

To the Georgia Trauma Commission,

Project Title: Surgical Education and Surgical Simulation Research Fellowship
Principal Investigator: Erika Simmerman Mabes, DO, FACS
Institution: Wellstar MCG, in collaboration with the Medical College of Georgia
Division: Trauma, Surgical Critical Care, Acute Care Surgery

Executive Summary:

The Department of Surgery and Division of Trauma and Acute Care Surgery is seeking a grant to fund a surgical education and simulation research fellowship at our institution with the following objectives:

1. Further developing a cutting-edge surgical simulation program for Wellstar MCG and the Medical College of Georgia.
2. Train future surgical educators in curriculum development and simulation-based education by providing the knowledge and tools necessary to run effective surgical simulation programs.
3. Promote outreach through the further development and implementation of a rural trauma outreach curriculum in the state of Georgia.
4. Continue developing, implementing, assessing, and evaluating interdisciplinary simulations, including trauma simulations.
5. Facilitate the development of expertise in the design and execution of surgical education research with increasing local, regional, and national presentations on surgical simulation and education.
6. Upon successfully implementing the fellowship, we will apply for accreditation through the American College of Surgeons Accredited Education Institute, establishing our institution as a national leader in surgical education.

We have introduced and continue developing surgical simulation curricula for resident and medical student education. We have expanded our efforts through a multidisciplinary surgical simulation committee, drawing from the enthusiasm and efforts of leading surgical educators from various subspecialties. With a rapidly expanding surgical simulation program, we now have increasing national recognition for our surgical simulation efforts and multiple surgical education and simulation research projects, **with a heavy emphasis on trauma simulation and outreach.** We have the unique opportunity to support a surgical simulation and education research fellowship that will benefit our surgery residency, our students at the Medical College of Georgia, and our entire health system with hopes of promoting sustainable outreach curricula to rural communities in Georgia through our institution's rural surgery initiatives.

Statement of Need:

With increased work hour limitations of surgical trainees, decreased operative trauma, and changes in surgical techniques, surgical simulation has become an integral part of surgery education curriculums. However, simulation-based fellowships specific to surgical education are scarce, with only approximately twenty ACS AEI-accredited surgical simulation fellowships nationwide! The Department of Surgery at Wellstar MCG is undergoing significant growth, with an exponential increase in simulation-based education. Nationally, we are seeing increasing demand for simulation educators. Thus, the robust curriculum development at our institution offers a fantastic opportunity for developing a comprehensive surgical simulation fellowship coupled with surgical education research. This meaningful fellowship will provide critical training to future surgical educators as a fellowship offered to surgical trainees of varying levels of training. This benefits the resident trainees, other subspecialties involved in interdisciplinary curricula, and the wide range of medical students participating in these training activities!

There is also a need for support of the rural trauma providers in Georgia. Trauma patients experience a higher relative risk of dying in rural emergency departments compared to trauma centers, and studies have identified the need for dedicated skills training and resource allocation to rural trauma programs, given this health disparity. Nationally, rural providers report minimal exposure to severe trauma and identify a need for skills training to improve efficacy. With the development of rural simulation trauma outreach curricula, we have opportunities for a surgical simulation and research fellow to provide regular rural outreach, which is a clear need for rural communities in Georgia.

Program Description:

Working with our interdisciplinary simulation center leadership, we will provide a formal educational curriculum for general and specific surgical simulation. This simulation-based education fellowship will teach adult learning theory, simulation design, debriefing, assessment methodology, medical education principles, research methodology, and administrative skills.

The fellow will be expected to participate in surgical simulation teaching, curriculum development, and surgical education research projects. The fellow will have opportunities to present research and curriculum development topics at local, regional, and national conferences, sharing our work with other leaders in surgical education. Our Comprehensive Surgical Simulation Curricula includes, but is not limited to, the following curricula which the fellow will actively participate in:

1. *General Surgery Skills Curriculum*
2. *Multidisciplinary Trauma Simulation Curriculum*
3. *Intensive Care Unit Simulation Curriculum*
4. *Massive Transfusion Protocol Multidisciplinary Training Curriculum*
5. *Emergency Medicine Rural Outreach Trauma Simulation Curriculum*
6. *Multidisciplinary Operating Room Simulation Curriculum*
7. *Robotics Simulation Curriculum*
8. *Fundamentals of Laparoscopic Surgery Curriculum*
9. *Fundamentals of Endoscopic Surgery Curriculum*
10. *Cadaver Lab Curriculum*
11. *Laparoscopic and Open Tissue Lab Curriculum*
12. *Medical Student Surgical Skills Curriculum*

