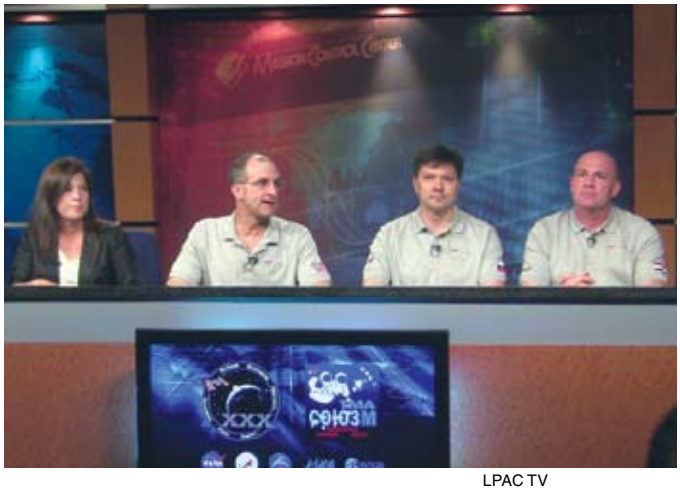

LPAC TV

The upcoming ISS crew, at a NASA press conference in Houston, Sept. 20 (from left): NASA astronaut Donald Pettit, Russian cosmonaut Oleg Kononenko, and European Space Agency astronaut André Kuipers, engaged in an animated dialogue with 21st Century *correspondents.*

ONE PLANET IS NOT ENOUGH, ISS CREW TELLS *21ST CENTURY*

In a Sept. 20 press conference at the Johnson Space Center in Houston, U.S. astronaut Donald Pettit, Russian cosmonaut Oleg Kononenko, and European Space Agency astronaut Andre Kuipers responded enthusiastically to questions from *21st Century* representatives. The spacefarers, all scientists, called for putting human DNA on other planets as a matter of survival (Pettit), mining the Moon and colonizing the solar system (Kuipers), and exploring other galaxies (Kononenko). The three are set to launch to the International Space Station aboard a Soyuz TMA-03M spacecraft around December 26 of this year from the Baikonur Cosmodrome in Kazakhstan.

With a view toward the three-power alliance recently proposed by statesman Lyndon LaRouche, *21st Century*'s Ian Overton asked cosmonaut Kononenko about U.S.-Russia-China collaboration in space. Kononenko, a mechanical engineer and avid sportsman, replied that he would express his personal opinion: "I think that space has long been a sports arena, where every participant demonstrates how fast or how huge they are. I think that the future of space exploration is only in joint exploration, and we will be able to do deep space missions only if we cooperate. So I think our future is joint co-operation."

Juliette Lamoreux, also representing *21st Century,* ignited an animated discussion, asking, "And what do you think about the potential threat of cyclical mass extinctions every 62 million years, that we've seen on the Earth, and how mankind may begin to address that bigger galactic question?"

All three astronauts answered. "I'll tackle the galactic question here," astronaut Pettit, a chemical engineer, said, smiling broadly. "I'm a firm believer that one planet is not enough. And I like to say that perhaps the ultimate reason for exploring space can be learned from the dinosaurs. If the dinosaurs had explored space, if they had colonized other planets, they would still be alive today. So I think this is ultimately why human beings, if we want to live on the time scale of tens to twenties of millions of years, we're going to have to have our DNA on more than one planet!" Cosmonaut Kononenko added: "I think that problems with resources will always face humanity. So humanity will actually have to look for additional means of existence. And I think that it will be an urgent need to explore other galaxies and other planets. . . ."

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Argentine President Cristina Fernández de Kirchner, with workers and national and provincial officials at the launch of the Atucha II nuclear plant on Sept. 28, 2011.

Dutch physician and ESA astronaut Kuipers then added a crucial historical perspective: "We have been around for only a short time. And if we think in cosmic terms—I don't know who said this first—but we're standing at the edge of the ocean with only our toes in the water. There's an ocean to discover!. . .If you look back to our age from the far future, people will see that Sputnik, Gagarin, Armstrong, the first base on Mars (the space station will be skipped, because it will be normal—you'll have several), industrialization, mining on the Moon, all of these things will happen. I'm convinced that humanity will spread out through the Solar System, and who knows beyond. . . ."

