

# JOHN A. KENNEDY & ASSOCIATES

## Fire & Explosion Analysis Experts



*The World's Oldest Established Fire Investigation Firm  
Founded April 1, 1955*

JOHN A. KENNEDY & ASSOCIATES, INC.  
Fire & Explosion Analysis Experts  
857 Tallevast Road  
Sarasota, Florida 34243  
941-351-6409  
[www.kennedy-fire.com](http://www.kennedy-fire.com)

## PROFESSIONAL BACKGROUND

*Fire and explosion investigation and analysis incorporates many diverse scientific, engineering, and forensic disciplines, as well as its own specific scientific and technical concepts. It is a unique and separate field requiring specialized expertise.*

JOHN A. KENNEDY & ASSOCIATES has provided the services of court qualified fire and explosion investigation and analysis experts to attorneys, insurance companies, government agencies, commerce, and industry for a half century. We are the oldest established fire investigation firm in the world.

Services offered include:

### Investigative Services

- On-scene investigations
- Major scene management
- Evidence examination, evaluation, and control

### Expert Services

- Analysis by file review
- Products liability analysis
- Forensic fire science laboratory examinations and testing
- Computer fire modeling
- Analysis of investigations by others
- Detailed reports
- Expert opinions
- Codes and standards research

### Case Management Services

- Consultation with attorneys
- Case management and preparation assistance
- Courtroom exhibits, videos and animations

### Expert Testimony

- Deposition and trial testimony

Our combination of experienced, expert personnel and modern facilities gives us capabilities beyond that of the average fire investigation firm. At Kennedy & Associates, we are uniquely able to address all aspects of fires and explosion investigations and the complicated litigations which arise from such incidents.

## Expertise

Our personnel are not part-time or occasional experts; they are dedicated, full-time professionals, who conduct fire and explosion investigations every day. Our staff experts and associate experts have a wide range of training, education, and experience in all phases of the investigation and analysis of fire, arson, and explosion incidents. They are armed with extensive knowledge in many diverse engineering, scientific, and practical disciplines, as well as, the techniques and methodology of fire and explosion litigation cases. They are accustomed to and adept at testifying in depositions and the courtroom.

## Experience

JOHN A. KENNEDY & ASSOCIATES is unrivaled in our depth of experience. Our experts have conducted more than five thousand fire and explosion incident investigations throughout the United States and worldwide. We have given expert testimony in every state of the United States. This experience allows us not only to determine the accurate origin, cause and responsibility for a fire or explosion incident, but to effectively prove these to a court and jury.

## Certification

Even though our experts have outstanding educational qualifications and considerable years of experience, we strongly believe in continuous professional development. Therefore, the experts at Kennedy & Associates have earned and maintained the following professional certifications:

- Certified Fire and Explosion Investigator (CFEI)
- Certified Vehicle Fire Investigator (CVFI)
- Certified Fire Investigation Instructor (CFII)
- Certified Fire Protection Specialist (CFPS)
- Member, Institution of Fire Engineers (MIFireE)
- Professional Member, American Society of Safety Engineers (ASSE)
- Florida Certified Gas Technician



## **EXPERT PERSONNEL**

*JOHN A. KENNEDY &  
ASSOCIATES' personnel are  
known and respected worldwide  
as experts in the field of fire and  
explosion investigation and  
analysis.*

### **Internationally Recognized Experts**

Patrick M. Kennedy, our principal expert, is an internationally recognized author, lecturer, and expert in the investigation and analysis of fires and explosions. He is the senior-most active fire investigation analyst in the world with experience of more than forty-five years in the profession. His fire and explosion analysis expertise has been utilized by many of the most prominent legal, insurance, commercial, and industry representatives. Patrick Kennedy personally supervises and reviews every case. In this way, the client can be assured that every viable aspect of the fire or explosion incident has been completely evaluated.

### **Fields of Expertise**

Our staff and associate experts include individuals with backgrounds in law enforcement, the fire service, fire prevention, fire science, fire protection, forensic science, organic chemistry, electrical engineering technology, university level teaching, military and government service. All are National Board Certified Fire and Explosion Investigators. Each is fully licensed and registered in their particular specialty fields as well.

### **A Team Approach**

With this wide variety of interrelated expertise, utilized in a total team approach to every case, you can be assured that no important aspect or approach to the case has been missed. In this way, each investigation receives the benefit of our combined diverse knowledge and experience.

### **Experience**

The experts of JOHN A. KENNEDY & ASSOCIATES have conducted more than five thousand fire and explosion incident investigations throughout the United States and the world.

