

# Report on College of Engineering Safety Culture Survey

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## Executive Summary

### Survey Objectives

Participants were asked to complete an online survey of questions to determine the attitudes, perceptions and behaviors as they relate to safety within the College of Engineering. The intent of this survey is to establish a baseline moving forward, as well as identify weak areas to target change initiatives. This study was conducted under the approval of IRB 2, protocol #2014-U-173.

The survey went live on 21<sup>st</sup> April 2014 and was closed on 30<sup>th</sup> June 2014 and was sent to all faculty, staff, graduate students and undergraduates conducting research. Overall 826 of 3096 completed responses were submitted which accounts to 26% of the total sample.

The survey was administered to the following departments:

- Agricultural and Biomedical Engineering
- Chemical Engineering
- Computer and Information Systems Engineering
- Electrical and Computer Engineering
- Biomedical Engineering
- Materials Science Engineering
- Mechanical and Aerospace Engineering
- Civil and Coastal Engineering
- Environmental Engineering Sciences
- Industrial Systems Engineering
- Administration

All questions were voluntary. From April 21 – June 10<sup>th</sup> respondents could only move forward through the survey, but could not move back. From June 10<sup>th</sup> – June 30<sup>th</sup> we enabled the back button, this was in response to a complaint and many surveys started but not submitted.

All responses were anonymous.

Respondent groups:

- Junior respondents: undergraduate students, graduate students, post doc, research scientist, administrative support
- Senior respondents: lecturer, director/manager, technician/engineer, professor

## Summary of Findings

- Graduate Students (54%) and professors (19%) are the largest populations working with hazardous materials (defined as: special research materials (biologicals, radiological, or other), research chemicals, or industrial/mechanical or electrical equipment)
- 45% graduate students are spending 5 or fewer hours working with hazardous materials.
- 40% stated they are spending more than 5 and less than 20 hours per week.
- 35% of graduate students stated they are working with these hazardous materials when no one else is present in their work area, and
- 23% state they are doing their work outside of normal business working hours (8 a.m. – 5 p.m.)
- 90% of respondents said that PPE is required for their job
- Only 65% stated they always wear the required PPE
- Only 25% of respondents stated they do a documented hazard assessment before conducting an experiment
- 85% know how to ensure research and safety equipment is in proper working order
- 82% know how to report an issue if they find research or safety equipment if an issue is found
- 84% believe that members of their work unit have received sufficient safety training in order to do their job in a safe manner
- 91% of senior faculty/staff said they have trained their staff to the specific agents or hazards they work with
- 80% of junior staff/researchers state they received training to the specific agents or hazards they work with
- 87% are comfortable speaking to EHS about safety concerns
- 91% of senior respondents (faculty and supervising staff) said they regularly check on their staff to ensure they are performing their job in a safe manner
- 74% of the junior respondents agreed that their supervisor regularly checks on them
- 20 junior and 19 senior staff said their work units experienced an incident (they could have been reporting the same incident)
- 15 of these incidents resulted in a change in procedure to prevent it from happening again
- 11 of the 20 were reported to the department chair and EHS
- In 17 of the 20 incidents unsafe actions were attributed to the root cause
- 88% of junior respondents said they feel comfortable speaking to their peers about safety concerns

- 88% of junior respondents said they feel comfortable speaking to their supervisor about safety concerns
- The largest responding group- 34% did not know who manages day-to-day safety matters for their work unit
- 22% (largest group) of respondents said the members of their work unit perform routine safety checks a few times a semester
- 18% said that they do not conduct routine safety checks at all
- 96% of all respondents said they personally feel that safety in the workplace is very important
- 86% of juniors said their PI or supervisor sets a good example for safety
- 27% was the value of agreement assigned to the statement “safety procedures currently required for my work are too stringent” (0% strongly disagree, 50% is neutral, 100% would be strongly agree)
- 73% of respondents strongly agree that their peers demonstrate safety is very important during their work

## **Conclusions**

The COE Safety Steering committee met to discuss the results on 8/20/14. We concluded that the results were as expected, as gauging from our personal opinions and perceptions of safety culture in the college.

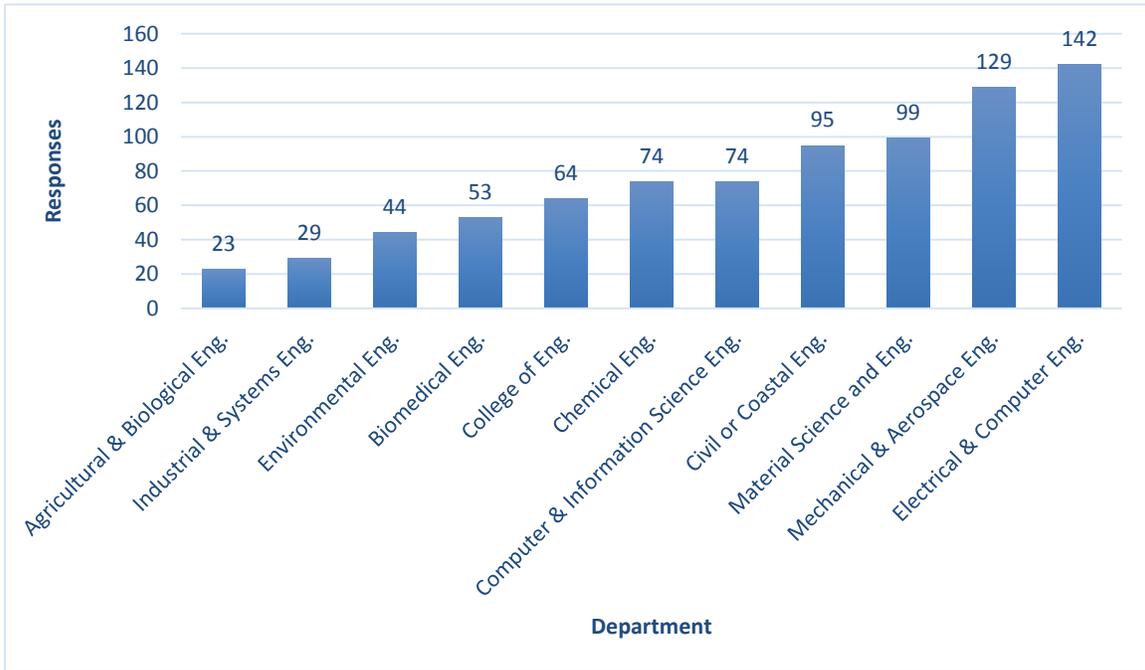
We agreed we’d begin by targeting the easy tasks that have a low commitment in time and money investment.

- Improve knowledge of who is in charge of day-to-day safety matters for work units
- Improve upon incident reporting rate
- Increase PPE compliance rate
- Increase number of documented pre-experiment hazard assessments
- Decrease amount of lone working
- Decrease amount of working outside normal working hours

## **Recommendations**

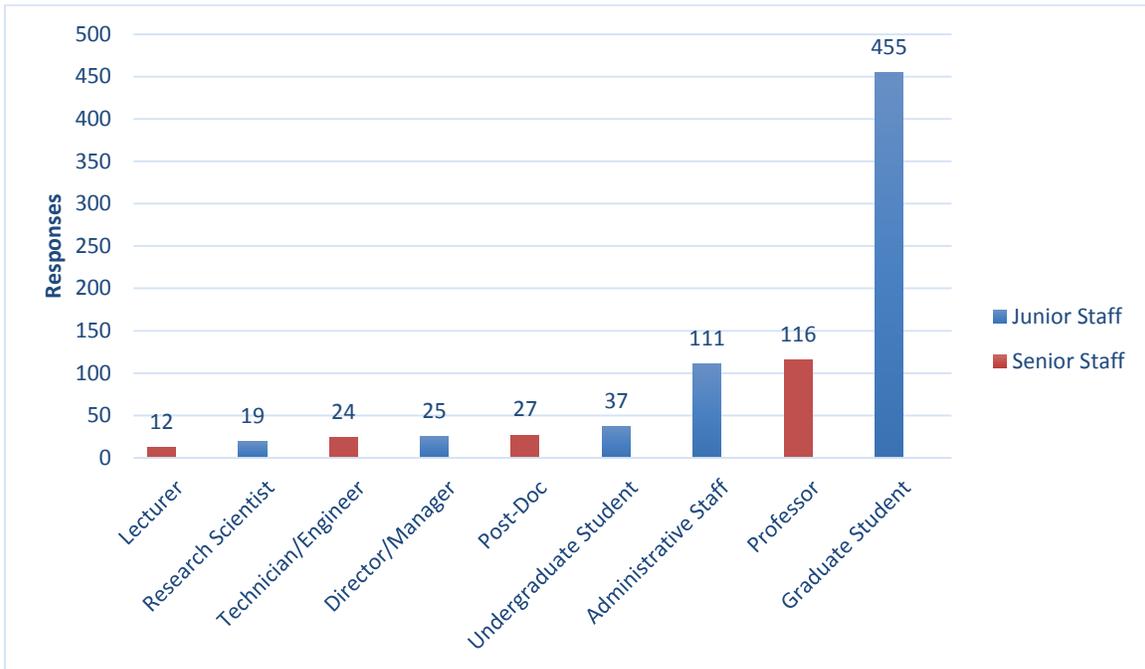
Our COE Safety Steering Committee will work together to identify specific actions to take to improve upon these areas in the next month.

