



CHANGING ISRAEL'S HEALTHCARE LANDSCAPE

The Medical Simulation and Classroom Building
at Ben-Gurion University of the Negev

Location: Marcus Family Campus, Beer-Sheva
Use: Medical training, education, and research
Construction Completed: November 2021
Total Cost: \$23 million
Cost of Naming: \$9 million

A PLACE FOR NEXT-GENERATION MEDICAL EDUCATION

For centuries, apprenticeship has been the dominant methodology for medical education, with active observation the precursor to complete autonomy. Today however, medical schools struggle with a lack of senior doctors for clinical teaching rounds, and patient care must necessarily trump teaching opportunities. Moreover, some life-threatening conditions may never occur in the presence of students, and those students are understandably fearful of making mistakes on live human beings.



Nearly half the MSCB is dedicated to the **Field Family Medical Simulation Center (FFMSC)**, whose realistic environments and equipment will replicate real-world health settings and scenarios. The FFMSC—the most advanced medical simulation center in Israel—will draw more top doctors and medical, nursing, paramedic, and physiotherapy students to BGU, as well as offer the University's strategic partners in the Negev a much-needed training facility. In addition, simulation exercises at the MSCB will be the subject of clinical research on how simulation can complement and improve medical education and knowledge.



For these reasons, simulation has increasingly become critical to today's education in the health sciences. By developing both knowledge and confidence without patient risk, simulation training improves students' clinical competencies. Simulation labs also allow for retraining until a certain procedure or skill is mastered and can expose students to a wide range of rare pathologies. Finally, well-designed simulation environments, built to respond to and anticipate evolving emphases in healthcare, can also enhance essential skills in communication and teamwork.

As home to one of Israel's leading medical simulation centers and a growing Faculty of Health Sciences (FOHS), Ben-Gurion University of the Negev (BGU) plays a key role in the preparation of tomorrow's healthcare professionals. Now, with the construction of its new Medical Simulation and Classroom Building (MSCB), it is poised to dramatically expand its impact in healthcare training, education, and research, and deliver both long-term and immediate health benefits at significantly larger scale.

55,972
SQ. FT.

The four-story building features signage visible from campus, the adjacent Ben-Gurion Boulevard, and Soroka University Medical Center.

52

SIMULATION STATIONS

Along with advanced manikins, stations feature equipment that ranges from cardiac monitors to intubation kits and ventilation machines.

27

SIMULATION ROOMS

Four times the number of simulation rooms in use by the FOHS today, they include an operating room, an internal medicine ward, an ambulance simulator, rooms dedicated to emergency medicine, and a treatment room for multi-casualty events.

8

CLASSROOMS

Seating an average of 78 students, MSCB classrooms complement contextual learning with content delivery.

4

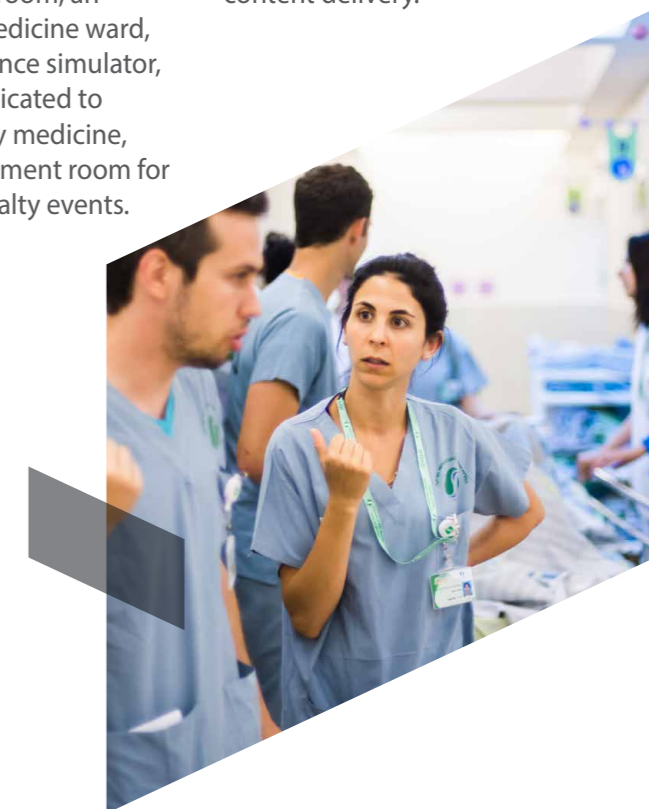
LECTURE HALLS

With seating up to 148 individuals each, lecture halls offer much-needed space for FOHS courses and meetings.