The press briefing was broadcast live on NASA TV, and was also recorded. For more detail.

'THE BEST FUEL WE HAVE IS THE ARGENTINE PEOPLE'

Speaking at the Sept. 28 inauguration of the Atucha II nuclear reactor, the nation's third, President Cristina Fernández de Kirchner enthusiastically proclaimed Argentina's national identity as a country dedicated to scientific and technological advancement. "The best fuel we have is the Argentine people," she said, "and with this incredible nuclear reactor, I feel we are starting up the machine which our country Argentina was, which knew how to be a leader in all fields in Latin America—nuclear, aeronautics, building railroads, automobiles, scientific matters."

In a feisty response to attacks coming from the International Monetary Fund, the Obama Administration, and others, President Fernández noted that Argentina has the second highest economic growth rate in the world—8 percent this year—after China. She praised the dedicated workers present, and noted that 88 percent of the plant was "made in Argentina." And she outlined the future nuclear goals: to extend the life of the existing Embalse plant for another 25 years, to build Atucha III, and to build the 25-megawatt CAREM reactor for use in the country's interior to generate electricity.

NEW RUSSIAN RADIO TELESCOPE 1,000 TIMES RESOLUTION OF HUBBLE

Spektre R, the new Russian space telescope launched July 18, observes in the radio range of the spectrum and will open up an entire new era in astronomy. This is not only the largest radio telescope in space, but it will be integrated with a global network of radio telescopes on Earth, so that the network will function as if it were a single dish as large as the farthest orbital distance of the Spektre R from the Earth: 60 times the Earth radius. This gives the combined network, known as RadioAstron, a viewing resolution of 7 microarcseconds, which is 1,000 times that of the Hubble Telescope.

Spektre R, combined with the infrared focus of the U.S. James Webb Space Telescope, ready for completion but threatened by the Administration's budget axe, will give us incredible viewing resolution. The Webb telescope has a primary mirror six times larger than that of the Hubble, which would open up a new range of studies, from distant galaxies, to the formation and composition of other stars and planetary systems, and to weather on other planets.

For more information.

Videograb of Spektre R being readied for deployment into space on the Zenit 3F rocket.

SPACE APPLICATIONS WILL SHORTEN THE PATH OF AFRICAN DEVELOPMENT

Faced with all of the challenges of extreme poverty, African leaders expressed optimism about space science and technology, speaking at the International Astronautical Congress, held in Cape Town, South Africa, the first week in October.

"Space applications will shorten the path of development," stated Mustapha Masmoudi from Tunisia. "In 20 years, Africa should be on par with the rest of the world," Harry Kaane from Kenya, told the Congress. Dr. Sandile Malinga, the head of the South Africa National Space Agency (SANSA), who welcomed the more than 2,000 delegates at the Congress, captured the essence of the African plans for space technology development, saying, "We should start now, so future generations can look back at what we did." He stressed that "Science is imagination and wonder," not just technology. "Those things justify our spending on space."

At the opening ceremony on Oct. 3, Naledi Pandor, the South African Minister of Science and Technology, commented that space development in Africa will do more than help improve agriculture, communications, medicine, and education, and promote high-technology skills.

In an interview with *21st Century* Associate Editor Marsha Freeman, Pandor stressed that frontier science and technology projects, such as space technology, nuclear R&D, and medical research will be the key to uplifting the population. Responding to the observation that it is very inspiring that there are so many women in the leadership of the South African government, Minister Pandor said: "We all think about Eleanor Roosevelt and the contribution she made. She was a powerful woman, and we never forget that we wouldn't have the Universal Charter of Human Rights if not for her. So we draw inspiration. And that's what we would like America to go back to: to be the country that inspires us."

Courtesy of University of Kwazulu-Natal

Space physicist Dr. Sandile Malinga (right), at the University of Kwazulu-Natal explaining the LIDAR facility to a group of high school teachers.