

USU School of Medicine
Department of Gynecologic Surgery and Obstetrics

Annual Report

Academic Year 2023 - 2024



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CHAIR'S MESSAGE



I am delighted to share our inaugural annual report with our colleagues, collaborators, and students. Our relationships and partnerships across the Military Health System (MHS) and the scientific community are critical to our success in advancing science and educating and developing future clinician leaders in gynecologic surgery and obstetrics. Our departmental commitment to our mission and vision have been instrumental in our successes and growth over the past year. We are delighted to continue collaborative efforts

with the USU Gynecologic Cancer Center of Excellence, the USU Centers for Health Services Research, the USU Department of Pediatrics, research collaborators at the University of Pittsburgh, Kansas University, University of California at San Diego, Dartmouth Institute for Health Policy & Clinical Practice, the US Department of Veterans Affairs, Japan's National Defense Medical College, and our national faculty in the MHS. With energy and enthusiasm, we look forward to continued growth and accomplishments in the coming years.

Monica A. Lutgendorf, MD FACOG, CAPT, MC, USN
Maternal-Fetal Medicine Physician
Professor and Chair
Department of Gynecologic Surgery & Obstetrics

DEAN'S MESSAGE



Providing care for all individuals seeking obstetric and gynecologic care, and educating students on women's health topics is an essential part of USU's mission and an important aspect of addressing long-standing inequities in women's health. Women represent 49.6 percent of the world's population; and according to the Department of Defense's most recent Demographics Profile of the Military Community, women now represent 17.5% of the active duty force and 21.6% of the selected reserve. The percentage of women serving in the

Armed Forces has increased over the past several years, and women also make up the fastest growing group of veterans. Gynecology and obstetrics is a field of medicine that touches the lives and health of a significant proportion of our military service members and their families.

The USU Department of Gynecologic Surgery and Obstetrics has long been on the forefront of women's health care and research in the Military Health System. Their research is expanding our understanding of fertility and reproductive health, gender-based health disparities, and gynecologic cancers, among many other topics; and GSO faculty are preparing the next generation of women's health professionals for the military and beyond.

Eric Elster, MD, FACS, FRCS Eng (Hon.)
CAPT, MC, USN (Ret.)
Dean, School of Medicine
USU Executive Vice President for Medical Affairs
Professor of Surgery
Professor of Molecular and Cell Biology

ABOUT GSO

MISSION

GSO's mission is to lead advocacy for and provide the highest quality patient-centered care emphasizing readiness, education, training, and research for our specialty; and to prepare our students, staff, and faculty to operate in every environment in which the MHS deploys. We will build leaders in women's healthcare with the patient as the center of every effort.

VISION

As the recognized leader in Gynecologic Surgery and Obstetrics, we will ensure inclusion and excellence in women's health education, mentorship, and innovative research.

WOMEN'S HEALTH CLINICAL OUTCOMES AND DIVERSITY DIVISION

As the Vice Chair of the Department and the Director of Women's Health Clinical Outcomes and Diversity Division, I am pleased to report on the progress the Department has made over the past year. We have continued a rich lectureship series featuring outside speakers, including a highly impactful talk on trauma-informed care in obstetrics. Our clinical research presence has grown significantly; we have increased the number of clinical research publications and collaborations, expanded our IRB-approved research protocols, and mentored over 30 medical students and residents on various research projects with presentations at national and regional meetings. Furthermore, we have proudly contributed more than 20 original research presentations at scientific conferences, highlighting our commitment to advancing women's health and fostering an environment of academic excellence and innovation.

Jill Brown, MD, MPH, MHS

Associate Professor and Vice Chair of the Department

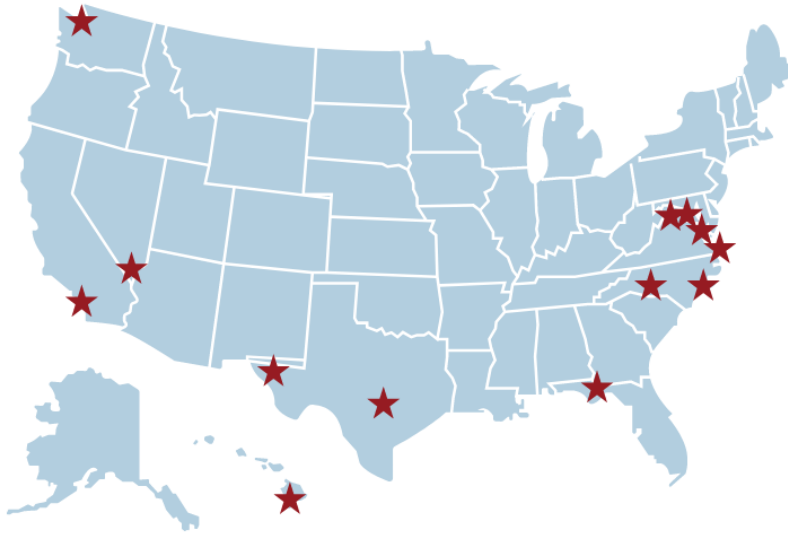
Director, Women's Health Clinical Outcomes and Diversity Division

Department of Gynecologic Surgery and Obstetrics

GSO FOOTPRINT

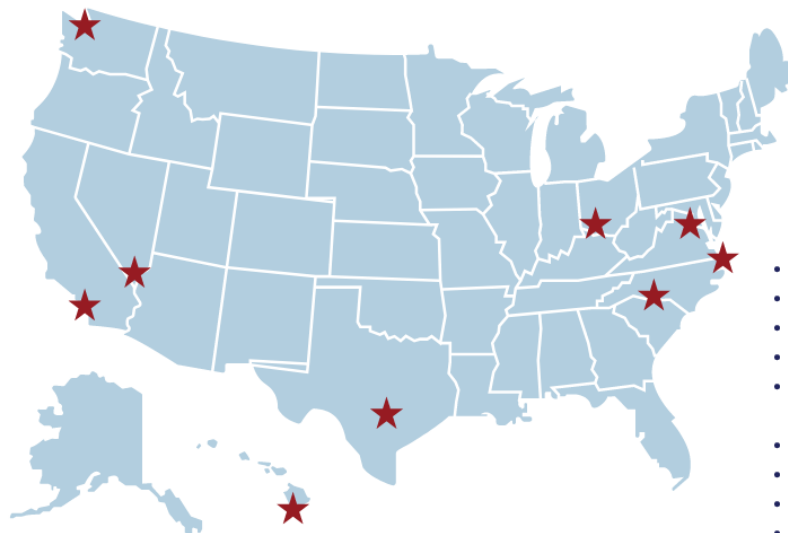
With 13 clerkship locations and 9 graduate medical education (GME) sites, GSO is training medical students and residents in military treatment facilities around the United States.

