

IN THIS ISSUE

- [Partner Spotlight on GHSA 1](#)
- [Environment 2-4](#)
- [Honors 5](#)
- [Space 6-9](#)
- [Science 10](#)
- [Technology 11](#)
- [Health 12 - 14](#)
- [Research.....15](#)
- [2018/2019 Look Ahead 16](#)
- [2018 November Calendar 17](#)

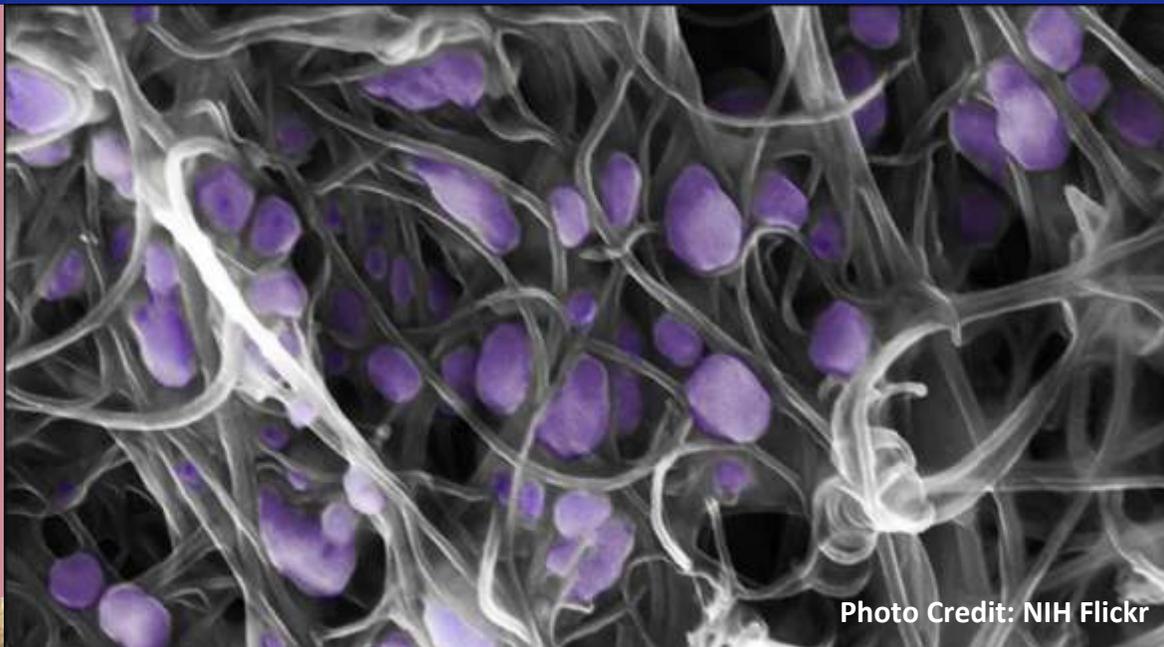


Photo Credit: NIH Flickr

Ensuring a World Safe and Secure from Infectious Disease Threats

Thrillers sometimes involve fast-spreading pandemics or bioterrorists unleashing weapons. To prevent such fictional scenarios from becoming reality, the United States rallied like-minded countries to form the Global Health Security Agenda ([GHSA](#)) in 2014. GHSA is now a partnership of over 60 nations, several non-governmental stakeholders, the private sector, and key international organizations such as the [World Health Organization](#), the World Organisation for Animal Health, the [Food and Agriculture Organization](#), and the World Bank. GHSA uses a multilateral and multi-sectoral approach to strengthen national and global capacities to **prevent, detect, and respond** to human and animal infectious disease threats whether naturally occurring, accidentally released, or deliberately spread. Members collaborate to help countries build capacity and infrastructure and develop core capabilities with guidance from 11 GHSA [Action Packages](#).

The Steering Group (SG) leads this effort, and Italy’s Ministry of Health Secretary General Giuseppe Ruocco chairs the SG in 2018. Italy invited Health and Agriculture Ministers from all member countries to the GHSA Ministerial in Bali, Indonesia on November 6-8. The group reviewed accomplishments, renewed commitments, and strategized on future actions. **(Continued on Page 2)**



Meet your ESTH Rome team:

L to R: Abigail, Federica, Caron, Ranjan, and Christine

Caron De Mars,
ESTH Counselor

Federica Signoretti,
ESTH Specialist

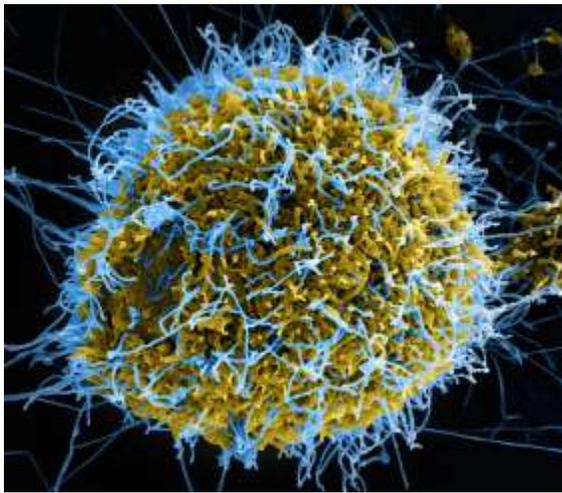
Abigail Hartnett,
Fall ‘18 Intern

Ranjan Gupta,
Science Fellow

Christine Heintz,
Office Manager Specialist

ENSURING A WORLD SAFE AND SECURE FROM INFECTIOUS DISEASE THREATS (cont.)

