



From the Chancellor

I extend a warm congratulation to the Illinois Fire Service Institute (IFSI) as it celebrates its 89th year of service to first responders and to all the citizens of Illinois.

The University of Illinois at Urbana-Champaign is proud to be home to one of the premier fire institutes

in the country. The Institute's reach continues to expand across Illinois, the nation and the world — helping more firefighters work more efficiently and more safely through training, education, information, and research. The university and IFSI continue to grow together in mutually supportive community outreach and through collaborative research that leads to innovations in practice and advances in understanding.

This partnership between the university and IFSI is a national model for the kind of positive impact that comes when a pre-eminent public research university and a world-class training and education institute work together for the good of our communities. Last year alone saw nearly 60,000 students from more than 1050 fire departments and first response organizations participate in IFSI programs. This is truly the land-grant promise in action.

The university remains committed to the kind of direct community benefit that is at the core of IFSI. We look forward to our future together as IFSI continues the tradition of excellence in first responder training and education that has been its hallmark since 1924

IFSI is an invaluable resource for our campus and for communities throughout Illinois and the nation. Thank you to the Institute's instructors, staff, and partners — the people responsible for this great program.

But more importantly, thank you to those firefighters and other first responders who train here at the Illinois Fire Service Institute. We are proud to be a partner in the preparation of the women and men whom we trust to protect our families, friends and communities.

Because, when we are having our very worst day, you are the ones we turn to for help.

Phyllis M. Wise

Vice President, University of Illinois Chancellor, University of Illinois at Urbana-Champaign



In FY2013, IFSI delivered training to 65,696 students – an 8-percent increase over 2012.

- 1.080 different courses
- ◆ 15,274 class hours
- ◆ 535.594 student hours*
- 945 Illinois fire departments
- 123 other response organizations
- 2,835 students in officer training courses

Classes were offered in 325 locations and attended by first responders from 93 Illinois counties.

*As an affiliate of a land-grant university, IFSI is committed to fulfilling its responsibility for public outreach. In FY2013, these efforts included outreach programs to 9,295 students (14,048 total student hours). The IFSI curriculum also engaged 29,096 students (117,136 student hours) in activities outside of direct delivery of classes.





Letter from Director Mortenson

I am pleased to present the 2013 Annual Report of the Illinois Fire Service Institute at the University of Illinois-Urbana/Champaign.

My first year as director has flown by quickly. I've traveled the entire state, visiting rural and city departments, large and small. I've met with instructors, MABAS teams and divisions, district boards and trustees. I've gone on ride-alongs and attended fire service organization conferences across Illinois and the nation. I've listened, I've learned, and worked to shape strategic vision for IFSI.

My priorities remain the same:

- 1) Maintain our focus on delivering the highest quality live, hands-on training for Illinois firefighters,
- 2) Expand our firefighter life safety research efforts,
- 3) Expand our online and distance learning opportunities for first responders,
- 4) Develop comprehensive leadership and decision-making training for the fire service,
- 5) Continue development of a live-burn facility for the future.

We have already made progress in many areas, which you can read about in this report. There's much more to accomplish in order to continue to fulfill our obligation to the men and women who protect us. We must continue the IFSI tradition of sparing no effort in developing realistic, safe, and effective ways to fulfill our mission — helping firefighters excel through training, education, information, and research.

It has been a great year. Thank you to all the instructors and staff that make IFSI the finest fire service training and education institution in the nation. I look forward to the year and years to come. Working together, we will continue to excel. I am proud to be part of this outstanding team.