In addition to institutional simulation activities, the surgical simulation fellowship will emphasize trauma simulation and trauma outreach. An interactive rural outreach simulation curriculum is in the early stages of development, with the expectation that this will be further translated into a simulation curriculum that can be sustainably provided to rural trauma centers and regions in Georgia needing education and training on stabilizing polytrauma patients. The simulation fellow will promote trauma outreach through monthly delivery of the curriculum and collaborate with other rural trauma providers to improve our state's trauma patient outcomes.

Feasibility and Sustainability:

There is a growing need for surgical simulation educators nationally due to the increased need for simulation training in surgery specifically, and we are fortunate to have the ability to provide ample opportunities for education AND teaching experience for a research fellow. The Department of Surgery at Wellstar MCG has seen exponential growth in the last decade in surgical simulation, with an increasing need for support. Multiple surgical-specific curriculums have been developed and implemented for the general surgery curriculum. With an interdisciplinary simulation center already accredited by the Society for Simulation in Healthcare, there are numerous additional opportunities outside the surgery department for simulation lectures, educational events, and research to support a research fellow's work easily.

The proposed curriculum will consist of an introduction to simulation in July consisting of a lecture-based series through the simulation center that will facilitate understanding of simulation theory, adult learning theory, needs

assessment, curriculum development, assessment, and evaluation. The fellow will also undergo orientation to simulation curricula starting in July, where the fellow will be part of the education team leading the various simulation events. The fellow will be expected to join the ongoing research projects and identify at least one project regarding surgical education that will be completed throughout the year from start to finish. The fellows will be educated in surgical simulation and learn how to perform surgical education research and demonstrate success in this area with presentations and publications on curriculum development and implementation, much of which is already started or in place.

With the continued and increased need for surgical simulation educators, a simulation fellowship will not only be beneficial to our institution, providing additional support and resources for research projects and teaching of simulation and education labs, but with sustained support for the fellowship and eventual accreditation by the American College of Surgeons, the fellowship will lend itself to further sustainability with consistent fellowship positions year after year. Given the nature of longitudinal curricula with surgical training, individuals completing the fellowship will have multiple projects with continued longitudinal involvement. They will have gained a skill set that will facilitate contributions to further surgical education upon completion of surgical training. There will be a continued need for support yearly to continue the fellowship.

Evaluation and Outcomes:

The research fellow and the program director will complete quarterly evaluations. These evaluations will include, but are not limited to, clearly identifying educational events and lectures attended, completion of simulation didactics, surgical simulation teaching events, ongoing research project involvement, presentations, publications, and independent project reports. The quarterly reports will be provided to the General Surgery Residency Program Director for review and discussion.

Outcomes will be measured based on course completion of simulation didactics, progress through the training program from simulation orientation to simulation instructor, and research outcomes with presentations and publications. The fellow is expected to complete abstract submissions for the following surgical education meetings: the Academic Surgical Congress, the American College of Surgeons Clinical Congress, the Association for Surgical Education, and the American College of Surgeons Simulation Summit. The fellow is also expected to complete abstract submissions for the Eastern Association for the Surgery of Trauma (EAST), The American Association for the Surgery of Trauma (AAST), and other trauma-focused local, regional, and national conferences. Participants must attend at least two conferences, including Surgical Education Week (ASE / APDS).

Reporting and Accountability:

The grant recipient will provide quarterly progress reports to the Georgia Trauma Commission Executive Director with quarterly operations calls to provide details on fellowship evaluation and outcomes. Reports provided to the General Surgery Residency Program Director will also be provided to the Georgia Trauma Commission. In addition to quarterly operations calls, there will be a quarterly report at Commission meetings by the fellow or fellowship director to give updates on the educational curriculum completion, development, and implementation of new surgical education curricula, progress from orientee to surgical simulation and education instructor, and, lastly, all scholarly activity resulting from the fellowship.