2

DEDICATED DEBRIEFING ROOMS

Debriefing rooms provide dedicated places for discussing students' experience, viewing the recorded scenario, and optimizing the learning outcomes. Thanks to the MSCB's unique configuration, debriefing can also occur in any simulation room.



THE ONLY FACILITY OF ITS SIZE IN ISRAEL BUILT SPECIFICALLY FOR MEDICAL-SIMULATION EDUCATION

MAXIMIZING SPACE

The only facility of its size in Israel built specifically for medical-simulation education, the MSCB features environments designed to meet complex curricular needs. Simulation settings harness all available space to ensure competencies in emergency, pediatric, obstetric, and nursing care, as well as surgery and physiotherapy services.

Scenario: FOHS professors ask FFMSC staff to design a joint simulation that teaches paramedic, medical, and nursing students how to treat pediatric anaphylactic shock.



/ Ambulance Simulator

Paramedic students meet in the MSCB's ambulance simulator, designed to look exactly like the inside of a real intensive-care ambulance. They receive a recorded 911 call, explaining that a child with a severe peanut allergy is struggling to breathe at a local elementary school. Within seconds, actors playing distressed teachers thrust an advanced pediatric manikin at students, who must start an IV and deliver adrenaline.

/ High-fidelity audio can be piped into the simulation rooms, creating the high-stress atmosphere of crying children, a car accident, or even a terrorist attack.

/ Training manikins include models that simulate birth or are designed for difficult airway-management practice.



/ Hallway

Paramedic students rush the manikin to the upper floor, whose simulation rooms can be arranged to mimic those of a real emergency ward. Two medical and two nursing students help transfer the manikin to a hospital bed. Then, the group advances toward a simulation room, practicing the relay of critical information on the way.

/ Medical beds used in simulation training include ambulance beds, childbirth beds, and beds for the specialized needs of physiotherapy.



/ Simulation Station

Medical and nursing students deliver medication and connect the manikin to a ventilator. When the manikin is stable, they prep it for the ICU. Other students gather in the simulation room's viewing space, where they observe the unfolding exercise and answer questions about appropriate treatment using tablets with a preprogrammed quiz.

/ Advanced monitors connected to manikins allow students to see vital signs automated by the software. In addition, instructors can change the signs in response to real-time treatment.



/ Debriefing Room

Immediately following the simulation, students meet in a dedicated debriefing room with the course instructor. There, they reflect, review, and discuss the exercise with the aim of improving both individual and team skills, communication, and judgement.

/ Audiovisual installations record the entire sequence so that students can refer to highlights in the debriefing.

BECAUSE POINT-OF-CARE IS EVERYWHERE: AN EMERGENCY-MEDICINE EMPHASIS

When patients present in a state of shock, healthcare providers know the cause is circulatory failure. What they don't know is whether that failure stems from excessive bleeding, anaphylaxis, a pulmonary embolism, or a heart attack. Yet while identifying the cause and rapidly intervening is the key to decreasing mortality, one of the best means of obtaining a fast and accurate diagnosis—an ultrasound—is something most physicians are not trained to do.