Royal P. Mortenson

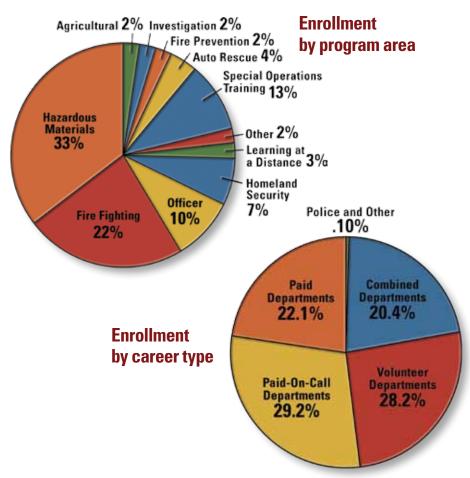
Director



Some Highlights of the Past Year

- Began a year-long effort to review, update and standardize the entire IFSI curriculum (169 courses), to be completed by December 31, 2013.
- Expanded our international outreach and collaboration efforts. IFSI again hosted members of the Hong Kong Fire Department in our hazardous material training classes.
- Increased enrollment in Technical Rescue and Hazardous Materials training classes by expanding grant-covered tuition to all firefighters.
- Streamlined and improved the Special Operations Training Programs and developed refresher training in eight-hour blocks.
- Continued expanding our training and education partnerships with funding from the Office of the State Fire Marshal.
- Earned National Fire Academy endorsement for our Fire Department Incident Safety Officer course.
- Continued to support the Office of the State Fire Marshal as an active member on the state curriculum development process.
- Enhanced overall efficiency by consolidating programs and reorganizing our staff and business operations.
- Expanded Professional Development programs for IFSI instructors and staff.

Training Programs



New classes added in FY2013

- National Fallen Firefighters
 Foundation: Courage to be
 Safe and Leadership,
 Accountability, Culture &
 Knowledge (LACK)
- Large Animal Rescue Awareness
- Grain Bin Rescue Technician
- Hazardous Waste Operations and Emergency Response
 24-Hour Operations
- All-Hazards Position Specific Liaison Officer

Featured Events

IFSI's flagship event — the **89th Annual Fire College** — brought more than 400 firefighters to Champaign IL in June for America's oldest continuous fire school. The four-day event featured hands-on experience with the newest technologies and props.

The **18th Annual Winter Fire School** offered a full weekend of training in January in Champaign. More than 300 firefighters enrolled in a series of 4-hour short courses focused on the training needs of small and volunteer fire departments. Winter Fire School also provided training support for the state Incident Management Team program.



The **11th Explorer-Cadet Hands-On Training Fire School** in June hosted more than 200 students, ages 15 to 21, and their chaperones for a four-day program of hands-on training and leadership experiences in Champaign.

IFSI expanded the Explorer-Cadet program in 2013 by hosting 169 explorers at four other locations throughout the state — Frankfort, Galesburg, O'Fallon and Quincy IL. These one-day Fire Schools were funded by the Office of the State Fire Marshal, which provided a \$65,000 grant to support training for



young people who are interested in firefighting careers.

"The school has so many different options that it always gave me a chance to do and learn new things.
The instructors were incredible...very knowledgeable."



World-class faculty and staff

The IFSI faculty and field staff includes more than 400 of the top professionals in the industry. Many are active-duty firefighters and officers who build their years of experience into classroom and hands-on training courses.

Our instructors' credentials and practical expertise have brought national and international recognition to IFSI programs. Their ability to share their knowledge and engage students are the reasons that so many firefighters return to IFSI for training throughout their careers

Field Training

Cornerstone Training

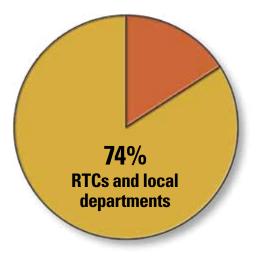
This outreach effort provides practical, hands-on training in fundamental skills, delivered at no cost to fire departments.

Cornerstone courses are presented throughout the state in fire departments' local facilities and at IFSI Regional Training Centers and fire schools. Aided by a solid funding commitment from the Illinois legislature, IFSI delivered Cornerstone classes to 11.834 students in FY2013.

IFSI's seven regional representatives work with departments in their areas to ensure that all Illinois firefighters have access to Cornerstone training in their localities. They also help departments evaluate their needs and apply for federal grants to support training programs and equipment acquisitions.

Student Registrations

8,352 student registrations at IFSI's Champaign campus 23,267 student registrations at Regional Training Centers and local departments



Cornerstone Delivery

592 classes 793 departments 11,834 students



Illinois Propane Education and Research Council (IPERC) Training

69 classes 303 departments 1,807 students



Illinois Petroleum Resources Board Oil Well Fire Training

1 class 10 departments 24 students

Illinois Department of Natural Resources Wildland Training

19 classes75 departments349 students

More than 74 percent of IFSI training is delivered at local fire departments and Regional Training Centers throughout the state.

Training Firefighters Where They Live and Work

IFSI connects with all the state's firefighters through our network of Regional Training Centers. Located throughout the state, the Centers make it possible for firefighters to receive quality training close to their home departments. Facilities range from burn structures to rescue and HazMat training props that are funded through the Illinois Terrorism Task Force.

