

Have Spacesuit Will Travel

2017 Program Summary



Student in Durham, NC tries on the Sokol Spacesuit as part of *Have Spacesuit Will Travel 2017*.

Prepared by Don Thomas

January 9, 2018

Executive Summary

The Heinlein Prize Trust's *Have Spacesuit Will Travel* program was continued in conjunction with Dr. Don Thomas during 2017. A total of 125 students from South River High School participated by reading Heinlein's book and completing a space-themed project. This brings the total number of students participating in the full HSWT program between 2009-2017 to 2,013 students.

The footprint of the *HSWT* program was significantly expanded once again during 2017 to include classroom visits and presentations in five international locations with school visits in Israel, United Arab Emirates, the United Kingdom, Lebanon, and South Africa. In addition, a new partnership was formed with Higher Orbits bringing the program to Chicago IL, Durham NC, Dulles VA, and Morehead, KY. Overall these presentations and programs involved tens of thousands of students, teachers, and family members.



Israel



South Africa



United Kingdom



Lebanon



U.A.E

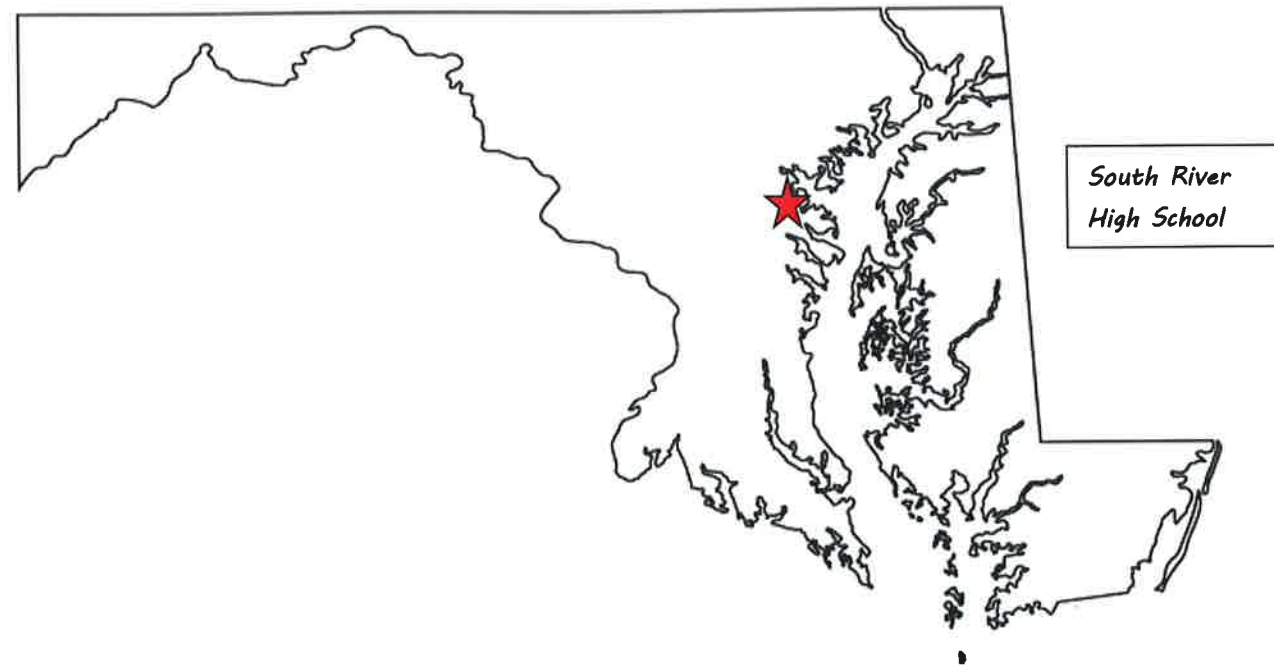
2017 Program Summary

During 2017 the Heinlein Prize Trust together with Dr. Don Thomas presented the full *Have Spacesuit Will Travel* program at one public schools in Maryland:

South River High School

201 Central Avenue E.
Edgewater, Maryland 21037

(Anne Arundel County Public Schools)



A total of 125 students participated in the program in 2017, reading Robert Heinlein's book *Have Spacesuit Will Travel* and completing a moon base design project as part of the program. With the previous 1,888 students that participated in **HSWT** between 2009-2016, the total student participation in the full *Have Spacesuit Will Travel* program has grown to 2,013 students.

