

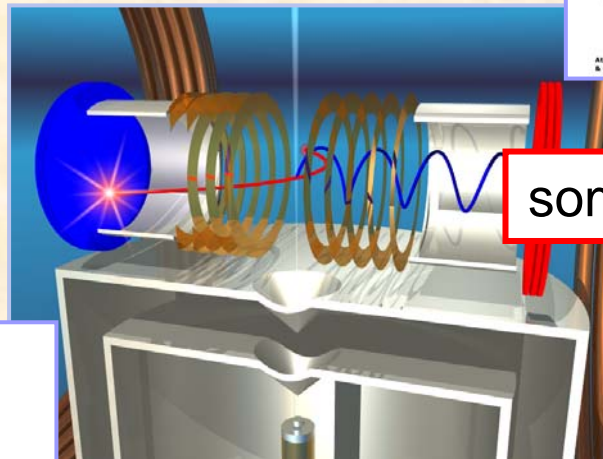
SAFETY ISSUES

...problems we have and things that are peculiar or could be done better...

Thorsten Weber
Divisional Fellow

- Chemical Sciences Division -

Momentum Imaging
in the downstairs labs
of building 2



Chemical
Sciences Division

some observations in 2-106



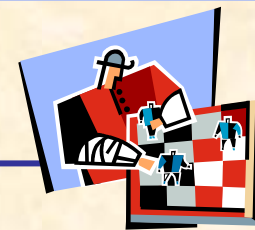
Lawrence Berkeley
National Laboratory



COLTRIMS:
COLd Target Recoil Ion
Momentum Spectroscopy

Our Laboratory Controls: Information...

Safety Rules and Processes we have established so far



...in addition to the JHA

Lab Doors (outside)

features:

- most important warnings
- lab hazards and their antidotes
- Integrated Safety Management plan
- Laboratory Controls (rules & procedures)
- white board for notes and warnings

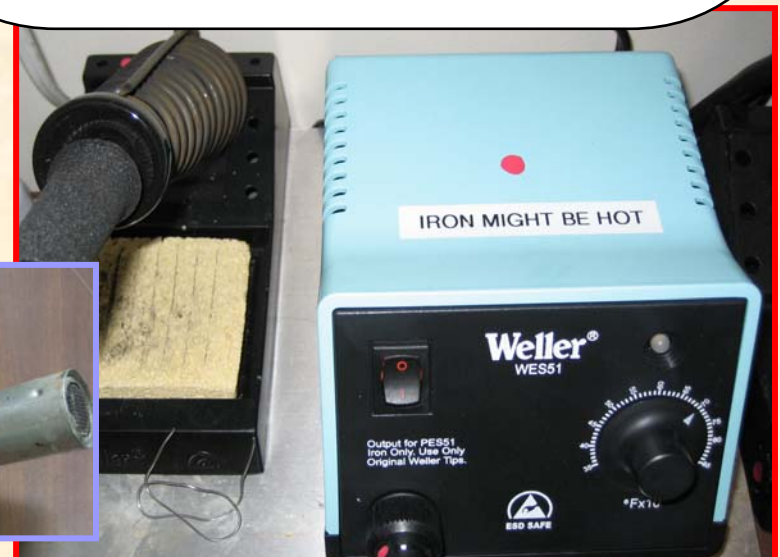
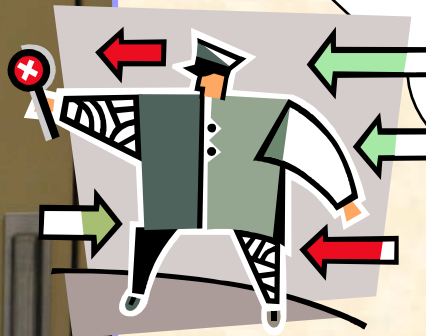
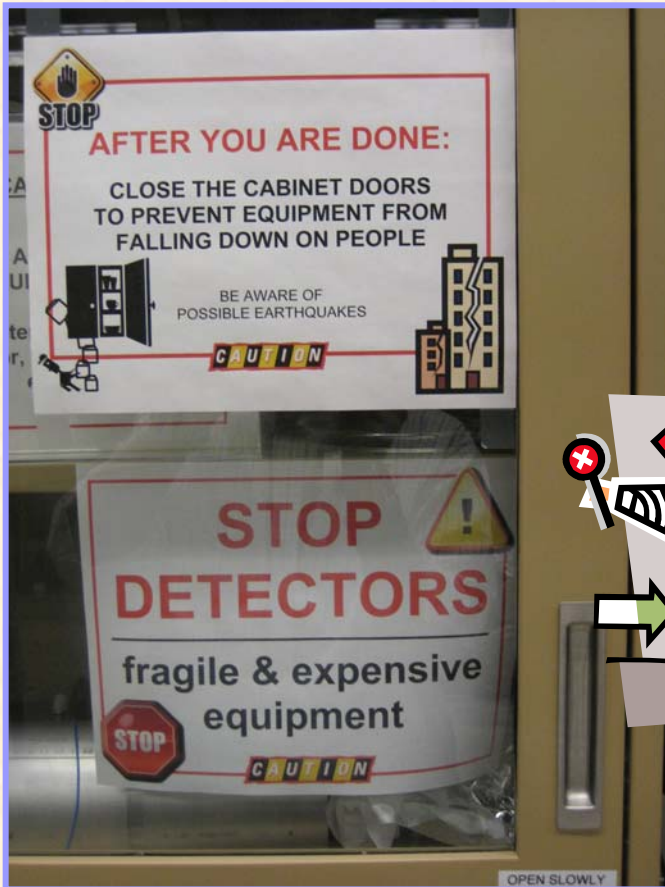