Notable accomplishments out in the regions

- Trained 147 firefighters in six classes at the McLean Fire School in McLean County.
- Led a presentation and Q & A session for 110 trustees at the annual Fire Protection District Trustee meeting in Winnebago County.
- Delivered 24-percent more classes in the Southern Region and engaged more departments in that part of the state.
- Conducted free Grain Bin Rescue classes at the Spring Grove FPD and the City of Rockford Fire Academy.
- Delivered 28-percent more LP burn classes to 30-percent more departments to 24-percent more students.
- Conducted live-burn training at many other locations throughout the state, including Beardstown, North Pekin, Rantoul, Fithian, Thawville, Staunton, Metropolis and Frankfort.
- Continued to deliver the Quincy and Galesburg annual regional schools.
- Delivered three classes to multiple departments through an innovative satellite training system in the Chicago Metro Region.



"Great class. We have changed our trucks around because of this class!"

FIREFIGHTER AFTER HAND LINE OPS CLASS IN WARRENSBURG





Wildland Fire Fighting Training Expands

With wildland fires increasing in frequency and severity, IFSI is meeting the challenge of providing additional training for structural firefighters. IFSI trains approximately 200 first responders every year in the techniques and strategies of wildland firefighting and prescribed fire management. This intensive program is based on a nationally accredited curriculum from the National Wildfire Coordinating Group. IFSI is the only provider in Illinois to offer these accredited courses.

Last year, firefighters put out more than 1,000 wildland fires in Illinois. Illinois crews, including several IFSI instructors, were also deployed to fight fires in California, Idaho, Oregon, Utah, Wyoming, Nebraska and South Dakota. Twenty IFSI staff members are qualified to respond to wildfire events at the Command level.

Through a grant from the Illinois Department of Natural Resources, IFSI offers wildfire training at no cost to firefighters who serve a population base of 10,000 or less. Every student who completes the course receives a free Nomex firefighting jumpsuit.



Learning at a Distance

FY2013 Highlights

- Expanded our offerings of blended courses, which combine online learning with hands-on training experiences.
- Expanded our partnership with the Chicago Fire Department through more online training.

"Though not a replacement for hands-on training, online and distance learning provide a complimentary knowledge environment in modern-day education."

R.P. MORTENSON, Director

IFSI web site

- 22,759,688 hits
- 62,355 average hits per day
- 7,044,973 total page views
- 19,301 average page views per day
- 406,832 total visitors
- ◆ 120,050 total unique IP addresses

TOP FOUR PAGES

Home page
Resource Center
Course search page
Course description pages

In FY2013,
29 online
courses were
delivered to
1,789 students
for a total
of 192,000
contact hours

"Great information to start the Hazmat training."

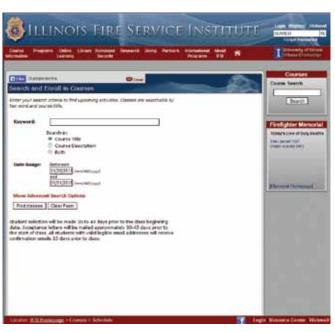
HAZMAT AWARENESS ONLINE STUDENT

Reaching out with social media



IFSI expanded its use of Facebook and Twitter as marketing and communication tools. Our Facebook page — www.facebook.com/fsi.illinois.edu — is constantly updated with class information, photos, news and recognition of donors. The page also features comments from students.









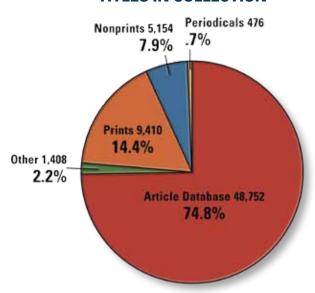
Library and Information Services

The IFSI Library is the only library in the state dedicated to fire and emergency services. Its growing collection is available to Institute staff, firefighters and other emergency responders, and University of Illinois students.

FY2013 Highlights

- Increased the collection to 65,200 titles.
- Circulated 1,710 items.
- Served 4,327 patrons and responded to 4,007 requests for information.
- Expanded the number of DVDs, e-readers and other electronic resources.
- Partnered with the Illinois Collections Preservation Network to coordinate the IFSI "Burn Simulation and Collection Recovery" workshops. These events are designed to teach information professionals how to develop disaster plans for fires and conduct salvage operations of collection materials.