Among these cases are some of the largest and most noteworthy fire losses in recent history, including the Our Lady of the Angels School fire in Chicago, Illinois; the Continental grain explosion in Westwego, Louisiana; the Beverly Hill Supper Club fire in Southgate, Kentucky; the MGM Grand Hotel fire in Las Vegas, Nevada; the Royal Beach Hotel fire in Chicago, Illinois; the Waverly, Tennessee, train derailment and explosion; the City of Corpus Christi, Texas grain elevator explosion; the McCormick Place Exposition Center fire in Chicago, Illinois; the DuPont Plaza Hotel fire in San Juan, Puerto Rico; the Air Canada DC-9 in-flight fire at Greater Cincinnati Airport; the Rivercities Warehouse fire in Davenport, Iowa; the Chateau du Triomphe fire in Dallas, Texas; and many others.

## **Fire and Explosion Investigation and Analysis**

## **SERVICES**

### **Investigative Services**

#### **On-Scene Investigation**

Using a team concept, our experts can accurately examine, record, and evaluate the fire or explosion scene. A successful case is often based on the information and evidence collected during the on-scene investigation. On-scene investigations with full documentation, including photographs, video and diagrams are regularly performed by our experts. We are completely prepared to handle all aspects of any fire or explosion investigation.

#### **Major Case Management**

Large loss fire scenes often require two separate and distinct functions, large loss fire investigation and major case site management activities. The experts at Kennedy & Associates have investigated and managed some of the largest fire losses in the United States. We are ready to provide the services necessary for a large-loss team approach to fit your needs.

#### **Evidence Examination, Evaluation, and Control**

The identification, proper handling, and accurate evaluation of physical evidence may spell success or failure to an investigation and court case. From our years of experience, we have developed an effective evidence examination and inventory system. Evidence items are stored in our climate controlled evidence storage warehouse and are inspected in our two state-of-the-art forensic fire science laboratories. Evidence spoliation issues are nonexistent in our organization.

### **Expert Services**

#### **Analysis by File Review**

When the scene is unavailable, we are experienced in reviewing and evaluating the information collected during discovery, including the work of others, to reach accurate, provable conclusions. This is a specialized skill rarely held by others in our profession.

#### **Product Liability Analysis**

We regularly evaluate product issues to assess their relationship to the fire or explosion cause and responsibility. Design defects, manufacturing defects, hazardous conditions, negligence and the sufficiency of label instructions and warnings, including Material Safety Data Sheets, are regular subjects for our experts' analysis.

*JOHN A. KENNEDY & ASSOCIATES provides services in every aspect of fire and explosion investigations and their related litigations. An integrated, accurate assessment of all of these aspects is necessary for the client to make informed judgments with regard to litigation posture, insurance coverage, or subrogation possibilities.*

## SERVICES



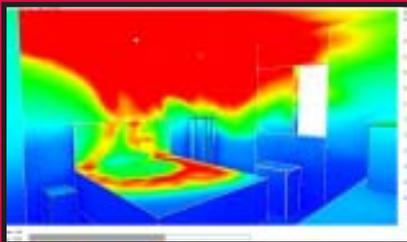
Open Cup Flash Point Test

## Laboratory Testing and Experimentation

Our Forensic Fire Science and Technology Laboratories are specifically designed and equipped to perform testing and experimentation for fire and explosion litigation cases. Our technical personnel are second to none in the examination and analysis of physical evidence related to fire and explosions. We perform these tasks on a daily basis. Few other scientific or engineering laboratories are so experienced or fully-equipped for these specialized tasks in the fire and explosion field.



Simulation of Smoke Movement in a 3-story Apartment Fire



Simulation of heat transfer in a bedroom fire



Simulation of flame plume development in a residential living room fire

## Computer Fire Modeling

John A. Kennedy and Associates maintains an up-to-date inventory of fire dynamics computer modeling software and hardware. We are involved in the use of a wide range of fire models including zone models (e.g. CFAST & BRANZfire), field models (e.g. Fire Dynamics Simulator-FDS), and specialized models for movement of smoke and other contaminants (e.g. ASET-B). With this capability, Kennedy and Associates can produce detailed mathematical computer models and animations of fire behavior. Many of the computer fire models can predict:

- Room Fire Temperatures
- Time to Flashover
- Occupant Egress Time
- Time to Activation of Smoke Detectors and Sprinklers
- Radiant Ignition of Fuels
- Production of Fire Gases

The experts at Kennedy & Associates have regularly given expert deposition and trial testimony in the use of computer fire modeling for fire investigation purposes. We recognize the great importance of model verification and make extensive use of experimental results and literature data to verify the appropriateness and accuracy of our models.