### Q3. For what department do you primarily work or receive funding?



Department	Participation percentage
College of Engineering Administration	45.39
Engineering School of Sustainable Infrastructure & Environment (Civil or Coastal Eng. & Environmental Eng. Sciences)	29.7
Biomedical Engineering	29.44
Material Science and Engineering	27.81
Chemical Engineering	27.21
Electrical & Computer Engineering	25.77
Mechanical & Aerospace Engineering	24.39
Computer & Information Science Engineering	21.20
Industrial & Systems Engineering	11.6

#### Q4. Which job title below best describes your current title/role?

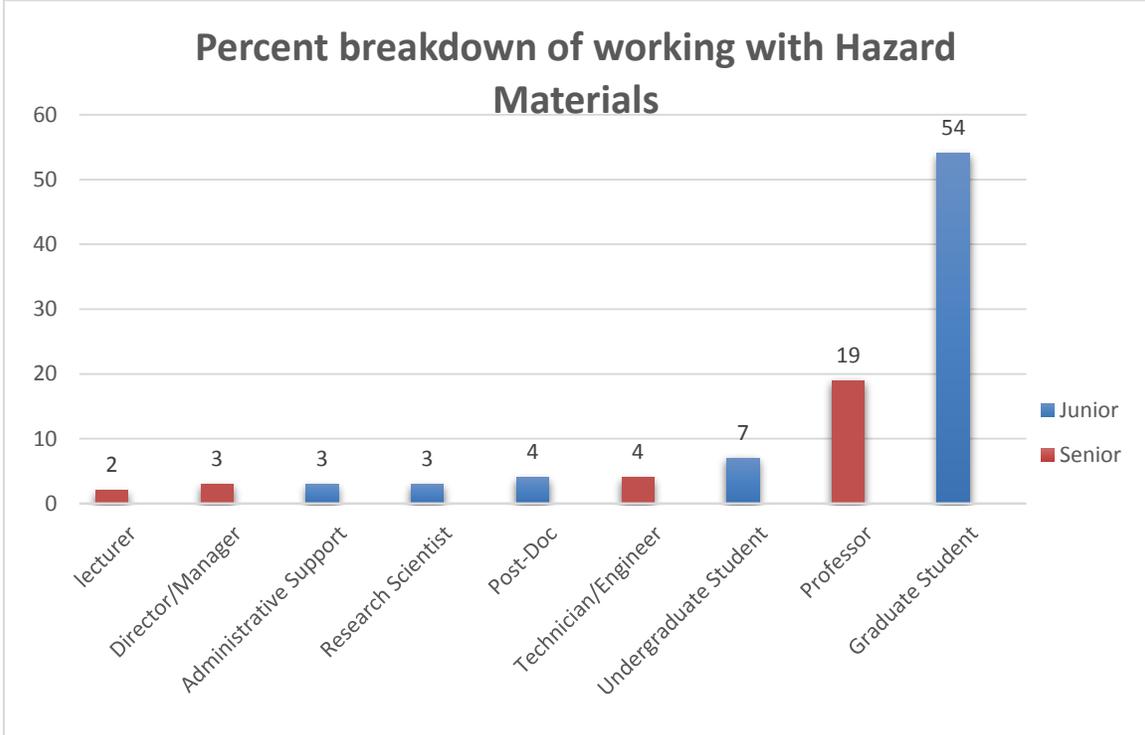


Even in the Laboratory Safety culture survey-2012, majority of the respondents were Graduate students (about 24%).

Source: University of California Center for Laboratory Safety, BioRAFT and Nature Publishing Group (September 2012). *Laboratory Safety Culture Survey*

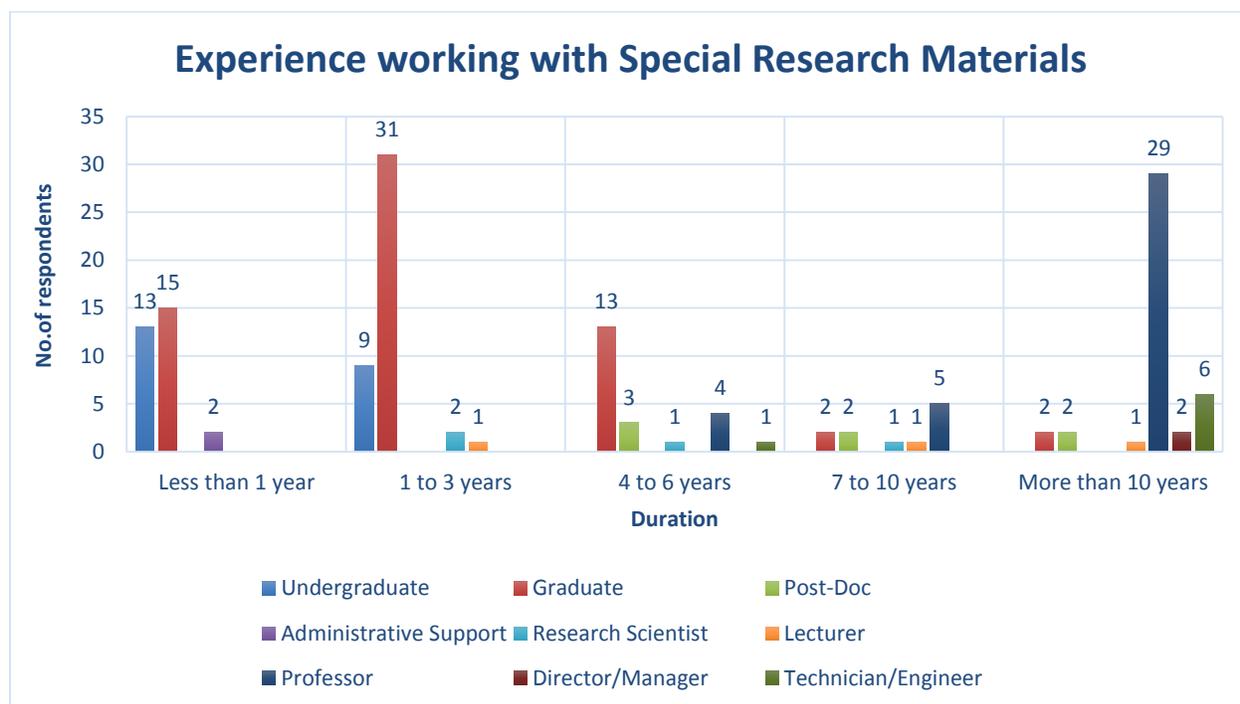
Title	Survey contribution percentage	Count
Graduate Student	55.11	455
Professor	14.00	116
Administrative Support	13.44	111
Undergraduate Student	4.48	37
Post-Doc	3.27	27
Director/Manager	3.02	25
Technician/Engineer	2.92	24
Research Scientist	2.31	19
Lecturer	1.45	12
<b>Total</b>	100	826

**Q5. Have you worked with special research materials, research chemicals or industrial, mechanical, and/or electrical equipment while in your current role within your work unit?**