The United States was the first SG Chair in 2014, and the U.S. leads or contributes to several working groups by sharing domestic health experiences and lessons learned with partners around the world, with robust backing by the [White House](#). Thus far, the United States has invested \$1 billion to assist in building country capacities



Ebola under a microscope.
Photo Credit: NIH Flickr

across the 11 key technical areas. What stands out most are [success stories](#) of countries moving toward better preventing a disease threat or responding to an outbreak

to save lives.

Since diseases and malicious actors do not take breaks or respect borders, the continued efforts of GHSA remain vitally important. The Kampala Declaration adopted during the 2017 Ministerial in Uganda extended the mandate of GHSA until 2024. The focus now is to plan actions and goals for the next 5 years. The next 5-year phase – GHSA 2024 – was officially launched at the GHSA ministerial in Indonesia. Commitment from GHSA member nations remains strong, and more nations have expressed interest in joining this enterprise and taking active part in its governance and agenda.

European Collaboration Leads to World Bee Day

May 20, 2018 marked the first official UN World Bee Day. Slovenia initiated the process for UN designation and Slovenia’s Ambassador to Italy was a presenter at an event commemorating the declaration in Rome. The main objective of this celebration was to highlight the importance of bees as pollinators responsible for a good part of the world’s food supply. Unfortunately, bees are dying in record numbers due to a range of causes including agricultural pesticides, monocultures, pests, diseases, and climate change. Since bees and other pollinators are responsible for one out of every three bites of food we eat, pollinator protection is critical to global food security.



Photo Credit: Garfield Park Conservatory

ITALY'S PLASTIC SAND BEACHS

Italian researchers at the University of Pisa, including Matteo Bainsi, Maria Cristina Fossi, Matteo Galli, Ilaria Caliani, Tommaso Campani, Maria Grazia Finoia, and Cristina Panti, published a report in August on micro plastics found on Italian beaches. Micro plastics are fragments of plastic that are smaller than two millimeters in length, and can come from all types of discarded plastic products and personal care items. After weathering, sunlight exposure, and abrasion, these micro plastic pieces break off from plastic containers, bottles, bags, and straws, to name a few source items, and contaminate the environment. These small pieces of plastic then can work their way into our food chain. Chemicals can absorb or exit from the plastic pieces, acting as carriers for other, substances like phthalates. Oftentimes, these plastic pieces are floating in the water, and marine life ingest them. Micro plastics accumulate in the stomachs and flesh of marine life. Marine life all over the world have fallen victim to stomachs full of plastic, taking up valuable space meant for food, and can starve as a result. [Fish consumed by humans](#) also contain micro plastics in small quantities.

This discovery by Italian researchers, who estimate tons of micro plastic pieces are on Italian beaches and surrounding waters right now, is a harrowing illustration of the far and invisible reach plastic has on the environment. Sources of these micro plastics might be broken off from waste discarded by Italians on beaches and from plastic washed up on shore. Chemical analysis revealed these particles are mainly polyethylene and polypropylene, or plastic produced with the 2, 4, and 5 recycling symbol on them, the most common types of plastic.

These micro plastics become very persistent in the environment, and are nearly impossible to clean up. This discovery of the extent of plastic pollution in Italy punctuates the importance of recycling and proper disposal of waste.



Plastic found in a fish. Photo Credit: EcoWatch



Photo Credit: CBS News

DCM Speaks at “A Sea of Legality”

On September 8, Deputy Chief of Mission Kelly Degan and ESTH Specialist Federica Signoretti participated in the annual “Festa della Speranza” (Festival of Hope) in memory of Angelo Vassallo, the “Fisherman Mayor” of Pollica and Acciaroli (Campania), [who was assassinated on September 5, 2010](#). Disgusted that his catch was increasingly less fish and more trash, Vassallo ran for mayor of his seaside town in 1995. After winning, he cleaned up his town, literally and figuratively, and stood up to organized crime. Acciaroli Mayor Stefano Pisani and the “Angelo Vassallo Fisherman Mayor Foundation” hosted the area’s public commemoration “Un Mare di Legalità” (A Sea of Legality) at the harbor, and DCM Degan was again invited to speak. The Mission has had a fruitful relationship with the Foundation, which has been promoting the rule of law in public administration and environmental protection throughout Italy since 2016. Naples Mayor Luigi De Magistris attended, as well as local press and many Foundation-member mayors. After eight years of fruitless investigation, in July 2018 it was announced that Lazzaro Cioffi, currently in prison for another crime, is now being investigated in connection with the Vassallo murder case.



DCM Kelly Degan speaking. Photo Credit: Federica Signoretti

SAVING BEES, SAVING THE WORLD

The U.S. beekeeping industry has a very important relationship with their Italian counterparts. Italian-bred bees are very popular with American apiarists, due to their calm nature and industriousness in honey production. The honeybee industry in the United States works in stages. During the spring, many beekeepers bring their bees to farms around the country in order to pollinate crops (for example, bees are brought to almond groves in California). After these bees are done pollinating for the agricultural industry, they are brought “back home” to pollinate summer plants and flowers where their honey is harvested. Trucking bees around the country is stressful enough for these hard-working pollinators, and now a new wrench has been thrown into this industry, called Colony Collapse Disorder. This worldwide phenomenon has led to numerous hive die-offs, attributed to pesticide usage, pests, diseases, and climate change. Many countries around the world have united to save the bees. This year, the UN declared May 20th World Bee Day after a global campaign for such a declaration by Slovenia. ESTH Intern Alex Anderson attended an event in Rome on August 3 that focused on the plight of bees and their importance to agriculture and the economy. She heard several Italian academics speak about the importance of bees, and how we can save them. There is strong mutual interest in saving the bees, in both Italy and the United States.