GSO Footprint: Clerkship Locations



- Alexander T. Augusta Military Medical Center (Ft. Belvoir)
- Carl R. Darnall Army Medical Center (Ft. Cavazos)
- Eglin Air Force Base
- Madigan Army Medical Center
- Nellis Air Force Base
- Naval Medical Center Camp Lejeune
- Naval Medical Center Portsmouth
- Naval Medical Center San Diego
- San Antonio Military Medical Center
- Tripler Army Medical Center
- Womack Army Medical Center (Ft. Liberty)
- William Beaumont Army Medical Center (Ft. Bliss)
- Walter Reed National Military Medical Center

GSO Footprint: Graduate Medical Education Sites



- Madigan Army Medical Center
- Nellis Air Force Base
- Naval Medical Center Portsmouth
- Naval Medical Center San Diego
- San Antonio Military Medical Center
- Tripler Army Medical Center
- Womack Army Medical Center (Ft. Liberty)
- Wright-Patterson Air Force Base
- Walter Reed National Military Medical Center

GSO BY THE NUMBERS

GSO by the Numbers, AY 2023 - 2024

Publications



- 34 GSO publications
- 20 GYN-COE publications

Presentations



- 52 GSO publications
- 27 GYN-COE publications

Research Funding



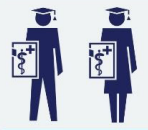
- \$4.4 million GSO
- \$8 million GYN-COE

Faculty



13 Billed
253 National

Students



3 Class of 2024 students matched to GSO

Academic Year Promotions

- Assistant Professor - 44
- Associate Professor - 5
- Professor - 3

2024 GME Graduates

- 16 Army
- 11 Air Force
- 7 Navy

GSO RESEARCH

The research portfolio in the Department of Gynecologic Surgery and Obstetrics addresses basic, translational, and clinical questions that impact female military service members and veterans, family members, and the population as a whole. Research topics include those that have substantial impact on women's health, with opportunities to improve outcomes and decrease known healthcare inequities. Our energetic and vibrant team works collaboratively with internal and external collaborators to produce cutting-edge research. We are also committed to training the next generation of scientists with robust training opportunities for clinical fellows, medical students, undergraduate, and high school students.

William H. Catherino, MD, PhD
Professor and Vice Chair for Research
Department of Gynecologic Surgery and Obstetrics

2023 - 2024 PUBLICATIONS

1. Boedeker D, Hunkler K, Strohm S, Zamani M, Chatfield L, MacKinnon R, **Shvartsman K.** (2024). Impact of a Mentorship Program to Prepare Medical Students for the Military Residency Match. *Mil Med.* 2024 May 3:usae168. doi: 10.1093/milmed/usae168
2. Britten, J., Roura-Monllor, J. A., Malik, M., Moran, S., DeAngelis, A., Driggers, P., Afrin, S., Borahay, M., & **Catherino, W. H.** (2024). Simvastatin induces degradation of the extracellular matrix in human leiomyomata: Novel in vitro, in vivo, and patient level evidence of matrix metalloproteinase involvement. *Fertility & Sterility Science*, 5(1), 80–91. <https://doi.org/10.1016/j.fssr.2023.01.001>
3. **Brown, J.**, Creinin, M. D., Wu, H., Hubacher, D., Schreiber, C. A., Kaneshiro, B., Nanda, K., & Blithe, D. L. (2024). Menstrual cup use and intrauterine device expulsion in a copper intrauterine device randomized trial. *Contraception*, 110(415), 1–9. <https://doi.org/10.1016/j.contraception.2024.110415>
4. **Brown, J.**, Hudson, K. M., & Rompalo, A. M. (2024). Patterns of use and barriers to STI point-of-care tests for military obstetrician gynecologists. *Military Medicine*, 189(7-8), usae283. <https://doi.org/10.1093/milmed/usae283>
5. Careaga, M. B. L., & **Wu, T. J.** (2024). Chronically stressed male and female mice show a similar peripheral and central pro-inflammatory profile after an immune challenge. *PLoS ONE*, 19(2), e0297776. <https://doi.org/10.1371/journal.pone.0297777>
6. Dolmans, M. M., Petraglia, F., **Catherino, W. H.**, & Donnez, J. (2024). Pathogenesis of uterine fibroids: Current understanding and future directions. *Fertility and Sterility*, 122(1), S0015-0282(24)00169-9. <https://doi.org/10.1016/j.fertnstert.2024.01.001>
7. Echague, C., **Malik, M.**, Driggers, P., & **Catherino, W. H.** (2024). Coenzyme Q-10 reduced the aberrant production of extracellular matrix proteins in uterine leiomyomas through transforming growth factor beta 3. *Fertility & Sterility Science*. Advance online publication. <https://doi.org/10.1016/j.fssr.2024.01.001>
8. Edelman, A., Jensen, J. T., **Brown, J.**, Thomas, M., Archer, D. F., Schreiber, C. A., Teal, S., Westhoff, C., Dart, C., & Blithe, D. L. (2024). Emergency contraception for individuals weighing 80 kg or greater: A randomized trial of 30 mg ulipristal acetate and 1.5 mg or 3.0 mg levonorgestrel. *Contraception*, 136, 110474. <https://doi.org/10.1016/j.contraception.2024.110474>
9. Flerlage, W. J., Simmons, S. C., Thomas, E. H., Gouty, S., Tsuda, M. C., **Wu, T. J.**, Armstrong, R. C., Cox, B. M., & Nugent, F. (2024). Effects of repetitive mild traumatic brain injury on corticotropin-releasing factor modulation of lateral habenula excitability and motivated behavior. *Journal of Neurotrauma*. Advance online publication. <https://doi.org/10.1089/neu.2024.0184>
10. Jensen, J. T., Edelman, A., Westhoff, C. L., Schreiber, C. A., Archer, D. F., Teal, S., Thomas, **M., Brown, J.**, & Blithe, D. L. (2024). Use of serum evaluation of contraceptive and ovarian hormones to assess reduced risk of pregnancy among women presenting for emergency contraception in a multicenter clinical trial. *Contraception*, 136, 110475. <https://doi.org/10.1016/j.contraception.2024.110475>