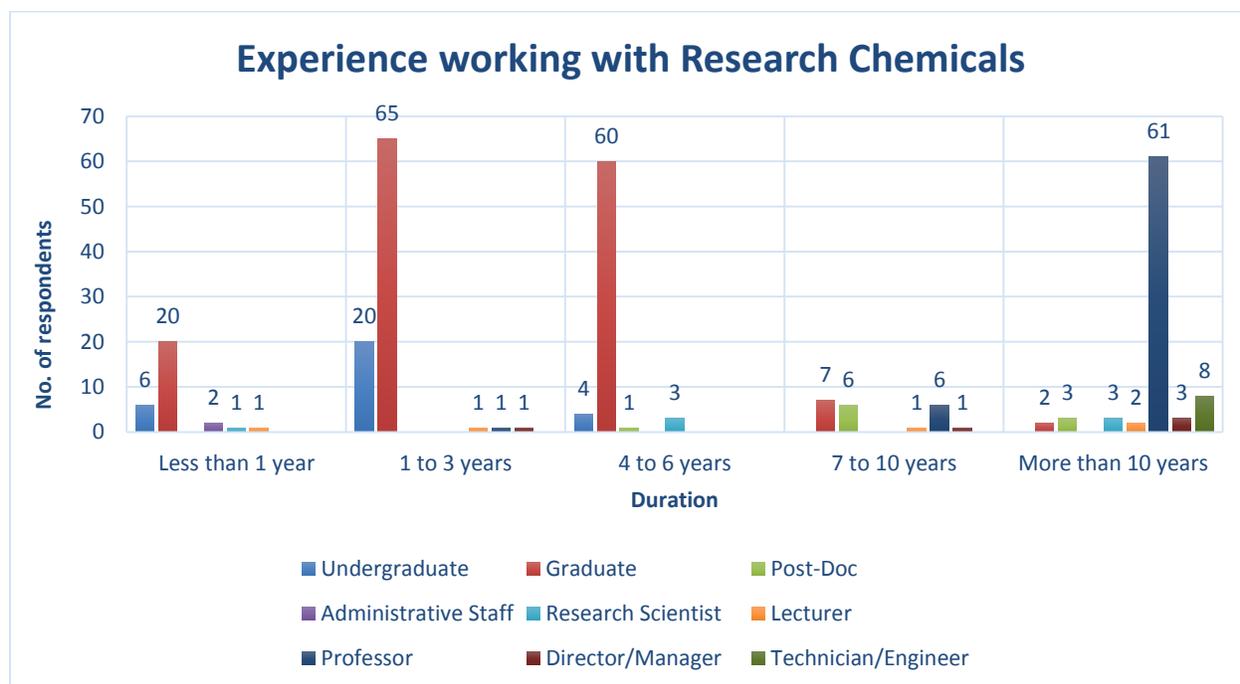


Title	Count
Graduate Student	250
Professor	89
Undergraduate Student	32
Technician/Engineer	20
Post-Doc	18
Administrative Support	16
Research Scientist	13
Director/Manager	13
Lecturer	11
<b>Total</b>	<b>462</b>

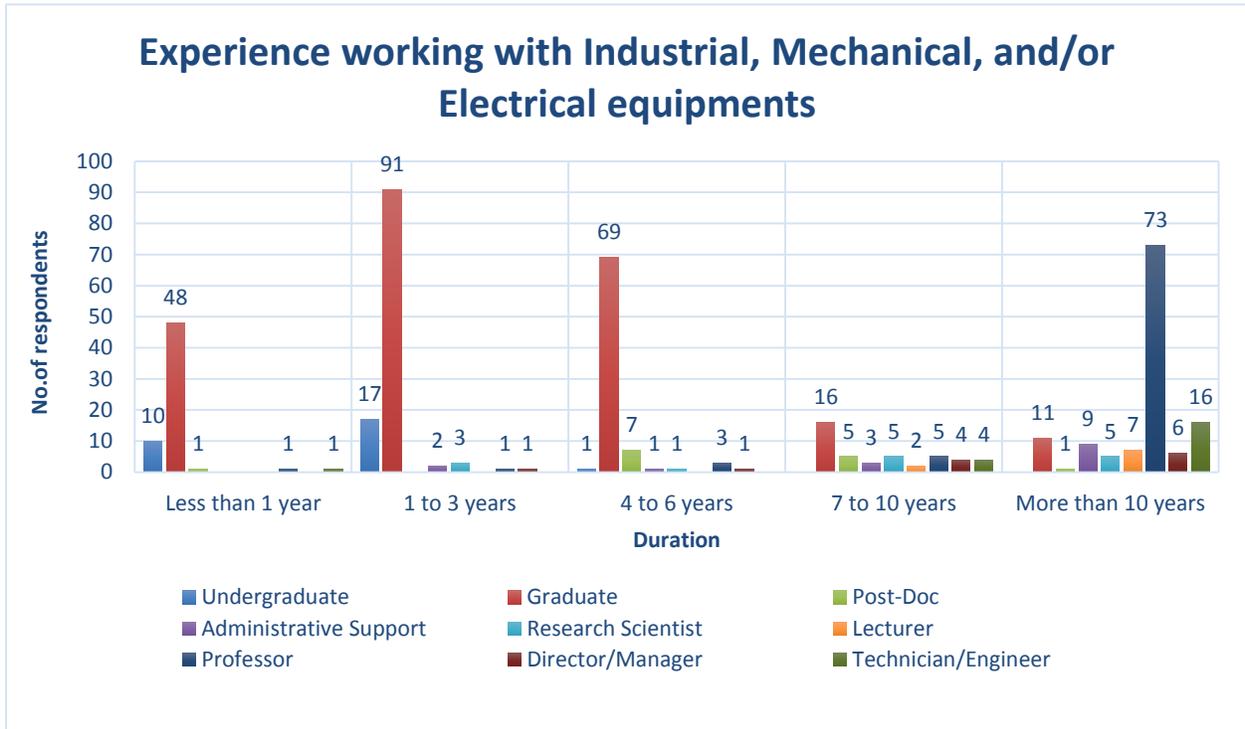
**Q6. How many years of experience do you have working with Special research materials (Biological materials, radioactive materials, etc..)**



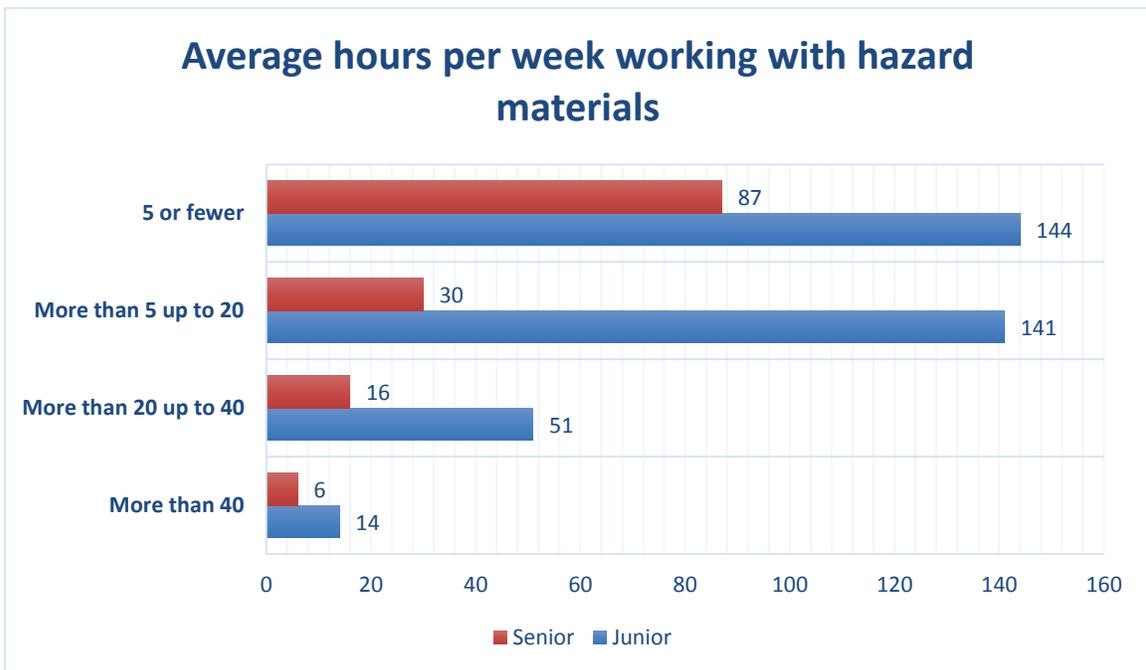
**Q7. How many years of experience do you have working with Chemical (including chemical storage and manipulations or reactions, including gases, acids, bases, solvents, etc...)**



