

Neil and Elise Wallace

STRATUS Center for Medical Simulation



2022 Annual Report



STRATUS

Simulation, Training, Research And Technology Utilization System

Table of Contents

Message from the Medical Director	4
Administration	6
Operations.....	9
Education	11
International Fellowship in Clinical Simulation	18
Research	21
External Services.....	25
Achievements.....	27
STRATUS Assistant Directors.....	33
Contact Us	35

Message from the Medical Director



**Andrew Eyre, MD,
MS-HPED**

STRATUS Medical Director

This past year has been an extraordinary one for STRATUS, marked by a wide range of innovative courses, an increasingly diverse group of users, and many exciting updates to our Center's equipment and infrastructure. I wish to express my deepest gratitude and appreciation to the incredible faculty and staff that keep STRATUS running at such a high level, as well as to our dedicated course directors, instructors, and learners.

Whenever I welcome guests to STRATUS, I tell them that simulation is so much more than the technology or the "stuff." Many simulation centers around the world are replete with state-of-the-art equipment, yet they sit empty and unused. STRATUS, on the other hand, is as busy as ever, welcoming learners from nearly every department and profession. STRATUS excels not because of the "stuff," but because of the people that use and support it.

Inspired by the ultimate goal of helping patients and providing our users with the best educational experiences possible, STRATUS invested in a large amount of new and sophisticated equipment throughout 2022. We welcomed a wide variety of learners, faculty, and guests and shared our expertise with healthcare leaders from around the world. As part of our International Program in Clinical Simulation, we celebrated the graduation of one cohort and welcomed two new fellows. We continued to host educational courses for external groups and rented our highly realistic facilities for photography and film shoots, media appearances, and feasibility studies. Our faculty, largely through our research lab, continued to present their work at professional meetings, publish widely in prestigious journals and obtain impressive grant funding.

I remain exceedingly grateful to lead such a phenomenal team as we continue to innovate, grow, and advance. As we look forward to the challenges and opportunities in the coming year, I invite you to read about the incredible progress and accomplishments that STRATUS has made over the past year.

Mission

The Neil and Elise Wallace STRATUS Center for Medical Simulation, affiliated with Harvard Medical School, is committed to advancing health professional education, patient safety, and healthcare outcomes through the development and application of innovative curricula, educational methodologies, quality improvement, and multidisciplinary research, supported by a world-class operational infrastructure.

Vision

The STRATUS center aims to be a world leader in transforming patient safety and care through innovative simulation education, research, assessment, and quality improvement.

Administration

As a part of our of post-COVID recovery, the Administration Team oversaw equipment and facilities upgrades, as well as broadening our connections with colleagues across the system to create new opportunities for the Center’s use.



Andrew Eyre, MD, MS-HPED
Medical Director



Judy Phalen, MPH
Administrative Director



Molly Cooke, BA
Administrative Assistant



Dustin Kenyon, BA
Program Coordinator



Melanie Snow, BS
Communications
Specialist



It’s an incredible feeling to be part of the hard-working, smart, and creative team at STRATUS. Through their efforts to refine and enhance our systems, our learners benefit from a stronger educational experience.

Judy Phalen

New Simulation Equipment

STRATUS invested in new and sophisticated [equipment](#). These devices truly bring medical education to the next level as users manipulate holograms, correlate anatomy with ultrasound images, and much more.



Simbionix ANGIO Mentor Simulator

Used in Interventional Radiology and Cardiac Cath Lab

(Photo credit: Surgical Science)



Glidescope Video Laryngoscope

Used in Anesthesia and Emergency Medicine

(Photo credit: Verathon)



Sonosite X-Porte Ultrasound Machine

Used by ICU, MICU, and SICU clinicians

(Photo credit: Sonosite)



FLS Laparoscopic Trainers

Used in surgical training

(Photo credit: Limbs & Things)



Mindray TE7 Ultrasound Machine

Used in Emergency
Medicine

(Photo credit: Mindray)



Valkyrie Minisim Ultrasound Nerve Block

Used in Anesthesia and Emergency
Medicine

(Photo credit: Valkyrie Simulators)



“

With new simulation technologies, users can interact and immerse themselves with material in ways that have never been possible before.

Dr. Andrew Eyre

Operations

With the addition of several new staff members, we continued to optimize processes that expand organizational efficiencies for new and returning learners and course instructors.



**Persephone
Giannarikas, BA, CHSOS**
Operations Manager



Eric Nohelty, BS, NREMT
Simulation Specialist



Charlotte MacDonald
Simulation Specialist



Brian Quach, BS, NREMT
Simulation Specialist



Valerie Sinnamon
Simulation Specialist



I'm proud that our learners and faculty leave our Center happy with the knowledge that has a meaningful impact throughout the hospital.

Persephone Giannarikas



Revolutionizing Medical Education with Augmented Reality Devices

The augmented reality (AR) based **Microsoft HoloLens** allows users to superimpose holographic images and other information on top of a user's actual environment. When paired with the **CAE Vimedex Ultrasound Simulator**, users can interact with and manipulate anatomical holograms, correlate anatomy with ultrasound images, and visualize both normal anatomy and pathology in ways that are truly both stunning and incredibly beneficial.

AR devices are the future of medical education

Unlike virtual reality that can be disorienting, augmented reality devices allow the user to see everything around them while adding in virtual information.



Education

In 2022, STRATUS introduced a new course tracking system, facilitated the development of innovative programs, and attracted new user groups to the Center.

STRATUS began 2022 with a detailed plan for growing the technological infrastructure. We successfully launched a new [Learning Management System](#) which provided more data to aid continuous quality improvement. In further efforts to streamline processes and create a user-friendly experience, we upgraded our [activity request system](#).

2022 saw 47 new [courses](#) put into place that engaged a new set of learners. We held our virtual [Instructor Training Seminars](#), with attendees joining from around the world, and our [Interprofessional Team Training Course](#) for Brigham and Women's Hospital (BWH) healthcare professionals. Additionally, we continued providing in situ programs, [clinical trainee electives](#), and programs that improve quality and safety across BWH.