Dr. Lior Fuchs and Prof. Sergio Koval of BGU's Joyce and Irving Goldman School of Medicine knew this, and decided to integrate training in point-of-care ultrasound (POCUS) into the medical school's curriculum. Now, through simulations on advanced

manikins, all fourth-year BGU medical students are trained in POCUS procedures. And thanks to Dr. Oren Wacht, head of BGU's Department of Emergency Medicine, POCUS-simulation training has been extended to paramedic students, making BGU one of just a few places in the world to train first responders in the use of this diagnostic tool. "By pioneering POCUS training for paramedics, BGU is carrying on the legacy of Dr. Nancy Caroline," says Wacht, referring to the American-born founding medical director of Magen David Adom and author of the world's first primer on pre-hospital care. "Dr. Caroline believed that first responders could do more than just respond—they could initiate treatment that saves lives. Our goal at the MSCB is to train them to do just that."

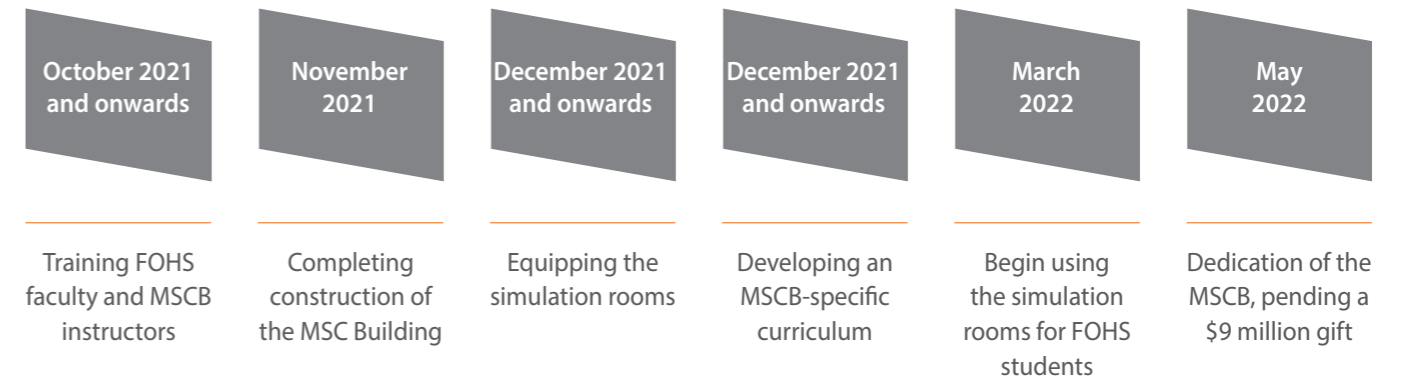


READY FOR THE REAL THING

When a cycling accident near his home in the Jerusalem hills left him with a broken hip, BGU Vice President Jeff Kaye learned firsthand the value of a skilled paramedic. Fortunately, the one who arrived at the scene was about to complete her emergency-medicine degree—at BGU. "From the minute Stav Tsioni was at my side, chaos gave way to calm and control," recalls Kaye. "She administered pain medication and managed my handover to the hospital perfectly. It's a testament to her competence that what I remember most from the accident is being in expert hands." For Tsioni, her ability to respond so effectively is testament to the hours she spent practicing, both on calls and in simulation scenarios.

"They say that nothing can prepare you for the real thing, but they're wrong," Tsioni says. "Simulations not only helped me to master certain procedures, but also built up my confidence. In high-stress situations such as triage in the field, you're grateful for every minute spent with high-fidelity manikins."

TIMELINE



MAKE PRACTICE PERFECT AT THE MSCB

To advance its goal of improving the healthcare landscape of the Negev and serve as an engine of healthcare innovation for all of Israeli society, Ben-Gurion University **seeks a visionary partner** to fund the completion, equipment, and naming of the \$23 million Medical Simulation and Classroom Building by means of a \$9 million gift.

The new name will be displayed on the building through architecturally appropriate signage, as well as in BGU print and digital materials. The dedication of the MSCB will also serve as the occasion for a special event during the Board of Governors meeting this May.





Photos: Dani Machlis, Shay Shmuel, Shay Tzioni, stock.adobe.com

DRIVE INNOVATION IN HEALTHCARE STUDIES AT BGU.

Interested donors should contact the [BGU associates organization in their country](#) to learn more about the MSCB and how a gift can be a vehicle for transformative impact. You can also email BGU's Department of Resource Development directly, at donors@bgu.ac.il