**Q8. How many years of experience do you have working with Industrial, mechanical, electrical equipment?**

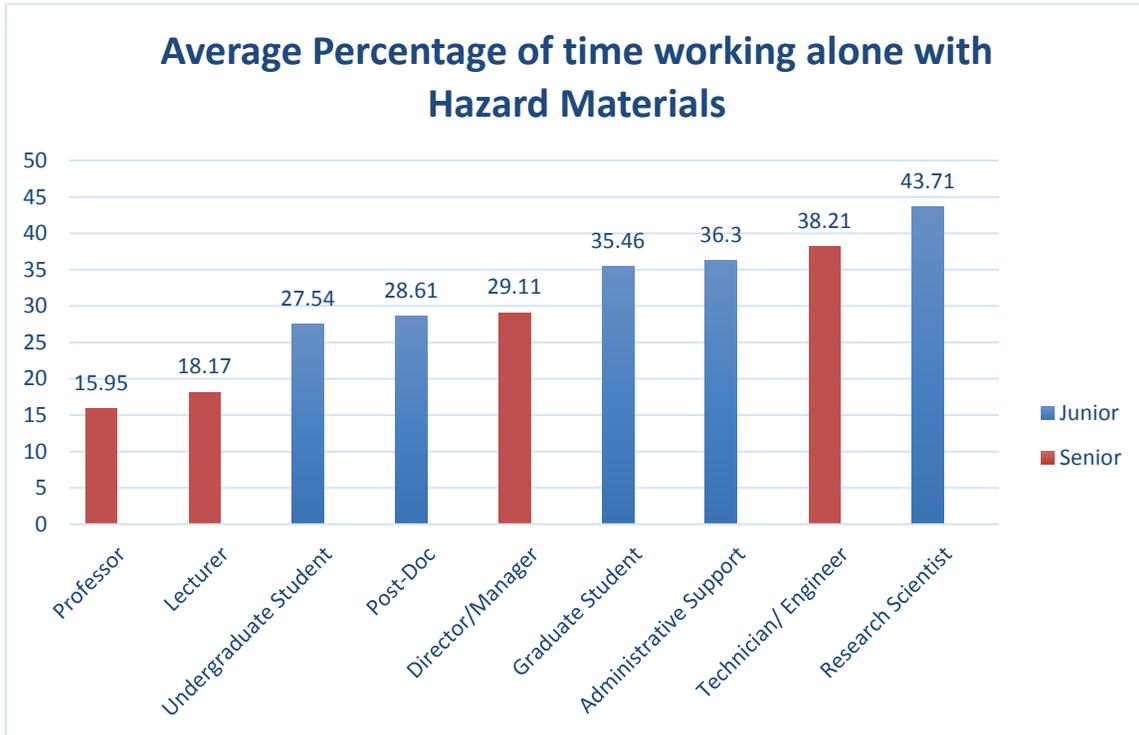


**Q9. What are the average hours PER WEEK spent working with Hazard materials or equipment?**



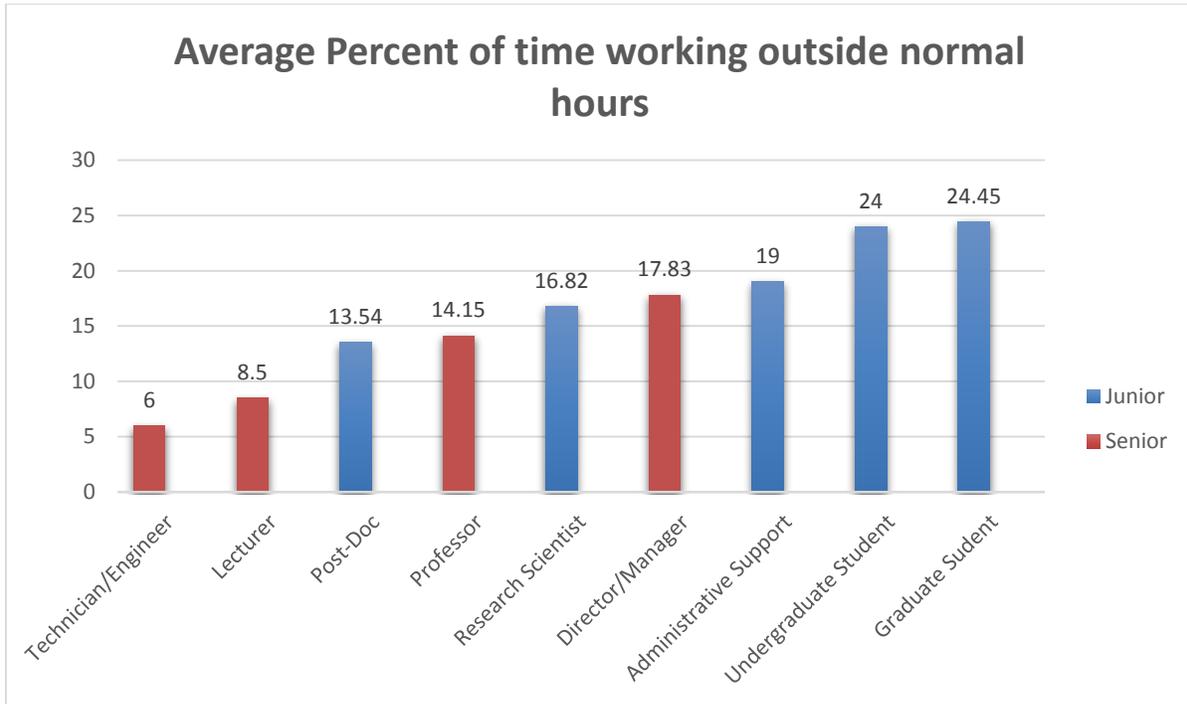
**Q10. What percentage of your time spent working with Hazard materials or equipment is working ALONE, without anyone else present in your work area?**

Research Scientists have the highest amount of time working alone with hazard materials or equipment. The following graph gives the percentage of time each class spends in working alone with hazard materials-



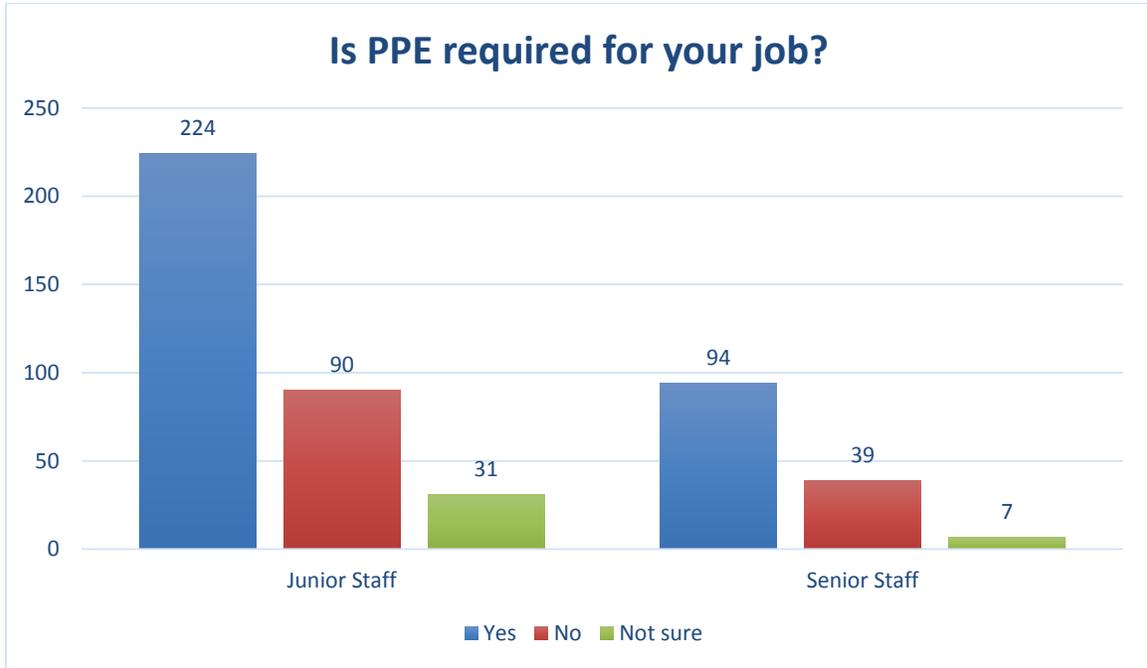
**Q11. What percentage of your time spent working with Hazard materials or equipment is OUTSIDE of the standard work day (on weekends, late at night)?**