11. **Lutgendorf, M. A.**, Northup, M., Budge, J., Snipes, M., Overbey, J., Taylor, A., & Simsiman, A. (2024). Pregnancy outcomes after implementation of an induction of labor care pathway. *AJOG Global Reports*, 4(1), 1–9. <https://doi.org/10.1016/j.xagr.2023.100292>
12. Mahr NM, **Brown JE**. Contraception and abortion attitudes among military medical students: An exploratory study. *Contraception*. 2024;136:110489. doi: 10.1016/j.contraception.2024.110489
13. Martingano, D., Al-Dulaimi, M., Ouyang, A., Rodriguez, S., **Ulfers, A.**, Marecheau, J., & Morrish, D. (2024). Efficacy of non-pharmacologic interventions for antepartum cervical ripening in term pregnancies. *American Journal of Obstetrics & Gynecology*, 230(1), S142–S143. <https://doi.org/10.1016/j.ajog.2023.11.263>
14. Martingano, D., Al-Dulaimi, M., Ouyang, A., Rodriguez, S., **Ulfers, A.**, Marecheau, J., & Morrish, D. (2024). Alternative regimens in the treatment of toxoplasmosis during 2nd & 3rd trimester pregnancies. *American Journal of Obstetrics & Gynecology*, 230(1), S171. <https://doi.org/10.1016/j.ajog.2023.11.320>
15. Martingano, D., Amuzu, R., Rodriguez, S., Singh, S., Marshall, J., **Ulfers, A.**, Morrish, D., & Singh, S. (2024). Comparison of surgical techniques for subcutaneous closure during cesarean deliveries complicated by super obesity. *American Journal of Obstetrics & Gynecology*, 230(1), S75–S76. <https://doi.org/10.1016/j.ajog.2023.11.131>
16. Martingano, D., Amuzu, R., Rodriguez, S., Singh, S., Marshall, J., **Ulfers, A.**, Morrish, D., & Singh, S. (2024). Medication effectiveness in the treatment of insomnia in 3rd trimester pregnancies. *American Journal of Obstetrics & Gynecology*, 230(1), S75–S76. <https://doi.org/10.1016/j.ajog.2022.11.255>
17. McDermott, M. C., Musilli, M. G., **Brown, J. E.**, Melton, J. L., Miller, M. J., Allard, R. J., & **Lutgendorf, M. A.** (2024). Female-specific healthcare of military female designated service members and veterans: A systematic overview of reviews. *Military Medicine*, 189(3), usae101. <https://doi.org/10.1093/milmed/usae101>
18. Musilli, M. G., Fuller, S. M., Wyatt, B., Ryals, T. R., Haischer-Rollo, G., Drumm, C. M., Vereen, R. J., Plowden, T. C., Blevins, E. M., Spalding, C. N., Konopasky, A., & **Lutgendorf, M. A.** (2024, May 23). Qualitative analysis of the lived experience of reproductive and pediatric health care in the military health care system. *Military Medicine*. <https://doi.org/10.1093/milmed/usae238>
19. Petrini, J. M., Carreno, P., Subramani, D., **Lutgendorf, M. A.**, Velosky, A. G., Patzkowski, M. S., Herrera, G., & Highland, K. B. (2024). Abuse disclosure and documentation in the medical record: An observational matched-cohort study in the US Military Health System. *Journal of Public Health*. <https://doi.org/10.1007/s10389-024-02310-2>
20. Scott, J. A., Glavy, J., Deafenbaugh, B., Kent, W., LaCoursiere, Y., Schwartz, A., **Lutgendorf, M.**, & Wheatley, B. M. (2024, March 27). Do all patients with a history of pelvic ring injuries need a cesarean section? – A survey of orthopaedic and obstetric providers. *Journal of Gynecology Obstetrics and Human Reproduction*, 102(779). <https://doi.org/10.1016/j.jogoh.2024.102779>

21. Schwartz, A., **Malik, M.**, Driggers, P., & **Catherino, W. H.** (2024). Relugolix reduces leiomyoma extracellular matrix production via the TGF-beta pathway. *Fertility & Sterility Science*. Submitted.
22. **Wright, D.**, Boedeker, D., **Ulfers, A.**, & **Peterson, L.** (2024). Pilot study: Developing curriculum to prepare fourth-year medical students applying for OBGYN residency within the Defense Health Agency. *Military Medicine*. Advance online publication. <https://doi.org/10.1093/milmed/usae224>
23. Wyatt-Nash B, Wondwossen Y, **Lutgendorf MA**, Highland KB. Opportunity to Integrate the American Medical Association's Inclusive Language Guidance. *Health Equity*. 2024 Mar 13;8:177-188. PMID 38559848 <https://doi:10.1089/heq.2023.0207>
24. Zimmer, Z., Hill, R., Schmiedecke, S., Fratto, V., & **Lutgendorf, M. A.** (2024). Acute peripartum pancreatitis complicating seronegative antiphospholipid antibody syndrome in pregnancy. *BMJ Case Reports*, 17, e250664. <https://doi.org/10.1136/bcr-22-250664>
25. Barseghyan M, Chae-Kim J, **Catherino WH.** (2023). The efficacy of medical management of leiomyoma-associated heavy menstrual bleeding: a mini review. *Fert Stert Reports* 2023;5:4-8. <https://doi.org/10.1016/j.xfre.2023.10.003>.
26. Fuller, S., Kuenstler, M., Snipes, M., Miller, M., & **Lutgendorf, M. A.** (2023). Obstetric healthcare inequities in a universally insured healthcare system. *American Journal of Obstetrics & Gynecology Global Reports*, 3(3), 100256. <https://doi.org/10.1016/j.xagr.2023.100256>
27. Karlson, K., Fishburn, D., **Shvartsman, K.**, Elling, S., Snitchler, A., & Keung, E. (2023, August 10). In a pinch: An unusual case of Zoon's vaginitis, a plasma cell disorder. *Cureus*, 15(8), e43260. <https://doi.org/10.7759/cureus.43260>
28. Lee, M. S., Bunin, D. I., Furimsky, A. M., Nguyen, D., Parman, T., Kim, K., Rausch, L., Lin, M. T., Gupta, P., **Brown, J. E.**, Kroopnick, J. M., & Blithe, D. L. (2023). Novel progestogenic androgens for male contraception: Design, synthesis, and activity of C7 α -substituted testosterone. *Biology of Reproduction*, 109(6), 851–863. <https://doi.org/10.1093/biolre/ioad111>
29. **Lutgendorf, M. A.**, Ennen, C. S., McGlynn, A., Spalding, C. N., Deering, S., Delory, D. R., & Greer, J. A. (2023). Interprofessional obstetric simulation training improves postpartum hemorrhage management and decreases maternal morbidity: A before and after study. *British Journal of Obstetrics and Gynaecology*, 131(3), 353–361. <https://doi.org/10.1111/1471-0528.17640>
30. **Malik, M.**, Britten, J. L., DeAngelis, A., Sitler, C., Moran, S., Roura-Monllor, J. A., Driggers, P., & **Catherino, W. H.** (2023). Curcumin inhibits human leiomyoma xenograft tumor growth and induces dissolution of extracellular matrix. *Fertility & Sterility Science*, 4(1), 74–89. <https://doi.org/10.1016/j.fssr.2023.01.001>
31. Shapley-Quinn, M. K., Song, M., Chen, B. A., Devlin, B., Luecke, E., **Brown, J.**, Blithe, D. L., Achilles, S. L., & van der Straten, A. (2023). Participant experiences with a multipurpose vaginal ring for HIV and pregnancy prevention during a phase 1 clinical trial: Learning from users to improve acceptability. *Frontiers in Reproductive Health*, 5, 1147628. <https://doi.org/10.3389/frph.2023.1147628>

