

## **THE MEMORANDUM**

on Scientific and Technological Cooperation between  
the Khristianovich Institute of Theoretical and Applied Mechanics SB RAS  
(Novosibirsk, Russia) with International Center of Aerophysical Research  
and the Department of Aeronautics and Astronautics with Aerospace Science and  
Technology Research Center, National Cheng Kung University (Tainan, Taiwan)

Khristianovich Institute of Theoretical and Applied Mechanics SB RAS with International Center of Aerophysical Research (ITAM SB RAS), the Department of Aeronautics and Astronautics with Aerospace Science and Technology Research Center (DAA/ASTRC NCKU), Tainan, Taiwan, hereinafter referred as the Parties, recognizing importance of scientific cooperation of the countries of Asian and Pacific Region, taking into account existing long-term scientific relations between the scientists of ITAM SB RAS and DAA/ASTRC, NCKU, expressing tendency to execute scientific cooperation on the long-term basis, have agreed as follows:

### **Article 1**

1. The purpose of the present Memorandum is development of scientific relations; strengthening of technological potentials; contributing to scientific cooperation and practical implementation of scientific developments in areas, which represent mutual interest; and training of researchers.

2. Primal problems of this cooperation are creation of favorable conditions for exchange of ideas, information and technologies, organization of joint research and development within the framework of matched priority directions and programs.

### **Article 2**

The cooperation within the framework of the present Memorandum will implement by:

- Developments and implementations of the joint research projects;
- Exchange of the scientific information,
- Organizations of access for researches on the unique installations;
- Participations in the applications for obtaining of the research grants;
- Organizations of joint workshops, conferences (as well as in form of teleconferences);
- Organizations of mutual exchange and training for National Cheng Kung University students from one side and for Novosibirsk State University and Novosibirsk State Technical University students from other side.
- Preparation of academic research of young scientists under joint leadership of Russian and Taiwanese professors and co-operation in helping the theses in both countries;
- Providing information and co-operation in acquiring equipment and construction of new experimental facilities;
- Mutual co-operation for innovation of modern technologies in Science and Technology Parks with aim to promote high technology industrial products.

### **Article 3**

1. The Parties will promote development of direct contacts and cooperation between research collectives and scientists.

2. The Parties will promote the scientific collectives and scientist in the solution of problems of financial and project goods of joint researches, and also to promote participation of the research

activities of the Parties in international scientific conferences, organized by the Parties, by waiving of registration fees and assistance for minimum costs on residing.

#### Article 4

The scientific results obtained during joint projects, will be available for scientific community by publication in the national and international journals, presentation on conferences etc.

#### Article 5

The employees of organizations participating in fulfillment of the joint scientific projects and the programs, during their visits abroad will be assisted on arrangement of conditions of life, medical, social, municipal services.

#### Article 6

1. The present Memorandum inures from the moment of its signing by both Parties and will act within period determined by attached Protocols or until the Parties will accept other decision.

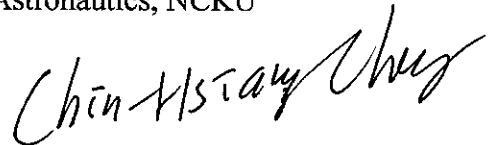
2. The changes and additions both in the present Memorandum, and Programs of Cooperation between research groups of the Parties, are executed by the ratified Protocols, which are the part and parcel of the present Memorandum and inure from the moment of their signing. In case of appearance of different interpretation, explanation or application of articles of the Memorandum, the Party will solve them by means of negotiations and consultations.

For the Khristianovich Institute of Theoretical  
and Applied Mechanics SB RAS



Vasily M. Fomin  
Director, Academician of RAS

For the Department of Aeronautics and  
Astronautics, NCKU



Chin-Hsiang Cheng  
Chairman, Professor

For the International Center of Aerophysical  
Research



Vadim Lebiga  
Director Executive, Professor

For the Aerospace Science and Technology  
Research Center, NCKU



Tsong-Sheng Lee  
Director, Research Fellow

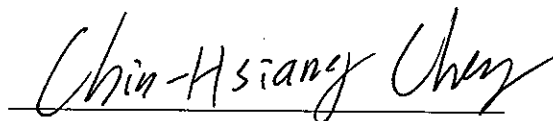
November 14, 2011

" PROVE "  
Director  
of the Khristianovich Institute of  
Theoretical and Applied Mechanics SB  
RAS




Academician V.M.Fomin

" PROVE "  
Chairman  
of the Department of Aeronautics and  
Astronautics, NCKU



Professor Chin-Hsing Cheng

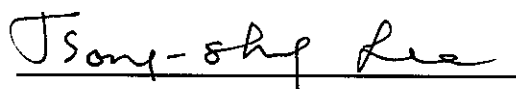
Director Executive  
of the International Center of Aerophysical  
Research



Prof. Vadim Lebiga

" 14" November 2011

Director  
of the Aerospace Science and Technology  
Research Center, NCKU



Dr. Tsong-Sheng Lee

" 14" November 2011

### **PROTOCOL № 1**

on the Program of Scientific Cooperation

between the Khristianovich Institute of Theoretical and Applied Mechanics SB RAS  
with the International Center of Aerophysical Research (Novosibirsk, Russia) and the Department  
of Aeronautics and Astronautics with Aerospace Science and Technology Research Center,  
National Cheng Kung University (Tainan, Taiwan)  
for 2011 – 2015

In accordance with the Memorandum on Scientific and Technological Cooperation between Khristianovich Institute of Theoretical and Applied Mechanics SB RAS with the International Center of Aerophysical Research (Novosibirsk, Russia) and the Department of Aeronautics and Astronautics with Aerospace Science and Technology Research Center, National Cheng Kung University (Tainan, Taiwan) the Parties have agreed upon joint fulfillment of research works in the following areas:


1. Application of hot wire anemometry technique for research of fluctuations at in shear flows high flow velocities.
2. Use the panoramic diagnostics for flow field investigations.
3. CFD simulation of low speed turbulent flows.
4. Consulting on development of aerodynamic testing techniques.
5. Development of codes on the Molecular Dynamic (MD) approach and Lattice Boltzmann Method (LBM) for solving problems within Nanochannel flow.
6. Joint experimental studies of Nanochannel flow and their applications.

The Parties bear the financial costs at the place of fulfillment of works.  
The experiments are carried out jointly by DAA/ASTRC NCKU and ITAM SB RAS.  
By results of joint researches the publications are planned.  
The present inures from the moment of its approval by both Parties.

The Parties will jointly apply for financial support to promote research cooperation during the years of 2011-2015

Executed at Tainan in Russian and English, and both copies are authentic.

Director  
of the Khristianovich Institute of Theoretical  
and Applied Mechanics SB RAS



Academician Vasily M. Fomin

Chairman  
of the Department of Aeronautics and  
Astronautics, NCKU



Professor Chin-Hsiang Cheng

Director Executive  
of the International Center of Aerophysical  
Research

Prof. Vadim Lebiga

Director  
of the Aerospace Science and Technology  
Research Center, NCKU



Dr. Tsong-Sheng Lee

November 14, 2011