

## **COOPERATION AGREEMENT**

**on the Study of Fires at the Wildland-Urban Interface  
between the Engineering Laboratory  
and State Key Laboratory of Fire Science**

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### **I. Background and Objective**

Improving the level of fire safety at wildland-urban interface (WUI) is critical to the reduction of lives and property lost to unwanted fires, both in USA and in China. The Engineering Laboratory (EL) at the National Institute of Standards and Technology and the State Key Laboratory of Fire Science (SKLFS) are interested in the cooperation to enhance fire safety at WUI.

EL (formerly Building and Fire Research Laboratory, BFRL) and SKLFS have previously signed two cooperation agreements. The first one, "Cooperation on Study of Fire Safety of Tall Buildings between BFRL and SKLFS", was signed on September 26, 2002 for a period of three years. The second, "Cooperation on the Study of Fire Safety in Buildings and Industrial Facilities between BFRL and SKLFS", was signed on November 8, 2006 for a period of five years. Through the previous cooperation, NIST and SKLFS have jointly benefited from cooperative activities in fire safety research.

This cooperation agreement (hereinafter refer to as "Agreement") is a statement of intent of the parties to cooperate on the study at WUI and it does not create any legal rights or responsibilities. This agreement is not legally binding upon the parties.

NIST enters into this agreement under the authorities granted by Title 15 United States Code Sections 272(c)5, (c)15, and 278f(a)(1) and (a)(2).

### **II. Content**

The following specific research areas have been identified for cooperation:

- Dynamics of WUI fires
- Structural ignition and building safety in WUI fires
- Modeling crowd evacuation in WUI fires
- Simulation of WUI fires
- Fire risk assessment methodology of WUI
- Other contemporary fire safety research areas

This work could involve theoretical analyses, experimental investigations and numerical simulations, and may call upon experts from other Chinese fire research institutions affiliated

with SKLFS.

### **III. Objective, Achievement and Budget**

The cooperative study referenced above will provide scientific support for

- Better understanding of fire safety at WUI
- Improvement of fire service technologies and guidelines at WUI
- Proposition and/or modification of standards, codes and practice on WUI fire safety

EL and SKLFS will be responsible for their own research funds; neither party is required to obligate funds to the activities planned under this agreement.

The two institutions also agree to cooperate when applying and implementing the projects mutually selected for collaboration. In the application of the Major International (Regional) Joint Research Project from NSFC (National Natural Science Foundation of China), SKLFS intends to provide the support for research into WUI fires, including research, equipment/instruments, seminars/workshops, cooperation and exchange, subject to the availability of funds. Budget covers the costs of carrying out joint collaborative research of WUI fires at SKLFS including collaborative experiments, information and data exchange, personnel exchange as well as cooperation in lab activities. If the project on the Study of Fires at the Wildland-Urban Interface is approved, EL will provide limited subsistence support for scientists from SKLFS with acceptable qualifications and experience to visit and conduct collaborative research at NIST, depending on availability of funds.

### **IV. Supervisors and members**

#### **Chinese supervisor:**

Prof. Liu Naian (Vice director of SKLFS)

#### **Chinese members:**

Prof. Song Weiguo, Prof. Jiang Yong, Prof. Shu Lifu, Asso. Prof. Zhu Jiping, Asso. Prof. Yao Bin, Asso. Prof. Chen Haixiang, Asso. Prof. Wang Qingsong., Dr. Xie Qiyuan, Mr. Yang Hui

#### **U. S. supervisor:**

Dr. Anthony Hamins (Chief of Fire Research Division, EL)

#### **U. S. members:**

Dr. Jiann Yang, Dr. William Mell, Dr. Samuel Manzello, Mr. Nelson Bryner

### **V. Periods and Plans**

This agreement shall remain in effect for a period of 7 years (2011-2017). Within this period, both sides will carry out collaborative experimental and theoretical research on WUI fires, depending on the availability of funds. Annual seminars on fire research progress of both sides will be held at SKLFS or NIST-EL in turn. Scientist exchanges will be supported by both sides for collaborative research.

## **VI. Sharing of intellectual property rights**

Accomplishments, technical results, and publications from this joint effort will be shared by both EL and SKLFS and will be made publicly available.

## **VII. Non-Binding**

This Agreement is a statement of intent of the parties to cooperate and is not legally binding. This Agreement creates no legal rights or responsibilities.

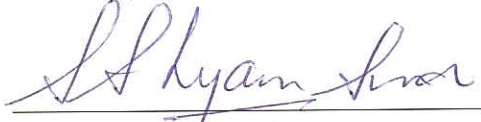
## **VIII. Note**

Either side may withdraw from the agreement within 60 days after notifying the other party in writing. The agreement may be extended, revised, amended or substituted upon agreement by both parties in writing whenever necessary. There are two copies of this agreement, and each side will keep one of them.

In WITNESS WHEREOF, the undersigned, duly authorized, have signed the present Agreement on behalf of their respective institutions.

FOR:

Engineering Laboratory,  
National Institute of Standards and  
Technology, USA



Dr. S. Shyam Sunder, Director

State Key Laboratory of Fire Science,  
China

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Prof. Liu Naian, Vice Director

Date: March 1, 2011

Date: \_\_\_\_\_