In addition to the recipient's progress and evaluation reports, the Department of Surgery's financial department will provide documentation of grant funding allocation for fellowship costs. This includes the fellow's salary, the institution's benefits coverage, non-personnel expenses, outreach travel expenses, and any other expenses related to the individual fellowship.

An annual report, which will be a full project report at the end of the year, will be provided to the Georgia Trauma Commission. It will include successes, challenges, and recommendations for sustaining the fellowship and the shared goals of improving and sustaining trauma outreach in the state of Georgia.

Personnel:

We anticipate recruiting one fellow every 1-2 years, depending on whether the commitment is for one or two years.

Funding:

Expense	Cost
PGY6 Salary (Based on FY25 Rates)	\$70,221.00
Benefits (Calculated at 28%)	\$19,661.88
Non-Personnel Expense	\$5,000.00
Trauma Outreach Travel Expenses (12 per year plus regional meetings)	
Average Gas + Mileage Reimbursement (400 miles roundtrip x .66/mile x 12)	\$3,168.00
Hotel (\$250/nt) x 16 nights/year	\$4,000.00
Total	\$102,050.88

Collaborative Effort with The Georgia Trauma Commission:

This Research Fellowship will include local, regional, and national collaborative efforts with the GTC. As described throughout the proposal, educational activities and curriculum development will be required for trauma and rural trauma outreach as part of the fellowship. Quarterly updates will be provided, and continued collaboration is expected to support the sustainability and success of the program. Preparation of scholarly submissions related to trauma outreach and trauma simulation to academic societies for presentation and subsequent manuscript publication is a requirement, and The Georgia Trauma Commission will be in authorship.

Expected Results:

With this surgical simulation fellowship, we will develop a more vigorous simulation program for our institution, excel in simulation research, and provide much-needed training for surgical simulation educators nationally. This will improve the training for surgical residents, facilitating proficiency-based training that will give valuable quality improvement and performance improvement projects. Robust simulation experiences are also integral parts of medical student education, and facilitating surgical simulation growth will significantly improve our medical students' experience through the Medical College of Georgia by including surgery interest groups, Association of Women Surgeons students, and rotating medical students on surgical services.

By successfully implementing a trauma resuscitation curriculum at our institution, we hope to facilitate education models for trauma team training programs in other institutions. The project's broader impact is expected to increase national recognition of our surgery department as a leader in surgical education, specifically surgical simulation and trauma simulation. With collaboration with the Georgia Trauma Commission, we hope to have lasting impacts on educational programs for trauma centers throughout Georgia, improving trauma patient outcomes in rural centers and, thus, overall. With continued national recognition through presentations and publications, we expect to facilitate our outreach not only on local and regional levels but also on national platforms. Preparation of scholarly submissions related to trauma outreach and trauma simulation to academic societies for presentation and subsequent manuscript publication is a requirement and will include The Georgia Trauma Commission in authorship.

Upon successful implementation of the surgical simulation and research fellowship and establishment of our institution as an ACS AEI center of excellence, we will apply for accreditation through the American College of Surgeons for our surgical simulation fellowship. The eventual establishment of our ACS AEI-accredited fellowship will position our institution as one of the leaders in surgical simulation education nationally.

Ongoing Projects and Presentations To Date:

PUBLICATIONS:

1. Simmerman Mabes E, Chainey J, Wang ML, Dickinson KJ. **"Problem Identification and Needs Assessment for a Universal Surgical Simulation Educational Curriculum."** Journal of Surgical Education. *Submitted.*
2. Tracy K, Jones M, Langston R, Schaefer A, Nguyen T, Tidwell T, Yu J, Simmerman Mabes E. **"Comprehensive Analysis of Financial Cost and System Burden in Nonfatal Firearm Injuries."** Journal of Acute Care Surgery. *Submitted.*
3. Jones M, Tracy K, Liu G, Motla V, Langston R, Schaefer A, Yu J, Agarwal G, Simmerman Mabes E. **"Nonfatal Firearm-Related Vascular Injuries: Clinical and Financial Implications in Trauma Care."** Annals of Vascular Surgery. *Submitted*
4. Langston R (presenter), Demino C, Tracy K, Jones M, Schaefer A, Nguyen T, Tidwell T, Yu J, Simmerman Mabes E. **"Below Elbow Upper Extremity Non-Fatal Firearm Injuries: A Single Trauma Center Retrospective Analysis."** American Surgeon. *Submitted*
5. Sturdevant M, Tien L, Javangula M, Ange B, Owings N, McKenzie J, Medeiros R, Adam B, Switzer E, Lee A, Abuzeid A, Simmerman Mabes E. **"Establishment of Inter-Rater Reliability in Developing a Video Review Tool for the Trauma Bay."** American Surgeon. *Submitted.*
6. **Simmerman Mabes E**, Tien L, Sturdevant M, Jones M, Javangula M, Ange B, McKenzie A, Medeiros R, Switzer E, Lee A, Adam B, Abuzeid A. **"Problem Identification, Needs Assessment and Development of a Multidisciplinary Trauma Simulation Curriculum at a Level One Academic Trauma Center: A Novel Education Model to Improve Resident Education, Team Communication, and Trauma Resuscitation Outcomes."** Global Surgical Education (2025) 4:26. <https://doi.org/10.1007/s44186-024-00338-2>.
7. Tien L, Sturdevant M, Javangula M, Ange B, McKenzie J, Medeiros R, Switzer E, Abuzied A, Lee A, **Simmerman Mabes E.** **"Remodeling the Trauma Bay to Improve Communication and Patient Care."** Trauma and Acute Care Surgery Open. *Accepted, under revision.*
8. Tracy K, Jones M, Langston R, Schaefer A, Nguyen T, Tidwell T, Simmerman Mabes E, Yu J. **"Analysis of Factors Influencing Financial Cost and Morbidity in Nonfatal Firearm Injuries."** American Surgeon. 2024 Aug;90(8):2075-2077. Doi: 10.1177/00031348241241694. Epub 2024 Mar 28. PMID: 38547538

PRESENTATIONS:

Oral:

1. **Simmerman Mabes E**, Wang ML, Guzzetta A, Moore S. **"New and Early Career Simulation Educators: How to Start and Continue to Grow a Simulation Program."** Association of Surgical Education Surgical Education Week 90-minute workshop. Seattle, WA May 2025.
2. Hammond E, Graf A, Holmes K, Holsten S, Lee A, **Simmerman Mabes E.** **"Development and Implementation of a Rural Surgery Initiative: A Novel Approach to Training a True General Surgeon."** Thinking Out of the Box Session. Association for Surgical Education Annual Meeting, Surgical Education Week. Seattle, WA May 2025.