“

I am most proud of the QA/QI processes that we have implemented this year at STRATUS. We can confidently move forward with improvements based on data-driven plans.

Dr. Deborah Navedo



**Deborah Navedo,
PhD, CPNP, FNAP,
CHSE**

Director of Education



**Maggie Ryan, MSN,
RN, CHSE**

Assistant Director of
Education



**Mary Anne Kenyon,
DNP, MPH, MS, RN,
ONC**

Director of Nursing
Education



Launch of Learning Management System

In the Spring of 2022, we launched [Moodle](#), our new Learning Management System. Moodle allows participants to see course materials and completed activities while STRATUS gathers more accurate participation reports in addition to automating and streamlining some administrative functions in the Center. Moodle also includes course evaluation surveys with reminders to participants, providing meaningful feedback to improve our programs.

“

Safe place to learn and simulate in a super supportive setting!

STRATUS Learner

“

I enjoyed the environment and the cases that we participated in, it was very relevant to our practice.

STRATUS Learner

Our Courses & Instructors

192

Different
Courses

251

Unique
Instructors

47

New Courses

2022 Simulation Educators of the Year

Nominated by STRATUS learners for excellence in simulation education.

Faculty Educators

Resident/Fellow Educator



**Tanzeema Hossain,
MD, MBCHB**

Director of Education, BWH
Department of Pediatrics



Suzanne Klainer, MD

Director of Simulation-based
Education and Debriefing,
BWH Department of
Anesthesiology



**Luisa Paredes
Acosta, MD**

Chief Medical Resident,
BWH

New & Innovative Programs

Critical Care Fellow Airway Management Workshop

In this new multi-specialty hands-on workshop, Anesthesia, Surgical, and Pulmonary Critical Care Fellows instruct one other in their specialties' approach to managing common and difficult airways, learning and educating at the same time.

Anti-Racism and Trauma-informed De-escalation Training Program

Using standardized patient clinical scenarios, this interprofessional program prepares a multidisciplinary team, including residents, attendings, advanced practice providers, nurses, Emergency Services Assistants, and security officers, to employ a trauma- and bias-informed approach to de-escalate patients in the emergency department.

Cardiac ICU In Situ Program

This new interprofessional in situ program in the Cardiac Surgery ICU focused on emergent bedside sternotomy and ECMO circuit exchanges. The program allowed the multidisciplinary team to practice this low frequency high acuity event on the unit with the resources available to them in real patient emergencies.



“

Simulation education is so versatile and can enrich the educational experience for so many different disciplines and professions at BWH and beyond.

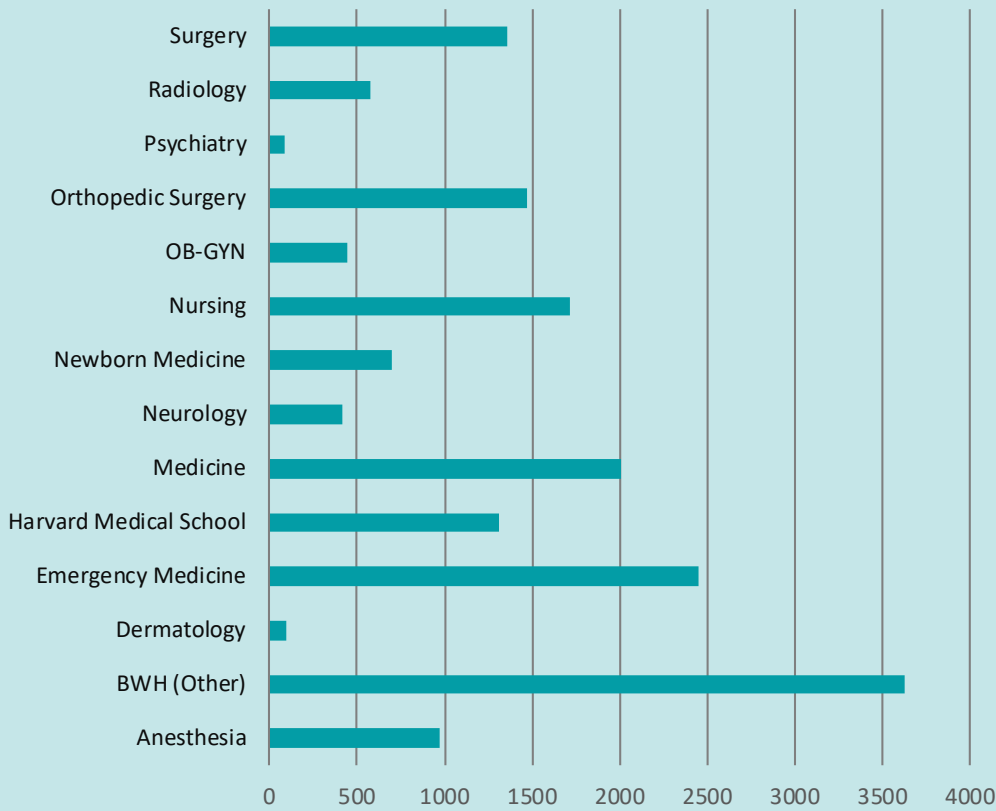
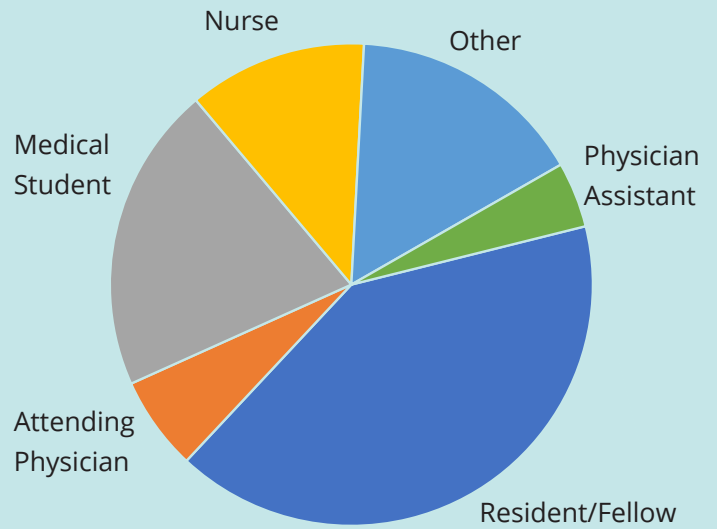
Maggie Ryan