Photo Credit: PCC Credits

Why should you care about pollinators?



90% of wild flowering plants globally depend on animal pollination for producing their seeds.



Pollinators are responsible for **35% of the world's crop production.**



Caring for bees and other pollinators is part of the fight **against world hunger.**



Ensuring biodiversity among these species is **crucial to build resilience** in agroecosystems and adapt to climate change.

Photo Credit: United Nations

Seeking a U.S.—Italy Coalition Against Cancer

Italian geneticist and Harvard oncology researcher Pier Paolo Pandolfi has created a road map for building a coalition of cancer research centers in the U.S. and Italy. As of June, the Harvard Medical School board planned to meet with Maurizio Tamagnini, the CEO of the Milan-based investment-management firm Fondo Strategico Italiano to establish a Milan–Harvard partnership for cancer research.



Photo Credit: Harvard

Corriere della Sera 06/19 - p. 27

Two Italians Named amongst Eleven Up-and-Coming Researchers in the National Sciences

The Nature Index recognized 11 up-and-coming researchers in the natural sciences on September 20th. More than 500 scientists were assessed using the power of the Nature Index and the League of Scholars Whole-of-Web (WOW) rankings. To be considered, scientists had to have published their first scientific paper within the last 20 years, as well to have published at least one paper in the 82 index journals in 2017. Among the 11 were two Italians, Silvia Marchesan and Giorgio Vacchiano. Both Marchesan and Vacchiano showed year-on-year citation growth, and scored exceptionally in the WoW ranking.

nature INDEX

Silvia Marchesan, an organic chemist, was named one of the 11 up-and-coming researchers in natural science for her ability to create hydrogels that are made from cost-effective, self-assembling proteins. Antimicrobial peptides are made up of amino acids. These proteins have the geometric quality of chirality, which means they cannot be overlaid on their mirror images. Their chirality determines their biological activity – this is important for pharmaceutical manufacturers who utilize their biological activity to create drugs. These molecules are generally long strings of hundreds of amino acids. However, Marchesan was able to refine the process, and instead worked with short peptides that are only three amino acids long, and switched the chirality of the individual amino acids. This cost-effective approach makes it possible to make tripeptides that self-assemble into water-based gels, which allows the hydrogels to switch functions on and off. This function enables enzyme

substitutes, scaffolding in the repair of body tissues, and for the sustained delivery of drugs. Marchesan's next step is to refine the lab process in order to make the process less expensive and more sustainable.



Dr. Giuliano Testa,
Photo Credit: Baylor Scott & White Transplant Services

Giorgio Vacchiano is an ecologist who applies mathematical modeling to forest management. His interest in conservation inspired him to study forestry. Vacchiano began his career by focusing on the impact of climate change on forests. Today he is working to find ways of using forests to mitigate climate change. Through his work, he has pioneered the use of modelling for forest management in Italy. This includes using tools to estimate how quickly trees will grow after a thinning, or how many trees are needed to stop rocks from falling down a slope. He has also discovered a link between the high mortality of a normally hardy tree species in Italy's southwestern Alps and drought. In addition, Vacchiano found overwhelming evidence that climate change is increasing the frequency and magnitude of fires, droughts, and pests. Vacchiano continues his work at the University of Milan.



Silvia Marchesan
Photo Credit: Nature Index

EVA23

On September 27, the European Space Agency (ESA) screened a film about Italian astronaut Luca Parmitano's second long-term mission on the International Space Station



Photo Credit: Space Center Houston

(ISS). Parmitano will be returning to the ISS in 2019 and will become the commander during the second half of his flight. To celebrate this occasion, the Italian Space Agency (ASI) and ESA hosted the European premiere of EVA23, a documentary that recounts an incident that occurred during Parmitano's second extravehicular activity.

Texas-based Space City Films produced EVA23. During Parmitano's previous ASI mission, *Volare*, he became the first Italian astronaut to perform a

spacewalk – a necessary task for interventions outside the International Space Station. After completing his first spacewalk, he began his second. EVA23 documents the dramatic complication that occurred during this second spacewalk. Parmitano's helmet began to fill with water, which put him at risk of drowning 400 kilometers from Earth. His ventilation system had sprung a leak. Liquid doesn't flow under



Photo Credit: NASA

zero gravity, so the water sat in his helmet covering his eyes and ears, and blocking his nostrils. At risk of drowning, he had to cut short his spacewalk, but fortunately survived unharmed.

WATER FOUND ON MARS

On July 25, Italian scientists announced they had found an underground lake on Mars. This announcement is incredibly significant, because it is the first step in the search for life on our neighboring planet. Scientists Enrico Flamini and Roberto Orosei report that the water is salty and filled with minerals; further research is needed to confirm there is life in this underground lake.



Photo Credit: NASA

The body of water is estimated to be about 12 miles wide, filled with billions of gallons of very salty water. It was discovered by the Mars Advanced Radar for Subsurface and Ionosphere Sounding Instrument [MARSIS](#). The radar, along with other instruments, is part of the larger European Space Agency Mars Express expedition that started its orbit of the Red Planet in 2003.