TITLES IN COLLECTION







The IFSI Library maintains the **Illinois Firefighter Line of Duty Deaths Database** (IFLODD), the most comprehensive collection of Illinois statistics and the only firefighter database with incident summaries, photos and oral history interviews.

Available on the IFSI web site, the IFLODD database had 9,489 unique visitors in FY2013.

- 869 firefighter records
- 666 incident summaries
- 443 images
- 14 oral history interviews

New this year was the addition of the Illinois Firefighter Medal of Honor and Medal of Valor database. The collection includes 219 records of medal recipients.





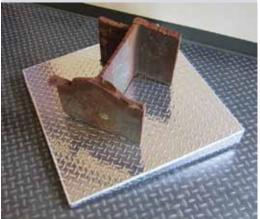
Also included in the LRRC:

Firefighter Memorial Hall honors fallen firefighters with the addition of a steel beam fragment from the Twin Towers, donated by the Port Authority of New York and New Jersey. The Memorial Hall is open to the public.

Memorial Plaza is the brick walkway surrounding the main entrances to the LRRC and Memorial Hall. Individuals, businesses and organizations contributed paving bricks in the Plaza. Bricks are personalized with engraved messages to memorialize firefighters, honor friends or family members or communicate support for the Institute's work.

The Emergency Operations Training Center is helping IFSI meet the growing demand for National Incident Management System (NIMS) training. The Center incorporates the most advanced technologies for simulating actual emergencies and Emergency Operations Command (EOC). Illinois communities can use the Center to train their staffs and test emergency plans and response capabilities. Plus, the space is ideally equipped to serve as a Campus Incident Command Post should the university need it.

The Paratech Conference Room provides state-of-the-art teleconferencing capabilities that facilitate distance learning and communication.









Life-Safety Research for Firefighters

A Commitment to Research

IFSI continues its leadership in research to protect firefighters and advance the technologies available to them. The Institute focuses its efforts on action-oriented studies that have a direct impact on firefighters' work, health and safety.

IFSI's **Firefighter Life Safety Research Center** provides state-of-the-art facilities and equipment for advanced studies. The Center is adjacent to IFSI's live testing environments, giving researchers immediate access to tested materials for laboratory analysis.

Research projects are also carried out at partner facilities on and off campus. Institute researchers collaborate with dozens of University of Illinois departments on a wide range of interdisciplinary investigations. They include:

- Heat stress/strain and cardiovascular effects of firefighting
- Biomechanics
- Cardiovascular research
- Combustion science and diagnostics
- Immunology
- Psychological and cognitive function effects of heat stress
- Pathology, sickness behavior



FY2013 Highlights

- Initiated a study of the design of self-contained breathing apparatus (SCBA) and how it affects metabolic stress levels during fire-fighting activities.
 The goal is to prevent injuries caused by problems with balance, mobility and fatigue.
- Completed a project that evaluates firefighters' escape rope system performance and design in fireground applications.
- Continued work on IFSI's fifth DHS Fire Prevention & Safety Research and Development grant to study the combined influence of design and size of self-contained breathing apparatus on firefighters' metabolic stress and safety of movement. The grant totals \$996,505.
- Continued our partnership with the National Institute for Occupational Safety and Health (NIOSH) Division of Surveillance, Hazard Evaluations and Field Studies on a study to collect exposure data and to document hazards during structural fire fighting and overhaul operations.

"One of the most important areas where research can help the fire service is being able to have a better understanding of physiological impact of fire suppression. Once we understand physically what is going on inside the firefighter, we can implement tactics to better protect our personnel and thereby reduce line-of-duty deaths and injuries."

CHIEF CRAIG HAIGH, FROM A VIDEO PRESENTED AT FIRE RESCUE INTERNATIONAL



IFSI research results are featured in peer-reviewed journals.

In 2013, six manuscripts were published or went to press in the following publications:

- American Journal of Hypertension
- ◆ Ergonomics
- Experimental Techniques
- Fire Technology
- ◆ Journal of Ergonomics
- Medicine and Science in Sports and Exercise

Our research has been presented at national and international scientific and Fire Service conferences, including:

- Fire Rescue International Conference August 2012
- University of Pittsburgh Firefighter Health & Safety Symposium February 2013
- Fire Department Instructors Conference (FDIC) April 2013
- ◆ American College of Sports Medicine Annual Meeting May 2013
- National Fire Protection Association Conference & Expo June 2013

A Successful Partnership with Motorola

In FY2013, IFSI continued its efforts to provide a strong focus on basic firefighter training. The Motorola Solutions Foundation has helped create more opportunities for Fire Academy students by a grant supporting tuition. Students or their departments were able to save 30 percent on tuition for each of the Academies held in FY2013.