32. Silva Filho AL, **Catherino WH**, Estrade JP, Koga K, Singh SS, Vannuccini S, Yang X, Lahav A, Caetano C, Calaf J. (2023) The HOPE study: evaluating the impact of an online educational resource for heavy menstrual bleeding on the patient-physician dynamic. *Women Health* 2023;63:370-82. <https://doi.org/10.1080/03630242.2023.2220806>
33. Shields, A. D., Vidosh, J. D., Thomson, B., Minard, C., Annis, K., Kavanagh, L., Roth, C., **Lutgendorf, M. A.**, Rahm, S., Becker, L. R., Mosesso, V., Schaeffer, B., Gresens, A., Epley, S., Wagner, R., Streitz, M., Bhalala, U., Melvin, L. M., Deering, S., & Nielsen, P. (2023 September 14). Validation of a simulation-based curriculum for maternal medical emergencies and maternal cardiac arrest. *Obstetrics & Gynecology*. <https://doi.org/10.1097/AOG.0000000000005349>
34. **Shvartsman, K.**, Olsen, C., Hemphill, **A.**, **Brown, J.**, & Zahn, C. (2023). Impact of obstetrics and gynecology clerkship order on NBME exam scores after a curriculum change. *Journal of Surgical Education*, 80(4), S1931-7204(23)00271-4. <https://doi.org/10.1016/j.jsurg.2023.07.019>
35. Malik, M., Britten, J., Driggers, P., Borahay, M., & **Catherino, W. H.** Simvastatin Breaks Down Extracellular Matrix in an in-vivo Human Leiomyoma Xenograft. Society for Reproductive Medicine, Brisbane, Australia, March 2023. *Reproductive Sciences* 2023;30:1-324. <https://doi.org/10.1007/s43032-023-01211-1>
36. Roura-Monllor, J. A., **Britten, J.**, Driggers, P., **Malik, M.**, & **Catherino, W. H.** The retinoic acid pathway in uterine fibroids is not affected by ulipristal acetate. *Fertility & Sterility* 2023;120:E316. <https://doi.org/10.1016.j.fertnstert.2023.08.911>
37. **Malik, M.**, **Britten, J.**, Schwartz, A., Echague, C. G., Roura-Monllor, J. A., Driggers, P., & **Catherino W. H.** Curcumin, curcuminoids, vitamin D and production of extracellular matrix proteins in uterine fibroids. *Fertility & Sterility* 2023;120:E214. <https://doi.org/10.1016.j.fertnstert.2023.08.611>
38. Roura-Monllor, J. A., Driggers, P., **Malik, M.**, & **Catherino, W. H.** FOXM1 protein is overexpressed in uterine leiomyosarcoma compared to leiomyoma and myometrium. *Reproductive Sciences* 2024;31:1-395. <https://doi.org/10.1007/s43032-024-01501-2>
39. Echague, C. G., **Malik, M.**, Driggers, P., & **Catherino, W. H.** Coenzyme Q-10 reduces the aberrant production of extracellular matrix proteins in uterine leiomyomas through its effect on the transforming growth factor beta 3 pathway. *Reproductive Sciences* 2024;31:1-395 <https://doi.org/10.1007/s43032-024-01501-2>
40. Schwartz, A., **Malik, M.**, Driggers, P., & **Catherino, W. H.** Relugolix inhibits leiomyoma extracellular matrix production via the TGF beta pathway. *Reproductive Sciences* 2024;31:1-395. <https://doi.org/10.1007/s43032-024-01501-2>
41. Driggers, P., **Malik, M.**, & **Catherino, W. H.** Activated myofibroblasts may support neurogenesis in fibroids under hypoxic conditions. *Fertility & Sterility*, accepted for publication.

PRESENTATIONS AND INVITED TALKS

1. Belovs L, Boedeker D, Ulfers A, **Peterson L, Wright-Terrell D.** “Can Faculty Derived Quiz Predict NBME Failure on OBGYN Subject Exam?” Council on Resident Education in Obstetrics and Gynecology/ Association of Professors of Gynecology and Obstetrics Annual Meeting. San Antonio, TX, February 2024
2. **Brown J.** Using health system science to explore the facets of abortion access in a post-Dobbs world. Association of Professors of Gynecology and Obstetrics Faculty Development Seminar, Amelia Island, FL, Jan 2024
3. **Catherino WH.** Invited Speaker, University of Oklahoma, “Satisfaction in Your Career: Financial Survival”, Oklahoma City, OK, September 2023
4. **Catherino WH.** Invited Speaker, University of Oklahoma, “Flourishing in an Academic Career”, Oklahoma City, OK, September 2023
5. **Catherino WH.** Invited Speaker, University of Oklahoma, “Advances in Leiomyoma Understanding and Treatment”, Oklahoma City, OK, September 2023
6. **Catherino WH.** Invited Speaker, Fibroid Foundation, “The Near Future of Fibroid Treatment”, Virtual, August 2023
7. **Catherino WH.** Invited Speaker, AAOGF Scholars Retreat, “The Impact of Intramural Leiomyomas on Endometrium, Implantation, and Pregnancy”, Ann Arbor, MI, August 2023
8. **Catherino WH.** Invited Speaker, Society for Reproductive Investigation, “Debt, Retirement, Savings and More”, Brisbane, Australia, March 2023
9. **Catherino WH.** Invited Speaker, American Society for Reproductive Medicine, “Nuts and Bolts of Manuscript Writing, Submission, and Review”, New Orleans, LA, October 2023
10. **Catherino WH.** Invited Speaker, Society for Reproductive Investigation. “SRI Mid-Career Luncheon”, Vancouver, Canada, March 2024
11. **Catherino WH.** Invited Speaker, University of Vermont, “Manuscript Submission and Review: Methods and Opportunities”, Virtual, April 2024
12. **Catherino WH.** Symposium Chair, World Congress on Endometriosis, “The Many Facets of Endometriosis”, Edinburgh, Scotland, May 2023
13. **Catherino W,** Al-Hendy A, Proehl S, Wu R, Zaim S, Munro MG. Effect of Relugolix Combination Therapy on Heavy Menstrual Bleeding and Pain in Women with Uterine Fibroids and Adenomyosis. World Congress on Endometriosis, Edinburgh, Scotland, May 2023
14. Donaldson H, **TJ Wu.** Impact of blast injury on pituitary hormone secretion trajectory in male and female mice. Poster Presentation at the 2024 Annual Meeting of the Endocrine Society, Boston, MA
15. Echague CG, Malik M, Driggers P, **Catherino WH.** Coenzyme Q-10 reduces the aberrant production of extracellular matrix proteins in uterine leiomyomas through its effect on the transforming growth factor beta 3 pathway. Society for Reproductive Investigation, Vancouver, Canada, March 2024

