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## II. Man as a Galactic Species

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SCHILLER INSTITUTE CONFERENCE

# Foreseeing a Galactic Human Species On ‘Observe the Moon Day’

by Paul Gallagher

Oct. 5—Millions of Americans have been inspired by NASA’s aggressive new goals of returning human beings to the Moon in 2024 and to Mars by 2033. But for Americans to really get behind the Artemis Moon-Mars mission, and push it through over environmentalist and “Earth firster” opposition, they must understand what space exploration means for mankind as a whole.

With four powers now exploring the Moon and other nations preparing to do so, perhaps the most global space celebration is International Observe the Moon Day, Oct. 5, for which more than 1,500 events were held around the world. The Schiller Institute brought the occasion alive with a conference in New York City on “Man as a Galactic Species: The Necessary Alternative to War,” which presented all of the reasons that space colonization shows “man is greater than his destiny,” as moderator Dennis Speed quoted Friedrich Schiller at the start.

In welcoming the audience of 100 Schiller Institute members and newly interested contacts—including an inquisitive group of students from New York City’s Aviation High School, and others from city colleges—Speed said that mankind has the potential to exist in “the arc of galaxies,” and that “there is a Being of the universe that powers that universe, whose nature it is our destiny to know” in the long course of space travel and colonization. He added that with India’s exploration of the Moon’s south pole, China’s work on the far side,



### Speakers at the Oct. 5 Conference ‘Man as a Galactic Species: The Necessary Alternative to War’

Helga Zepp-LaRouche, President of the Schiller Institute (by video)

Andrea Jones, Public Engagement Lead of Solar System Exploration Systems at NASA (video)

Anatoly Antonov, Ambassador of Russia to the United States (greetings)

Dr. Xing Jijun, Counselor, Head of Science and Technology Section, New York Consulate General, People’s Republic of China

Benjamin Deniston, Science Advisor to the Schiller Institute

Dr. Aaron Olson, Fusion Technology Institute, University of Wisconsin, Madison

Jason Ross, Science Advisor to the Schiller Institute

Joseph Foster, InfoAge Space Exploration Center, New Jersey

The video of the full conference is available [here](#).

and Russian-U.S. cooperation, “these four powers can bring a new world into being.”

The conference saw part of a webcast presentation of Dec. 3, 2009 by the late economist and statesman Lyndon LaRouche, speaking when the U.S. and other economies were collapsed by the financial crash of 2008, and proclaiming that space exploration promised the greatest increases in human productivity if supported with productive credit. “Let’s industrialize the Moon now as a basis for future space exploration,” LaRouche had said then. “Only a mission-objective for the future can moralize populations. . . . Mankind is not going to stick around in this nook of the Earth. We are going out into the galaxy and explore it. We have to tell our grandchildren, this is what we must do.” A decade later, the Trump Administration has made this a U.S. mission.

The conference heard a message of greetings and support from Russia’s U.S. Ambassador Anatoly Antonov and opened with a welcoming message, by video, from NASA’s Andrea Jones to all the events occurring all over the world, “not only for NASA or just for scientists.” And after a brief but inspiring keynote by Schiller Institute President Helga Zepp-LaRouche, the conference heard and questioned Dr. Xing Jijun, Counselor and Head of the Science and Technology Section of the Consulate General of the People’s Republic of China in New York, and a panel of speakers on the scientific, engineering, and political aspects of truly marking “International Moon Day”—by quickly going back to the Moon and settling there!

### **A Vision That Began with Jules Verne**

Helga Zepp-LaRouche proclaimed Oct. 5 “a truly joyous day. All around the world—and actually, above it, namely on the ISS—there are celebrations of the International Observe the Moon Day, and all the people who are celebrating have caught a very healthy disease: Moon Fever.” The celebration is just 10 years old, marking NASA’s Lunar Reconnaissance Orbiter, and its companion LCROSS satellite, reaching Moon orbit in 2009. Zepp-LaRouche said “there are 1,564 events taking place all over the world,” and she gave some details, including more than 500 events in the United States. “The millions taking part in these events are the *avant garde* of the future of civilization,” she said.