Since its inaugural year in 2009, **HSWT** has been extremely popular and continues to receive strong support at South River High School. Plans are in place to continue the **HSWT** program once again with their incoming freshman class in the fall 2018. Since the **HSWT** program was initiated with this school in 2009, every one of their STEM students has participated in the program. Once again this year I continued to have some of the older students that participated in **HSWT** in previous years come up to me to say how much they enjoyed **HSWT**. Their teachers praise the program and continue to tell me it is truly one of the highlights of their STEM program and one they are extremely proud and excited about.

HSWT at South River High School

Edgewater, MD

Once again *Have Spacesuit Will Travel* was a summer reading requirement for the 125 incoming freshmen into the STEM program at South River High School which was coordinated by Jennifer Ward, the ninth grade STEM teacher. Having already read the book over the summer, the students were more than ready for the Sokol suit to arrive at their school.

On November 21 and 27, Dr. Don Thomas did a presentation for the students about spacesuits and things to consider when designing a lunar base, meeting with four different classes of students. For each class a presentation was given on the background of spacesuits, describing their function, the various components that make up a spacesuit, and explaining the different types of spacesuits. On November 28 and 29 he returned with the Sokol spacesuit and 2-3 students in each class were given the opportunity to try on the Sokol. At this point the students began their projects associated with **HSWT**.

As in previous years, the project the students were assigned to work on for the **HSWT** program was called **Moon Missions** and involved the students working in groups to design a lunar habitat that could sustain 6 astronauts for a 3 week stay on the moon. Once their designs were completed, the students were required to do a 5-10 minute oral presentation in front of the class. Once again this year I acted as a resource for the students and answered many questions and offered advice on their projects and designs via questions that were emailed to me.





New Partnerships: Higher Orbits' *Go for Launch*

In 2017 a new partnership was formed with **Higher Orbits**, a non-profit organization with the mission of promoting science, technology, engineering and math along with leadership, teamwork, and communications through the use of spaceflight. Run by former NASA JSC flight controller and astronaut trainer Michelle Lucas, they have developed a program called *Go for Launch* which allows students to compete in designing an experiment to fly to the International Space Station. During 2017 **HSWT** participated in four of these programs across the country:

January 15
April 10-12
June 20-22
July 25-28

Orbital ATK
Durham County Public Library
Deerfield High School
Morehead State University

Dulles, VA
Durham, NC
Deerfield, IL
Morehead, KY



Space Shuttle and ISS commander Frank Culbertson (left) helped the students get into the Sokol spacesuit at the *Go for Launch* program at Orbital ATK in Dulles, VA on January 15.



Go for Launch at Orbital ATK



Go for Launch in Durham, NC



Go for Launch in Durham, NC



Go for Launch in Durham, NC



Go for Launch in Deerfield, IL



Go for Launch in Deerfield, IL



Go for Launch in Morehead, KY



Go for Launch in Morehead, KY

Increasing the Footprint of HSWT Abroad:

Israel Space Week January 29- February 2

Together with the Ramon Foundation participated in their student Space Lab Conference and presented to 400 students and assisted in the judging of the student experiments selected to fly on the ISS. Was also a panelist with Charlie Bolden, Ricky Arnold, Garrett Reisman, and French astronaut Jean Jacques Favier at the Ilan Ramon International Space Conference on a session titled "Space for Everyone". Presented at an Arab-Israeli school and at two schools involving close to 1,000 students participating in the Ramon Foundation's Aviator Program for at-risk students. Also did two student presentations at the Eretz Museum and one at the Carasso Science Park Museum. On February 2, I gave the closing keynote address on "The Role of Inspiration in Education" to 150 students and 350 teachers attending the Ramon Space and Education Conference. Overall spoke to more than 3,000 students and teachers across Israel and did six media interviews in support of the Ramon Foundation.



