

## 2009 BFRL Project Description

### Project Title: Fire Safety and Preparedness

9/15/08

**Principal Investigator:** Nelson Bryner

**Co-Investigator(s):** Stephen Kerber

**BFRL Program:** Advanced Fire Service Technologies

**Objective:** To provide current research results to the fire service in a user friendly form, including the web site [www.fire.gov](http://www.fire.gov) and an electronic newsletter FIRE.GOV to enhance the transfer of BFRL enabled technology to the emergency services.

#### **Problem:**

*What is the problem?* Research of interest to the fire service is conducted at many institutions worldwide, but the research results often do not make it to the fire service. In the United States and internationally, fire research is conducted at government facilities, industrial labs, testing and certification labs, fire training academies, colleges, and universities. While some of the government labs, such as NASA, have effective programs to transfer research results to the fire service, most of the research is not widely available to the 32,000 fire departments. Firefighters and chief officers, the end users, are not generally aware of ongoing research or recently completed studies, as there is no source of definitive information for the fire service.

*Why is it hard to solve?* Fire science and combustion science research is often documented in archival journals which are less accessible to fire service personnel and require a technical background to fully understand.

*How is it solved today, and by whom?* The problem has not been solved. The fire services are not able to develop their own access pathways because they do not have the technical training or resources.

*Why NIST?* NIST is an unbiased source of fire research for the fire service. NIST has unsurpassed experience in fire testing and is a trusted source of unbiased research for structural fire fighting.

The Fire Safety and Preparedness (FSP) Project is a critical component as to how BFRL contributes to reducing fire fighter and civilian fatalities and injuries and property losses due to fire. As part of the Measurement Science for Innovative Fire Protection Strategic Priority, FSP Project transfers the science developed by other BFRL Programs out to the fire service and fire

safety industries. FSP utilizes BFRL core competencies in fire protection and fire spread within buildings and communities.

### **Approach:**

***What is the new technical idea?*** The International Association of Fire Chiefs requested that NIST develop a procedure to identify relevant research and provide brief descriptions of that research to the fire service on a regular basis. To facilitate the interaction between researchers and fire fighters, NIST in cooperation with USFA publishes an electronic newsletter that reports relevant research activity and the results of recently completed studies in cooperation with the US Fire Administration. The color format of short articles, informative pictures, and contact information for the principal researcher is designed to make it an easily identifiable NIST product. The publication is assembled with the assistance of a knowledgeable information specialist and BFRL web support staff.

The updated [www.fire.gov](http://www.fire.gov) web site provides access to current fire research of interest to the fire service. Reports, videos, and presentations can be downloaded directly from the web site.

***Why can we succeed now?*** In the past, the fire service has depended on FIRE.GOV electronic magazine to identify ongoing research throughout the world. Fire Safety Preparedness program staff have the necessary experience to identify and summarize current research topics.

### ***What is the research plan?***

For the electronic magazine, FIRE.GOV –

- Identify research of interest to the fire service.
- Summarize research results, and provide contact information for each research topic.
- distribute issues electronically and at technical fire service meetings.

For the web site, [www.fire.gov](http://www.fire.gov) –

- Maintain web site as access portal to BFRL research.
- Update material on web site each week to encourage fire service to visit each week.
- Provide mechanism for download of BFRL videos, CDs, DVDs, and reports.

**Recent Results:** FIRE.GOV's mailing list currently has over 1900 subscribers and includes many municipal and rural fire departments, equipment manufacturers, testing laboratories including UL and FM, universities & colleges, and fire research organizations, such as BRE and VTT. FIRE.GOV facilitates the transfer of NIST research to all the groups within the fire community.

**Standards and Codes:** Research results in support of codes and standards related to fire service technologies are reported in FIRE.GOV as they become available.