The following graph shows the average percentage of time spent by every class working with the hazard materials outside normal working hours-

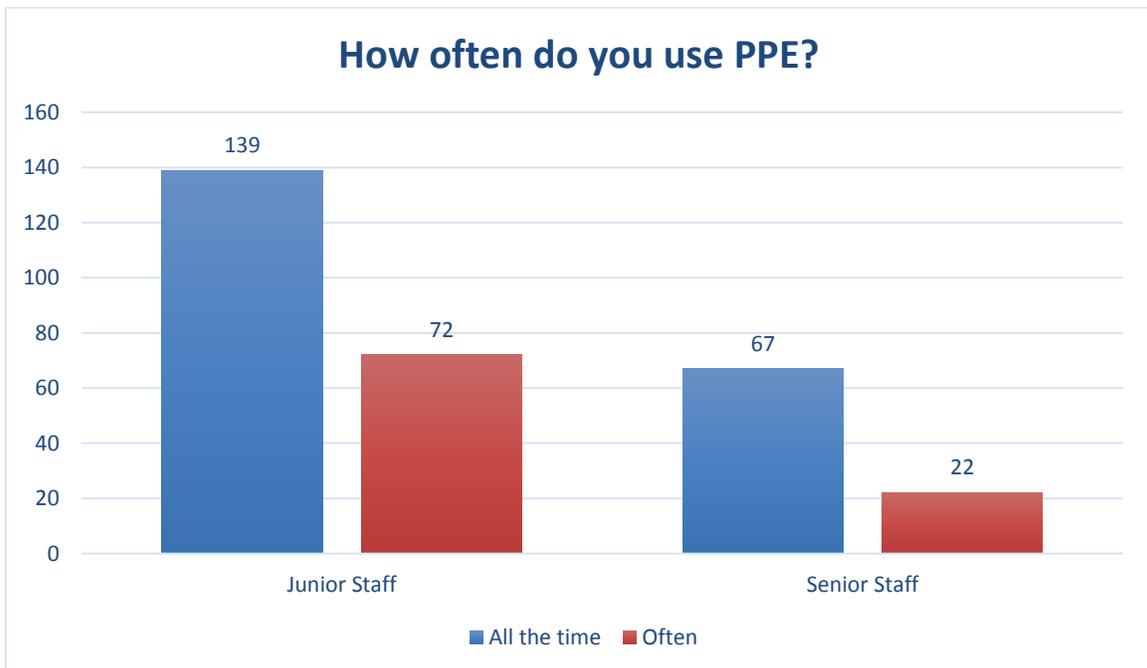


## Q12. Is Personal Protective Equipment (PPE) required for your job?

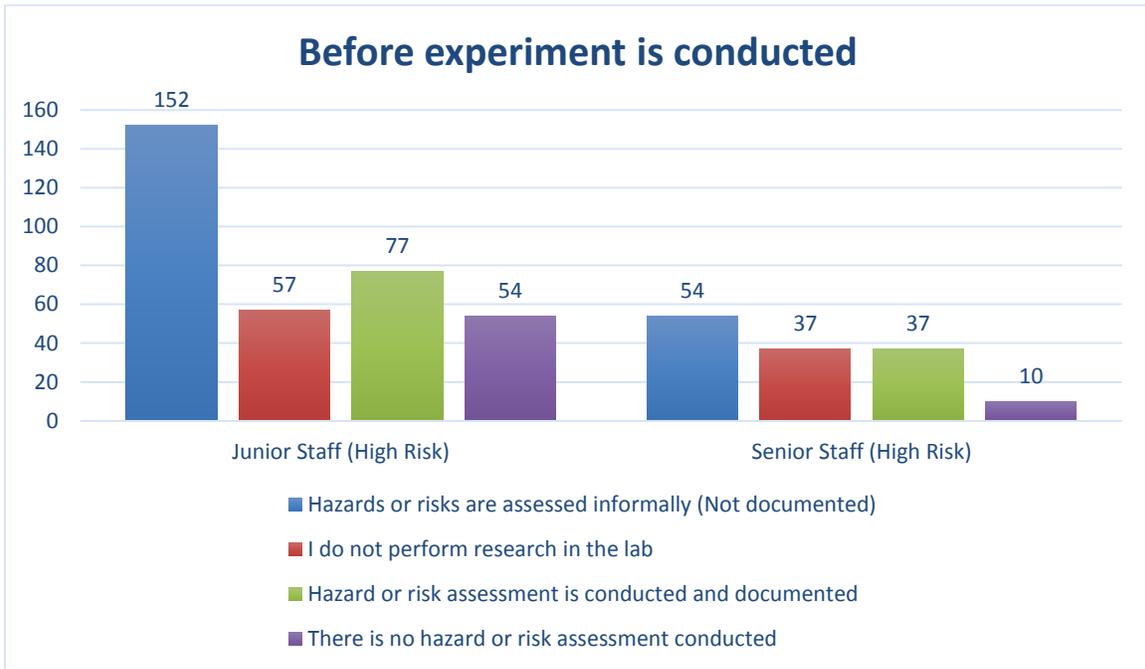
**318** respondents mentioned that they require Personal Protective equipment (PPE) for their job, but only 206 which accounts to **65%** of them use it all the time