Initially scientists found the data from the spacecraft confusing, but after they made some comparisons to underwater lakes on Earth, the data started to make sense. Radar signals send a low frequency pulse used to find subterranean water/ice deposits on Earth. Anomalies came back, indicating the radar had gone through a very cold layer of pure water ice. Using this same methodology, the Italian team also found water beneath a glacial ice formation, near the Martian South Pole. **(Continued pg. 7)**

WATER FOUND ON MARS (continued)

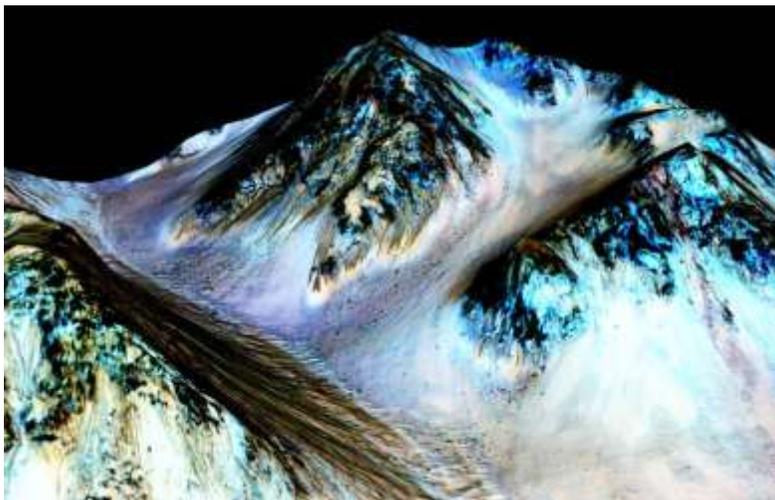
The researchers only used the MARSIS radar on a small portion of the planetary surface, and they communicated that there could be more locations for water in the southern polar region. Due to the nature of the radar, it is hard to determine the



Photo Credit: NASA

depth of water in the underground lake. To calculate depth, it would be necessary to drill down to this body of water.

This could also reveal microbes or other life forms within it. Many scientists are calling for more research to corroborate this discovery and probe farther in search of life on Mars.

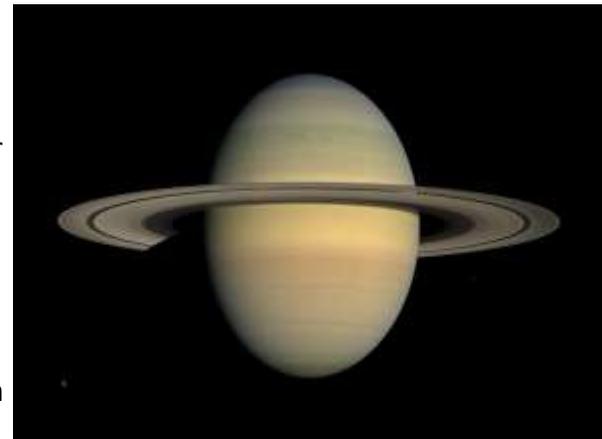


These streaks have been formed by contemporary water flow on Mars. Photo Credit: NASA

NASA Project Updates

Dr. Shawn M. Brooks of NASA's Jet Propulsion Laboratory (JPL) met with the ESTH team on June 28 to give us an update on three missions that he works on with Italian scientists: Cassini, Juno, and Europa Clipper, all solar system probes. This past year, Cassini finished up its probe of Saturn, its ring system, and its retinue of satellites, including mysterious Titan, before being directed to crash into the [atmosphere of Saturn](#). The data from the mission will help Dr. Brooks and other scientists learn about the nature of the rings, specifically their chemical composition and energy, among other topics of interest to the planetary rings research community. The mission was extended twice since its arrival at Saturn in

2004. [Juno](#) is an important JPL mission, which is exploring Jupiter by orbiting the planet about every 53 days. The satellite is equipped with many instruments, one of



Saturn. Photo Credit: NASA

which was built by an Italian team of scientists and engineers initially led by Dr. Angioletta Coradini. The instrument is called JIRAM, or Jovian Infrared Auroral Mapper, and records images and spectra in the infrared wavelengths. JIRAM observations allow scientists to study Jupiter's auroral regions, as well as the planet's thermal environment. Dr. Brooks said the JIRAM instrument collaboration is an example of the importance of international collaboration between scientists, especially on space missions. Citizen scientists can also go onto the mission's website and look at photos taken by the craft, and examine some of the fascinating data captured by Juno. The mission is expected to continue until 2021, probing Jupiter for a total of 5 years.

“Italy in Space” - Italian Space Technology to Improve Citizens’ Lives

Italy revised its space governance via Law 7/2018, providing for an inter-ministerial committee coordinated by the prime minister. Politicians, institutions, industry, and researchers will work together to identify strategic objectives and priorities. The Ministry of Foreign Affairs hosted a high-level event titled “Italy in Space” on September 17 to discuss opportunities presented by the new law with Italian stakeholders. According to Under Secretary in the Presidency of the Council of Ministers and Space Policies Coordinator Giancarlo Giorgetti, the sector is crucial for Italy’s economic growth and needs nationally coordinated efforts. The Committee will examine space and aerospace priorities ranging from security and defense to research and space diplomacy. The Under Secretary’s goal is to “provide services to citizens and improve the daily life of all of us.” Giorgetti underlined the possibility of monitoring even millimetric displacement of ground under critical infrastructures to protect citizens’ safety (e.g. in order to avoid a bridge collapse as it had happened in Genoa in mid-August, causing 43 deaths.) According to the Ministry of Economic

Development [website](#), Italy has defined a “Space Economy Strategic Plan”, which envisions an investment of about 4.7 billion euros, 50% of which would be covered by public resources (national and regional), and additional to the funds usually allocated to space activities. The Plan includes five program lines: 1) satellite telecommunications (Mirror SAT-COM); 2) support for national participation in Galileo (Mirror Galileo); 3) infrastructure for Galileo’s publicly regulated services; 4) support for Copernicus (Mirror Copernicus); and 5) space exploration and related technological developments.