Our Learners

2,397
Unique Learners

17,213
Learner Hours

Learner Roles



Learner Hours by Discipline

Bringing New Users to STRATUS

STRATUS is used by nearly every department at Brigham and Women’s Hospital. With new innovative courses, we are expanding our reach to an increasing variety of users and role groups.



Cardiology Fellows and PAs

Cardiology clinicians practiced their skills at the **Cath Lab Skills Orientation for Interventional Cardiology** as they rotated through the Cath Lab.

ICU PA New Hires

The **Ultrasound and Procedural Skills Course** provided training for working in an ICU for new PA hires in the opening of the Mixed ICU.

Pharmacists and Pharmacy Residents

In the **Pharmacists Code Blue Training and Emergency Response Course**, pharmacy clinicians practiced an emergency response scenario.

Psychiatric Interns

The new **Psychiatric Interns Introduction Course** taught interns about evaluating an agitated patient, safety assessments, and other skills.

Non-Clinicians in the Research Community

The Brigham Research Education Program and Center for Clinical Investigation offered **Clinical Skills Courses in Phlebotomy and EKG/Vital Signs** for BWH study staff members who are required to gain these skills for clinical research studies.

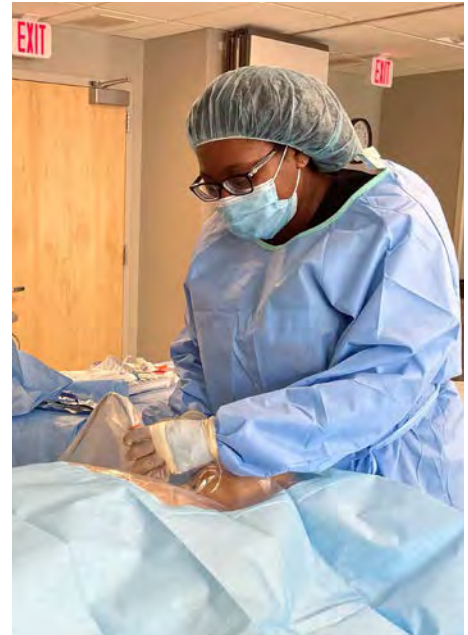


Support of BWH Quality and Safety Initiatives

STRATUS plays a large role in quality and safety at Brigham and Women's Hospital. In the Hospital's efforts to prevent central line-associated bloodstream infections, STRATUS collaborated with Dr. Gyorgy Frenzl in Anesthesia to revise the central venous catheter (CVC) 1- on-1 observation process of clinicians' CVC placement abilities.



STRATUS staff supported over 185 clinicians in their CVC placement training.



Clinical Electives: From Concept to Course

Our two- and four-week [clinical trainee electives](#) introduce simulation to trainees so they may determine if they would like to pursue simulation as a component of their career.

During her clinical elective, Dr. Sheila Gokul, a BWH Anesthesia Resident, performed a needs assessment for her department and developed an Intern Skills course for interns to practice airway skills, placement of ultrasound guided lines, and focused cardiac and lung ultrasound skills. The course was a success and has run several times since Dr. Gokul's elective.