## Q13. How often do you use the required personal protective equipment (PPE)?

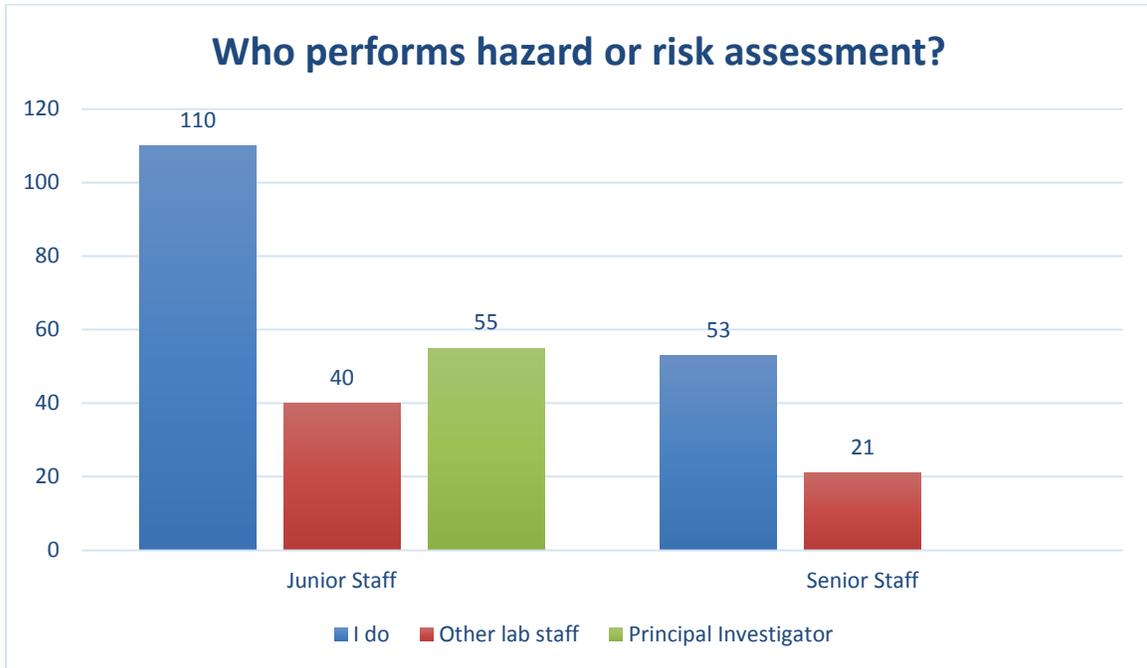


## Q14. Before I conduct my experiment-



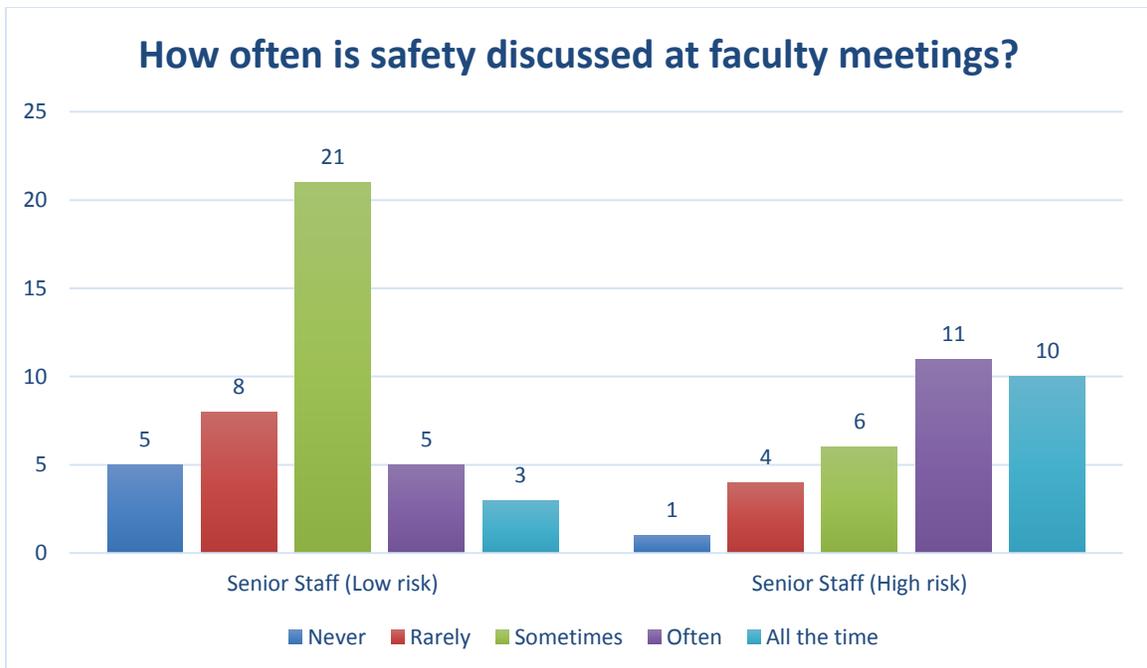
Responses	Junior	Senior
Hazard or risks are assessed informally (Not documented)	45%	39%
I do not perform research in the lab	17%	27%
Hazard or risk assessment is conducted and documented	23%	27%
There is no hazard or risk assessment conducted	16%	7%

### Q15. /Q31. Who performs Hazard or risk assessment for your experiments?



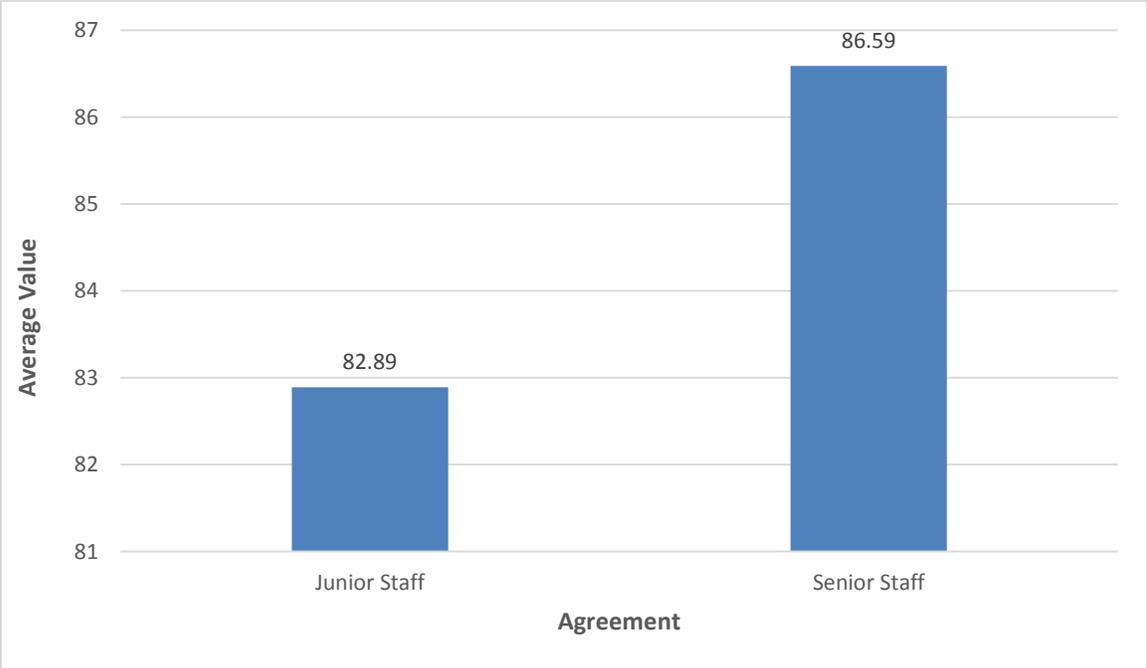
### Q17. How often is safety discussed at faculty meetings?

Majority of the faculty says that safety is discussed at faculty meetings **sometimes** or **often**. The following table gives the distribution of their responses



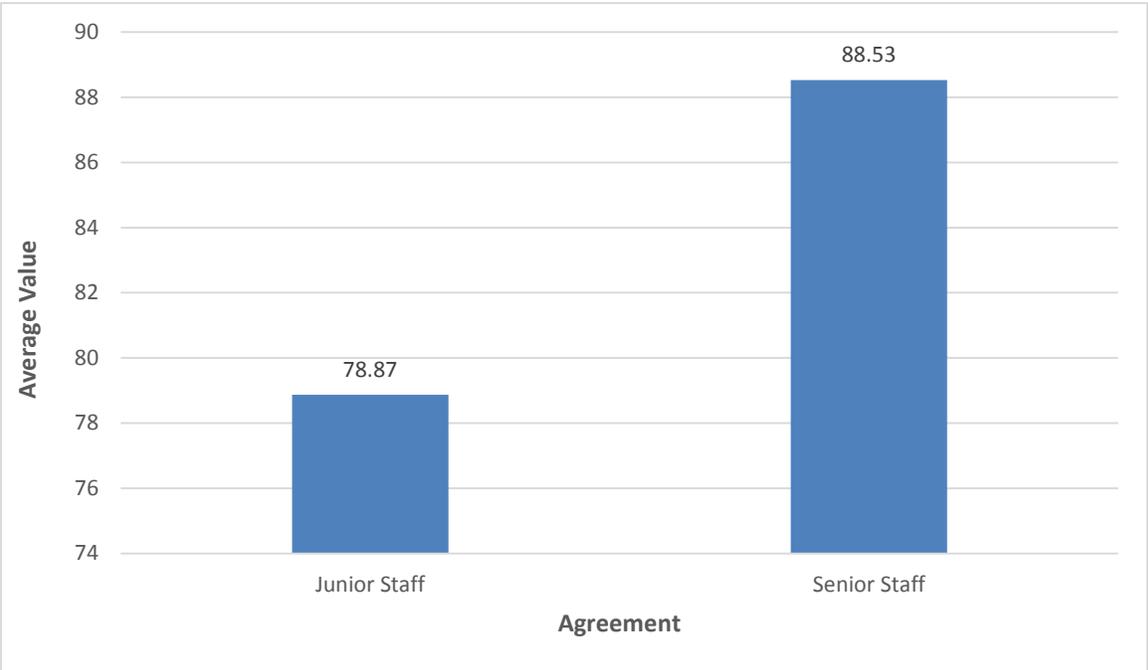
**Q18. /Q32. Agree or disagree - "I know how to ensure that research and safety equipment (including personal protective equipment) is in proper working order"**

