

# Working Together Towards A Better Space Science

— An Interview with Prof. G. A. Zherebtsov and Prof. WU Ji

Prof. Geliy Alexandrovich Zherebtsov is a distinguished scientist in geospace physics and academician of the Russian Academy of Sciences (RAS). As director of the Institute of Solar-Terrestrial Physics (ISTP) of RAS' Siberian Branch between 1984 and 2011, he joined hands with Prof. WU Ji, a leading space scientist at the Chinese Academy of Sciences, to set up a unique joint research center and vigorously pushed forward the collaboration between their institutes. Thanks to his untiring efforts, the center later expanded to include nearly all space weather research institutions in Russia. Under his leadership, Russian scientists have been actively involved in a CAS-initiated international project for global-scale monitoring of space weather.



On January 23, 2013, Prof. Zherebtsov received the Medal for International Scientific Cooperation for 2012 from CAS President BAI Chunli in Beijing. Among the 17 laureates since 2007 when the award was established, he was the first Russian to receive this honor. BCAS reporter XIN Ling was much honored to have an interview with Prof. Zherebtsov and Prof. Wu on the awarding day.

**BCAS:** *Nice to meet you Prof. Zherebtsov and Prof. Wu. First of all, congratulations on Prof. Zherebtsov for winning the CAS Award for International Scientific Cooperation! How does it feel to receive this award?*

**Prof. Zherebtsov:** Thank you for your congratulations. For me, the award is a happy surprise. Though I've been working with Prof. Wu for so many years in space science, I had not expected any prize for the collaboration. So I was very excited to know CAS would give me the award. This award is highly significant to all receivers including me. This year it can also be very inspirational to my Chinese colleagues, as we can see CAS is attaching more and more importance to space science in its strategic blueprint.

Still, I feel the award should not go to me but to my institute and NSSC<sup>1</sup>, because it is the scientists from these

two institutes that have mainly contributed to today's achievements. I'm only an organizer. Besides, I want to thank Prof. Wu for his support. I think he also deserves a cooperation medal.

**BCAS:** *Thank you Prof. Zherebtsov. So Prof. Wu, you must be very happy to see your partner and old friend Prof. Zherebtsov winning this important award.*

**Prof. Wu:** Of course. As a coworker and friend of Prof. Zherebtsov, I'm more than happy to see that. It's a great honor for NSSC, too.

Prof. Zherebtsov richly deserves such an award. He played a key role in setting up the China-Russia Joint Research Center on Space Weather. Actually he was the one who first proposed to found the center. In the center's early

<sup>1</sup> NSSC stands for the National Space Science Center under the Chinese Academy of Sciences, with Prof. Wu Ji working as its director general. ISTP and NSSC are the two founding institutes of the China-Russia Joint Research Center on Space Weather, and Prof. Zherebtsov and Prof. Wu are the center's founding directors.



Prof. Zherebtsov (left) and Prof. Wu Ji (right) during the interview with BCAS reporter in Beijing on Jan.23.

days, he made major efforts to facilitate Chinese scientists' visit and stay at his institute. Now the center has been in stable and sound operation for more than ten years, and will hopefully be so in the foreseeable future.

I agree with Prof. Zherebtsov that the award is a good signal for space science. Space science is special not only because of its interdisciplinary nature, but in that it strongly calls for international cooperation. There is only *one* space for scientists all over the world; we all have the same goal. Russia has a vast geographical size and a long history in space exploration. If China combines its ground-based observation facilities at mid- and low- altitudes with theirs at high altitudes, we can together carry out unique scientific research. In this sense, Sino-Russia cooperation in space science is very important.

*BCAS: I know Prof. Zherebtsov and Prof. Wu are two pioneers in bridging space science between Russia and China. Under your leadership, the joint research center was set up twelve years ago. It was the first joint center between CAS and RAS. So Prof. Zherebtsov, why did you propose to establish such a center?*

**Prof. Zherebtsov:** Like Prof. Wu said just now, the study of space science is difficult if confined to one nation; we need cooperation.

I still remember in 1998, a top-level Chinese delegation visited Russia, and some S&T officials of that delegation paid a visit to the RAS Siberian Branch. I participated in the meeting. I asked a Chinese official about space research in China and the chance for Russia-China cooperation in the field. You know, though Beijing is only three hours' ride from Irkutsk, we had had little communication with Chinese scientists before that.