Giancarlo Giorgetti, Under Secretary in the Presidency of Council of Ministers and Space Policies Coordinator.
Photo Credit: Wikipedia



Italy from space. Photo Credit: NASA



Out-of-this-World Italian Tourism

On July 6, U.S. space venture company Virgin Galactic, run by Sir Richard Branson, forged an agreement with the Italian private sector to construct a suborbital space flight center. The U.S. and Foreign Commercial Service's Senior Commercial Officer Todd Avery and ESTH Counselor Caron De Mars were on hand to witness the signing and meet with Italian government officials at the future site of the Grottaglie Spaceport in the Puglia region of Italy, which is on the "heel" of the Italian boot. Once constructed, Italy will house Europe's first space port.



Photo Credit: Space.com

Virgin Galactic's first commercial sub-orbital plane, SpaceShipOne, was successfully launched into sub-orbit and returned to earth in 2004. SpaceShipTwo was officially unveiled to the public on 7 December 2009 at the [Mojave Air and Space Port](#) in California. The main purpose of these spacecraft is space tourism. For \$250,000, individuals can purchase tickets to go to space for a few minutes, experience weightlessness, and see the curvature of the Earth. In suborbital spaceflight, the rock-

et is launched upward off of the surface of the earth, leaving earth's atmosphere briefly, and returns to Earth. Depending on the length and speed of the upward trajectory, the craft can either land where it took off, or land elsewhere on the Earth (e.g. from the Virgin Galactic spaceport in Grottaglie, Italy to its spaceport in the Mojave desert near Los Angeles), as long it is within one orbit of the launch site. Most spaceflight as we know it, like our satellites and space shuttle program, are orbital flights, which circle our planet multiple times.

Sir Richard Branson and others are betting that this will be the future of flying, or at least for those who can afford it. Italian Prime Minister Giuseppe Conte, in a joint press conference with President Trump, said the proposed Italy-LA route could be done in an hour and a half. Previous flights that have transported passengers across the world faster than a typical commercial flight used the supersonic Concorde plane, and were operated by Air France and British Airways. Passengers could traverse the Atlantic between the east coast of the United States and Paris or London in three and a half hours.



Left to Right: Todd Avery, Senior Commercial Officer, Sir Richard Branson, Caron De Mars, ESTH Counselor. Photo credit: Bystander

The partnership between the United States and Italian aeronautics is very strong, with joint ventures and public private partnerships ranging from missions outside of our solar system, to supporting the International Space Station; and now, sub-orbital space flight.

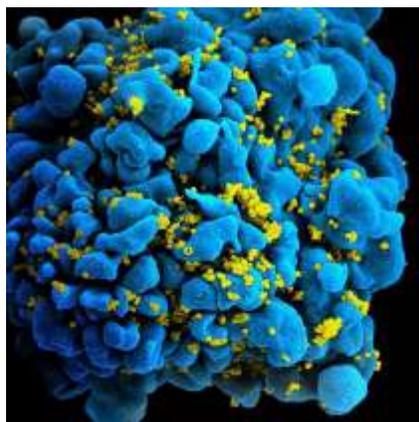
  @virgingalactic and @Virgin_Orbit announced a set of agreements with Italian companies and #Italy's space agency @ASI_spazio that could lead to suborbital and orbital launches from a proposed Italian spaceport

Tweet Credit: ItalyinUS

NIH-Sardinia CRS4 Cooperation on Innovative Drugs

On September 20, the ESTH team met with Dr. Dan Appella, who leads the Synthetic Bioactive Molecules Section in the Laboratory of Bioorganic Chemistry in the National Institute of Diabetes and Digestive and Kidney Diseases.

He works collaboratively with NIH researchers on a variety of projects, including the design of a small molecule that inactivates human immunodeficiency virus (HIV), and seems promising (cheap and simple, from laboratory tests is not toxic, and does not develop resistance). Dan Appella came to Italy to give a lecture at the Rome University “La Sapienza” Biochemistry Department and at the “Innovative approaches for the identification of antiviral agents Summer School” (IAAASS) near Cagliari (Sardinia). The Embassy (ESTH and Public Affairs) connected him with the Sardinia Research Center’s (CRS4’s) Dr. Enrico Pieroni, a senior researcher in the CRS4 Biosciences Department, with whom Appella discussed ways to work together and start a collaboration.



Human Immunodeficiency Virus
Photo Credit: NIH



Photo Credit: Sardinia Research Center (CRS4)

FDA Approves Italian Drug for Rare Corneal Disease

On August 22, the U.S. Food and Drug Administration approved the first drug for the treatment of neurotrophic keratitis, a rare disease affecting the cornea that can lead to the loss of vision. The drug, Oxervate (cenegermin), which is produced by the Italian pharmaceutical company Dompé, is the recombinant version of the human nerve growth factor (NGF) discovered by Nobel Laureate Rita Levi Montalcini. This protein is produced naturally by the human body and is important for the development, maintenance and survival of nerve cells. Administered in the form of eye drops to patients with neurotrophic keratitis, Oxervate helps restore the normal healing processes of the eye and repair the corneal damage.