Junior and Senior staff **strongly agree** with it-

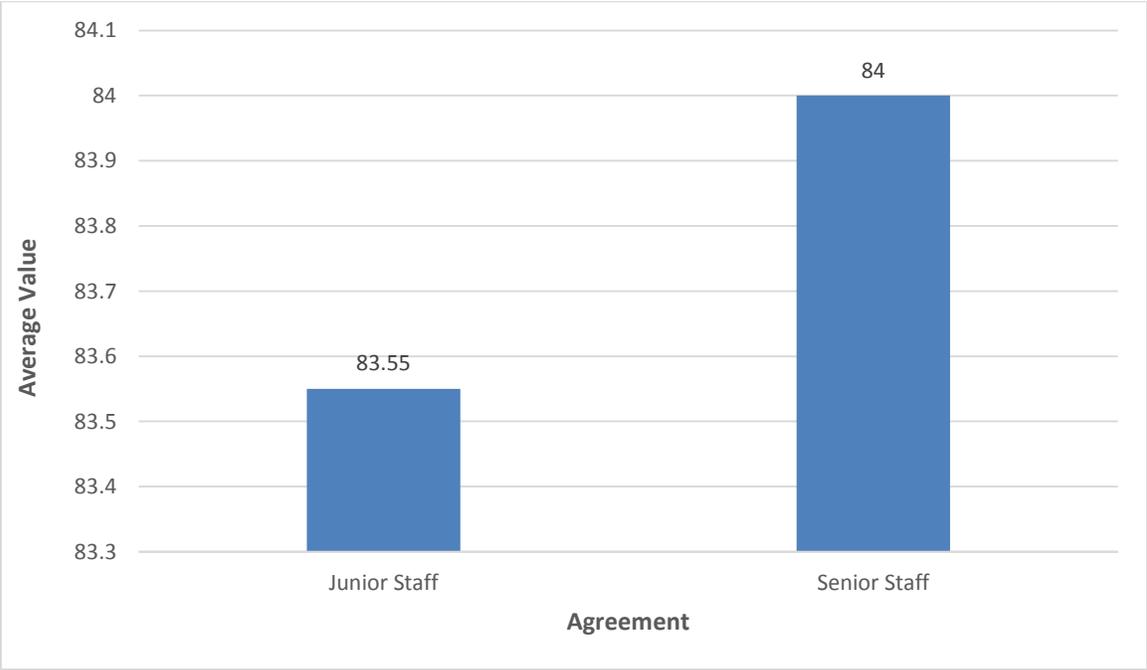


**Q19. /Q33. Agree or disagree- "I know how to report an issue with research or safety equipment if one is found."**

Junior and Senior staff **strongly agree** with it:



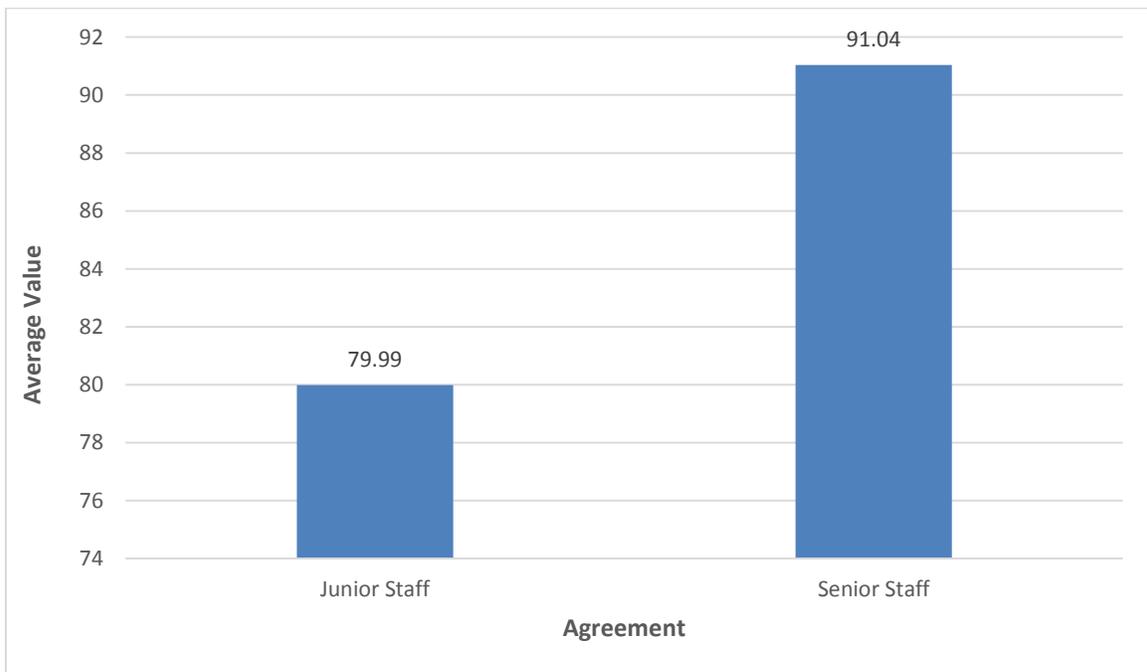
**Q20. /Q37. Agree or Disagree- "I believe the members of my work unit have received sufficient safety training in order to do their jobs in a safe manner."**



**Q21. Agree or disagree- "My staff receives training on the specific agents or hazards that they work with in the lab."**

**Q38. Agree or Disagree- "I received safety training on the specific agents or hazards I work with."**

**93%** of the PI's strongly say that their staff receives training of specific agents or hazards that they work with on their job. As most of them agree, only 36 out of 254 i.e. **14%** of the juniors responded that they have not and/or feel they have not received sufficient safety training-



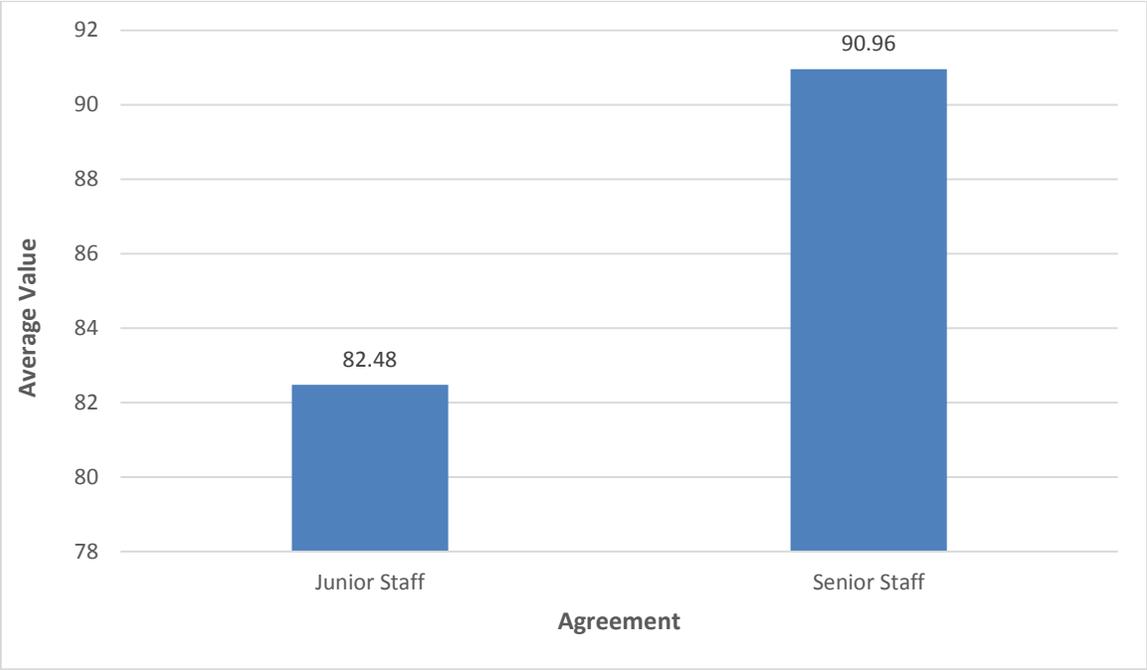
Source: University of California Center for Laboratory Safety, BioRAFT and Nature Publishing Group (September 2012). *Laboratory Safety Culture Survey*

**Do scientists feel effectively equipped with the knowledge and tools required to enable be safe in their laboratories?**

- 80% and more said they have received sufficient training in order to be both compliant with the rules and regulations related to their lab duties and minimize the risk of injuries
- Majority agreed that their labs always have sufficient supplies of PPE, and the equipment is certified and in good working condition

According to our survey, majority of the people responded that they have received safety training on the specific agents or hazards they work with. Also, they use PPE if required for their job and ensuring it is in a proper working condition.