16. Fuller S, Musilli M, Vereen RJ, **Lutgendorf MA**. Perinatal Healthcare Delivery in the Military Health System: A Qualitative Assessment. Oral Presentation at Armed Forces District Meeting of ACOG, Tacoma, WA, 2023
17. **Heaton JO, Ulfers A, Peterson L, Shvartsman K**. The use of a modified COACHING I-PASS Handoff Observation Tool to Provide Medical Students with Formative Feedback on Transitions of Care on the Obstetrics and Gynecology Rotation. Poster Presentation at American Medical Association ChangeMedEd Sep 2023, Chicago, IL
18. **Heaton JO, Ulfers A, Peterson L, Shvartsman K**. Using a Cesarean Delivery Learner Checklist to Actively Engage Students into Delivery of Safe Quality Care. Poster Presentation at American Medical Association ChangeMedEd Sep 2023, Chicago, IL
19. Lehto A, Solomon Z, Chokshi B, **Brown J**. Impact of the COVID-19 Pandemic on Contraception Availability in the Military Health System. Presented at ACOG District X Annual Meeting, Tacoma, WA. Sep 2023
20. Littlepage-Saunders M, M Rusnak, M Tsuda, **TJ Wu**. Sex Differences In Delayed Fear Incubation In Mice. Poster Presentation at the 2023 Society for Neuroscience Annual Meeting, Washington DC
21. Littlepage-Saunders M, M Rusnak, M Tsuda, **TJ Wu**. Delayed Fear Incubation In Mice: Sex Differences. Poster Presentation at the 2024 Annual Meeting of the Endocrine Society, Boston, MA
22. **Lutgendorf MA**, Weis K. Effects of a Prenatal Mental Health Support Intervention on Maternal and Fetal Physiologic Response. (2023, September 19). [Invited Presentation] AMSUS Webinar, Military Women's Health Research. Available at: https://netforumpro.com/eweb/DynamicPage.aspx?Site=AMSUS&WebCode=EventDetail&evt_key=b020f5b6-6876-4dfb-8e3b-6e6f787352b8
23. **Lutgendorf MA**, Walker KC, Yuan T, Weis KL. Intended and Unintended Pregnancies: Social Determinants and Pregnancy Mental Health from a Decade of Military Research. Oral Presentation at Armed Forces District Meeting of ACOG, Tacoma, WA, 2023
24. **Lutgendorf MA**, Walker KC, Yuan T, Weis KL. Racial Inequities in Perinatal Pregnancy-Specific Anxiety and Depression in the Military Health System. Oral Presentation at Armed Forces District Meeting of ACOG, Tacoma, WA, 2023
25. **Malik M**, Britten J, Schwartz A, Echague CG, Roura-Monllor JA, Driggers P, Catherino WH. Curcumin, curcuminoids, vitamin D and production of extracellular matrix proteins in uterine fibroids. American Society for Reproductive Medicine, New Orleans, LA, October 2023
26. **Malik M**, Britten J, Driggers P, Borahay M, Catherino WH. Simvastatin Breaks Down Extracellular Matrix in an in-vivo Human Leiomyoma Xenograft. Society for Reproductive Medicine, Brisbane, Australia, March 2023
27. Musilli M, Fuller S, Haischer-Rollo G, Vereen RJ, **Lutgendorf MA**. Qualitative Analysis of the Lived Experience of Reproductive and Pediatric Health Care in the Military Healthcare System. Oral Presentation at Armed Forces District Meeting of ACOG, Tacoma, WA, 2023

28. **Peterson L, Ulfers A**, Keyser E. “Unclassified: Bringing Clarity to the Military Match.” Council on Resident Education in Obstetrics and Gynecology/ Association of Professors of Gynecology and Obstetrics Annual Meeting. San Antonio, TX, February 2024
29. Roura-Monllor JA, Britten J, Driggers P, **Malik M, Catherino WH**. FOXM1 protein is overexpressed in uterine leiomyosarcoma compared to leiomyoma and myometrium. Society for Reproductive Investigation, Vancouver, Canada, March 2024
30. Roura-Monllor JA, Britten J, Driggers P, **Malik M, Catherino WH**. The retinoic acid pathway in uterine fibroids is not affected by ulipristal acetate. American Society for Reproductive Medicine, New Orleans, LA, October 2023
31. Rusnak M, AL Russell, J Scott, D Henry, P Morel, P Kochanek, AK Wagner, **TJ Wu**. Chronic stress effect on mild blast TBI-induced behavior profiles and neuroendocrine-immune responses in mice: A NEXUS (NeuroimmunoEndocrine Interface: Exploring a Unifying Axis for Studying Precision Care in Psychological Health and TBI) Study. Poster Presentation at the 2024 Annual Meeting of the National Neurotrauma Society, San Francisco, CA
32. Schreurs E, M Rusnak, **TJ Wu**. Estradiol-17 β Alone Does Not Play a Role in Mediating Dysregulation of the HPA Axis Following Mild-Blast Induced Traumatic Brain Injury. Poster Presentation at the 2023 Society for Neuroscience Annual Meeting, Washington DC
33. Schwartz A, **Malik M**, Driggers P, **Catherino WH**. Relugolix inhibits leiomyoma extracellular matrix production via the TGF beta pathway. Society for Reproductive Investigation, Vancouver, Canada, March 2024
34. **Lutgendorf MA**. Society for Maternal-Fetal Medicine Postgraduate Course 2024 Clinical Informatics and Emerging Technology with Impact on MFM Care, Use of Technology in Education
35. Teng J, Prabhakar S, **Brown J**, Rajnik M. Impact of the COVID-19 Pandemic on Congenital Syphilis in the Military Health System. Presented at ACOG District X Annual Meeting, Tacoma, WA. Sep 2023
36. **Ulfers A**. “Mission Medicine: Finding and Developing Your Call.” Department of Obstetrics and Gynecology Grand Rounds. St. John’s Episcopal Hospital, Far Rockaway, NY Mar 2024
37. Weis KL, Chan W, **Lutgendorf MA**, Peterson M, Walker KC, Yuan T. Intended and Unintended Pregnancies: Social Determinants and Pregnancy Mental Health from a Decade of Military Research. Oral Presentation at the Military Health Research Symposium, Orlando, FL 2023
38. Weir L, Didrickson S, **Lutgendorf MA**. Impact of a system-wide Postpartum Hemorrhage Bundle in the Military Health System. Oral Presentation at Armed Forces District Meeting of ACOG, Tacoma, WA, 2023
39. **Wright-Terrell D, Ulfers A, Peterson L**. “Shining Through the Prism: An Innovative Approach to Help Students Sparkle on Interview Rotations.” Association of Professors of Gynecology and Obstetrics Faculty Development Seminar. Amelia Island, FL. January 2024
40. **Wu TJ**. Pre-Clinical Models of Traumatic Brain Injury. 2023 National Academy of Medicine, Washington DC

