Kettler K, Stroud M, Voisard C. 2019. Hmong Culture and Healthcare.

Historically the Hmong people have been persecuted for their religious beliefs and have struggled to find a place that they could practice their culture freely. Illnesses in the Hmong culture are believed to be caused by bad spirits called dabs; therefore, most of their care revolves around healing, finding their soul, and preventing spirits from hurting them. It is important for healthcare providers to understand what an illness means to the Hmong culture. To some extent, Hmong people may not know what to expect when going to a medical doctor and can seem noncompliant due to their spiritual beliefs and language barriers. For example, in the Hmong culture, epilepsy is considered a spiritual gift and they may be hesitant to treat the disease. This presentation will focus on healthcare practices and other important factors of the culture including the history, gender roles, common illnesses, religion, nutrition, aging and death. When treating a patient of Hmong descent, a holistic approach should be used, and special considerations should be taken into account to provide culturally competent care.

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- Kitchen W. 2019. Video Games and Their Impact on Spatial Cognition.

Spatial cognition is the ability to perceive one's environment and act on the information received and first-person shooter (FPS) games increase this awareness of one's environment. We will have four groups play two 30-minute blocks of video games with spatial cognition tests being administered before, between, and after the blocks are over; Group 1 (puzzle then FPS), Group 2 (FPS then puzzle), Group 3 (puzzle then puzzle), and Group 4 (FPS then FPS). We expect to find those that played first-person shooters to score higher on a spatial cognition test than those who played a puzzle game, with the highest score being for those in the double FPS block. Based on order effects, those who played the first-person shooter game after the puzzle game should score higher on the spatial cognition task.

- Langeman A, Lefeld M, Meyer L. 2019. Are Unvaccinated Children at a Higher Risk for the Development of Preventable Diseases Throughout their Lifetime?

The objective of our study was to address the following PICOT question: "Are children who have not received childhood vaccinations compared with those who have received childhood vaccinations at a higher risk for preventable diseases throughout their lifetime?" This is an important question in the healthcare setting currently due to the increasing numbers of parents choosing to not vaccinate their children. Our research examined the most common reasons why parents are choosing not to vaccinate, the statistics on how effective vaccinations are, and strategies to encourage more parents to vaccinate their children.

- Lowery A, Patton L. 2019. The Effects of Circumcision on a Male Neonate's Health Risks and Benefits.

The objective of our study was to address the following PICOT question: "In neonates, what is the effect of circumcision in comparison to those neonates not circumcised when discussing health risks and benefits?" In this research project, a comparison of the benefits and risks of male circumcision are examined. Several academic articles were used during this project to compare the findings of the risks and benefits. Our findings have shown that the benefits outweigh the risks of male circumcision in neonates. In one of the studies, it was shown that less than 1% of the cases ended with an adverse effect related to the circumcision.

- Maurer H, Young B, Jackson A. 2019. Marshallese Culture and Healthcare.

In recent years, the region has experienced an influx of the Marshallese population. The Marshallese culture is considered unique due to their family structure, traditions and medical beliefs. The Marshallese believe in keeping traditions and consequently, their nutrition and health have been greatly affected due to their diet and lifestyle. Religion is also very prevalent in their day-to-day lifestyle of the Marshallese. With the abundant movement of the Marshallese culture into the United States, it is important to learn and understand their culture to treat them properly in a healthcare setting. This presentation will focus on healthcare practices and other important factors of the culture including the history, gender roles, common illnesses, religion, nutrition, aging and death.

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- Pinchot R, Carter M, Buschur I. 2019. Greek American Culture and Healthcare.

From architecture to food, Greek culture is very influential in American society. The Greek American population is numerous and is located throughout the United States, with heavy concentrations in urban areas on the coast. Given the prevalence of this culture in America, it is important to have an understanding of the history of Greek immigration and how this history influences their current culture. This presentation will focus on various aspects of Greek American culture including fertility, aging and death, gender issues, spirituality and common diet or nutrition practices. This presentation will not only discuss the different aspects of the Greek American culture, but also how this knowledge will allow healthcare providers to be more efficient while respecting the Greek culture.

- Posada E. 2019. ADHD Medication has Negative Effects on Children's Development.

