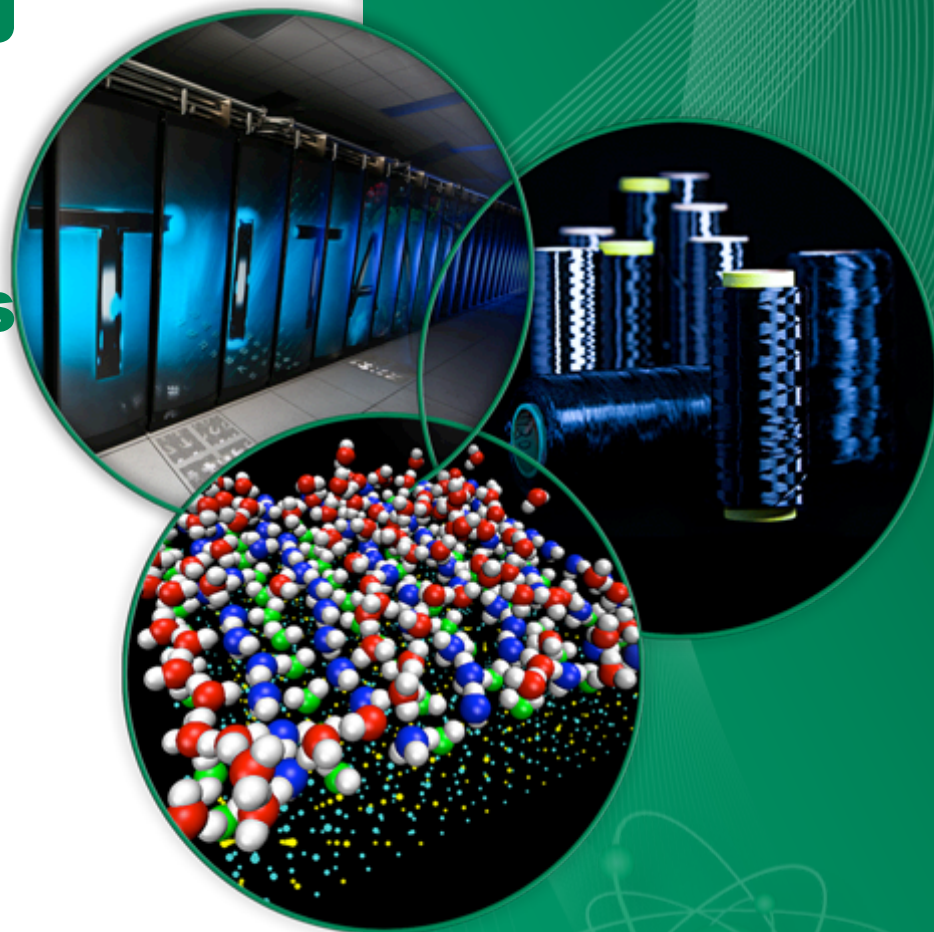


Recognizing good when you see it: evaluating the effectiveness of your hazard identification and evaluation processes

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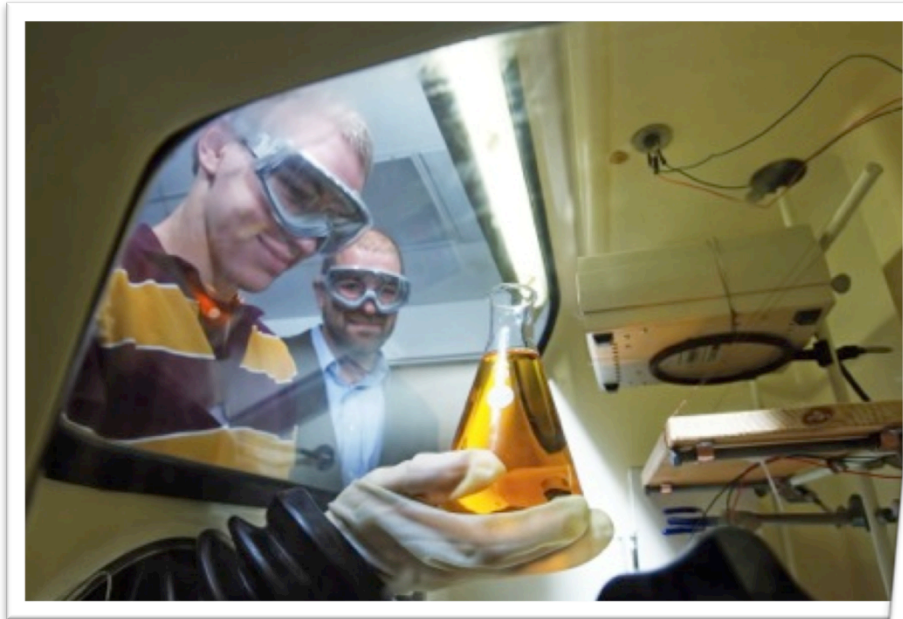


