

Grandsons of US and Russian Rocket Scientists Present Hope for Future Astronaut/Cosmonaut Missions to the Moon, Mars and Beyond

Asheville NC ~ November 3, 2013 ~ Love of Physics, Aerospace Engineering and two 8-year old little boys named Addison and Holden, who share common interests in model rockets and helicopters, could well be the catalyst responsible for East joining West paving Man's road back to the Moon and Mars by the year 2025.

Recently, a team of researchers led by former NASA Scholar , Inventor and Scientist, Dr. Joseph A. Resnick, were awarded "Honorable Mention" in NASA's "Invent the Future Contest" (<http://tinyurl.com/km8gf7c>) in the Aerospace and Defense Category, which included over 90 entries, for the teams' submission of a demonstration of the development of a "next-generation, eco-friendly, non-volatile solid rocket propellant" called 'prillings'. The team included, Dr. Resnick, Prof. Ron Stewart, Ms Joy Mann-Simmons and Master Holden A. Lane. Holden, Dr. Resnick's Grandson, spent most of his summer vacation at Dr. Resnick's Green Mountain Laboratory near Asheville, NC. The research and development efforts leading to the team's breakthrough took place over a 6-week period during the late summer and early fall of 2012. In the early 1980's and later in the early 1990's Resnick worked on projects for NASA and other agencies and contractors in designing the booster rocket motor fueling system monitors, the on-board fuel transfer systems for the STS Orbiter Fleet and the waste containment, collection, containment and recycling systems used in space suits manufactured by ILC Dover Corp for NASA. These technologies were displayed for 11 years at NASA's Kennedy Space Center in the Galaxy Arcade.

"Prilling" is a generic term used to describe 'microscopic-sized balls' or particles that are made specifically as a fuel component, along with an oxidizer, for use in the hybrid class of solid rocket motors that operate based upon 'Liquid Layer Hybrid Propulsion Theory'. This class of rocket motor is extremely powerful and efficient in terms of utilizing the solid rocket fuel particles to achieve supersonic (and now) hypersonic speeds using this new class of 'future-fuel' that Resnick's team has developed and reduced to practice. The team's prillings are unique, too, in that the size of the manufactures is below the nano-particle scale at what is called 'the pico-level'. A pico-sphere, according to Dr Resnick, is 10,000 times smaller than a nano-sphere which is so small that nano-particles are measured in units called Angstrom Units. Angstrom Units are a unit of measurement based on the refractive light index calculations at the molecular level used to determine exact sizes of atomic and sub atomic particles.

Enter the work of one of Russia and the former Soviet Union's Space Program rocket scientists, Prof. Dr. Murad Ismailov. Dr. Ismailov's accomplishments read like the 'Who's Who' in the former Soviet Space Program. At about the same time that Dr. Resnick was working on projects for the STS Orbiter fleet for the USA/NASA, Dr. Ismailov was conducting research (1986-1989) at the Nuclear Physics Institute for the Academy of Sciences as Engineering and R&D Group Leader for Heat Exchanger Systems for nuclear reactors at the University of Moscow.

From 1990 to 1992 Dr. Ismailov was the Head of R&D Groups for the Russian Aerospace Agency in Moscow Russia. In 1995-1997 Dr. Ismailov was the Head of the Industrial Division for Oil, Gas, Aviation, Automotive, Chemicals, Mining and Metallurgy Sectors at the Department of Foreign Affairs, Tashkent, Uzbekistan. Since the collapse of the Soviet Union Prof. Ismailov has been involved in various research projects for companies such as Combustion Dynamics Corporation, Sayera International USA, General Motors Corporation (National Science Foundation Fellow), PSA Peugeot-Citron, AADI, Inc., and the US Navy Office of Naval Research Division 331. During the course of that time Prof. Ismailov has authored more than 64 technical papers, has issued 5 Russian Patents, 12 US/PTC patents and has 2 patents pending for his inventions related to advanced fuel injection designs and rocket motor systems.

In early October, 2013 Dr. Resnick became aware that Dr. Ismailov would be giving a presentation at the Uzexpocenter for the inter-branch Industrial Fair and Cooperation Exchange 2013 to be held in Tashkent, Uzbekistan on October 29 to November 2, 2013. Dr. Ismailov's presentation was held during the 'Café Scientifique' lecture. The title of Dr. Ismailov's presentation was "Colonization of Space" (see: <http://tinyurl.com/n63mg5p>)

Learning of Dr. Ismailov's forthcoming presentation Dr. Resnick contacted Dr. Ismailov (via Skype) and the scientists struck-up an immediate friendship first as 'Rocket Scientists' and secondly as "Grand Fathers". During the course of their following 'Skype-sessions', with Dr. Ismailov in Tashkent, Uzbekistan and Dr. Resnick in Asheville, NC, the Professors learned that in addition to sharing a love of science and both having had direct hands in their respective countries' space programs (Resnick-NASA; Ismailov-RosKosmos), they shared a vision of hope for Man's return to Space and agreed to work together to enable the future generations, including their Grand Son's, to colonize the Moon and then Mars.

Dr. Ismailov's Grand Son, Addison, lives in Houston, TX. Dr. Resnick's Grand Son lives in Pittsburgh, PA and both are in the 3rd Grade, love model rocketry, flying RC helicopters, dirt bikes, Ipod's, emailing, texting and their Ipad's.

To further their shared 'vision' of international collaboration, friendship, Goodwill and to provide hope that future generations, including their Grand Sons', will someday colonize the Moon, travel to Mars and other planets. Drs. Resnick and Ismailov hope to collaborate on a number of space-related projects in Malaysia, Indo-China, the USA, Europe and South America in the months and years to come.