The purpose of this proposed study is to examine the negative effects that ADHD medication has on children's development. The drug that will be closely examined is methylphenidate (Ritalin). Thirty children from a parent support group will be randomly assigned into two groups. The control group children will be given a placebo, and the other group will receive the actual ADHD drug, methylphenidate (Ritalin). What will be closely examined is if there are negative developmental patterns that arise, or if that is simply something that comes with ADHD. The expected outcome of these results would be negative physical developmental effects with children who take the medication.

- Redman K, Smith B, Sailer J. 2019. Jehovah's Witness Lifestyle and Healthcare.

Jehovah's Witness is a religious organization and culture established in 1872 by Charles Taze Russell. Members of this denomination believe in their translated version of the Bible, by following each passage literally and living their life accordingly. Using their new world translation of the Bible, Jehovah's Witnesses believe in practices that are unique from other cultures. Some of these beliefs would be crucial for medical professionals to know; for example, they do not allow blood transfusions. This presentation will include a thorough examination of topics including history, diet, gender, religion, and care guidelines of the Jehovah's Witness faith; therefore providing the healthcare practitioners a basis for culturally competent care.

- Schmitt A, Post J. 2019. How Does Stem Cell Therapy Affect the Pediatric Patient's Recovery Period?

Stem Cell Therapies in Pediatric Patients with Malignancies PICOT Question: "In pediatric patients, how does stem cell therapy (in conjunction with chemotherapy) compared to chemotherapy alone, affect the patient's recovery over the next two to three years?" We will be evaluating the care and circumstances that undergo a pediatric patient who is going through Stem Cell therapies for malignancy. Stem cell therapies have their own specific set of care, especially for pediatric patients. We will be evaluating how these different treatments with Stem Cell Therapies affect these children and whether or not it is beneficial and which care techniques pose the best results to the patients and their families. We have found that certain exercise programs may have a positive effect on their recovery time and quality of life while doing Stem Cell Therapies. By using all of these techniques together, the main goal would be to provide quicker recovery time for the patient. Each patient is different and new obstacles pose a barrier to the patient's health. With these new techniques, those barriers could be broken to provide safer and more reliable treatment options.

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- Schoenherr C, Edwards K, Borges L. 2019. Native American Culture and Healthcare

The number of Native Americans living in the United States is decreasing; however, it is still important for healthcare providers to understand the culture to provide appropriate care. Native Americans use holistic treatments and healers to improve their health. Many Native Americans cannot afford and/or do not have access to adequate healthcare. This presentation will focus on healthcare practices and other important factors of the culture including the history, gender roles, common illnesses, religion, nutrition, aging and death. Nursing considerations will also be introduced and examined. By understanding the Native American culture more thoroughly, healthcare providers can provide culturally competent care.

- Short E, Froning M, Bohman S. 2019. Military Culture and Healthcare

The United States Military is a vast population that is growing larger every year. Currently, approximately 1.3 million men and women who are enlisted today (about 0.5% of the U.S. population). Within the military, there is no defined culture or specific background; however, even with the huge diversity, the military forms its own society and customs, forming their own version of a culture. This presentation will examine military history, lifestyle, gender roles, culture/family values, nutrition, diseases, aging and death, family stress, and deployment. It is important to examine these aspects to educate the community about the military lifestyle and prevalent diseases including post-traumatic stress disorder, anxiety, and depression.

- Simons M. 2019. Does One Hour of Extra Sleep Improve Test Scores for Students?

This study aims to determine if the early starting times of schools is causing children to not retain information and underperform on tests. Could even an extra hour of sleep lead to better test scores? The participants of this study would be 100 fourth-grade students from two different schools in the same district. The schools selected will have similar curriculum and grading scales. For the purposes of this study the variables will be the starting time of school, and performance. The students will be given a simple memory test over a number game to see which class has the higher accuracy out of the two schools. The expected outcome of this study would be that the class that goes to school an hour later will perform better on the memory task. The results would suggest that students would perform better on tasks if they were given adequate sleep.

- Wilson B. 2019. Emotional Development of Children Adopted by Same-Sex Heterosexual Couples?