3. Aldaher Z, Moore G, Dunn K, Jones C, Lyons M, Kleinheksel AJ, **Simmerman Mabes E.** ***"Needs Assessment to Develop an Interactive Trauma Simulation Curriculum for the Rural Trauma Team."*** Moretz Society Annual Conference. Augusta, GA February 2025.
4. Moore G, Wilcox J, Aldaher Z, Bays B, Medeiros R, Switzer E, Lee A, Adam B, **Simmerman Mabes E.** ***"Multi-disciplinary, Simulation-Based Massive Transfusion Protocol Curriculum."*** Moretz Society Annual Conference. Augusta, GA February 2025.
5. Moore G (presenter), Aldaher Z, Dunn K, Harp C, Jones C, Lyon M, Kleinheksel AJ, **Simmerman Mabes E.** ***"Designing a Conference-Based Trauma Simulation Curriculum for Rural Providers"*** Georgia Quality Improvement Program Qinter Meeting, Pine Mountain, GA February 2025.
6. Jones M (presenter), Tracy K, Langston R, Schaefer A, Nguyen T, Tidwell T, Yu J, **Simmerman Mabes E.** ***"Factors Impacting Cost and Morbidity in Nonfatal Firearm Injuries Affecting the Head and Neck."*** Medical College of Georgia Research Day. November 2024, Augusta, GA.
7. Jones M (presenter), Tracy K, Langston R, Schaefer A, Nguyen T, Tidwell T, Yu J, Agarwal G, **Simmerman Mabes E.** ***"Vascular Injuries from Nonfatal Firearm Injuries, an Evaluation of Financial Costs."*** Georgia Vascular Conference October 2024.
8. Hammond E (presenter), Holmes K, Graf A, Holsten S, **Simmerman Mabes E**, Lee A. ***"Effects of Rural Surgery Rotations on General Surgery Training: Rural Surgery Initiative."*** Georgia Society of ACS Annual Conference. St. Simons Island, GA, August 2024.
9. Tracy K (presenter), Langston R, Jones M, Schaefer A, Nguyen T, Tidwell T, Yu J, **Simmerman Mabes E.** ***"Financial Impact of Nonfatal Firearm Injuries Requiring Ostomy Creation."*** Georgia Society of ACS Annual Conference. St. Simons Island, GA, August 2024.
10. Sturdevant M (presenter), Tien L, Jones M, Owings N, Javangula M, Ange B, McKenzie J, Medeiros R, Switzer E, Abuzeid A, Lee A, Adam B, **Simmerman Mabes E.** ***"Developing a Multidisciplinary Trauma Simulation Curriculum: A Novel Education Model to Improve Resident Education, Team Communication, and Trauma Resuscitation Outcomes."*** American College of Surgeons Quality Improvement Conference. Denver, CO July 2024
11. **Simmerman Mabes E** (Presenter), Tien L, Sturdevant M. ***"Developing a Multidisciplinary Trauma Simulation Curriculum: A Novel Education Model to Improve Resident Education, Team Communication, and Trauma Resuscitation Outcomes."*** *Thinking Out of the Box Session.* Association of Surgical Education Annual Meeting. Surgical Education Week April 2024.
12. Sturdevant M, Tien L, Adam B, Simmerman Mabes E. ***"Development of a Multidisciplinary Trauma Simulation Curriculum."*** Moretz Surgical Society Annual Conference. Augusta, GA, March 2024.
13. Easley M, Graf A, Adam B, Simmerman Mabes E. ***"Comprehensive Simulation Curriculum for General Surgery Training."*** Moretz Surgical Society Annual Conference. Augusta, GA March 2024.
14. Tien, L, Sturdevant M, Medeiros R, Lee A, Simmerman Mabes E. ***"Remodeling the Trauma Bay to Improve Communication and Patient Care."*** Moretz Surgical Society Annual Conference. Augusta, GA March 2024.

Quickshot Oral Presentations:

1. Sturdevant M, Tien L, Javangula M, Ange B, Owings N, McKenzie J, Medeiros R, Adam B, Switzer E, Lee A, Abuzeid A, Simmerman Mables E. ***“Establishment of Inter-Rater Reliability in Developing a Video Review Tool for the Trauma Bay.”*** Southeastern Surgical Conference Annual Meeting. New Orleans, LA February 2025.
2. Langston R (presenter), Demino C, Tracy K, Jones M, Schaefer A, Nguyen T, Tidwell T, Yu J, Simmerman Mables E. ***“Below Elbow Upper Extremity Non-Fatal Firearm Injuries: A Single Trauma Center Retrospective Analysis.”*** Southeastern Surgical Conference Annual Meeting. New Orleans, LA February 2025.
3. Aldaher Z (presenter), Dunn K, Moore G, Jones C, Lyon M, Kleinheksel AJ, Simmerman Mables E. ***“Needs Assessment to Develop an Interactive Trauma Simulation Curriculum for the Rural Trauma Team.”*** 20th Annual Academic Surgical Congress. Las Vegas, NV February 2025.
4. Hammond E (presenter), Holmes K, Graf A, Holsten S, Simmerman Mables E, Lee A. ***“Effects of Rural Surgery Rotations on General Surgery Training: Rural Surgery Initiative.”*** 20th Annual Academic Surgical Congress. Las Vegas, NV February 2025.
5. Graf A (presenter), Easley M, Ange B, Venkatesan A, Lee A, Adam B, Simmerman Mables E. ***“Targeted Single Institution Needs Assessment for Developing a Comprehensive Simulation Curriculum.”*** 20th Annual Academic Surgical Congress. Las Vegas, NV February 2025.
6. Moore G (presenter), Aldaher Z, Bays B, Medeiros R, Switzer E, Lee A, Adam B, Simmerman Mables E. ***“Targeted Needs Assessment for Development of an MTP Multidisciplinary Simulation-Based Training.”*** 20th Annual Academic Surgical Congress. Las Vegas, NV February 2025.
7. Tracy K (presenter), Schaefer A, Nguyen T, Tidwell T, Simmerman Mables E, Yu J. ***“Analysis of Factors Influencing Financial Cost and Morbidity in Nonfatal Firearm Injuries.”*** Southeastern Surgical Congress Annual Meeting. Clearwater Beach, Florida February 2024.
8. Tien L (presenter), Sturdevant M, McKenzie J, Ange B, Adam B, Abuzeid A, Lee A, Simmerman Mables E. ***“Remodeling the Trauma Bay to Improve Communication and Patient Care.”*** Annual Academic Surgical Congress. Washington, DC February 2024.
9. Sturdevant M (presenter), Tien L, McKenzie J, Ange B, Adam B, Abuzeid A, Lee A, Simmerman Mables E. ***“Establishment of Inter-Rater Reliability in Developing a Video Review Tool for the Trauma Bay.”*** Annual Academic Surgical Congress. Washington, DC February 2024.