“While the prevalence of neurotrophic keratitis is low, the impact of this serious condition on an individual patient can be devastating,” said Wiley Chambers, M.D., an ophthalmologist in the FDA’s Center for Drug Evaluation and Research. “In the past, it has often been necessary to turn to surgical interventions; these treatments are usually only palliative in this disease. Today’s approval provides a novel topical treatment and a major advance that offers complete corneal healing for many of these patients.”



Dompé Headquarters. Photo Credit: Dompé individual

ESTH MEETS SENIOR SCIENTISTS FROM FERMILAB

Fermilab, the American counterpart to Europe’s CERN, is home to the world’s highest-intensity particle beam and funded and operated by the U.S. Department of Energy (DOE). A team of Italian and American scientists is conducting very exciting research to enhance our understanding of neutrinos. What are neutrinos? They are the most abundant matter particles in the universe; they are all around us, but we know very little about them.

On June 1, the ESTH section team met with Fermilab Director Nigel Lockyer, Chief of Staff Hema Ramamoorthi, Science Director Lia Meringa, and the DOE’s Abid Patwa regarding Italian-U.S. physics cooperation. Fermilab has colossal and scientifically advanced particle accelerators and detectors that measure the properties of the smallest particles in existence, and scientists study the results to help further our understanding of the universe. One particular



Accelerator Photo Credit: Fermilab



Agreement Signing at the Italian Embassy
With Fermilab and Embassy Staff (Washington)

information about the origins and nature of the cosmos. Neutrinos are nicknamed the “ghost particles” because they are so small that they can travel through walls and even through our own bodies! Italian Nobel laureate Carlo Rubbia is one of the scientists collaborating on the project, and is very enthusiastic about the new knowledge these experiments will bring to our understanding of neutrinos and to the field.

Another neutrino experiment, known as the Deep Underground Neutrino Experiment (DUNE), will measure neutrinos traveling from Illinois to South Dakota through an 800-mile stretch of earth, where detectors will be located within one -mile-deep shafts. Fermilab, located near Chicago, is constructing a high-intensity proton accelerator beam, through its Proton Improvement Plan-II (PIP-II)

Fermilab experiment, ICARUS, is led by a team of Italian and American scientists who are researching neutrinos in order to gain infor-

project, that will enable neutrinos to be sent to another facility in South Dakota that contain large cryogenic infrastructures, the Long-Baseline Neutrino Facility (LBNF), that house the DUNE detectors. An old goldmine shaft is now being excavated to house the 70,000 tons of ultra-pure liquid argon medium one-mile underground to detect the incoming neutrinos. This experiment has received funding through DOE, and CERN (as part of its first non-European investment) and the State of South Dakota has provided \$84M in funds and facilitated the private investment of \$70M. Additional cooperation from international partners, including those from over 175 participating institutions, continues to be pursued. The ESTH team was pleased to see that our Fermilab and DOE visitors signed an agreement with their Italian counterparts, one month after our meeting, at the Italian Embassy in the United States to cement this dynamic scientific collaboration. Today, both the U.S. and Italy are exploring additional collaborative opportunities particularly to the PIP-II project, which will be the first DOE accelerator project in the United States with major international partnerships.

LBNF/DUNE/PIP-II together is the largest-scale and the first truly international endeavor on American soil. As it reveals more secrets of neutrinos, it may inspire yet more U.S.-hosted large-scale infrastructure projects with international collaboration.



ESTH Team Learns about Water Issues in Italy via Acqua in Citta

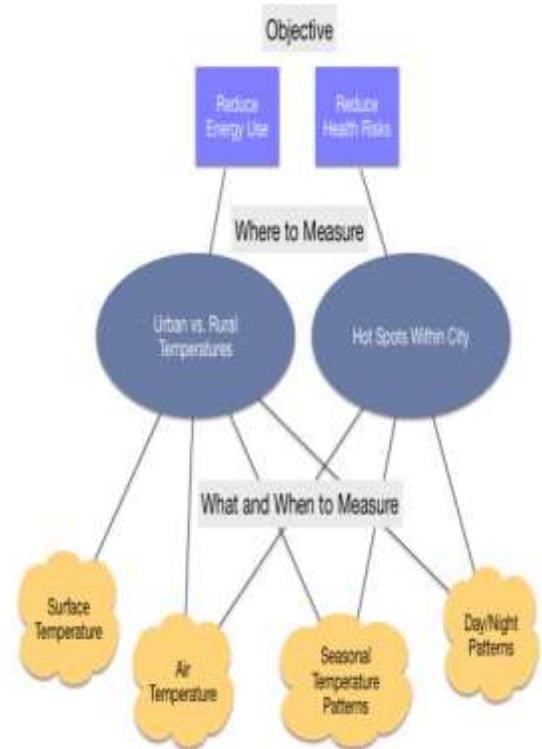
On June 20th, the ESTH team attended “[SOS Acqua](#),” a symposium organized by Italian environmental non-governmental organization [Legambiente](#) and hosted by Italy’s Presidency of the Council of Ministers (White House equivalent). Speakers from various Italian cities discussed water-related issues in their areas related to climate change and human activities. One presentation, titled “The Heat Islands in Roma Capitale,” provided a method of detection and analysis of the causes of elevated temperatures persisting over time, such as urbanization, soil quality, intense anthropic activity, and the production of atmospheric pollutants, using the city of Rome as a case study. The presenter described ways to reduce [heat islands’](#) harmful effects during peak periods, provided information to policymakers in the field of urban heatwave management, and gave an overview of the concept of “smart cities.”