Our Laboratory Controls: Tools...

Safety Rules and Processes we have established so far

control

- Labels and Warning Signs
- Fasten moveable equipment
- Segregate gases
- Use spill containers
- Interlocks (laser)
- Define and mark sensitive areas
- Keep aisles, eye washes, emergency showers and electric panels free
- Continuous workarounds
- etc.



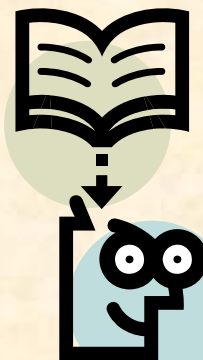
...inside the Laboratory

Our Laboratory Controls: Documents...

Safety Rules and Processes we have established so far



...procedures and tools



paperwork:

- Information sheet for guests (documented) On the Job Training
- Activity Hazard Document (AHD)
- Pub3000 & MSDS
- Self Assessment Reports/report Safety Issues
- Project To-Do lists (highlighting safety tasks)
- Red Emergency Response Guides
- Important contact information (emergency and non-emergency)
- Near Miss program/Flyers
- Safety information on our website: <http://amo-csd.lbl.gov/safety.php>

Our Laboratory Controls: Personal Protective Equipment

Safety Rules and Processes we have established so far



- Plastic bags for used gloves

- Gloves for wrenching

- Laboratory coats

- Safety shoes



- Gloves for heat

- Gloves for LN₂

- Warning vests

- Ear plugs

- Safety glasses

- Ear muffs



- Safety goggles

- Warning/caution tapes

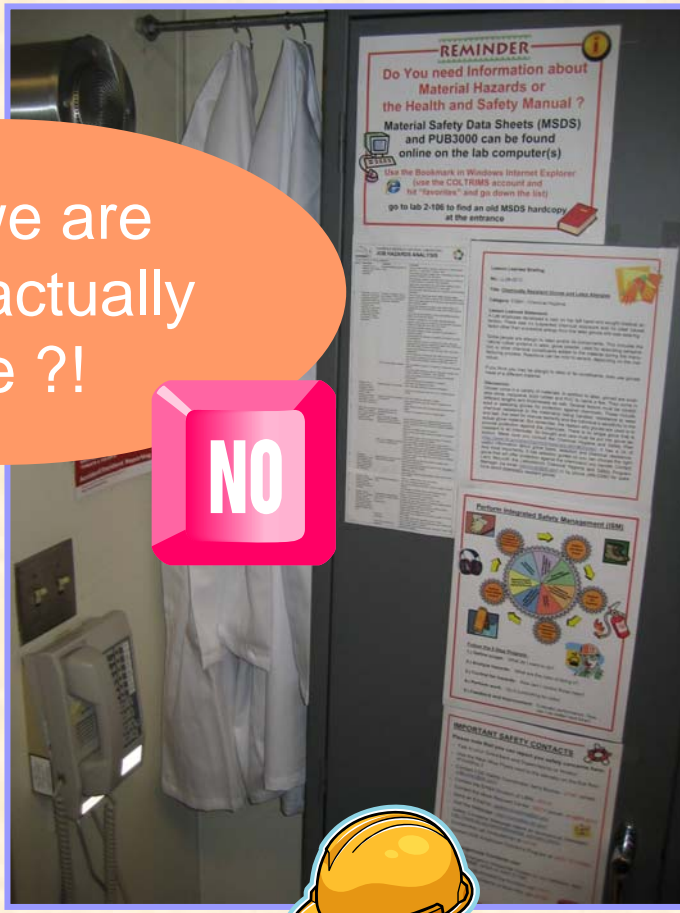


- Gloves for mechanical work

- Helmet



- Face shield



So, we are doing actually fine ?!