Agenda for today's talk

- Demonstration
- Managing change
- Assessing effectiveness
- Recap



Recognizing change when you see it



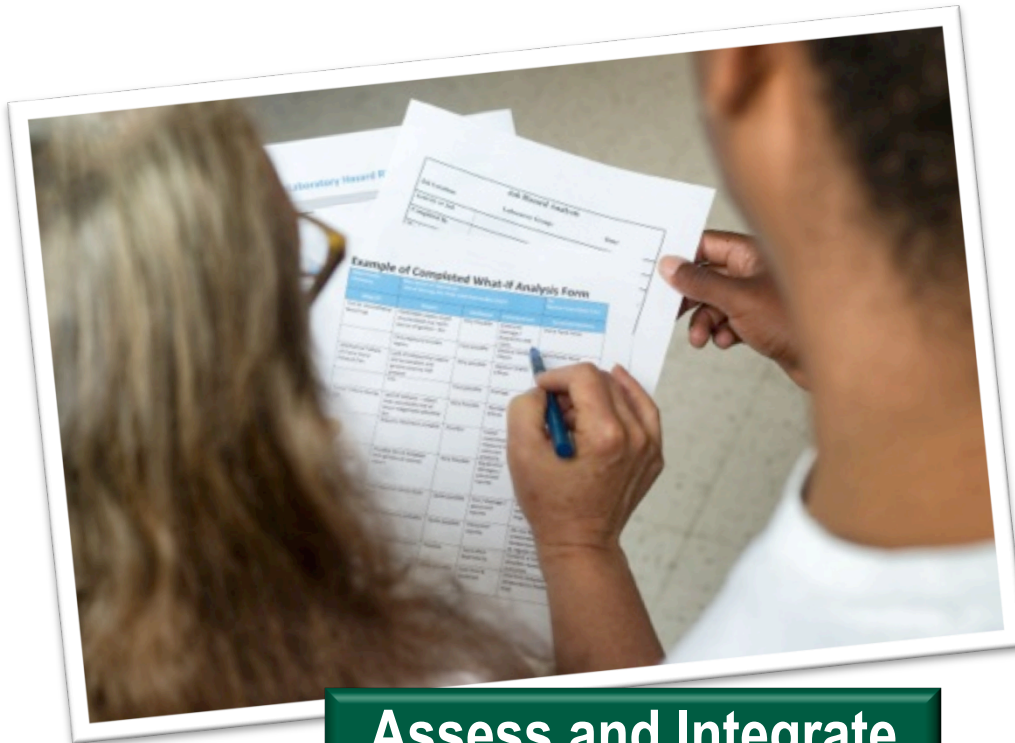
Change can be subtle, and may or may not be relevant. The goal is to identify those that impact the fidelity of the analysis.

Examples to consider

- Same basic synthesis, but adding a functional group
- Using a different solvent for an extraction
- Creation of a new waste stream
- Incorporation of new technology, technique or equipment
- Failure of current experimental parameters
- Psychological state of workers
- Scale up
- Modification of equipment
- Creation of materials with unknown hazards
- New person on the team or losing someone with experience
- Same task, new location
- Change in ambient conditions
- Absence of normally available resources

Strategies for enabling recognition of and responding to change

- Require hazard evaluation to be revisited periodically
- Make the process for revisions easy
- Use peer reviews
- Routinely conduct reviews of laboratory activities
- Look for changing work conditions and ask questions about the process
- Report and discuss incidents
- Include information on hazards in notebooks, papers and presentations



