## VALERI VASILEVICH BOGOMOLOV

## May 30, 1998

Interviewers: Rebecca Wright, Paul Rollins, Mark Davison [Interview conducted with interpreter from TTI]

*Wright:* Thank you for taking time to visit with us. Today is May 30 [1998], and we're speaking to Valeri Bogomolov. We'd like to begin with you telling us about your background, your educational background.

*Bogomolov:* I graduated from the first Moscow Medical Institute in 1967. While still at school, I worked for the Emergency Medical Institute named by Dr. Sklifosofsky in Moscow. After my graduation from medical school, I continued working at the Medical Emergency Institute in the Department of Anesthesia and Intensive Care. At that time I didn't know a thing about space medicine, but after the first long-duration flight, which lasted eighteen days, it became clear that there are certain issues associated with crew health that kind of got me involved in that subject.

So at that time, the Minister of Health assigned several medical specialists from the institute where I used to work and from the Cardiovascular Institute in Moscow to go to the landing sites in order to provide first aid to just-landed crew members. So we were a group of physicians working together with our military medics that were working on landing sites in order to evaluate the conditions of the crew returning from orbit. So that's how I became involved in space medicine, and actually that happened in 1970.

Then in 1972, I was invited to work for the Institute of Medical and Biological Studies in order to develop a special program providing medical assistance and providing medical evaluation for cosmonauts. So that's how I got involved in the program. As I said, it happened in 1972. I started to work in the Department of Medical Rehabilitation of Crew Members and also became involved in the development of onboard medical procedures to maintain their well being.

At that time our space program was very much interested in extending the flight durations, so we started working on various experiments with volunteers on the ground. So, after that, we also were invited to work at the Medical Center of our Mission Control Center in Moscow. Because in flight any minor health problem can have quite serious consequences, so that's why we were constantly there at the Mission Control Center during missions, and we actually got some authority to make very major decisions on crew health.

Since 1984, I worked as head of the Department for Flight Medicine, and since 1992, I am Deputy Director of the Institute of Medical and Biological Studies. So my interests are in the field of scientific biomedical experiments and also in the assurance of safe missions. Even though I miss very much my clinical work, now mostly I'm in charge of organizational issues and just decision-making work. The cooperation with American scientists actually has a long history, because since 1967 or '68, we were working together in one joint space medicine group. This group was formed by Academician Gazenko, who used to be Director of the Institute of Medical and Biomedical Studies, and now this joint space medicine research group is headed by Academician Gregoriev, who is current director of our institute. On the U.S. side, I can name people like Mr. Barry, Dr. Nicogosian, Dr. Huntoon, who have contributed greatly to this program. We have really good contacts with working closely with specialists at the Johnson Space Center, Dr. Paul in particular, working very closely with us.

In Phase 1, I'm one of the participants of this joint group on medical support. So just recently we've formed a multilateral group on medical operations for International Space Station, and I'm also a member of this group. So this group consists of not only NASA and Energia specialists, but also medics from Japan, Canada, and Europe, and are now working together on new topics and new programs related to the International Space Station.

On our side, we work closely with Cosmonaut Training Center, with military hospital, and other organizations that are involved in the program. Actually, I can keep talking, so it might be better if you ask me questions.

*Wright:* I've learned a lot. We visited with Mike [Michael] Barratt and he told us about his wonderful experiences learning from you and your group.

*Bogomolov:* I think that Mike is an extremely talented physician. He was one of the first U.S. doctors who worked at Mission Control Center in Moscow. I am actually concerned that he is about to become an astronaut, so he'll probably spend less and less time working on medical issues. But I think it was extremely important for us to learn to understand each other during the course of Phase 1.

I'm sure that this cooperation was beneficial for all science, for us and for Americans involved. We were able to expand means of medical support on board Mir by Russian means and U.S. means. Of course, this will be a great contribution to the next project, the International Space Station. Of course, we will still have some open issues that we will continue working on. There are some challenges. But just like in any big endeavor, you just have to take one step at a time.

One of our major tasks at this time is to combine both systems developed in Russia and in the United States. There are some differences, but our task is just to bring these two systems together and combine them in one joint system that will be used on the International Space Station by all partners. So, of course, the major task is to accomplish our goal, which is to provide adequate medical support for our cosmonauts or astronauts on board.

*Wright:* Dr. Barratt explained how he assists in training the astronauts while they're on ground. Would you give us some examples of how the cosmonauts are trained or all the crew members are trained on ground to prepare them?

*Bogomolov:* You see, while cosmonauts are being trained on ground, they are assisted by specialists, medics, working for the Cosmonaut Training Center, so it's a different organization. As part of the preparation and training of flight surgeons that are working on the ground at both Houston Mission Control Center and Moscow Mission Control Center, we have a special exchange program where we send our physicians to the United States, and vice versa, in order for them to get adjusted and get familiar with various medical techniques and procedures.

The institute that I represent here, the Institute of Biomedical Studies, is only responsible for the flight portion of the whole program. So this medical support involves certain disciplines such as medical assistance, diagnostics, preventive measures, and so on. Problems of radiation safety. When I said preventive measures, I meant the negative impacts of weightlessness on humans and things of that nature. There is a whole bunch of issues related to the environmental problems. There are a lot of psychological issues that we also have to look at. So this is basically the scope of my work. Of course, we have to be prepared for any possible contingency. So these are the issues that we have to take care of in a timely manner.

[Oral history was interrupted to allow Bogomolov and the interpreter to return to meetings that had reconvened.]

*Wright:* Tell him thank you, and if he's got a few minutes, we can finish later, and if not, thank him for his time.

Bogomolov: Thank you.

[End of interview]