Poster Presentations:

1. Moore G (presenter), Aldaher Z, Dunn K, Harp C, Jones C, Lyons M, Kleinheksel AJ, Simmerman Mables E. ***“Development of a Multi-Disciplinary, Conference-Based, Rural Trauma Simulation Curriculum.”*** Association for Surgical Education Annual Meeting, Surgical Education Week. Seattle, WA May 2025.
2. Graf A (presenter), Easley M, Ange B, Arkanum E, Lee A, Adam B, Simmerman Mables E. ***“Development of a Comprehensive Multidisciplinary Simulation Curriculum Based on Targeted Needs Assessment at a Single Institution.”*** Association of Program Directors in Surgery Annual Meeting, Surgical Education Week. Seattle, WA May 2025.

3. Moore G (presenter), Aldaher Z, Wilcox J, Garret M, Switzer E, Abuzeid A, Lee A, Simmerman Mabes E. ***Multi-Disciplinary, Simulation-Based Massive Transfusion Protocol Curriculum.*** Association of Program Directors in Surgery Annual Meeting, Surgical Education Week. Seattle, WA May 2025.
4. Tien L (presenter), Pitt B, Sturdevant M, Holm K, Adam B, Hatley R, Pipkin W, Simmerman Mabes E. ***From Words to Action: Problem Identification and Needs Assessment for an Interdisciplinary Pediatric Trauma Resuscitation Curriculum.*** American College of Surgeons Simulation Summit. Chicago, IL March 2025.
5. Easley M (presenter), Hammond E, Graf A, Ange B, Adam B, Lee A, Simmerman Mabes E. ***Development of Common Bile Duct Exploration Simulation Curriculum to Equip Trainees for Rural General Surgery Practice.*** American College of Surgeons Simulation Summit. Chicago, IL March 2025.
6. Pitt B (presenter), Tien L, Sturdevant M, Holmes K, Hatley R, Pipkin W, Adam B, Simmerman Mabes E. ***Optimizing Pediatric Trauma Resuscitation: Addressing Gaps in Team Dynamics Through Targeted Simulation Training.*** American College of Surgeons Simulation Summit. Chicago, IL March 2025.
7. Sturdevant M, Tien L, Javangula M (presenter), Ange B, Owings N, Jones M, McKenzie J, Medeiros R, Switzer E, Abuzeid A, Lee A, Adam B, **Simmerman Mabes E.** ***Establishment of Inter-Rater Reliability in Developing a Video Review Tool for the Trauma Bay.*** American College of Surgeons Quality Improvement Conference. Denver, CO July 2024
8. Tien L, Sturdevant M, Owings N (presenter), Jones M, Ange B, McKenzie J, Medeiros R, Switzer E, Abuzeid A, Lee A, Adam B, **Simmerman Mabes E.** ***Remodeling the Trauma Bay to Improve Communication and Patient Care.*** American College of Surgeons Quality Improvement Conference. Denver, CO July 2024.
9. Tien L, Sturdevant M, Owings N, Jones M (presenter), Ange B, McKenzie J, Medeiros R, Switzer E, Abuzeid A, Lee A, Adam B, **Simmerman Mabes E.** ***Trauma Simulation with Trauma Bay Remodeling to Strengthen Resident Education and Teamwork*** American College of Surgeons Quality Improvement Conference. Denver, CO July 2024
10. Tien L (presenter), Sturdevant M, McKenzie J, Ange B, Adam B, Abuzeid A, Lee A, **Simmerman Mabes E.** ***Trauma Simulation with Trauma Bay Remodeling to Strengthen Resident Education and Teamwork.*** Association of Program Directors in Surgery Annual Meeting, Surgical Education Week. Orlando, FL April 2024.
11. Sturdevant M (presenter), Tien L, Owings N, McKenzie J, Ange B, Adam B, Abuzeid A, Lee A, **Simmerman Mabes E.** ***Development of a Multidisciplinary Trauma Simulation Curriculum to Improve Resident Education and Team Communication.*** American College of Surgeons Surgical Simulation Summit. Chicago, IL March 2024.
12. Jones M (presenter), Tracy K, Langston R, Schaefer A, Nguyen T, Tidwell T, **Simmerman Mabes E, Yu J.** ***The Impact of Psychiatric Comorbidity on Financial Cost and Morbidity in Nonfatal Firearm Injuries.*** Medical College of Georgia Research Day 2024.