NO

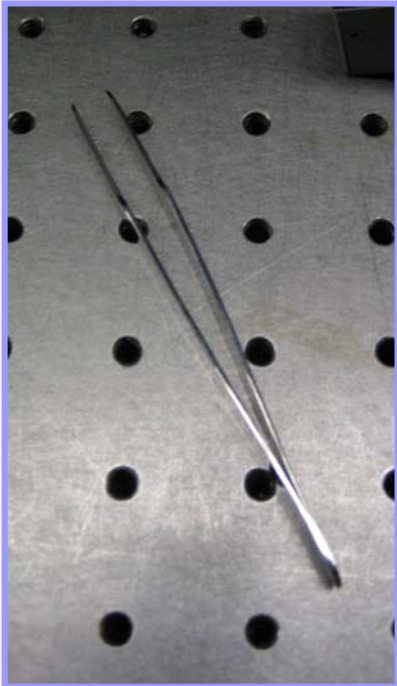


Problems: Sharp tools or Equipment

...simple things we still do wrong...



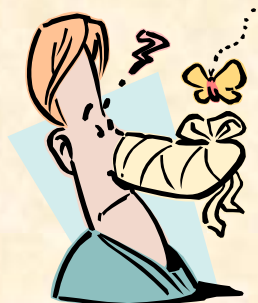
- Pointy Tweezers
- Antidote: Put Styrofoam on Tips or put it away



- Open Cutting Knife
- Antidote: Retract Blade



- Sharp Edged Flange
- Antidote: Put crumpled Aluminum foil ball on top (was removed two times)



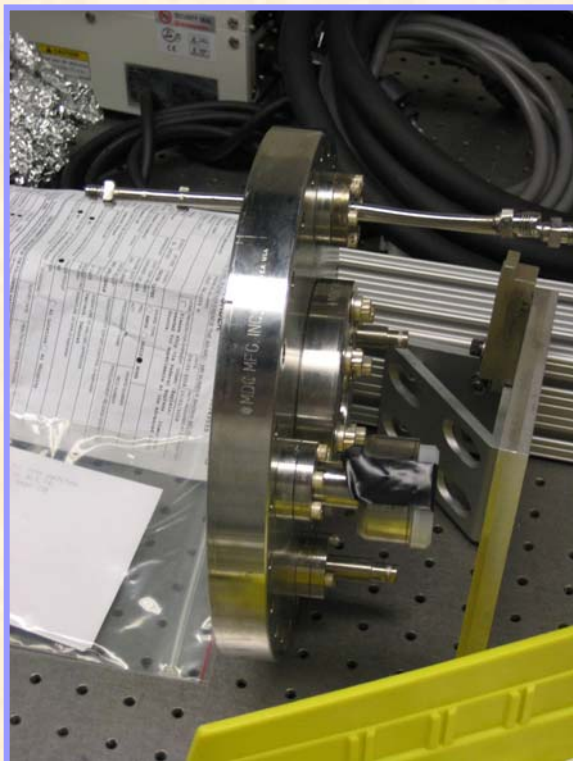
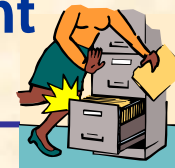
also found:

- Uncovered blades
- Needles
- Stylus
- Knives
- Glass plates



Problems: Unsecured smothering or obstructing Equipment

...simple things we still do wrong...



- Big Boxes which can block the Aisle and Exit
- Antidote: Strap it to the wall or fold it...
or get it out of the lab



- Unsecured 12in Stainless Steel Flange
- Antidote: Block it...
or put it down (make space)

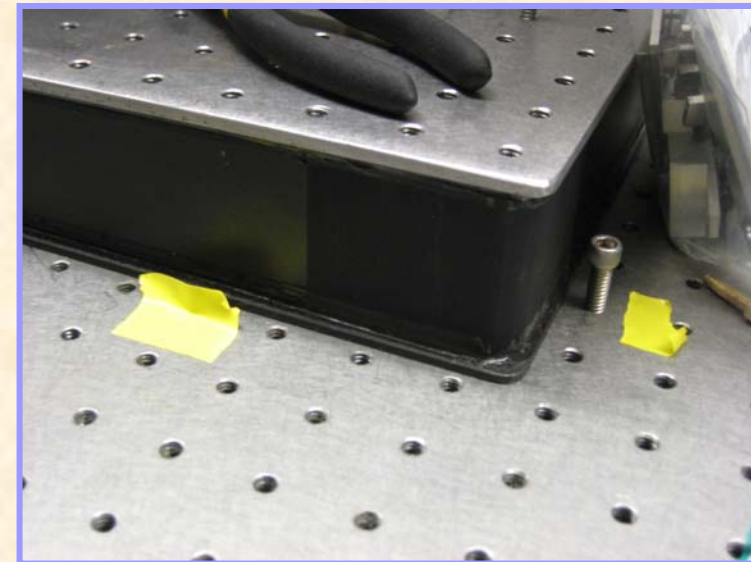
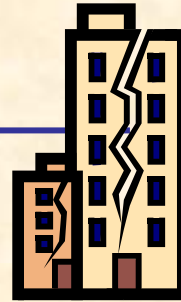


Problems: Aisles and Exits & Earthquake Safety

...simple things we still do wrong...