Photo credit: Legambiente

Another presenter discussed the future impacts of heatwaves, including the expected increase in mortality in 21 cities in Italy based on the scenarios for the period 2020-2025. The models for the demographic changes and adaptation phenomena were constructed [MODIS](#) satellite data. The presentation highlighted prevention activities undertaken by Italian localities through the promotion of green urban areas and green infrastructure, as well as reducing emissions through cleaner transportation, and food and energy choices resulting in improved health. One of the most innovative presentations, titled “Learning from Water,” focused on esthetics and security for a new urban quality of life. Examples highlighted recent innovations in Europe, such as the

[Augustenborg District in Malmo \(Sweden\)](#) and the [Water Squares of Rotterdam](#), all of which have been better able to manage water through proper drainage flows out of urban areas to prevent flooding, while at the same time adding to the cities’ esthetic components. Another speaker discussed Bologna as a more resilient city due to its project [BLUEAP](#), intended to increase awareness of climate change and possible actions to combat it. BLUEAP includes a Climate Change Adaptation Plan for the city of Bologna.



How to measure Heat Islands
Credit: EPA



Arakdien Winnenden, Germany. Photo Credit: Stenger Gruppe

Embassy-wide Walk/Bike Challenge

Embassy workers walked their way up the Portuguese coast and biked their way along the Danube, albeit figuratively. This ESTH and Green Team initiative encouraged both healthy and environmentally friendly habits at the Embassy. Participants logged daily walking/running and bike totals for two months. As certain milestones along the route were reached, photographs of the area automatically popped up. Tri-Mission Green Team Co-Chair Silvia Giovanazzi treated the walkers and runners to the photographs she took along the El Camino De Santiago in Portugal, and



Walk/Bike Challenge winners.
Photo Credit: Caron De Mars

ESTH Specialist Federica Signoretti shared pictures she captured during a bicycle trip in Austria. The Green Team awarded the three winners who logged the most kilometers with reusable steel water bottles.

Our participants registered 42,255 kilometers walking/running and 5,580 kilometers biking. This translates to about 283 gallons of gas saved and 2.75 tons of CO2 kept from being emitted into the atmosphere. CO2, which comes from burning fuel, is a greenhouse gas that traps heat, and as a result warms

the planet. Worldwide, the transportation sector is one of the biggest polluters and contributors to climate change.

WALK BIKE RUN
Join Us on a Virtual Tour: April 15 - June 15
 Strengthen your health. Reduce your carbon footprint

Sign in to begin your travels, at <https://extranet.usembassy.it>

You'll experience a gorgeous vista at every milestone.

In terms of health, all those kilometers added up. Our participants burned approximately 237,880 calories from stepping and 166,371 from pedaling. Not only did participants reduce their carbon footprint, but they also developed healthy habits along the way. Daily exercise is recommend to maintain a healthy lifestyle, as it supports heart health and weight management. Exercise also releases endorphins, which help us feel good. A New York Times article reported, "According to a new review of research about good moods and physical activity, people who work out even once a week or for as little as 10 minutes a day tend to be more cheerful than those who never exercise. And any type of exercise may be helpful."

Exercise is both beneficial to you and the environment!



Photo Credit: Healthcare & You

University of Rome “Foro Italico”

On June 18, the ESTH team had the opportunity to visit The University of Rome “Foro Italico.” Foro Italico is a vocational university dedicated to Sports and Exercise Sciences, the only public university of its kind in Italy. The prestigious university was originally constructed by Mussolini and named *L’Accademia di Educazione Fisica “La Farnesina.”* The university was completed in 1932,



Left to Right: intern Zac Adams, Federica Signoretti, Caron De Mars, Intern Alex Anderson.

along with a number of other inspiring buildings and facilities that functioned as Rome’s sports center. It was closed in 1943, and reopened in 1952 as the *Istituto Superiore Educazione Fisica (ISEF)*. In 2008, the school was renamed *Foro Italico* to extend ISEF’s scope in covering all the fields of interest related to human physical activity. The campus represents a typical example of Fascist architecture, with wide use of white marble, triumphal statues, and obelisks.

The university also features the *Stadio dei Marmi*, or the “Marble Stadium,” a sports stadium and complex lined with 59 marble statues in classical styles portraying athletes – each representing the one of the provinces of Italy. The stadium was designed in the early 1920s and was completed in 1928 as a complement to the nearby Academy of Physical Education (now the seat of CONI, the Italian Olympic Committee). It has hosted

the 1960 Summer Olympics and the 2009 World Aquatics Championship Opening Ceremony. Today the stadium is used by the students for physical training.

As the only Italian state university for sports, the university has continued to stress the legacy behind athletics. The university offers many courses in sports sciences and currently has over 2,000 students, 60 professors, and 110 staff members. The university facilities include modern education structures, including lecture halls, a language center, a specialized library, a natatorium, multiple fitness areas, and a state-of-the-art sports medicine training area. Undergraduate study programs include: Human Movement and Sports Sciences; Health Sciences; and Educational Sciences (3 years). Master’s programs are offered in Sports Science and Techniques; Preventive and Adapted Physical Activity; Sport Management; and Health and Physical Activity that are taught in English language (2 years). The university also offers a research-oriented doctoral program (PhD) in Human Movement and Sport Sciences. The University’s sports teams, *Gruppi Sportivi d’Ateneo*, represent Foro Italico University in all sports events among different universities, sport federations, and sport authorities. The sports for the teams include football, gymnastics, volleyball, team gym, tennis, rugby, and fencing and in order for students



Photo Credit: Internazionali BNL D’Italia



Photo Credit: Padelnostrò

to be able to play on a team, they must practice the discipline at a full-time level as well as attend “Foro Italico” University for the full academic year. All of the university’s sports teams, we learned, have been quite successful both nationally and internationally.