41. **Wu TJ.** Sex-Dependent Effects of Mild Blast-Induced Traumatic Brain Injury on the Hypothalamic-Pituitary-Adrenal Axis. 2024 Pan American Neuroendocrine Society, Santos, Brazil
42. Wyatt-Nash B, Vereen R, Ryals T, Blevins E, Drumm C, Haischer-Rollo G, **Lutgendorf MA.** Receipt and Access to Perinatal Behavioral Healthcare, Experiences of Birthing Individuals in the Military Health System. Poster Presentation at the Society for Maternal-Fetal Medicine Annual Meeting, National Harbor, MD, 2024
43. Wyatt-Nash B, Konopasky A, Drumm C, **Lutgendorf MA.** Experiences of Birthing Individuals Related to Culturally Sensitive Care in the Military Health System. Oral Presentation at Armed Forces District Meeting of ACOG, Tacoma, WA, 2023

OTHER NON-PEER REVIEWED PUBLICATIONS (E.G., BOOK CHAPTERS)

1. **Lutgendorf MA.** American College of Obstetricians and Gynecologists. (n.d.). *District X – Maternal Health Awareness Day, Panel on Perinatal Mental Health.*
2. **Brown, J., & Shvartsman, K.** (2023). Gynecologic disorders. In M. Papadakis & S. McPhee (Eds.), *Current medical diagnosis & treatment 2023* (62nd ed., pp. 758–785). McGraw Hill.
3. **Catherino, W. H.** (2024). Ovaries and pubertal development. In *Goldman-Cecil medicine* (Vol. 1, 27th ed., chap. 217, pp. 1579–1584).
4. **Catherino, W. H.** (2024). Reproductive endocrinology and infertility. In *Goldman-Cecil medicine* (Vol. 1, 27th ed., chap. 218, pp. 1584–1600).
5. Hubbard, H. S., **Lutgendorf, M. A.**, & Shivers, S. N. (2023). High-risk childbearing. In *Women's healthcare in advanced practice nursing* (3rd ed., pp. 695–714). Springer Publishing.
6. **Lutgendorf, M. A.**, & Deering, S. H. (2024). Critical care drills in obstetrics. In *Critical care obstetrics* (7th ed.). Wiley.
7. **Peterson, L.** (in press). Hemoglobinopathies in pregnancy. In *Pregnancy complications: A case-based approach.* Society of Academic Specialists in General Obstetrics and Gynecology.
8. **Peterson, L.** (in press). Medical management of ectopic pregnancy. In *Pearls of excellence.* Society of Academic Specialists in General Obstetrics and Gynecology.
9. **Peterson, L.**, Duncan, J., Hawks, M., & Moores, L. (in press). Longitudinal assessment in medical education. In *Handbook on medical student assessment and evaluation* (2nd ed.). Alliance for Clinical Education. Gegensatz Press.
10. Suchecki, D., Meerlo, P., & **Wu, T. J.** (2024). The bidirectional relationship between sleep and neuroendocrinology. *Frontiers in Endocrinology.*

GRANTS

GSO grant funding totaled over \$4 million, with an additional \$8 million in GYN-COE grant funding. Professor T. John Wu, PhD is serving as PI or co-PI on the following grants with funding totaling nearly \$3.5 million.

Acute and long-term impact of stressors on the stress axis and cognitive performance	Percent Effort:	10%
	Funding Agency:	Department of Defense
	Period of Funding:	9/2023 - 8/2025
	Total Cost:	\$600,000 (direct + indirect)
Sleep restriction and mild blast TBI on PTSD-like behavioral outcome	Percent Effort:	10%
	Funding Agency:	Congressionally Directed Medical Research Programs (CDMRP)
	Period of Funding:	8/2022 - 8/2025 (one year no cost extension (NCE) requested)
	Total Cost:	\$295,200 (direct + indirect)
NeuroImmunoEndocrine Interface: Exploring a Unifying Axis for Precision Care in PH & TBI	Percent Effort:	15%
	Funding Agency:	CDMRP (Focused Award Mechanism)
	Period of Funding:	9/2022 - 9/2026
	Total Cost (USU):	\$757,364 (direct + indirect)
Microglial Breakthroughs in Longevity, Aging, & Senescence after TBI	Percent Effort:	15%
	Funding Agency:	CDMRP (Focused Award Mechanism)
	Period of Funding:	10/16/2024 - 10/15/2028 (awarded: estimated dates)
	Total Cost (USU):	\$1,118,290 (direct + indirect)
Local CRF signaling within the lateral habenula	Percent Effort:	5%
	Funding Agency:	National Institute of Mental Health (NIMH)
	Period of Funding:	03/01/2023 to 02/28/2026 (1 year NCE)
	Total Cost:	\$398,638.00
PACAP as a Potential Therapeutic Intervention for Mild TBI-Induced Mood Dysregulation	Percent Effort:	5%
	Funding Agency:	CDMRP
	Period of Funding:	03/01/2023 to 02/28/2026 (1 year NCE)
	Total Cost:	\$256,259.00



Professor John Wu with CAPT Monica Lutgendorf

STUDENT RESEARCH



2d Lt Megan Doherty, an Air Force MD/PhD student in her first year of graduate school, is investigating novel therapies for uterine leiomyosarcoma (uLMS), a rare and highly aggressive gynecological malignancy. Her research advisor is Dr. William Catherino. Lt Doherty's research focuses on identifying optimal combinations of standard chemotherapy with targeted DNA damage repair inhibitors. Once the most effective combinations are identified, she will transition to in vivo studies using a novel orthotopic uLMS model, where tumor xenografts are implanted in the murine myometrium. This approach aims to address limitations of traditional heterotopic models, which are subcutaneous and may not accurately represent the tumor's native environment. By comparing the progression and therapeutic responses of

both models, Lt Doherty aims to establish improved treatment strategies and a more physiologically relevant model system to advance future uLMS therapies.