- Cart blocks Aisle and Exit
- Antidote: Store it outside till you need it



- Bolt to prevent sliding was removed (3 times)
- Antidote: Do not do that
Clamp it down in a better way

- Telescope or Chairs block Aisle and Exit
- Antidote: Put Scope on the other side of the table
(there was enough space)



Problems: Housekeeping & Organization...

...simple things we still do wrong...



- Used Gloves and Tissues
- Antidote: throw them away
or use the provided plastic bags



- Broken, non-functioning or inappropriate Tools
- Antidote: inspect regularly
get "your" equipment
take care of tools

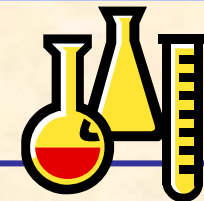


- No Space to put Equipment anymore
- Antidote: housekeeping
clean up at the end of the day
bring Tools back



Problems: Chemicals & Food and PPE...

...simple things we still do wrong...



- Cans or cups, Cookies or Lunch in the Labs...
- Antidote: defined as No-No do not even store it there



please also:

- use spill containers
- label your chemicals (even water)
- make use of the SAA
- replace broken squeeze bottles etc.



- No Safety Glasses
- Antidote: wear them
hang a pair around your neck

Problems: Ergonomics...

...simple things we still do wrong...



talk about it...

...help others



- Monitor is not in the center
- Antidote: get longer cables if necessary
adjust height as well

try things out
&
check regularly



- Keyboard tray is adjusted the wrong way
- Antidote: get the angle right
get the training or have evaluation

<http://www.lbl.gov/ehs/ergo/index.shtml>

Problems: Attitude & Discipline...

...simple things we still do wrong...



Coworker:

“...we do not have the time - we are too busy doing science...”

Steve Chu:

“...people who say that usually have problems with their science as well:
...that’s just an excuse and they are inefficient.

Successful work comes out of those labs where ISM is practiced –
safety goes hand in hand with science...”

Thorsten:

“...safety requires infrastructure, organization and (stern) discipline
and you have to constantly work on it...”



- bad infrastructure, organization and discipline
- Antidote: get the tools and PPE you need
practice Integrated Safety Management (ISM)
change your work schedule (if needed)
check your equipment & improve your lab constantly

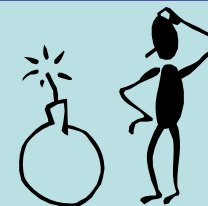
Summary: What to keep in mind...

...listen, learn and get active, stay active all the time, adjust priorities...



Problems:

- Information (people do not read the signs and labels...)
- Communication (people do not communicate their work)
- Lack of Discipline and Organization (people are lazy & look for shortcuts)
- Attitude:
 - people stick to the procedures and standards of the past
 - age problem: they are not ready to learn and to move on
 - think that safety is their “enemy” and “fight” it
 - do not take safety seriously and include it in their daily routine



Solutions:

- practice the Integrated Safety Management (in your team)
- dedicate 20 min per day specifically to safety (do checks, assessment...)
- contribute to the safety discussion in your (weekly) group meeting
- be active: Do not wait for somebody to push you...
- take responsibility: Your lab (coworkers) and the one “next door”
- work on your attitude and discipline (safety is YOUR business)...





...the End:
we would like to hear from you...



Safety Issues:

- practice ISM all the time
- use Safety like a Tool (Wrench or Computer)
- think ahead – expect the unexpected
- look out for others
- contribute and improve our infrastructure and procedures – be active !!!

Goals and Visions

**Thank You
for Your kind Attention !**



session is open
for discussion

I want **YOU**



for LBNL
Safety

Important Check Questions...

...so you think you are prepared ? Try to answer these here...



Possible Interview

- do you know the hazards in your lab and office ?
(JHA, lab hazards information sheet at the door...)
- does everybody has training and is doing ISM ?
(no work authorization before the class, ISM is done in teams, individually or in the group meeting)
- what are the hazard controls you came up with ?
(OJT, MSDS, PUB3000, AHD, PPE, Lab Rules...)
- who is doing the On the Job Training/taking care of new people ?
(supervisor, work lead, experienced coworker, you...)
- how do you know your coworkers really follow the rules ?
(safety culture, communication, designated lab and project captains, group meeting...)
- what do you do when your job or the equipment changes ?
(retake the JHA, talk about it in the group meeting, check for official safety stickers, contact EH&S)