Speaking to students at the **Ramon Space Lab Conference** on working hard and achieving your dreams in life.



Tel Aviv, Israel



Student at the **Carasso Science Park** in Beer Sheva, Israel.



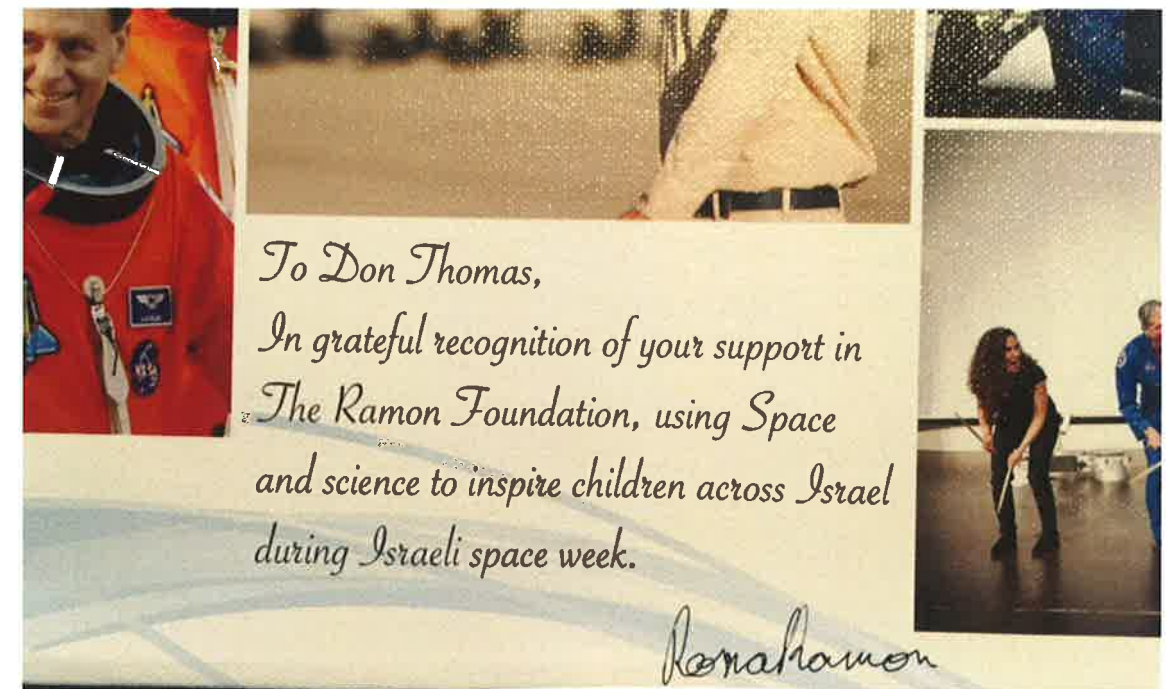
With **Avi Blasberger**, Director of the **Israel Space Agency**, together with his grandson. Avi holds a small piece of the planet Mars that I presented to his grandson.

Tel Aviv, Israel



Students participating in the **Ramon Foundation's Aviators Program** for at-risk children check out the Sokol space gloves at a school in Merchavim near the Gaza Strip.

Israel



Recognition from **Rona Ramon** and the **Ramon Foundation** for **HSWT's** support of Israeli Space Week.

The United Kingdom

March 22-25

At the invitation of Space Boosters in the UK, I did a full day of presentations at the National Space Centre in Leicester and visited two schools in the Midlands region where students were able to try on the Sokol gloves and comm cap.



United Kingdom

Lebanon

April 24- May 7

At the invitation of the Young Leaders Development Program in Lebanon, I visited 26 schools and 11 universities during my two-week visit. This was the first time ever that a NASA astronaut visited Lebanon. Many of the students were able to try on the Sokol gloves and comm cap.





