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## Moon landings, microbes and 14 patents



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Chestnut Hill scientist Sol Rosenblatt, 95, is still inventing antimicrobial products.

PHOTO BY LEN LEAR

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## by Len Lear

At 95, most people might be content to reflect on past accomplishments. Not Solomon Rosenblatt. The Chestnut Hill inventor, whose work helped put men on the moon and nuclear missiles in submarines, is still tinkering away in his lab, determined to create the next breakthrough in fighting microscopic invaders.

Rosenblatt, who has 14 patents to his name and is currently working on his 15th, was involved in the U.S. human spaceflight program that succeeded in landing the first men on the Moon from 1968 to 1972. He also developed an epoxy-based propellant for the nation's first submarine-based nuclear missiles.

"I have been involved in anti-microbial products for some time," said Rosenblatt. "My introduction to the need for better antimicrobials came from my experience as a life-support chemist for the Apollo Program. I was very concerned about lateral transfer of bacteria in the space capsule and as a young engineer, bringing strange bacteria to the moon."

Rosenblatt, who still works most days on new inventions, moved to Chestnut Hill 11 years ago with his wife, Vicky, now deceased, to be near his daughter, Elise C. Rivers, founder and owner of Community Acupuncture of Mt. Airy, and son-in-law, Max.

He grew up in Brooklyn, in a family of Russian Jewish heritage, and had a chemistry lab in his basement before earning a Bachelor of Science in Chemistry at City College of New York. He then worked for the city of New York as a quality control chemist.

"My parents said that would bring a good pension and security," Rosenblatt recalled. "I learned that what makes quality must have longevity and extraordinary functionality, whether it is plastics, concrete, etc."

One of Rosenblatt's next jobs was as a paint and polymer chemist for the Hayden-Newport Corp., where he invented a water-based enamel. He moved to Sacramento, California, in 1958 to build a lab for Aerojet General in preparation for the Polaris nuclear submarine program.

"The government had put out the word that they needed scientists for the Polaris Project," Rosenblatt told us last week. "I was a chemist and knew about materials, so I worked in California for five years, helping to build a nuclear guided missile in submarines during the Cold War. My job was to develop rocket propellants that would be safe for sailors on board. My boss was a former Nazi. That was hard. The Germans knew technology, so the government brought them to work on projects like this. It was very sensitive for us to work with Germans, but Polaris was successful."



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Moving back to the East Coast, Rosenblatt worked for the Pratt & Whitney Aircraft Company, which had a contract to build a space capsule for the Apollo Program, in the early 1960s. He proceeded to invent a porous Teflon filter, which was used for poison gas detection by the U.S. Navy. Later, he adapted his Teflon invention for the biomedical industry, including angiogram catheters.

"In my five years with the Apollo Program," said Rosenblatt, "I learned a lot of polymer chemistry. They made the Apollo 13 capsule powered by fuel cells. We all exchanged ideas. I proposed to NASA what microbials might be biocompatible with the moon, as I had theorized that iodine, found naturally on earth, may also be a universal microbial."

"I left the Apollo Program with a lot of knowledge about medical device chemistry," he continued. "I can take a cotton cloth, for example, and turn it into a Teflon cloth."

In the early 1970s, Rosenblatt developed semi-permeable membranes for heart-lung machines. Johnson & Johnson used those membranes, but they shelved the product for business reasons. Rosenblatt then worked for the Electro-Catheter Corp., developing and marketing diagnostic catheters.

Later in the 1970s, Rosenblatt co-founded Merocel with an engineer from a company that manufactured biomedical products. Merocel manufactured an innovative lint-free surgical sponge. Today, many years later, Rosenblatt's sponges are still routinely used in many medical applications.

Retirement from Merocel in 1990 did not curb Rosenblatt's inventive juices. Aware that the overuse of antibiotics in animals and humans has led to resistance in their effectiveness, Rosenblatt developed an antimicrobial bandage called IoPlex for chronic wounds that would not heal due to resistant microbes. He has been an independent consultant and inventor for various companies since 1991.

Until four or five years ago, iodine could not be used in open wounds because scientists had not figured out how to control its dosage such that it did not damage healthy tissue.

"My dad's invention, IoPlex, bypassed that limitation, so iodine could be safely used in wound care without toxic side effects," his daughter Elise told us in an earlier interview. "IoPlex has helped thousands of patients recover from chronic wounds which could not heal due to infectious microbes that would not respond to current antibiotics."

"You know, as an inventor, 95% of all experiments fail," said Rosenblatt, "so when there is something that finally comes forth and does some good, it really compensates for a lot of failures."

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