Outreach Programs

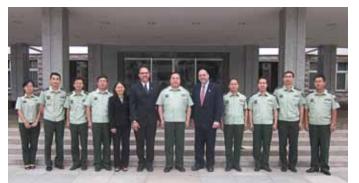
FY2013 Highlights

In the U.S.

- Co-hosted the annual training conference of the Illinois Chapter of the International Association of Arson Investigators (IAAI), held in Champaign. The 40-hour program was attended by 125 public and private investigators from Midwest states.
- Supported the University of Illinois Engineering Open House by conducting side-by-side burn cell demonstrations. These live demonstrations compared the destruction and speed of an uncontrolled room fire with the same fire extinguished by an automatic fire-suppression system.
- Made numerous presentations and participated in interviews about IFSI's delivery of ag rescue classes.
- The Director and other leadership staff spoke and presented at more than 61 events across Illinois and the nation, reaching 24,908 people.

International

- Hosted officials from the Hong Kong Fire Services Department for two three-week HazMat training sessions.
- Conducted the ninth annual Chinese Librarians Summer Program for 28 participants. Since it began in 2005, the fourweek program has trained 220 librarians from 83 libraries and other organizations in China.
- Made presentations at the Annual International Symposium on Firefighting and Emergency Management, held in Langfang, China. Three IFSI staff members were invited to deliver addresses on emergency response management, hazardous materials response and fire information services.
- Invited and hosted seven visiting scholars from Chinese universities. The University of Illinois' China Endowment Fund, which supports scholars and researchers who visit the campus, received \$1,300 in donations from the group.







Expanding Collaboration with the Chicago Fire Department

One of IFSI's most successful collaborations has been with the Chicago Fire Department (CFD). The Institute has sponsored an increasing number of training events and other projects in the city and on the Champaign campus to help increase Chicago firefighters' participation in Institute classes. In FY2013, our instructors delivered courses to 4,536 registrants from fire departments in the Chicago metro area.

FY2013 programs that were developed and carried out by IFSI in Chicago include:

- Annual fitness testing in Armour Park. More than 3,000 uniformed members participated.
- An Intensified Fire Officer Promotion series of classes for more than 150 newly promoted lieutenants, captains, battalion chiefs and Emergency Medical Services field chiefs. Eighty percent of the training featured hands-on practical applications with numerous burn days.
- The "Broken Arrow", a 24-hour TRT/EMS exercise conducted by IFSI instructors and CFD Special Operations Command. Two low-rise apartment buildings gave participants experience with live collapse structures.
- Numerous classes in the Special Operations Training Program, including Hazardous Materials, Trench Rescue, Confined Space Rescue, Rope Rescue, Structural Collapse Rescue & Vehicle Rescue, and RIT Under Fire.







IFSI's many strategic partnerships allow us to share knowledge and resources with leading educators, researchers, corporations, professional associations and other organizations. Current partners and their contributions include:



Illinois Fire Chiefs Association – support of Fire College, officer training and education.



Illinois Firefighters Association – funding and delivery of CD training software for use by local fire departments, plus hosting their annual hands-on training conference.



Illinois Association of Fire Protection Districts – participation in trustee programs to promote training opportunities and availability, plus financial support for classes.



Illinois Propane Education and Research Council (IPERC) – delivery of no-cost training in fighting propane fires.

Illinois Petroleum Resources Board – funding for training to extinguish oil well fires in southern Illinois.



Illinois Department of Natural Resources – training for firefighters and others to respond to extensive and specialized fires in a wildland or urban environment and to qualify for red card certification.



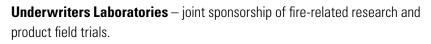
University of Illinois at Urbana-Champaign – cross-campus initiatives to fund interdisciplinary research and academic programs.



Office of the State Fire Marshal — funding for the Cornerstone program and certification of firefighters and funding for hands-on training at local firehouses for Explorer-Cadets.



State of Illinois Fire Caucus – cooperative work on strategic public policy issues.