I didn't know the official was Prof. LU Yongxiang, President of CAS<sup>2</sup>, until I got his name card at the end of the meeting. Well, I was so lucky to have talked to the right man!

A few months after that, I happily welcomed a delegation from CAS in Irkutsk, the first of its kind in history. We discussed about the potential areas of cooperation. It is from then that I began to know Prof. Wu. Several months later, when a twelve-people team led by Prof. Wu visited ISTP again, I started thinking of a lasting partnership between us.

Prof. Wu suggested that we set up something like a joint research unit. Later, we named it as "Russia-China Joint Research Center on Space Weather". We agreed that such a center would be more efficient and convenient for collaboration. We also decided that a joint symposium should be held every year as an important aspect of our cooperation,

<sup>2</sup>Prof. LU Yongxiang worked as President of CAS from 1997 to 2011.

and to be hosted by the two institutes in turn.

Soon, besides ISTP and NSSC, the center embraced new member institutions in Russia and China. The cooperation has been very smooth and fruitful. I think the center has made major contributions to space science in our two countries.

*BCAS: You sound very satisfied with the center's development over these years.*

**Prof. Zherebtsov:** Absolutely. Our collaborations for over a decade have yielded plentiful and substantial results. To me, the partnership is *impeccable*.

But I still look forward to more successes. Doing scientific research is like climbing a mountain: waiting ahead of us are rugged roads and better sceneries. I can see splendid achievements in the center's future, so let's try our best to scale the heights hand in hand.

*BCAS: Thank you. Prof. Wu is the founding and current Chinese director of the center. Last April, you renewed the cooperation agreement with Russian partners. Would you reveal the center's important moves within the next five years?*

**Prof. Wu:** First let me emphasize that both sides have given high priority and concrete support to the center's development. For instance, under the cooperation framework, NSSC has been providing apartments for visiting Russian scholars and vice versa. The center's formal inauguration ceremony was held at ISTP and NSSC respectively. The name plates of the center hanging in front of gates of both institutes are written in three languages — besides Chinese and Russian, we also added English. In 2010, Chinese and Russian scientists celebrated the center's 10<sup>th</sup> anniversary in Beijing, and published a collection of over 40 papers they co-authored as joint research results under the center.

In April 2012, NSSC and ISTP signed their third-term cooperation agreement. I think we're likely to enhance cooperation in two aspects. One is in ground-based observation. Compared with a decade ago, both countries are today equipped with more advanced ground-

based observation facilities. Based on the Chinese Meridian Space Weather Monitoring Project, NSSC has proposed an "International Meridian Project" which is aimed at monitoring space weather on a global scale. ISTP is one of the most active participants of this initiative and will continue to play a major role in the consortium. Our second cooperative goal is to combine ground-based with space-based observation data for more effective research. So we'll strengthen collaboration in these aspects and try to involve ourselves in more joint projects.

*BCAS: We wish the center good luck and a prosperous future. Prof. Zherebtsov, you're a renowned space physicist and an Academician of RAS. You started working for your academy in 1964. Why did you choose space science as a young man?*

**Prof. Zherebtsov:** When I graduated from the Irkutsk State University in 1964, it was a time when space exploration was emerging and growing rapidly in my country. I was proud of my nation's achievements, and naturally became interested in the subject. In the same year I joined ISTP, which was called "SibZMIR" at that time.

Soon after I arrived, the institute decided to set up a new magneto-ionosphere station in the polar cycle. As a young man I volunteered to go, and institute leaders placed high hopes on me. The station was located more than 2,000 kilometers north to Irkutsk, built on permafrost with beautiful sceneries but very tough living conditions. Every day we had to spend hours commuting between the station and our residence. As I look back, despite all difficulties, our work was very important. That experience is memorable to me also because there I married one of my colleagues, who is my university classmate, and had our children. We worked at the station for ten years. In 1973, I was back in Irkutsk as deputy director for science of my institute.

*BCAS: Your messages for young people in space science?*

**Prof. Zherebtsov:** I have just one word for them — "go!" Take up your courage, and fear no difficulties. Marching forward in hardship is often more meaningful to our life.