GYN-COE CELEBRATES 20 YEARS

Established in 2004, the Walter Reed Army Medical Center's Gynecologic Cancer Center of Excellence (GYN-COE) celebrated its "20-year journey of pioneering research, collaboration, and commitment to advancing women's health and military readiness." In May 2024, USU News published a brief history of the GYN-COE, including a short video on the GYN-COE and the Women's Health Integrated Research Center:

<https://news.usuhs.edu/2024/05/empowering-womens-health-gyn-coes-20.html>

<https://vimeo.com/944495524>

EDUCATION

The Education Division is thriving and expanding. Our faculty members hold leadership roles at every level of medical education—pre-clerkship, clerkship, and post-clerkship—ensuring that students receive comprehensive training in women’s health throughout their medical education. In recent years, we have broadened our reach across the Military Health System, offering 13 clinical rotation sites across all time zones.

We are incredibly grateful to our site directors for their partnership and dedication to educating our students. Additionally, USU-billeted faculty serve as Site Directors at two of our clerkship locations, San Diego and Walter Reed, providing our students with enriched learning experiences. We hope to increase the number of USU-billeted faculty in the coming years. Moreover, our education faculty actively participate as leaders and members on institutional and national committees, allowing us to both learn from and contribute to educational innovations that enhance our curriculum. For example, this year, we introduced an oral exam in our core GSO clerkship, which serves as both a summative assessment and an opportunity for formative feedback and ongoing teaching.

With a strong commitment to student success, the Education Division has established an Applicant Development Committee to optimize residency match outcomes for students applying to GSO programs. Each committee member mentors students throughout the application process, offering guidance on personal statements, CVs, research projects, and conducting mock interviews.

Our faculty’s expertise continues to be recognized at a national level, with members being selected to lead workshops on key educational topics at prestigious meetings such as the Association of Professors of Gynecology and Obstetrics (APGO) Faculty Development Seminar and the CREOG/APGO Annual Meeting. This recognition further underscores the influence of our division in the field of women’s health education.

Finally, through the GSO Student Interest Group and the Capstone program, we offer professional and research mentorship, hands-on workshops, and innovative lectures designed to educate and inspire the next generation of leaders in women’s health.

Katerina Shvartsman, MD
Associate Professor and Vice Chair for Education
Department of Gynecologic Surgery and Obstetrics

STUDENT INTEREST GROUP

The Student Interest Group is off to a strong start with two very well attended events at the beginning of the 2024-2025 academic year. The GSIG leadership and GSO faculty representative were on-hand for the USU Interest Group Fair which captured over 30 students who desired additional contact and participation in the group over the coming year. The students hold regular hands-on contraceptive skills fairs with demonstrations by GSO faculty and well attended by over 40 SOM students. A joint panel discussion with the Surgery Interest Group is planned in the future. On-going efforts include pairing students with faculty members and generating shadowing opportunities in the clinic setting for interested students, and helping students find faculty mentors for research.

SERVICE, COMMUNITY ENGAGEMENT, AND INTERNATIONAL PARTNERSHIPS

VISIT TO MBEYA ZONAL REFERRAL HOSPITAL, TANZANIA

In partnership with the Departments of Preventive Medicine and Biostatistics (PMB) and Pediatrics (PMB), GSO conducted a training workshop at Mbeya Zonal Referral Hospital in Tanzania, to assist our Tanzanian colleagues with enhancing their obstetric and neonatal emergency response capabilities. The Mbeya Zonal Referral hospital sees 450-600 births per month and serves as a referral hospital covering a wide geographical region in western Tanzania. During the visit, we provided comprehensive training in obstetric emergencies and advanced neonatal resuscitation, using a “train-the-trainer” model to teach a group of Tanzanian subject matter experts. The training focused on improving team effectiveness and communication through hands-on practice and debriefing sessions. During the three-day program, the team trained 79 participants, who provided overwhelmingly positive feedback. The program successfully improved participants' confidence and identified areas for system improvement, contributing to better maternal and neonatal outcomes in the region.



