# Meet Dr. Leroy

**Location**: Friendswood, Texas, USA

**His Solar Story**: An unusual solar-powered workplace.

**His Bright Hope**: For the world to be as beautiful on the surface as it is from outer space.

NASA astronaut Dr. Leroy Chiao remembers watching the first Apollo mission on TV when he was eight years old, and knew that this was the life for him. Four space missions, including six and a half months on the International Space Station, have shown him that dreams come true. His time in space has taught him to see all people as citizens of one world. He believes in a day when solar energy from space can provide all the unlimited clean energy Earth needs.

"The first time I went into space in 1994," he says, "it was literally a dream come true." He had spent years preparing for that mission: first in school, earning a bachelor's, master's, and Ph.D. in chemical engineering; then four years training with NASA. In 2004, as a veteran of three shuttle missions, he lived for six and a half months onboard the International Space Station, a joint venture among 15 countries, stationed approximately 190 miles (350 kilometers) above the surface of the Earth. His training for this mission included learning the Russian language, and moving between Russian and the U.S. every month for three and a half years.

His first view of Earth from space was profound: "It made me think about what's really important." On the Earth's surface, he knew there was war, famine, and suffering. But viewed from space, country borders blend together. "This is one planet and we're all on it," he realized, "and we're much better off working together than fighting each other."

Living in space has also opened him to the possibilities of solar power. Two solar arrays jut out from the Space Station like wings, equipped with solar panels. Sunlight hitting these panels is converted into electricity, powering everything done onboard, including all experiments. Dr. Chiao can envision a future where a constellation of solar arrays in space could convert stored solar energy into microwaves, which could be beamed back to targeted receptors on Earth. If actualized, this process would be more practical than solar farms, which require a large geographical footprint on Earth.

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