International Fellowship in Clinical Simulation

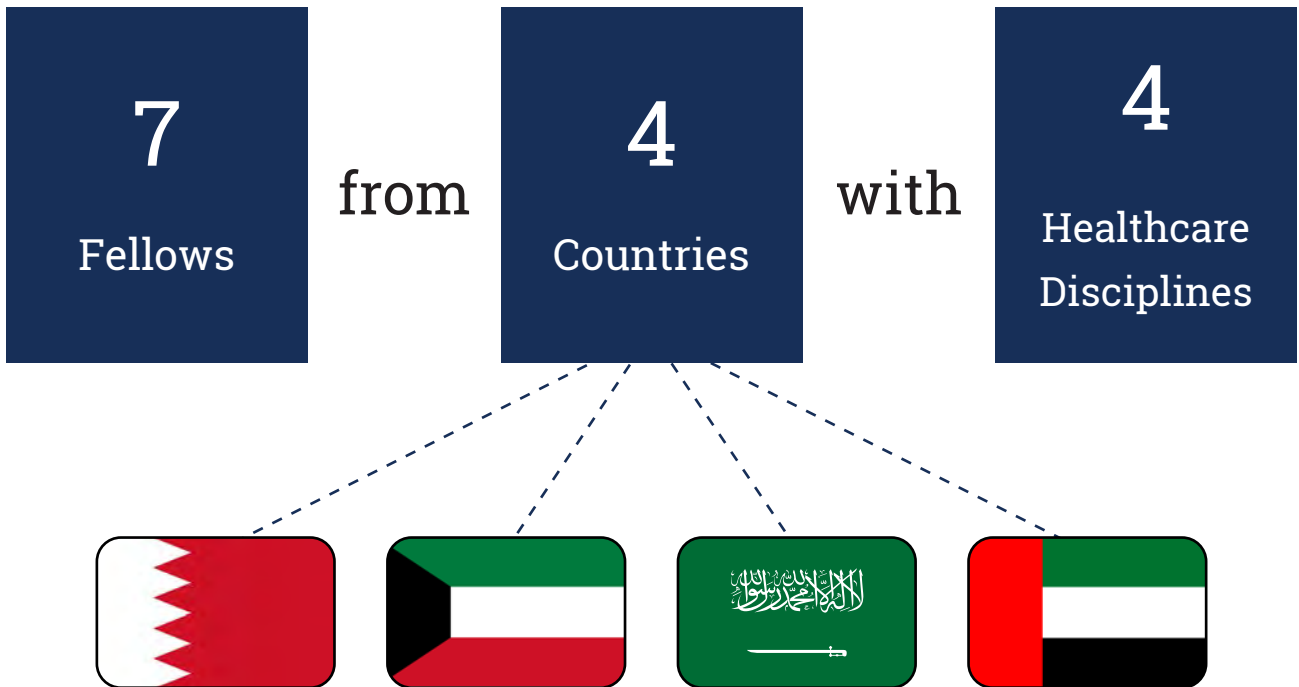


Valerie Dobiesz, MD, MPH

Director of the International Program in Clinical Simulation

STRATUS continues to attract a diverse array of exceptional clinicians from across the globe to into our International Program in Clinical Simulation.

In 2022, five fellows graduated and two fellows began at our year-long [International Fellowship in Clinical Simulation](#). All of our fellows bring something different to the program, greatly enriching the STRATUS experience. We are excited to see the advances our graduates make in their careers as medical educators!



Meet the Fellows

2022 Graduates



Abdullah Al-Taweel, MbChB, KBEM

Position: Emergency Medicine Physician

Country: Kuwait



Abdulaziz Alburaidi, MB MCH BAO

Position: Emergency Medicine Physician

Country: Kuwait



Abdulla Aljar, MB MCH BAO

Position: Emergency Medicine/Military Physician

Country: Bahrain



Iman Alhmoudi, MBBS

Position: Pediatrician

Country: United Arab Emirates



Sara Khonji, MD

Position: General Practitioner

Country: Bahrain

“

STRATUS taught me that, above all, structure is probably one of the most important aspects of setting up simulation curricula, and the deeper message from that lesson is that, by extension, this can be implemented into almost all aspects of your career and personal life.

Dr. Abdullah Al-Taweel

Meet the Fellows

New Fellows



Afaf Alblooshi,
PhD, MMSc-Med
Ed, Mbb.ch

Position: Pediatrician

Country: United Arab
Emirates



Faten Abdullah
AlRadini, SBFM,
MedEd, MD

Position: Family
Medicine Physician

Country: Saudi Arabia

“

*Hoping to learn from the best and
go back to my home country to
apply my knowledge and help in
advancing Medical Simulation back
home.*

Dr. Afaf Alblooshi

“

*Team spirit is unique here in
STRATUS; all are motivated to learn,
teach, and help.*

Dr. Faten AlRadini

Research

In 2022, the Human Factors and Cognitive Engineering Lab at STRATUS continued its high productivity and expansion.

Under the leadership of Dr. Roger Dias, the [research](#) team presented at conferences nationally and internationally, produced multiple peer-reviewed [publications](#), received grants for new [projects](#) dedicated to enhancing patient safety, and expanded the [team](#).

Highlights

- After serving as a post-doc, Dr. Mahdi Ebnali joined the team as a Research Scientist and faculty at Harvard Medical School.
- The lab achieved an important milestone by receiving an R01 award from the NIH National Heart, Lung, and Blood Institute (NHLBI).
- The lab received two other awards from the National Science Foundation (NSF) and the Department of Defense (DoD) Air Force to conduct research on artificial intelligence and digital biomarkers.
- Dr. Sandra Park completed the [Emergency Medicine Fellowship in Medical Simulation](#) and presented her final capstone.



**Roger Dias, MD,
MBA, PHD**
Director of Research
and Innovation



Mahdi Ebnali, PhD
Research Scientist



Christian Miccile, MSc
Research Assistant



Sandra Park, MD
Medical Simulation Fellow

Achievements

16

Peer-Reviewed
Articles

3

New Grants

10

Conference Talks

Innovations in Enhancing Patient Safety

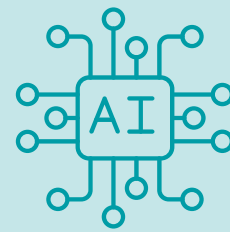
Using cutting-edge technology, the research team aims to enhance clinicians' performance to improve patient safety and clinical outcomes.



Digital Biomarkers



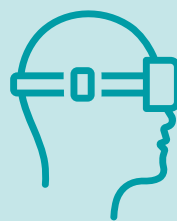
Wearable Sensors



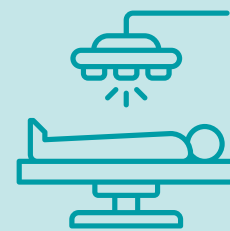
Artificial Intelligence &
Machine Learning