Tracing this Moon Fever to its distant origins with

Jules Verne’s 1865 novel, *From the Earth to the Moon*, Zepp-LaRouche said that its global nature made cooperation among nations, not competition, the key to mankind’s success. Quoting her friend, the late space visionary Krafft Ehrlicke, she stated that aeronautics and astronautics will revolutionize *all* sciences and fields of endeavor. “Space projects prove that mankind is capable of overcoming all apparently insurmountable obstacles,” she said.

Those obstacles, and the cooperation among nations to overcome them, were discussed in detail by Science and Technology Counselor at the Consulate General of China in New York, Dr. Xing Jijun, who spoke on “The Approach to U.S.-China Cooperation in Science.” We can’t ignore the shift from the last 40 years’ U.S. relations with China, he said, to trade war and talk of other wars; but the key to scientific cooperation lies in two words: “innovation” and “cooperation.” He gave a striking definition of innovation: when the nation uses new knowledge that is discovered to provide a better life for its people. Innovation, he noted, is the broadest spectrum for innovation.

Dr. Xing pointed to the fact that China is now still ranked only 14th among nations on the “index of innovation,” although steadily rising—“We are still learning from other countries.” He hoped China would be in the “top five by 2035” and by 2050, “we and the United States could be together at the top of innovation.” But, “it’s not the way some people talk about it—that China is trying to take over the leadership of this-and-that, or whatever. It’s not that way. We know ourselves.” In fact, China hopes the U.S. government will spend more on its R&D budget, and still lead the way. As for cooperation, Dr. Xing said, “Go to the Moon. Go to Mars. Fusion energy is not very far from us; in 20-30 years it could be a major energy source. For these things, Chinese scientists are open, and we wish to work together.”

Dr. Xing’s response, later, to a statement from an audience member about the current witch hunt of Chinese scientific researchers in the United States, was noteworthy.

### **Learning the Nature of Science**

What are the fundamental scientific advances to be anticipated in a human development of the Moon that will open the prospect of the human race becoming a galactic species which truly knows the universe?



*The near side of the Moon.*

Benjamin Deniston, science advisor to the Schiller Institute, in his presentation, “Mankind’s Future Lies in the Stars,” discussed at length two exemplary “new prospects for science,” as nations join in looking to the Moon as the first step of mankind’s journey into the Solar System.

First, the “radio silence” of the Moon’s far side, which is always turned away from the great radiative and electromagnetic “noise” of the Earth, provides a long-awaited opening for observing space in the very low frequency range of radio waves, never done before. Many dramatically differing pictures of galaxies and universal processes emerge when we switch from observing with visual-spectrum telescopes, to infrared, to x-ray, to radio wave, etc. “We don’t know what the universe looks like in the very low-frequency range,” but soon, from the Moon’s far side, we will.

And second, Deniston described how we’ll take more steps toward understanding what happens as the Sun—and the Solar System with it—orbit *around* the Milky Way galaxy, passing through its spiral arms, and “bobbing” up above and down below the plane of the galaxy. Implications for life? “The largest climate

change of the past million years is associated with our Solar System’s movement through the galaxy.” The same for the variety of species living on Earth, the cycles by which the number of species increases, and more. The Moon, with no protective atmosphere or magnetic field, bears a “record of intensity” of radiation from deep space, which we can measure from there.

These involve insights into the nature of science itself, he said: Is it simply sense perception of facts, or a reconceptualization of the laws of the universe. As Lyndon LaRouche foresaw, much of lunar studies do not and will not fit the “Newtonian universe,” but an inherently “open” and developing one.