## SERVICES

### **Evaluate Performance of Previous Investigators**

We regularly analyze the methodology and bases of opinions proffered by other investigators for reliability and compliance with NFPA 921. We objectively investigate, review, and analyze the evidence and other technical facts to compare the evidence and the opinions of other experts for reliability.

### **Codes and Standards Research**

Research and evaluation of national, state, local, and various industry codes and standards are often the backbone of products and services litigation. This research is a complicated undertaking requiring skills, training and experience frequently lacking in other firms. Our extensive collection of national and local fire codes includes not only the most current volumes but an unrivaled archival collection. Our expert staff is well versed in researching the compliance with or violation of codes, standards, and good practices. In addition, our staff is actively involved with many fire codes and standards-promulgating committees and organizations.

### **Detailed Reports**

If required, we can produce detailed, but easily understood, written reports, illustrated by full coverage photographs and diagrams. These reports are capable of “standing alone” in fully explaining the facts to the reader.

### **Expert Opinions**

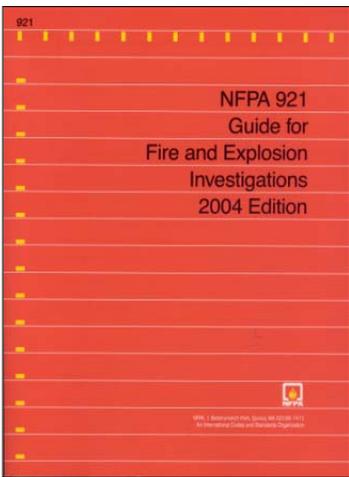
Rendering expert opinions is one of our primary services. It is the basis upon which all of our other services are based. All of our experts are National Board Certified Fire and Explosion Investigators. They are accomplished public speakers and educators capable of clearly communicating and proving their opinions to a court and a jury.

*JOHN A. KENNEDY & ASSOCIATES' long time position as members of the NFPA Technical Committees on Fire Investigation and Fire Investigator Professional Qualifications makes us uniquely qualified to evaluate the sufficiency of the investigations of others.*



## SERVICES

*THE FIRE LITIGATION COURTROOM IS NO PLACE FOR AMATEURS. Perhaps the most valuable service we provide to our clients is our unparalleled experience in litigation cases. John A. Kennedy & Associates provides not only fire investigation expertise, but fire litigation expertise.*



### **Case Management Services**

#### **Case Preparation and Consultation**

We have wide experience in assisting attorneys with the development of their fire and explosion cases, including preparation of suggested questions for depositions and cross-examination of other experts. Many clients take advantage of our experience in thousands of fire litigation cases to help them prepare for court cases. We can assist at all stages of litigation from identifying parties, to preparing or answering discovery documents, to assisting in the cross examination of opposing experts and through direct and final rebuttal testimony.

#### **Forensic Photography and Courtroom Exhibits**

Our state-of-the-art photography and video production equipment is augmented by in-house CAD drafting and diagramming services. With these facilities, we produce professional courtroom exhibits to enhance, illustrate, explain, and simplify technical or complicated testimony.

#### **Computer Fire Modeling Animation**

As a part of our computer fire modeling capabilities, the experts at John A. Kennedy & Associates can provide three-dimensional computer fire modeling animations to supplement expert testimony.

### **Expert Testimony**

#### **Depositions and Expert Courtroom Testimony**

The fire litigation courtroom is no place for amateurs. When testifying at depositions or in the courtroom, there is no substitute for experience. No organization in the fire and explosion field has more skill and experience in providing expert testimony at depositions or in the courtroom. Each of our testifying experts has proven to be an effective communicator and is equipped with the personal communication skills to effectively explain theories and concepts to the court and jury.

## **FORENSIC FIRE SCIENCE AND TECHNOLOGY LABORATORIES**

*Our Forensic Fire Science and Technology Laboratories are located in Sarasota, Florida. They are the most fully equipped fire and explosion analysis laboratory in the country, dedicated particularly to litigation inquiries.*

### **Flammability Properties of Materials**

The various properties of a material, which bear upon its flammability hazard, are determined. Flash point, ignition and burning temperature, ease of ignition, flame spread, fabric flammability and the reaction of materials to high heat environments are among the many tests conducted in our laboratories.

### **Forensic Fire Engineering Technology**

Appliance and equipment failure, improper design or manufacture, and hazardous properties and conditions are evaluated by our experts. Modes of failure are discovered and documented.

### **Electrical Testing**

Our staff includes experts in electrical engineering technology with extensive experience in the evaluation of the electrical aspects of our investigations.

### **Fuel Gas Equipment Testing**

Our forensic science laboratory is fully equipped to test and evaluate all types of gas equipment, appliances, controls, systems, and distribution piping. Failures, due to improper gas pressures, leakage, or poor installation practices, are identified.