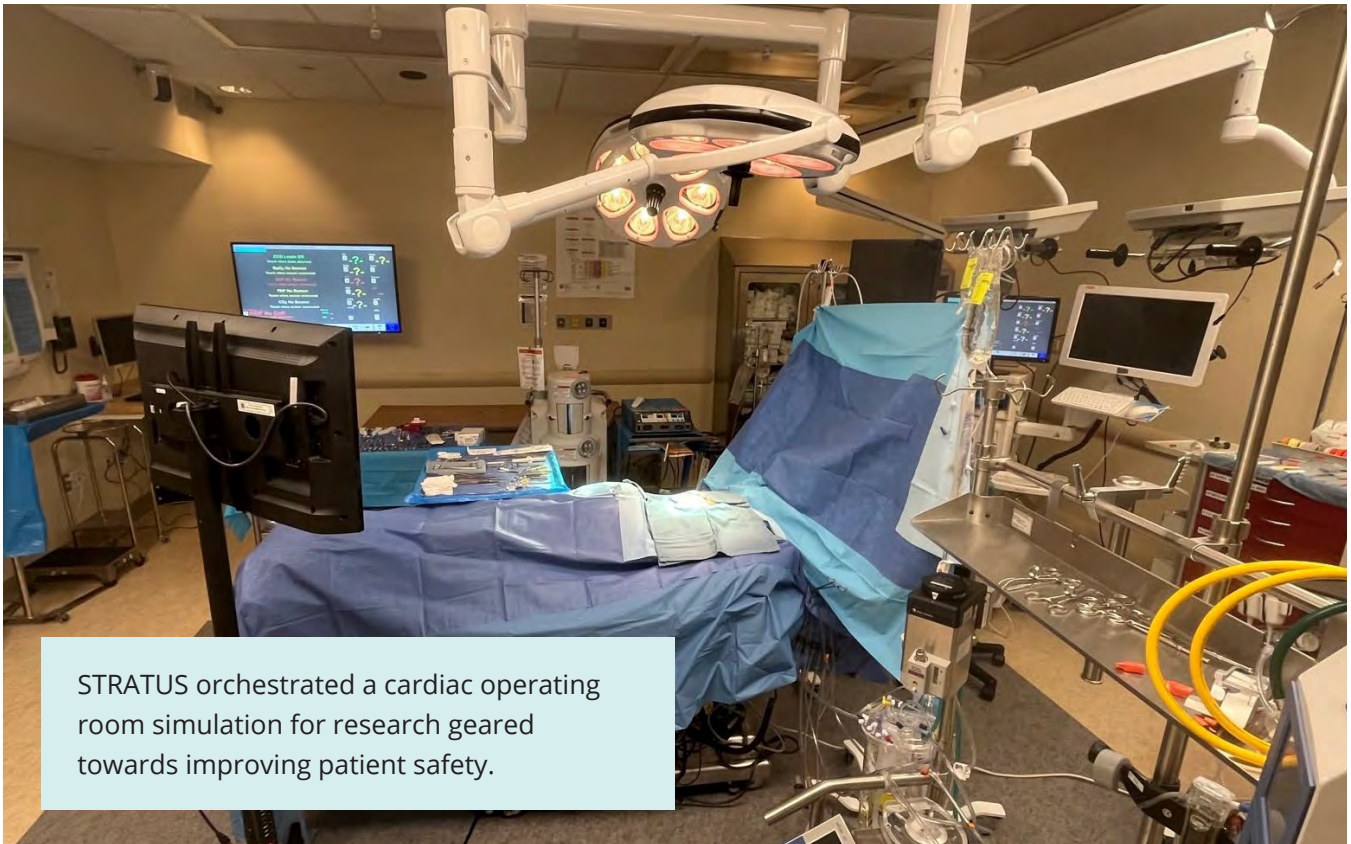
Data Science & Visual
Analytics



Virtual, Augmented &
Mixed Reality



High-Fidelity
Simulation



New Projects

Development of Enhanced Simulation Model with Biometric Cognitive Load Measurements for More Efficient En-Route Care Training

DoD – DHA/Air Force | 2022-2023

The goal of this proposal is to adapt and validate multimodal individual cognitive load measurements and nontechnical team performance assessments to provide data describing decision-making capacity and team vulnerabilities in en-route critical care (ERCC) simulated mission environments.

A Robotic-assisted Perfusion System to Improve Patient Safety in the Cardiac Operating Room

NIH/NHLBI (R01) | 2022-2025

The goal of this project is to develop an AI-based robot-assisted perfusion system (RAPS) to support the cardiac surgery team during cardiopulmonary bypass by capturing multi-source information in the operating room in real-time and providing evidence-based recommendations for decision-making.

Collaborative Research: SCH: An AI Coach for Enhancing Teamwork in the Cardiac Operating Room

National Science Foundation (NSF) | 2022-2026

Our Artificial Intelligence Coaching System (AI Coach) enhances teamwork, surgical performance, and clinical outcomes in real-time by monitoring and managing OR team members' cognitive states. Our aim is to develop machine partners that learn from the best human team members, back up weaknesses, and improve human team decision-making.

Continuing & Completed Projects

- 2020-2022** Mixed Reality (MR) Care-Delivery Guidance System to Support Medical Event Management on Long Duration Exploration Missions | NASA/TRISH
- 2021-2022** A Robot-Assisted Perfusion system to Improve Patient Safety in the Cardiac Operating Room | NIH/NHLBI
- 2021-2022** Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS) | Agency for Healthcare Research and Quality (AHRQ)
- 2019-2024** Novel Assessments of Technical and Non-Technical Cardiac Surgery Quality | NIH/NHLBI
- 2020-2024** A Novel Cognition-based Guidance System to Improve Surgical Safety | NIH/NHLBI



After collaborating with NASA's Translational Research Institute for Space Health (TRISH), Dr. Roger Dias was appointed an Ad Hoc member of the TRISH Study Review section.

External Services

As we eased back into business-as-usual after COVID-19, we continued providing services to external businesses including equipment and facility rentals, consulting, providing a setting for filming, and community education programs.



Chengdu First People’s Hospital Receives Accreditation

STRATUS continued our consulting work with Chengdu First People’s Hospital (CFPH) as it develops its simulation center in Chengdu, China. We were pleased to support CFPH in its achievement of receiving accreditation from the Society for Simulation in Healthcare for their core work and in Teaching/Education in 2022.

Youth Educational Programs

The Explo and Harvard Medscience educational programs for young learners were held at STRATUS, where participants experienced our realistic clinical facilities and wide array of simulation methods. These programs gave kids and teens the opportunity to practice life-saving procedures, often jumpstarting their journey into healthcare.





Training Videos for Ukraine Film at STRATUS

STRATUS was proud to serve as the site for filming [stop the bleed](#) and [medical instructional videos](#) for first responders and civilians impacted by the war in Ukraine. The videos cover life-saving techniques such as bleeding control, burn care, airway management, chest decompression, and advanced trauma life support.

STRATUS also served as the setting for an [interview](#) with a Brigham and Women’s Hospital physician traveling to Ukraine to provide humanitarian aid.