For Dr. Aaron Olson of the Fusion Technology Institute (FTI) at the University of Wisconsin,

Moon colonization involves the world-changing breakthrough of producing fusion power, the power process which drives the Sun, and using it for ultrafast propulsion of rockets through space. This is because the Moon’s surface layer, or “regolith,” contains millions of tons of helium-3, which is essentially non-existent on Earth and is by far the best fuel for fusion reactions. Helium-3 fusion releases only charged particles (protons) which can be directly converted into electricity rather than into heat, and causes no radioactive emissions. Dr. Olson’s subject was “Mining Helium-3 on the Moon,” the means of bringing fusion power production into space.

Dr. Harrison Schmitt, the Apollo 13 astronaut who brought Moon regolith back to Earth and is the senior advisor at the FTI, noticed in signs of lunar volcanic eruption, that ejected matter seemed to “flow” on the surface despite the lack of any liquid there. He hypothesized a gas, which turned out to be helium-3. FTI’s experiments are developing “lunar helium-3 miner designs” for an apparatus to be employed *on the Moon* to cause a large-scale release of the gas and capture it as an easily transportable fusion fuel.

*“Budgets determine what’s possible. Talk to your member of Congress. I think the first step would be fully funding the Artemis Project”*

—Fusion scientist Dr. Aaron Olson to an Aviation High School student’s question about support for science research.

As of Oct. 5, five days into the Fiscal Year 2020, neither the House nor the Senate had yet finally appropriated a budget for NASA’s crucial first year of acceleration of the Artemis program to start Moon settlement by the goal of 2024. Only the Senate Appropriations Committee has made a budget so far, and although it increases funding for “space exploration” (by human beings) by more than a billion dollars, it is nearly half a billion short of what Proj-

ect Artemis needs in the year which began Oct. 1. The shortfall affects, above all, development of the lander to bring the crew down to the lunar surface, which is one of the completely new elements of Artemis.

NASA nonetheless began on Oct. 1 to take proposals from companies and institutes for development of the lander. It is acting on the hope that Congress will authorize and appropriate a NASA FY2020 budget by Jan. 1, with the full increase in funding the White House requested—\$1.6 billion—to get the Moon-Mars mission off the starting line and on schedule for 2024.



Dr. Olson, who had met with the Aviation High School students the previous day, in replying to one of their questions, said that professors at Wisconsin are partners in a NASA Fellowship Program with the Kennedy Space Center, who also work on regolith handling and on lunar ice.

A basic scientific question, “Is anything true because a lot of people [even a lot of scientists] think it?” was examined by Schiller Institute science advisor Jason Ross in a sharp and humorous presentation, “CO<sub>2</sub> Reduction Policy is Costly, Deadly and Unnecessary.” Ross debunked thoroughly the claims that “climate emergency” is the essence of science and gives the human species a dismal future—and showed that wild claims of this kind have been made constantly for the past half-century, with no basis in real science at all. “Enforcing energy poverty is murder, plain and simple,” he said. Ross answered questions from the Aviation High students.

Finally Joseph Foster, in his presentation, “From Project Diana to Project Artemis,” highlighted one example of the nearly two centuries of Moon Fever among scientists and visionaries of space travel, which Helga LaRouche had traced out. Foster described a 1940s U.S. project, backed by military resources, which al-

lowed the first precise calculations of the Moon’s size, its exact orbit, and where it was in that orbit at a certain time—all essential if people are going to travel to the Moon and land on it.

### **Space and the Developing World**

After a wide-ranging question-and-answer session with the speakers, Helga Zepp-LaRouche’s concluding comment on the “bacillus of optimism” which space exploration provides human culture, sent the audience members out to solve problems.

“The reason the occupation with space and the physical laws of the universe is so very important,” she said, “is that it absolutely has everything to do with the image of man which you derive out of that. I think the big controversy of our time is, is mankind a parasite, is every additional human being just a burden for nature? Is it worth it to protect the spiders and little insects, or is it better to do what is the urgent question, of the development of Africa. . . . Space is the absolute best antidote [to cultural pessimism] because it leads you to the creativity of the human person, and it leads you to the kind of optimism which is the key to conquering every barrier of knowledge. . . .”