INVITED WORKSHOPS:

1. Mabes E, Wang ML, Guzzetta A, Moore S. ***New and Early Career Simulation Educators: How to Start and Continue to Grow a Simulation Program.*** Association of Surgical Education Surgical Education Week 90-minute workshop. Seattle, WA May 2025.

2. **Simmerman Mables E**, Gabrielle Moore. **"Management and Stabilization of the Trauma Patient for Rural Emergency Medicine Providers: An Interactive Curriculum and Simulation Course – Cadaver Tube Thoracostomy."** The Rural Emergency Practice Conference. Georgia College of Emergency Physicians and Medical College of Georgia. Augusta, GA February 2025.
3. Shim J, Johnson A, Imai T, Smith T, Bourgeois D, Wang M, Lipsky K, Jones D, Bialowas C, **Mables E**. **"Mentorship and Leadership of Surgeon Leaders Through Simulation."** Association of Surgical Education Committee Pre-Meeting Course. Association of Surgical Education Annual Meeting, Surgical Education Week. Orlando, FL April 2024.
4. **Mables E**. **"Development and Implementation of a Multidisciplinary Trauma Simulation Curriculum: Improving Team Communication and Trauma Resuscitations."** Association of Program Directors in Surgery Annual Meeting Workshop, Surgical Education Week April 2024.
5. **Mables E**. **Emergency Department Resuscitative Thoracotomy: Procedural pitfalls, indications, and cadaveric demonstration.** Emergency Medicine Cadaver Curriculum. Medical College of Georgia at Augusta University Medical Center. August 2022
6. **Mables E**. **Institutional Trauma Resuscitation Guidelines Orientation and Simulation Workshop.** Department of Emergency Medicine. Medical College of Georgia at Augusta University Medical Center. July 2022.
7. **Mables E**. **Advanced Airway Lab: Open and Percutaneous Cricothyrotomy.** Department of Anesthesia Attending Workshop. Medical College of Georgia at Augusta University Medical Center. May 2022, June 2022.

INVITED LECTURES:

1. **Simmerman Mables E (featured presenter)**, Zevallas E, Skadan S. **"Management and Stabilization of the Trauma Patient for Rural Emergency Medicine Providers: An Interactive Curriculum and Simulation Course."** The Rural Emergency Practice Conference. Georgia College of Emergency Physicians and Medical College of Georgia. Augusta, GA February 2025.
2. **Mables E**. **"Simulation-Based Education: The Evolution of Surgical Training."** Department of General Surgery Grand Rounds. Wellstar Medical College of Georgia, September 2024.
3. **Mables E**. **"Trauma Resuscitation Guidelines Orientation."** Emergency Medicine Grand Rounds. Wellstar Medical College of Georgia, July 2024.
4. **Mables E**. **"Expert Panel: Trauma Resuscitation."** Emergency Medicine Residency Guest Lecture. Medical College of Georgia at Augusta University Medical Center. July 2023.
5. **Mables E**. **"General Surgery Residency Mock Root Cause Analysis Lecture and Simulation."** General Surgery Residency Grand Rounds. Medical College of Georgia at Augusta University Medical Center. April 2023.