[Stop the Bleed](#)



[Save a Life Series](#)



[Save a Life Series](#)

Achievements

Publications

Abahuje E, Bartuska A, Dias RD, et al. Learning NOTSS While Tying Knots: Integrating the Nontechnical Skills for Surgeons Course With Technical Surgical Skills Training, A Mixed Methods Study. *Annals of Surgery Open*. 2022;3(1):p e133. [doi:10.1097/AS9.000000000000133](https://doi.org/10.1097/AS9.000000000000133)

Abi-Jaoudé JG, Kennedy-Metz LR, Dias RD, Yule SJ, Zenati MA. Measuring and Improving Emotional Intelligence in Surgery: A Systematic Review. *Annals of Surgery*. 2022;275(2):e353-e360. [doi:10.1097/SLA.0000000000005022](https://doi.org/10.1097/SLA.0000000000005022)

Alsabri M, Boudi Z, Lauque D, et al. Impact of Teamwork and Communication Training Interventions on Safety Culture and Patient Safety in Emergency Departments: A Systematic Review. *J Patient Saf*. 2022;18(1):e351-e361. [doi:10.1097/PTS.0000000000000782](https://doi.org/10.1097/PTS.0000000000000782)

Dias RD, Kennedy-Metz LR, Yule SJ, Gombolay M, Zenati MA. Assessing Team Situational Awareness in the Operating Room via Computer Vision. 2022 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA). IEEE; 2022:94-96. [doi:10.1109/CogSIMA54611.2022.9830664](https://doi.org/10.1109/CogSIMA54611.2022.9830664)

Dias RD, Zenati MA, Rance G, et al. Using machine learning to predict perfusionists' critical decision-making during cardiac surgery. *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization*. 2022;10(3):308-312. [doi:10.1080/21681163.2021.2002724](https://doi.org/10.1080/21681163.2021.2002724)

Dobiesz VA, Schwid M, Dias RD, et al. Maintaining health professional education during war: A scoping review. *Medical Education*. 2022;56(8):793-804. [doi:10.1111/medu.14808](https://doi.org/10.1111/medu.14808)

Ebnali M, Goldsmith A, Burian B, et al. AR-coach: Using augmented reality (AR) for real-time clinical guidance during medical emergencies on Deep Space Exploration Missions. *Healthcare and Medical Devices*. Published online 2022. [doi:10.54941/ahfe1002100](https://doi.org/10.54941/ahfe1002100)

Ebnali M, Kennedy-Metz LR, Conboy HM, et al. A coding framework for usability evaluation of Digital Health Technologies. *Human-Computer Interaction Theoretical Approaches and Design Methods*. Published online 2022:185-196. [doi:10.1007/978-3-031-05311-5_12](https://doi.org/10.1007/978-3-031-05311-5_12)

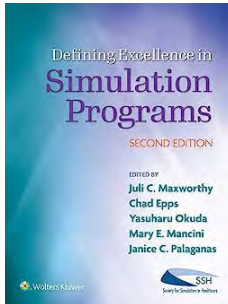
Giugni FR, Dias RD, Rodrigues CG, Pinesi HT, Scalabrini-Neto A. Team emergency assessment measure (TEAM) of non-technical skills: The Brazilian Portuguese version of the TEAM tool.



Clinics. 2022;77:100043. [doi:10.1016/j.clinsp.2022.100043](https://doi.org/10.1016/j.clinsp.2022.100043)

Kennedy-Metz L, Dias R, Srey R, et al. Human Factors Analysis of Goal-Directed Perfusion in Cardiac Surgery. AHFE International; 2022. [doi:10.54941/ahfe1002120](https://doi.org/10.54941/ahfe1002120)

Kennedy-Metz LR, Arshanskiy M, Keller S, Arney D, Dias RD, Zenati MA. Association Between Operating Room Noise and Team Cognitive Workload in Cardiac Surgery. IEEE Conf Cogn Comput Asp Situat Manag. 2022;2022:89-93. [doi:10.1109/cogsima54611.2022.9830675](https://doi.org/10.1109/cogsima54611.2022.9830675)



Kennedy-Metz LR, Barbeito A, Dias RD, Zenati MA. Importance of high-performing teams in the cardiovascular intensive care unit. The Journal of Thoracic and Cardiovascular Surgery. 2022;163(3):1096-1104. [doi:10.1016/j.jtcvs.2021.02.098](https://doi.org/10.1016/j.jtcvs.2021.02.098)

Louis N, Zhou L, Yule SJ, et al. Temporally guided articulated hand pose tracking in surgical videos. Int J CARS. Published online October 3, 2022. [doi:10.1007/s11548-022-02761-6](https://doi.org/10.1007/s11548-022-02761-6)



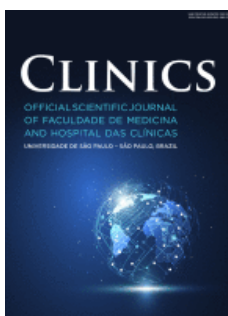
Mejia OAV, Mito BM, Borgomoni GB, et al. Preparando Pacientes e Otimizando Processos no Perioperatório das Cirurgias Cardíacas: Como Redesenhar os Fluxos de Assistência após a COVID-19. Arquivos Brasileiros de Cardiologia. 2022;118(1):110-114. [doi:10.36660/abc.20210484](https://doi.org/10.36660/abc.20210484)

Navedo D, Ryan M, Reidy P. Continuum of Care Scenarios. In: Defining Excellence In Simulation Programs. 2nd ed. New York: Wolters Kluwer Publications; 2022.