Lebanon



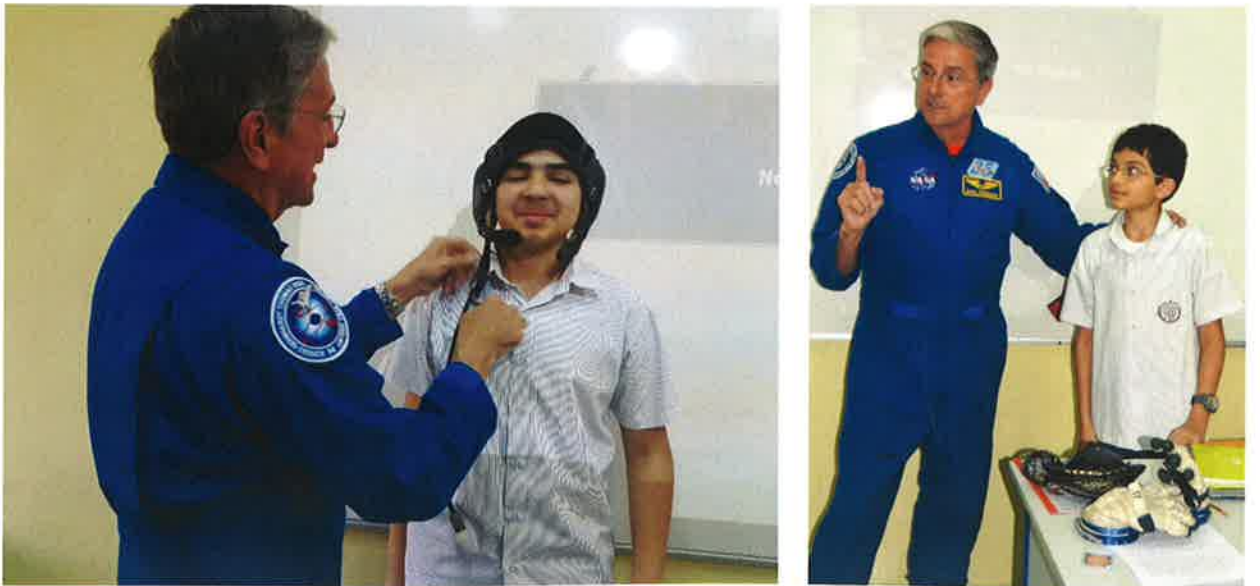
Lebanon



Lebanon

Dubai, United Arab Emirates May 8-10

At the invitation of the Young Leaders Development Program, I visited three schools in Dubai and spoke with students about spacesuits and living in space.



Dubai, UAE



Dubai, UAE

South Africa – Cape Town, Johannesburg, and Durban October 30- November 10

At the invitation of **Living Maths** based at the **Cape Town Science Center**, I visited 12 schools and gave 6 public lectures in Cape Town, Johannesburg, and Durban as part of their **Space Tour 2017**. This **Space Tour** involved many schools from the very poor township districts as well as numerous public and private schools in the more affluent districts of South Africa. One location we visited in Johannesburg was a special foster home for students who had lost their parents to AIDS.



Cape Town, South Africa



Johannesburg, South Africa



Durban, South Africa

Dubai, United Arab Emirates December 17-19

At the invitation of **Compass International** in Dubai, UAE, I participated in their inaugural **Go For Launch Mars** program for Emirati high school students. A total of 25 high school students participated in this two-week program. Because of the recent announcement that the UAE is starting their own astronaut program and will be selecting four astronauts to begin training soon, there is great interest in space, especially among the students. A presentation on spacesuits was given and ten of the students were able to try on Michael Foale's Sokol spacesuit that he flew on Expedition 8.



Dubai, UAE



Another first for the HSWT program:

One of the *Go for Launch Mars* instructors from the UK does the South African Olympian sprinter Usain Bolt pose while wearing the Sokol spacesuit. To my knowledge this was the first time that “**The Bolt**” was ever done in a Sokol spacesuit.

Dubai, UAE



Dubai, UAE



Dubai, UAE

Additional School Visits and Community Events

4/6 Visit to Western Heights Middle School in Hagerstown, MD. Spoke to 250 8th graders about living and working in space and showed them the Sokol spacesuit as well.

