



## ANYBODY WANT TO GO TO THE MOON?

It started in 2010 with a Facebook post. “Who wants to go to the moon?” wrote Yariv Bash, a computer engineer.

A couple of friends, Kfir Damari and Yonatan Winetraub responded, and the three met in Holon, a city south of Tel Aviv. At 30, Mr. Bash was the oldest.

They formed a nonprofit, Spacell, to undertake the task.

More than eight years later, the product of their dreams, a small spacecraft called Beresheet [In the beginning], blasted off on Thursday night atop a SpaceX Falcon 9 rocket at the Cape Canaveral Air Force Station in Florida.



*SpaceX Falcon 9 rocket carrying the Spacell moon lander streaks into space from Cape Canaveral Air Force Station, Florida on Feb. 21, 2019 (Image courtesy SpaceX.com).*

### After SpaceX Launch, Israeli Spacecraft Begins Journey to the Moon

The privately built spacecraft will take a long trip to the moon, landing on its surface in April. If the mission succeeds, it will be the first time that a private company has gone to the moon. It will also be a point of pride for Israel. Until now, only governmental space agencies of three superpower nations – the United States, the former Soviet Union and China – have accomplished an intact landing on the lunar surface.



*A graphic showing the Israeli lunar lander Beresheet's path to the moon. Dates correspond with Israel Standard Time (Image courtesy Spacell.com).*

The original goal was to compete in the Google Lunar X Prize competition, which was offering a \$20 million grand prize for the first privately financed venture to land a robotic spacecraft on the moon.

The founders initially envisioned a tiny lander that would weigh only a dozen pounds, cost just \$10 million and make the trip by the end of 2012.

The price tag to build and launch Beresheet ended up at \$100 million, not \$10 million, and the spacecraft bulked up to 1,300 pounds including fuel.

On February 21, it took the first step as it launched and then set off on a long journey to the lunar surface. Until now, only three nations – the United States, former Soviet Union and China – have sent robotic landers to the moon.

Beginning in 2007, a competition run by the X Prize Foundation and financed by Google was supposed to spur entrepreneurs to send a privately financed spacecraft there, but the competition deadline passed without anyone taking home the \$20 million grand prize. Spacell, based in Israel, was one of the finalists and continued its efforts even though there was no money to win. On Thursday night, its spacecraft lifted off on board a SpaceX Falcon 9 rocket in Florida.

The spacecraft is taking a long but fuel-efficient route. Instead of blasting out of Earth's orbit, it will gradually elongate its elliptical orbit until it passes close enough to the moon to be captured by lunar gravity. Then it will spend a few more days making its orbit around the moon more circular before attempting a landing.

### What will the Beresheet spacecraft do on the moon?

An instrument built by the Weizmann Institute of Science is to measure the moon's magnetic field as the spacecraft approaches for landing. That information could reveal something about the iron core far below the surface.

NASA provided the spacecraft with retroreflectors, essentially, mirrors that reflect light in the same direction as the incoming beam. Lasers on Earth shined at that spot will bounce back, enabling precise measurement of the distance between Earth and the moon. Apollo astronauts left similar devices on the moon nearly 50 years ago.

The spacecraft is also a time capsule containing hundreds of digital files including the Torah, the Israeli flag, artwork contributed by the public and a children's book that was inspired by SpacEL's mission to the moon. *(Independent, by Verena Dobnik, February 21, 2019).*



**A full scale model of Beresheet moon probe, presented in Tel Aviv.** *(Image by TaBaZzz, via Wikimedia Commons, CC BY-SA 4.0).*

### Israeli Doctors Honored at the UN

A group of Israeli doctors have bypassed the region's politics to save thousands of Palestinian children and those from 57 other countries by operating on their diseased hearts. Earlier this week, the doctors with Save a Child's Heart, an organisation based in Holon just south of Tel Aviv, were honored at the United Nations, where Israeli positions have often clashed with those held by Arab member nations.



**SACH's medical teams – nurses and surgeons – volunteer their time to treat the SACH children. Currently, there are over 80 medical volunteers.** *Image via Twitter.com, @SaveChildsHeart).*

But group co-founder Dr. Sion Hourii said that when it comes to children's lives, "Our activity is international, non-political and non-religious." Dr. Sion Hourii and two fellow physicians, Lior Sasson and Akiva Tamir, accepted the UN Population Award Tuesday for saving young lives – especially in war-torn and developing lands.

The non-profit, funded mostly by private donors with some contributions from governments, has performed surgery on nearly 5,000 children since it was started over 20 years ago, including more than 2,000 from the West Bank and Gaza and 300 from Iraq and Syria. The rest came from Africa, South America, Europe, Asia and throughout the Middle East. At the moment, 44 children are being treated free-of-charge at the Edith Wolfson Medical Centre in Holon.

***“Let the little children come to me and do not hinder them, for the kingdom of heaven belongs to such as these” (Matthew 19:14).***

In Messiah,  
Lonnie C. Mings

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