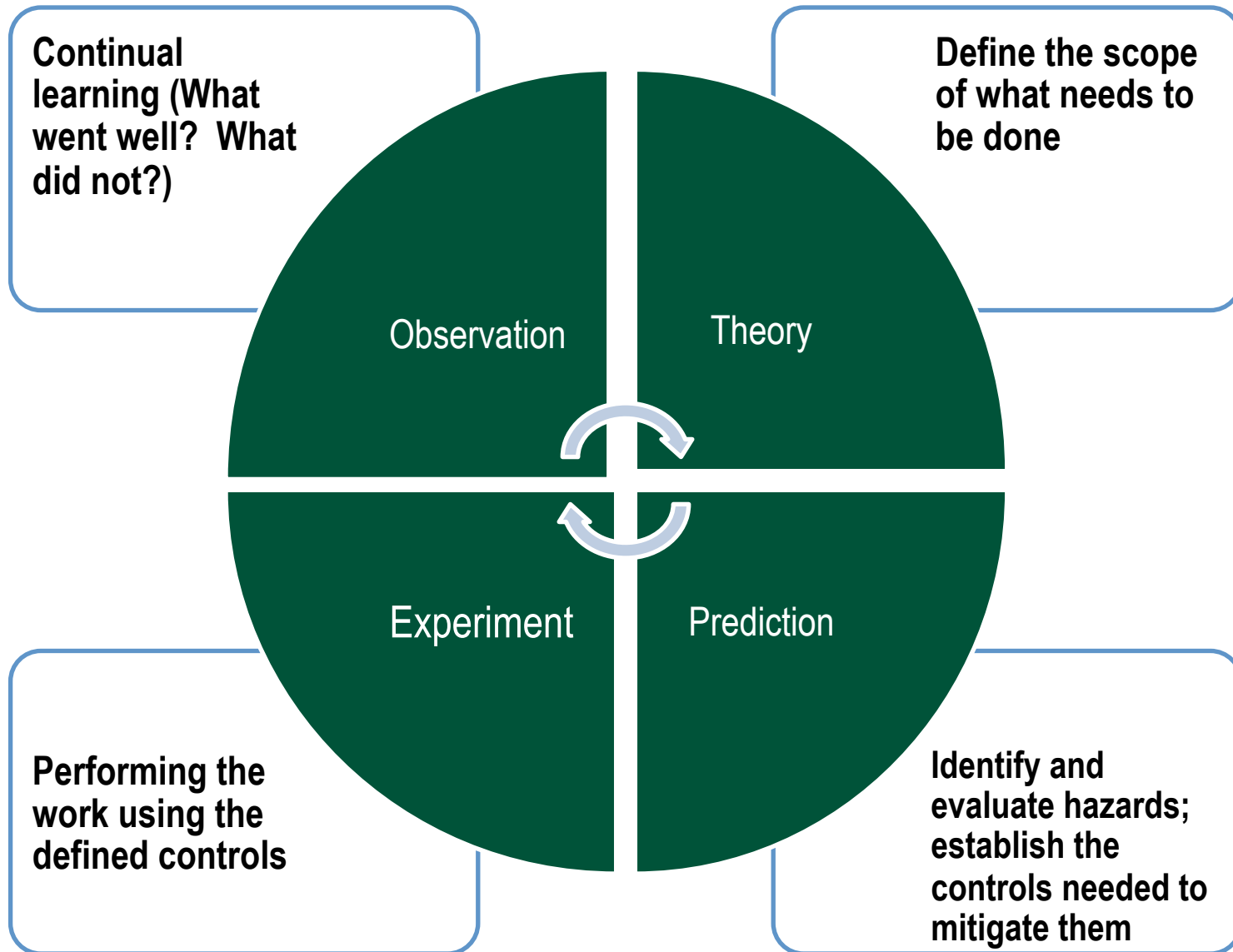
Assess and Integrate

Recognizing good when you see it

Good will not be a good
injury or inspection rate
It will be a highly aware,
predictable - yet flexible
organization that's learning



Remember the basic concept



An organization with mature hazard identification and evaluation processes

Defining the scope

- Care is taken to identify the full scope of projects and experiments
 - Steps
 - Workers
 - Equipment
 - Location
 - Materials
- Literature review and previous experience

Hazard identification and evaluation

- Hazards are identified and controls established
- Routes of exposure are ID'd
- A questioning and challenging attitude are encouraged
- Near misses are used in the analysis
- Potential, credible event scenarios are discussed
- Peer review and “difference to expertise”

An organization with mature hazard identification and evaluation processes

Performing work within identified controls

- Controls are verified to be in place prior to work
- The investigator pauses and further analyzes if conditions change
- Others question or remind the investigator about their controls
- At-risk-behavior is corrected

Continual learning

- Investigators end the work the way they began, asking questions
 - Did a hazard manifest?
 - Did a control not perform as predicted?
 - Did something go really well?
 - Any near misses?
- Hazard analysis documents are continually improved

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