Park SH, Goldberg SA, Al-Ballaa A, et al. Objective Measurement of Learners' Cognitive Load During Simulation-Based Trauma Team Training: A Pilot Study. Journal of Surgical Research. 2022;279:361-367. [doi:10.1016/j.jss.2022.06.023](https://doi.org/10.1016/j.jss.2022.06.023)

Shappell E, Wagner MJ, Bailitz J, et al. The test developer's dilemma: Evaluating the balance of feasibility and empiric performance of test development techniques for repeated written assessments. Medical Teacher. 2023;45(2):187-192. [doi:10.1080/0142159X.2022.2118042](https://doi.org/10.1080/0142159X.2022.2118042)



Wittels KA, Mayes KD, Eyre A. Ovarian Hyperstimulation Syndrome: A Simulation Case for Emergency Medicine Residents. MedEdPORTAL. Published online September 6, 2022:11271. [doi:10.15766/mep_2374-8265.11271](https://doi.org/10.15766/mep_2374-8265.11271)

Yule S, Robertson JM, Mormann B, et al. Crew Autonomy During Simulated Medical Event Management on Long Duration Space Exploration Missions. Hum Factors. Published online April 16, 2022:001872082110675.

[doi:10.1177/00187208211067575](https://doi.org/10.1177/00187208211067575)

Ziobrowski HN, Kennedy CJ, Ustun B, et al. Development and Validation of a Model to Predict Posttraumatic Stress Disorder and Major Depression After a Motor Vehicle Collision. *JAMA Psychiatry*. 2021;78(11):1228. [doi:10.1001/jamapsychiatry.2021.2427](https://doi.org/10.1001/jamapsychiatry.2021.2427)

Abstracts & Poster Presentations

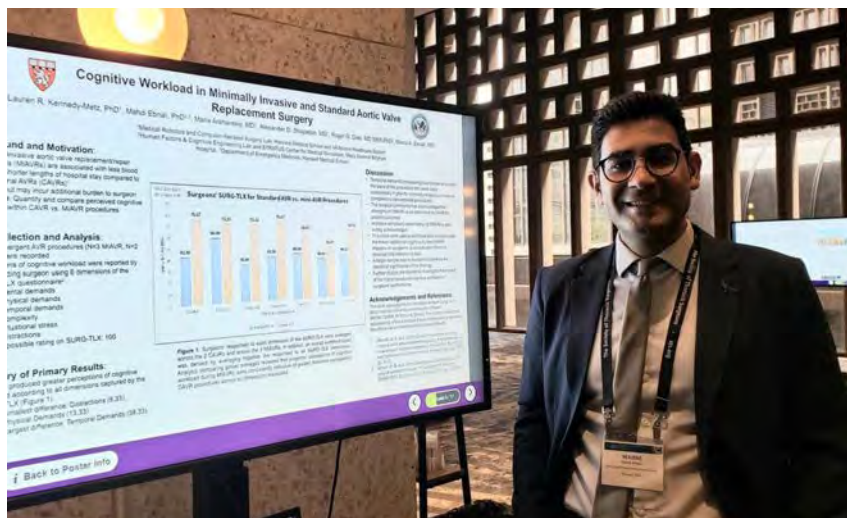
Berk B, Ebnali-Heidari M, Miccile C, Dias R, Wollin D. MP68-06 Motion Capture System for Objective Assessment of Technical Skills During Ureteroscopy. *Journal of Urology*. 2023;209(Supplement 4). [doi:10.1097/JU.0000000000003331.06](https://doi.org/10.1097/JU.0000000000003331.06)

Dashti M, Goldsmith A, Dias R, Ebnali M, Dobiesz V. 355 Using Hierarchical and Cognitive Task Analysis to Develop an Assessment Checklist for Ultrasound-Guided Fascia Iliaca Nerve Block Procedures. *Annals of Emergency Medicine*. 2022;80(4):S152-S153. [doi:10.1016/j.annemergmed.2022.08.384](https://doi.org/10.1016/j.annemergmed.2022.08.384)

Dias R, Ebnali M, Cerqueira R, et al. Extended Reality (XR) Medical Scenarios for In-Flight Emergency Care Training During Deep Space Missions. NASA HRP 2022.

Ebnali M, Burian B, Robertson J, et al. A Taxonomy for Design and Development of Extended Reality Medical Training and Real-Time Clinical Guidance During Space Missions. NASA HRP 2022.

Ebnali M. Cognitive Workload in Minimally Invasive and Standard Aortic Valve Replacement Surgery. Poster Presentation at the: 2022 19th Annual-Perioperative and Critical Care Conference, Society of Thoracic Surgeons, Denver, CO.



Dr. Mahdi Ebnali won most innovative poster for “Cognitive Workload in Minimally Invasive and Standard Aortic Valve Replacement Surgery” at the 2022 Perioperative and Critical Care Conference.

Conference Talks, Lectures & Workshops

Dias RD. Assessing Team Situational Awareness in the Operating Room via Computer Vision. Oral Presentation at: 12th IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA); 2022; Salerno, Italy.

Dias RD. Extended Reality (XR) Medical Scenarios for In-Flight Emergency Care Training During Deep Space Missions. Oral Presentation at: 2022 NASA Human Research Program Investigators' Workshop, Virtual.

Dias RD. NASA Medical Training, Branching Narratives and Volumetric Video. Panel Presentation at: 2022 Augmented World Expo (AWE), Santa Clara, CA.

Dias RD. The Future of Perfusion Decision Making. Keynote Speaker at: 2022, 60th International Conference – American Society of Extracorporeal Technology (AmSECT), Phoenix, AZ

Dias RD. Using Machine Learning to Support Perfusionists' Decision-Making. Keynote Speaker at: 2022, 43rd Annual Seminar of The American Academy of Cardiovascular Perfusion, Los Pines, TX.

Dias RD. XR for Medical Training and Clinical Decision-Support in Space and Military Settings. Panelist at: 2022, VRARA Healthcare Forum, Virtual.

Ebnali M. Application of Advanced Technologies in Hearing and Communication Disorders. Conference Talk at: 2022 MIT Center for Brains, Minds, and Machines, Boston, MA.

Ebnali M. Application of AR in Medical: A Use Case of AR-Coach for Ultrasound Clinical Guidance. Conference Talk at: 2022 NextClub, Brigham and Women's Hospital, Boston, MA.

Ebnali M. Application of Augmented and Virtual Reality for Medicine. Conference Talk at: 2022 VR/AR Conference.