8/19-8/21 At the invitation of the Newberry Opera House in Newberry, South Carolina, I participated in their Solar Eclipse Festival that drew more than 50,000 visitors during the three days of the event. I did presentations on living and working in space and led a hands-on activity for the students looking into how liquids behave in space. The Sokol spacesuit was on display just inside the main entrance to the Newberry Opera House where thousands of visitors passed by and were able to examine the suit up close.



Newberry SC Eclipse Festival



Student attending the **Great American Eclipse** in Newberry, SC tries on the Sokol gloves and comm cap on August 21, 2017.

10/12 Spoke to 250 freshmen at the University of Maryland at College Park, MD about spacesuits, my career as an astronaut, and living and working in space.



University of Maryland



Freshman at the **University of Maryland** inspect the Sokol spacesuit at the end of the class.

10/26 Participated in Space Week celebration at West Ward Elementary School in Killeen, TX. Did multiple school presentations on living and working in space and participated in their STEM Night program where students were able to try on the Sokol gloves and comm cap. In addition I visited the McLane Children's Hospital in Waco, Texas where I met with and spoke to some of the young patients at the hospital.



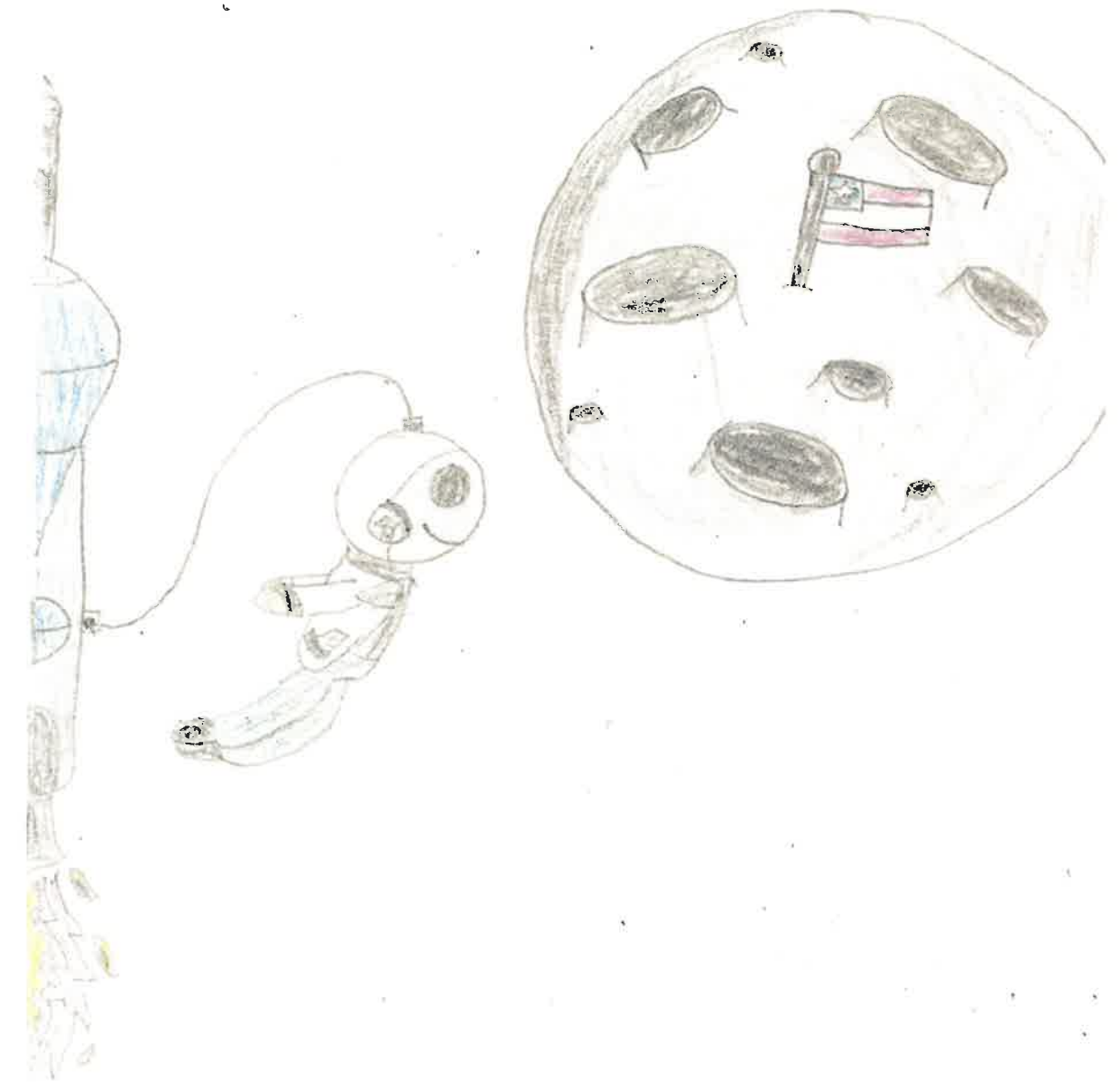
Sokol glove fist bump with Anthony Triola, District Field Representative for **Congressman John Carter** (31st District of Texas) at **West Ward Elementary School** in Waco, Texas, on October 25.