Italian Mathematician Wins Medal

On August 1, the International Mathematical Union (IMU) awarded Italian researcher Alessio Figalli the Fields Medal, considered the “Nobel Prize of Math,” for his studies on optimal transport. The Fields Medal is awarded every four years; recipients must be under the age of 40. “This prize gives me so much joy,” Figalli said after the announcement at the International Congress of Mathematicians meeting in Rio de Janeiro. “It is such a big thing that I’m struggling to believe that I have received it,” he said. Born in Rome 34 years ago, Figalli studied at Pisa’s Scuola Normale. From 2009 to 2013, he was a professor at the University of Texas in Austin. He has been a professor at Zurich Polytechnic since 2016. Figalli is the second Italian to win the prize and the first in 44 years. “It is a great stimulus for the future,” he said. “It will motivate me to work in my research fields to try to produce studies of a very high level.”



Photo Credit:
International Mathematical
Union

A Visit to the European Commission’s Joint Research Centre

On August 7, Consulate Milan’s Political/Economic Chief John R. Crosby, Political Specialist Alessia Pastorutti, and intern Ted Kupper visited the European Commission’s Joint Research Centre (JRC) at Ispra, on Lago Maggiore. With 2,000 employees – the majority of whom are scientists and researchers, 83 percent with PhDs – the JRC is the Commission’s third-largest installation after Brussels and Luxembourg. JRC colleagues, led by Knowledge Center on Migration and Demography Unit Director Alessandra Zampieri, presented extensive analysis of migration trends in Europe. The Knowledge Center on Migration was set up two years ago to provide EU policymakers with objective data and analysis to inform decision-making. Subsequently, the team visited the JRC’s European Crisis Management Laboratory, with its remarkable array of technology available for real-time tracking of natural disasters such as wildfires and earthquakes. The Crisis Management Laboratory uses NASA-provided technology to inform and assist in decision-making regarding European disaster relief missions. The JRC has also recently started work on two projects to analyze disinformation and fake news sources, and they pledged to delve deeper into the extensive EU-U.S. cooperation that takes place at the facility on a future visit.

Photo Credit Ex Partibus



December 1	World AIDS Day
December 2 - 14	Katowice Climate Change Conference (Poland)
December 3 - 5	1st International Symposium on Health and Climate Change (Rome)
December 3 - 7	U.S.-Italy Joint Committee Meeting on Science and Technology Cooperation (Washington)
January 8 - 10	Science Envoy Dr. Robert Langer (Rome)
February	International Prenatal Infection Prevention Month
February 4	World Cancer Day
February 11	International Day of Women and Girls in Science
February 15	International Childhood Cancer Day
March 3	World Wildlife Day
March 8	World Kidney Day
March 22	World Water Day
March 23	World Meteorological Day
March 31	Tri-Mission Retake Roma Cleanup Event
April 12	International Day of Human Space Flight
April 22	Earth Day
April 24—30	World Immunization Week
April 25	World Malaria Day
May 3	International Space Day
May 22	International Day for Biological Diversity
May 31	World No Tobacco Day
June 14	World Blood Donor Day



If you know someone who would like to be added to this newsletter mailing list, or if you would like to be removed, please contact HeintzCA@state.gov

Image Credit: Alex Anderson

Sun Mon Tue Wed Thu Fri Sat

				1	2	3
				<p>Still in the Halloween spirit? Take this global health quiz!</p>	<p>Take time this Friday to get your Flu Vaccine!</p>	<p>Today is One Health Day!</p>
4	5	6	7	8	9	10
<p>Reduce your waste and get your reusable water bottle!</p>	<p>Unplug your electronics and save more energy.</p>	<p>Join the Green Team Walk/Bike to Work Day.</p>	<p>Pack your leftovers and reduce food waste.</p>	<p>Are you doing your part and using a reusable shopping bag?</p>	<p>Are you up to date on all your vaccinations? Check today!</p>	<p>Turn the water off while brushing and save gallons!</p>
11	12	13	14	15	16	17
<p>Are you getting enough sleep? It is important for your health.</p>	<p>Today is the start of World Antibiotic Awareness week!</p>	<p>Have you had your annual physical?</p>	<p>Today is World Diabetes Day!</p>	<p>Buy your produce locally and reduce green house gases.</p>	<p>Make sure you are consuming enough Vitamin C</p>	<p>Eat meat free this weekend.</p>
18	19	20	21	22	23	24
<p>Your eye health is important! Give them some R&R</p>	<p>Stressed? Practice some simple breathing exercises.</p>	<p>50% to 60% of our body is water. Stay Hydrated!</p>	<p>Are you getting enough probiotics in your diet to be healthy?</p>	<p>Have you taken breaks from your desk to stretch?</p>	<p>Writing helps support hand-brain coordination.</p>	<p>Eliminate or treat any stagnant water around you.</p>
25	26	27	28	29	30	
<p>When was the last time you dusted? It is important for your health.</p>	<p>Do some simple arithmetic to give your brain some exercise.</p>	<p>The way your baby communicates can be clues to their health.</p>	<p>Have you been reading to maintain cognitive function?</p>	<p>Limit your caffeine today and switch to herbal tea.</p>	<p>Tomorrow is World AIDS day. Know your status.</p>	