Ebnali M. Next Generation Simulation and Training Using Virtual Reality and Augmented Reality. Conference Talk at: 2022 International Conference on Applied Human Factors and Ergonomics, New York, NY.

Eyre A. "Goals and Objectives" Small Group, Teaching to Teachers Workshop. Tsinghua, China.

Eyre A. "Medical Education Small Groups" Tsinghua Faculty Development Series. Tsinghua, China.

Eyre A. "Medical Simulation" Teaching to Teachers Workshop-Egypt. eWorkshop. Cairo, Egypt

Eyre A. "Moderator-Day 2" Tsinghua Faculty Development Series, Tsinghua, China.

Eyre A. "Moderator-Day 3" Tsinghua Faculty Development Series. Tsinghua, China.

Eyre A. "Review of Active Teaching in the Clinical Setting" Teaching to Teachers-Egypt. eWorkshop. Cairo, Egypt.

Eyre A. "Simulation Based Medical Education and Assessment", Teaching 2 Teachers Course, Tsinghua, China.

Eyre A. "Simulation Based Medical Education and Assessment", Teaching 2 Teachers Course, Fudan, China.

Eyre A. "Simulation Small Groups" Tsinghua Faculty Development Series, Tsinghua, China.

Eyre A. "Simulation-Based Medical Education and Assessment", Master's of Emergency Medicine-International, Ronald-Reagan Institute of Emergency Medicine, India. Virtual.

Eyre A. "Think Pair Share" Teaching to Teachers Workshop. Tsinghua, China

Eyre A. "Think-Pair-Share in the Clinical Setting" Teaching 2 Teachers Course. Tsinghua, China.

Eyre A. "Think-Pair-Share in the Clinical Setting" Teaching 2 Teachers Course, Tsinghua, China.

Eyre A. "Think-Pair-Share in the Clinical Setting" Teaching to Teachers-Egypt. eWorkshop. Cairo, Egypt.

Eyre A. Debriefing in the simulated and clinical environments. OB-GYN Grand Rounds at Brigham and Women's Hospital, Boston, MA.

Eyre A. Faculty Development Series. STRATUS Center for Medical Simulation, Boston, MA.

Eyre A. Guest Lecture. Massachusetts General Hospital Institute for Health Professions, Boston, MA.

Navedo D. Simulation Administration and Education: Conflict or Coexist? Oral presentation at: 5th Saudi Health Simulation Conference; 2022. Virtual.

Sharing Simulation Around the World

In 2022 we continued to share our simulation research and educational innovations with international audiences.



Awards

Dias R. Named Co-chair of Mass General Brigham Center of Expertise (CoE) in Medical Education

Dias R. Became member of Society of Academic Emergency Medicine (SAEM) Education Committee.

Dias R. Became member of American Medical Extended Reality Association (AMXRA) Founding Members Committee.

Dias R. Became Ad Hoc member of Translational Research Institute for Space Health (TRISH) Study Review section.

Dias R. Became member of Brazilian Emergency Medicine Association Medical Simulation Committee.

Eyre A. Became member of the Massachusetts College of Emergency Physicians (MACEP) Education Committee.

Eyre A. Became member of the Society of Academic Emergency Medicine (SAEM) Simulation Academy.

Eyre A. Selected to attend the Emerging Leaders program of the Society of Academic Emergency Medicine (SAEM).

Eyre A. Received the Brigham and Women’s Hospital Bernard Lown Award for Medical Education and Teaching.

Navedo D. Approved as a Certified Healthcare Simulation Educator-Advanced® (CHSE-A®) by the Society for Simulation in Healthcare (SSH).

Accreditation

STRATUS is accredited by the Society for Simulation in Healthcare (SSH) for our core work as well as Research, Systems Integration, Teaching/Education, and for our Fellowship. We are also accredited by the American College of Surgeons (ACS).



AMERICAN COLLEGE OF SURGEONS • DIVISION OF EDUCATION®
ACCREDITED EDUCATION INSTITUTES
 ENHANCING PATIENT SAFETY THROUGH SIMULATION

STRATUS Assistant Directors

Matthew DiFrancesco, MD

Medicine

Lydia Helliwell, MD

Surgery

Tanzeema Hossain, MD

Pediatric Newborn
Medicine

Suzanne Klainer, MD

Anesthesiology,
Perioperative and Pain
Medicine

David Meguerdichian, MD

Emergency Medicine

Michael Muto, MD

OB/GYN

Helen Shields, MD

Medicine

Douglas Smink, MD, MPH

Surgery

Stacy Smith, MD

Radiology

Michael Weaver, MD

Orthopaedic Surgery

Kathleen Wittels, MD

Emergency Medicine

Photo Credits

Page 1 - STRATUS Center for Medical Simulation

Page 2 - STRATUS Center for Medical Simulation

Page 8 (top left) - STRATUS Center for Medical Simulation

Page 8 (bottom left) - STRATUS Center for Medical Simulation

Page 10 (top) - STRATUS Center for Medical Simulation

Page 10 (bottom) - STRATUS Center for Medical Simulation

Page 12 - STRATUS Center for Medical Simulation

Page 14 - Maggie Ryan

Page 16 (top) - Brigham and Women's Hospital Department of Pharmacy

Page 16 (bottom) - STRATUS Center for Medical Simulation

Page 17 (top) - STRATUS Center for Medical Simulation

Page 17 (bottom) - STRATUS Center for Medical Simulation

Page 23 - Roger Dias

Page 25 - STRATUS Center for Medical Simulation

Page 26 - STRATUS Center for Medical Simulation

Page 29 - The Society of Thoracic Surgeons

Contact Us



STRATUS Center for Medical Simulation
10 Vining Street
Boston, MA 02115



617-732-8577



STRATUSinfo@partners.org



stratus.brighamandwomens.org

Keep up with STRATUS on social media!



@BWH_STRATUS



@stratusbwh



@bwh_stratus