11/30 Presentation on spacesuits and NASA exploration to 150 5th graders at Jefferson Elementary School in Maplewood, NJ, just outside Newark.



Visiting students and showing them gloves from a Sokol spacesuit at the McLane Children's Hospital in Waco, Texas.



Summary of 2017 Activities

Once again South River High School in Edgewater, Maryland, participated in the full *Have Spacesuit Will Travel* program in 2017 involving a total of 125 students. Together with those that participated from 2009-2016, **a total of 2,033 students have participated in HSWT to date.**

The excitement that the *Have Spacesuit Will Travel* program generates with the students is difficult to put into words but hopefully some of that excitement has been captured in the pictures presented in this report. Last year there was a trend for the students trying on the Sokol Spacesuit to strike the now famous “dab” pose made famous by NFL quarterback Cam Newton. This year one of the instructors who tried on the spacesuit immediately did “The Bolt” as perfected by South African Olympic sprinter Usain Bolt. Once a student gets into the Sokol spacesuit everyone pulls out their cell phones to snap a few pictures for posting on social media sites. The students really appreciate what a unique opportunity it is for them to get inside a Sokol spacesuit that has actually flown in space!

Besides being a lot of fun, the HSWT experience exposes the students to new technologies that are used in both spacesuits and spacecrafts, and provides them with an opportunity to look into the future and envision the space travel that may be possible within their lifetimes. The program also lets the students develop more of their creative talents in designing a lunar base. The presentations in front of their classmates, teacher, and an outside visitor are valuable skills that they will surely use in the future in whatever career field they enter.

Expanding the HSWT Footprint:

During 2017 the footprint of the HSWT program was extended considerably by developing a new partnership with Higher Orbits where we participated in Dulles VA, Deerfield IL, Durham NC, and Morehead KY. The Sokol gloves and comm cap were also taken to dozens of schools in Israel, the United Kingdom, the United Arab Emirates, Lebanon, and South Africa, with the goal of doing so to expose even more students to space exploration and what it is like in space beyond those reading *Have Spacesuit Will Travel* and participating in the formal HSWT program.

Recommendations and Future Plans

The HSWT program was expanded considerably during 2017 by forming new partnerships with the Higher Orbits “Go for Launch” program here at home, the Young Leaders Development Program in both Lebanon and Dubai, U.A.E., Space Boosters in the United Kingdom, Living Maths in South Africa, and Compass International in Dubai, U.A.E. These programs were very well received with the major draw being the Sokol spacesuit. Talks are underway to include a new partnership in 2018, the **Space Foundation Discovery Center** in Colorado Springs. I recommend continuing efforts in the development of these new partnerships to expand HSWT outreach whenever opportunities present themselves.

Acknowledgements

I would like to thank **The Heinlein Prize Trust** for making the Sokol spacesuit available and in particular Art Dula, Buckner Hightower, and Anat Friedman for their leadership, support, and active involvement in the HSWT program. *Have Spacesuit Will Travel* helps provide a unique and invaluable learning experience for many students, some of which may become our country’s (and other countries’) next generation of explorers and commercial space advocates. **Clearly the HSWT program has strong international appeal!**