Chicago Fire Department (CFD) – projects in four key areas: training, education, research and translating "science to the street." CFD is also a partner with IFSI in research projects with Underwriters Laboratories. The studies involve work by IFSI personnel who gather particulate matter from smoke in actual fires.



Illinois Terrorism Task Force (part of Illinois Emergency Management Agency) – participation in the training committee and sharing of curriculum and instructors.

Corporate Relations

Hands-on training is the signature of IFSI, and it's a commitment that requires extensive resources. As our services and course enrollments increase, the need for additional funding becomes more critical. Our ability to respond to new firefighting challenges depends on the continuing support of Illinois fire departments, state agencies, private donors and grants.

Generous support from business partners

Companies throughout Illinois have supported IFSI with cash and in-kind donations. Our thanks go to:

AEC and Holmatro – support of IFSI training programs

Air One – support of IFSI training programs

Ajax Tools, Inc. – support of IFSI training programs

Akron Brass – support of IFSI training programs

Alexis Fire Equipment Company – support of IFSI

training programs

AMKUS, Inc. – support of IFSI training programs

The Andersons, Inc. – support of IFSI ag rescue training

Brock Grain Systems – support of IFSI ag rescue training

Bryant Industries – support of IFSI training programs

Bullard – support of IFSI training programs

Carle Foundation Hospital – support of IFSI

training programs

Caterpillar, Inc. – support of IFSI training programs

Comfort Suites Urbana – support of IFSI

training programs

Cook Illinois Corporation – support of IFSI

training programs

Country Financial – support of IFSI training programs

Draeger – support of IFSI training programs

EMC and Genesis Rescue Systems – support of IFSI

training programs

FE Moran Fire Protection – support of IFSI

training programs

First Student – support of IFSI training programs

Globe Fire Suits - Personal Protection Equipment for

research program

Global Emergency Products and Pierce - support of

IFSI training programs

GROWMARK – ongoing support of ag rescue programs

Honeywell Life Safety Equipment - ongoing support

of research activities

Hurst – support of IFSI training programs

Illinois Farm Bureau — ongoing support of ag

rescue programs

Illinois Propane Education and Research Council –

support of IFSI training programs

LKQ-U PULL IT NORTH – support of IFSI

training programs

Madison County Farm Bureau – support of ag

rescue training

Midland States Bank – support for ag rescue programs

Motorola Solutions Foundation – support of

training programs

MN8 Foxfire – support of IFSI training programs

MSA – support of IFSI training programs

Nicor Gas – support of IFSI training programs

Paratech, Inc. – ongoing support of IFSI training programs

Pekin Insurance – support of IFSI training and

research activities

Prairie State Bank & Trust – support of IFSI ag

rescue training

Reynolds Towing – support of IFSI training programs

SABIC Innovative Plastics – support of IFSI

training programs

Scott Safety – self-contained breathing apparatus

Stanfield's Ltd – support of IFSI training programs

Sterling Wealth Management-support of IFSI ag

rescue training

St. Clair County Farm Bureau – support of IFSI ag

rescue training

State Farm Insurance – support of IFSI training programs

Streamlight – support of IFSI training programs

Task Force Tips – support of IFSI training programs

Tatman's Towing – support of IFSI training programs

University of Illinois Employees Credit Union – ongoing

support of programs

US Safety Products – support of IFSI training programs

WS Darley – ongoing support of programs

Every dollar makes a difference.

IFSI takes pride in guaranteeing that 100 percent of all donations are used to directly support our firefighter training, research and education programs.

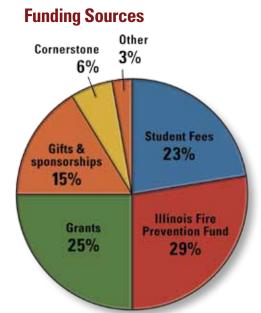


In FY2013, IFSI established two new special funds and strengthened one other to provide flexible options for supporting the men and women who are responsible for our safety.

The **Firefighter Life Safety Research Fund** is an endowment that supports research to improve firefighter health and safety.

The **Ag Rescue Training Fund** is an endowment that funds the growing curriculum of specialized courses in agricultural rescue.

The **IFSI Fund** is a general-use fund that provides instruction, training and prop development to meet a wide range of first-responder needs.



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Illinois Fire Service Institute's mission:

To help firefighters do their work through training, education, information and research.



Illinois Fire Service Institute

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