USU faculty members with Tanzanian colleagues at Mbeya Zonal Referral Hospital

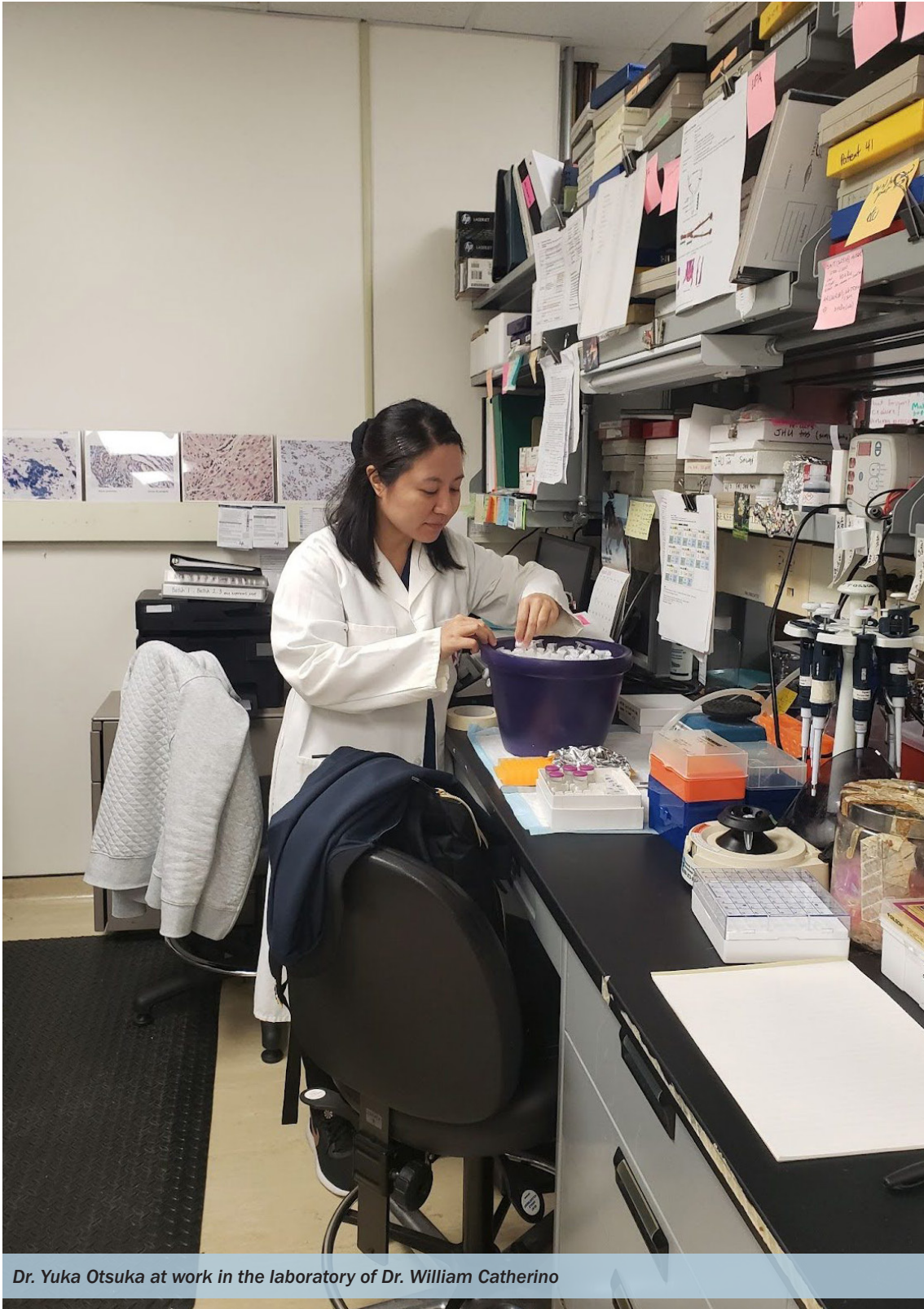
FUTURES IN MILITARY MEDICINE: ROTC OUTREACH

Mary Baldwin University in Staunton, VA is home to the only all-female ROTC corps of cadets from three service branches. During semi-annual visits to Mary Baldwin, Associate Professor Col Trimble Spitzer (a Mary Baldwin alumna) meets with students to discuss careers in military medicine, including physician and nursing opportunities available through USUHS. Col Spitzer serves as a USU liaison for interested students, offering practical information and advice on applying to medical school.



DLAR COLLABORATION WITH NDMC JAPAN

Visiting faculty member LCDR Yuka Otsuka, MD (NDMC, Japan) conducted research in the laboratory of Dr. William Catherino, and mentored Air Force medical student 2d Lt Megan Doherty in the Department for Laboratory Animal Resources (DLAR). During her time in the laboratory, which Dr. Catherino describes as “quite productive,” Dr. Otsuka assessed the in vitro impact of curcumin on a leiomyosarcoma cell line both alone and in combination with doxorubicin, including its impact on cell proliferation and cell cycle regulators. Additionally, Dr. Otsuka assessed curcumin and doxorubicin in vivo, including serum analysis of curcumin and immunohistochemistry of cell cycle regulators.



Dr. Yuka Otsuka at work in the laboratory of Dr. William Catherino

AWARDS

EMERITUS PROFESSOR AND FORMER GSO CHAIR RECEIVES ACOG LIFETIME ACHIEVEMENT AWARD

Professor Emeritus and former GSO Chair Dr. Ernest Lockrow received the 2024 Luella Klein Lifetime Achievement Award from the ACOG Council of District Chairs (CDC). This annual award honors an obstetrician and gynecologist who has dedicated his/her life in a significant way to women's health.



L to R: Christopher M. Zahn, MD, Col USAF Ret., Dr. Ernest Lockrow, Dr. Katerina Shvartsman, Dr. Monica Lutgendorf

GSO ASSOCIATE PROFESSOR RECEIVES MENTORSHIP AWARD

GSO Associate Professor Col Trimble Spitzer received the American College of Obstetricians and Gynecologists Armed Forces District 2024 Mentor of the Year Award. Col Spitzer serves as Co-Module Director for the Reproduction & Endocrinology Preclerkship module, supporting dozens of students each year in research on Fertility Preservation and Reproductive Toxins. She also serves as an American Board of Obstetrics and Gynecology National Board Examiner.



Col Trimble Spitzer (left) with Department Chair CAPT Monica Lutgendorf

LEADERSHIP AND FACULTY



**CAPT Monica A. Lutgendorf, MD,
USN, MC**
Professor and Chair



Jill E. Brown, MD, MPH
*Associate Professor and Vice Chair
Director, Women's Health Clinical
Outcomes and Diversity*



Katerina Shvartsman, MD
*Associate Professor
Vice Chair for Education*



Logan Peterson, MD
*Assistant Professor
Director of Clinical Clerkships*



**Major Alexander K. Ulfers, DO,
USAF, MC**
*Assistant Professor
Assistant Director, Clinical Clerkships*



Dr. Jason Heaton
Associate Professor



Dr. Lindsey Borgia, MD FACOG
Assistant Professor



**Colonel Trimble Spitzer, MD,
USAF, MC**
*Associate Professor
Co-Reproductive Endocrinology
Module Director*

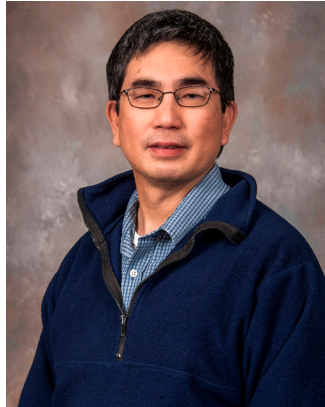


**Colonel Heather M. Barbier, MD,
USAF, MC**
*Associate Professor
Gynecologic Surgery and Obstetrics
Residency Program Director, Walter
Reed National Military Medical Center*

LEADERSHIP AND FACULTY (CONT.)



William H. Catherino, MD, PhD
Professor
Vice Chair for Research



T. John Wu, PhD
Professor



Minnie Malik, PhD
Professor



Ernest G. Lockrow, DO
Professor Emeritus



William Haffner, MD
Professor Emeritus



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