### **Full Scale Fire Testing**

John A. Kennedy & Associates can produce full-scale re-creations of the circumstances of fires or explosions using our large, in-house, Forensic Science Technology Laboratory or one of our offsite field burn sites. These demonstrations can be used by our clients to illustrate graphic proof of the actual fire cause and origin or to disprove the erroneous theories of others.

### **Flammability Standards**

The flammability characteristics and the performance of materials and assemblies are tested to the applicable federal, local, and industry standards. Few other laboratories have all the necessary testing apparatus to properly comply with the specified methods of these tests.

## **FORENSIC FIRE SCIENCE AND TECHNOLOGY LABORATORIES**

*Our Forensic Fire Science and Technology Laboratories are fully equipped with “state-of-the-art” apparatus to scientifically test and evaluate evidence in fire and explosion cases, as well as to record the testing and experimentation processes for demonstration to a client, court, and jury.*



### **Evidence Examination and Control**

Because our laboratory is regularly handling large quantities of valuable physical evidence, a detailed and thorough evidence inventory and secure storage system is maintained. This system is designed to ensure the integrity of the “chain of custody” of each item of physical evidence while in our possession.

### **Research Projects**

Kennedy & Associates strives to be at the forefront of current fire investigation science research. Our staff is encouraged to engage in independent research and present their findings to the scientific community. Their independent research projects have been presented and published by such prestigious and international conferences and publications as:

- International Conference on Fire and Materials
- InterFlam - International Fire Engineering Conference
- International Symposium on Fire Investigation Science and Technology
- National Fire Protection Association
- United States Fire Administration
- National Association of Fire Investigators
- National Institute of Standards and Technology

Some recent research topics include:

- Depth of Calcination Measurement in Fire Origin Analysis
- Flashover and Fire Analysis: A Discussion of the Practical Use of Flashover in Fire Analysis
- Outgassing Phenomenon in Flash Point Testing for Fire Safety Evaluation
- Acoustic Soot Agglomeration in Residential Smoke Alarms
- Evaluation of Fire Patterns in Structures
- Fractional Vaporization of Ignitable Liquids - Flash Point and Ignitability Issues

## **Textbooks**

John Kennedy and Patrick M. Kennedy, our principal experts, have written five textbooks generally considered by the profession to be among the standard texts in the fire and explosion investigation field:

FIRE AND ARSON INVESTIGATING, 1959

FIRE AND ARSON INVESTIGATION, 1961, 1972

FIRE, ARSON AND EXPLOSION INVESTIGATION, 1977

FIRES AND EXPLOSIONS-  
DETERMINING CAUSE AND ORIGIN, 1985

EXPLOSION INVESTIGATION AND ANALYSIS-  
KENNEDY ON EXPLOSIONS, 1990

## **Periodical Articles**

Articles written by our staff members regularly appear in professional periodicals. Among the publications in which these writings have appeared include the periodicals of the National Fire Protection Association, the National Association of Fire Investigators, the International Association of Arson Investigators, Fire Engineering, and others.

## **Code Publications**

Our experts are actively involved in the writing of several national fire codes and international fire science standards, including the following:

- NFPA 921 “The Guide for Fire and Explosion Investigations”
- NFPA 1033 “The Standard for Professional Qualifications for Fire Investigator”.
- ASTM Forensic Sciences Standards

## **Reference Library**

We maintain a complete and up-to-date library of codes and standards, texts, handbooks, research reports, periodicals and selected articles pertaining to fires and explosions.

We have acquired thousands of volumes of research on fire and safety related topics in our fifty year history. Our library includes one of the largest collections of National Fire Codes outside of the National Fire Protection Association itself. Our assets include books, periodicals, white papers, and collections of research on specific fire and safety related topics.

## **PUBLICATIONS**

*Our staff of fire investigation experts publish extensively within the fire science and fire investigation community.*

## AFFILIATIONS

*JOHN A. KENNEDY & ASSOCIATES' staff and associate experts maintain active memberships and leadership roles in more than seventeen organizations and associations which promote fire investigation technology and improve our ability to serve our clientele.*



## Organizations and Associations

American Association of Forensic Scientists  
American Society of Safety Engineers  
American Society for Testing and Materials  
American Welding Association  
International Association of Arson Investigators  
International Association of Auto Theft Investigators  
International Association of Bomb Technicians and Investigators  
International Fire Marshals Association  
International Fire Photographers Association  
International Fire Service Training Association  
International Society of Fire Service Instructors  
Institution of Fire Engineers  
National Academy of Forensic Engineers  
National Association of Fire Investigators  
National Fire Protection Association  
Society of Fire Protection Engineers  
Who's Who in Science and Technology



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