Nothing halts research like combustion!
Did you know . . .

. . . It’s Fire Prevention Week

– Always the week of October 9th.

– Great Chicago Fire
  • October 8th – October 10th, 1871

– Presidential Proclamation
  • Calvin Coolidge, 1925

– NFPA
  • National Sponsor
Why think about fire safety?

Mackay Hall 08/18/10
University of Minnesota
Note: I used a fire extinguisher, however, could not put out all the fire because the fire extinguisher was too small.
Lack of written safety procedures.

Inadequately designed facility.

Researcher, having more than 12 years of experience with lasers, *did not take the online laser safety training class*.

Researcher did not account for the *severity of the hazard* evidenced by unsafe behaviors.

Campus *lacked robust laser safety program* with a dedicated laser safety officer.
Fire Emergencies . . .
. . . Involve 3 Phases

➢ **Response**
  - ISU Police
  - Ames Fire Department
  - EH&S advisory role only

➢ **Recovery**
  - Facilities, Planning and Management
  - Contractors
  - Risk Management
  - College/Department

➢ **Repair**
  - Facilities, Planning and Management
  - Contractors
  - Risk Management
  - College/Department
It’s All About Damage

- **Fire**
  - Equipment
  - Lab Books/Data
  - Building
  - Structural
  - Mechanical
  - Plumbing

- **Smoke**
  - Equipment
  - Furniture
  - Personal Effects

- **Sprinkler Water**
  - Equipment
  - Lower levels
  - Mold/Mildew

How much damage can your lab sustain?
Think About Reaction Times

MacKay Hall Fire

- 7:36 PM Smoke Detector Activated
- 7:37 PM Fire Department Received Alarm
- 7:38 PM Sprinkler Head Activated
- 7:42 PM Fire Department Arrived
Think About Contributing Materials

- Drying oven
  - Upper chamber set to 200° C
  - Lower chamber set to 60° C
  - Plastic containers intended for LC placed in UC
  - Plastic rated for maximum 140° C
  - Plastic melted and flowed to heating element
  - Fire grew to include materials in vicinity of the oven
Can your lab recover?
Think About Loss
Think About Ingenuity of Firemen
Think About Extended Damage
Have You Taken Fire Safety and Extinguisher Training?

Use the P.A.S.S. Method

- **Pull** the pin
- **Aim** nozzle at the base of the fire
- **Squeeze** the handle
- **Sweep** side to side

It’s an annual State requirement!
Train all lab personnel

www.ehs.iastate.edu > Fire Safety
What Can We Learn?

Hindsight
Nothing halts research like combustion!

So Remember:
✓ Keep combustibles away from heat sources
✓ Have a plan: Prepare an SOP and review with staff
✓ Do not modify wiring
✓ Know the oven temperature limits
✓ Have the correct fire extinguisher
✓ Know two ways out of the laboratory and building
✓ Talk to Risk Assessment about insurance for equipment.