Many studies examining the effect of parent's sexual orientation on a child's well-being are often plagued by methodological faults. This leads to mixed results about the outcomes of these children, especially concerning emotional development. This proposed study seeks to rectify this issue by using a longitudinal design and controlling for the confounding variables of socioeconomic status (SES) and family structures. Forty families (10 male/male couples, 10 female/female couples, and 20 heterosexual couples) who recently adopted a child under the age of five will be recruited and matched on SES status. These children will be measured from ages five to nineteen on their emotional stability and well-being. These scores will then be compared to 10 randomly selected children from the same agency who did not get adopted. Prior research suggests that children who were adopted by parents, regardless of orientation, will be more emotionally developed than children who were not adopted. This study also proposed that children who do get adopted by same-sex parents will not be significantly different than adopted children of heterosexual parents.

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- Wilson B, Hochstein D. 2019. Examination of Expectation Effects on Math Scores.

The effects of stereotype threat have been well documented in the literature, covering a wide variety of identities and behaviors. One of these effects is that women who are reminded of their gender tend to do worse on tests of their math ability. This study examines what happens when participants of both genders experience a stimulus that counteracts commonly-held stereotypes about gender. An expected forty college students will be given a math test following an unrelated article and will then be given a different math test after reading an article that claims females outperform males in math. Prior research suggests that females reading this article will do better on the second math test, while males will do worse.

- Wilson DH. 2019. The Psychotic Dr. Schreber.

Daniel Paul Schreber (1842-1911) came to prominence as one of history's most famous madmen in the wake of Sigmund Freud's "Psychoanalytic Notes Upon an Autobiographical Account of a Case of Paranoia." Published in 1911, Freud's case study psychoanalyzes Schreber's Memoirs of My Nervous Illness, a detailed account of the German Judge's psychotic breakdowns in which he battled against numerous antagonists, including everything from God and the Devil to his own body and lexicon. Since then, Schreber's remarkable, uniquely lucid account has leaked from the psychiatric world into literary and popular culture. Postmodern theorists, for instance, have used him as a means to critique consumer-capitalism, explore the dynamics of modernity, and foretell the Nazi ascension, whereas filmmakers such as Alex Proyas have science fictionalized Schreber's experience, representing him as a product of technologized subjectivity and desire. Schreberfiktion, an evolved SF—this is the subject of D. Harlan Wilson's case study, which is at once about, around and beyond Memoirs as well as the many secondary texts it has engendered. As the formerly make-believe aspects of the science fiction genre continue to materialize in the real world, Schreber's pathology becomes more and more relevant; his imagination and intellect, his anxiety and dread, his solipsism and megalomania point to the pathological unconscious that animates contemporary technological society. Thoroughly researched and transgressive, The Psychotic Dr. Schreber is part speculative (anti)fiction, part (auto)biography, part theatre-of-the-absurd, part writing tutorial, part literary nonsense and criticism. Wilson riffs on and satirizes post-everything, signaling the inevitable death of the reader and rebirth of the real. Science fiction explored the effects of the New in the Next, the Near and, in some cases, the Now. Galvanized by Schreber, this book maps the next stage: the New in the Never.

- Young J, Luebke J, Greve P, Gehret B, Lietz T. 2019. Sheet Metal Bending Device.

Our team of five mechanical engineering students were assigned to develop a sheet metal bending device. There are two phases of this project. The first phase consists of planning, literature review, research, testing, data acquisition, numerical analysis, conceptual sketching, budgeting, and three-dimensional modeling. The second phase will consist of refining conceptual designs developed in phase one. Also, phase two will entail the actual fabrication of the sheet metal bending device. The new device will be hydraulically powered and include safety guarding to increase operator safety. The device will be automated by combining a hydraulic cylinder with a punch and die system. The new bending process will have an increase in bend angle accuracy and repeatability. The device will be able to bend three material thicknesses of 0.0641", 0.1285", and 0.1819" to bend angles of 30°, 45°, and 90°. Phase one team members completed literature review over topics such as bending methods, hydraulic componentry, and structural materials. Also, phase one team members completed numerical analysis

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over topics such as required bending force for a material, hydraulic cylinder force output, and required die spacing for bend angles. Limited system testing was also completed by phase one team members ensuring numerical analysis results. The sheet metal bending device prototype will benefit the Wright State University Lake Campus engineering program by adding additional metal forming capabilities to the engineering workshop. The workshop currently has a manual metal bending device. The main problem with the current device is that it is difficult to form accurate bend angles in a manner safe for the operator. The sheet metal bending device prototype that phase two of this project will fabricate features a die assembly capable of producing accurate bend angles while providing maximum safety to the operator.