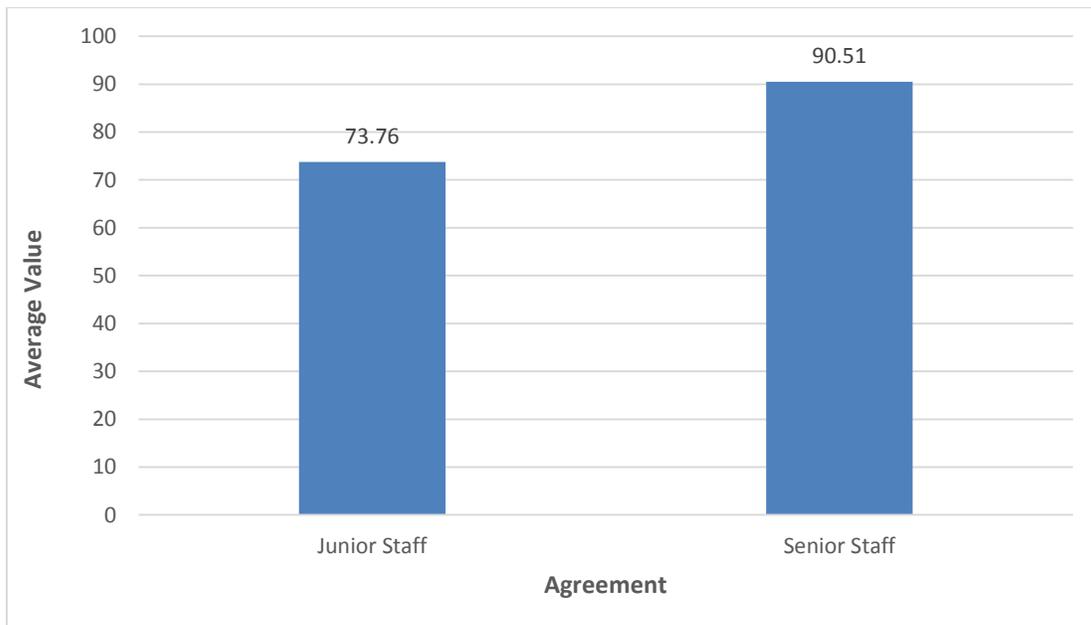
**Q22. /Q36. Agree or Disagree- "If needed, I would feel comfortable speaking to UF Environmental Health & Safety about safety concerns."**



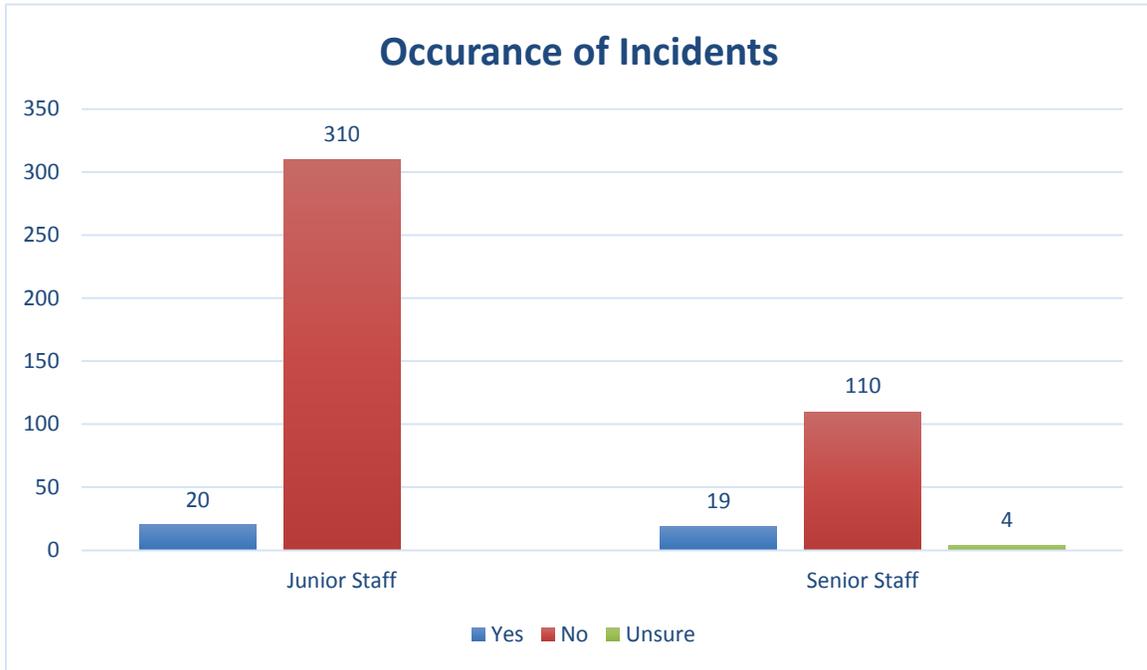
**Q23. Agree or disagree- "As the work unit supervisor or PI, I regularly check on my staff to ensure they are performing their work duties in a safe manner."**

**Q39. Agree or disagree- "My supervisor/lab manager/PI regularly checks ensure I am performing my work duties in a safe manner."**

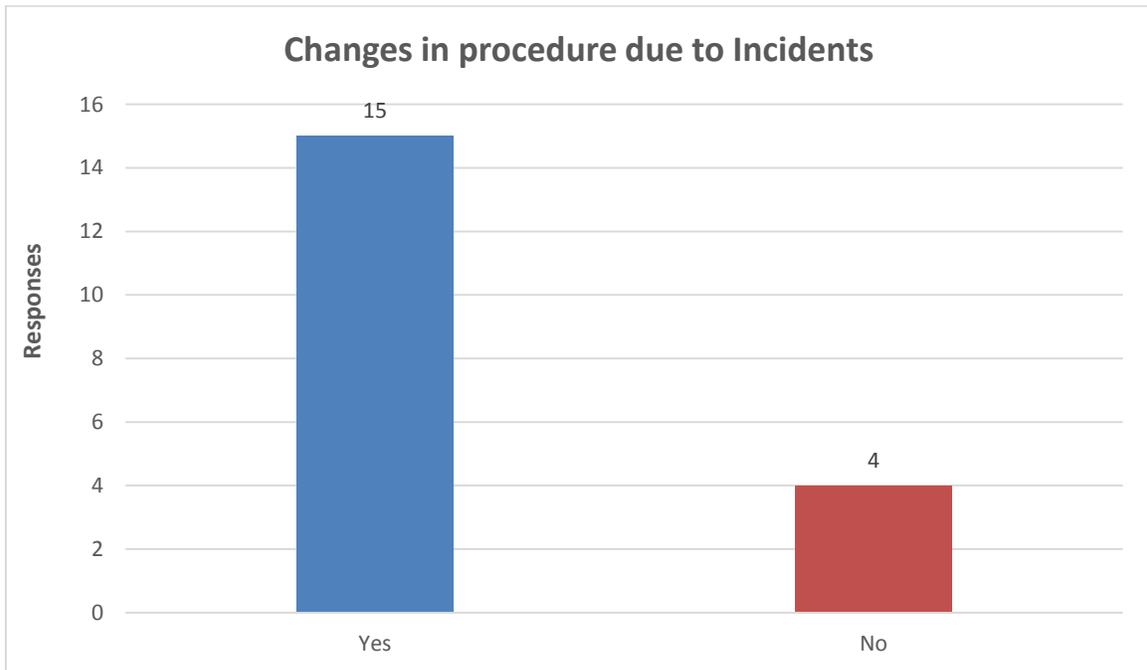
From 115 responses, 108 i.e. **90.51%** of the PI's say that they regularly check their staff to ensure they are performing their duties in a safe manner. From 263 responses of the staff, 183 i.e. **73.76% strongly agree** with it.



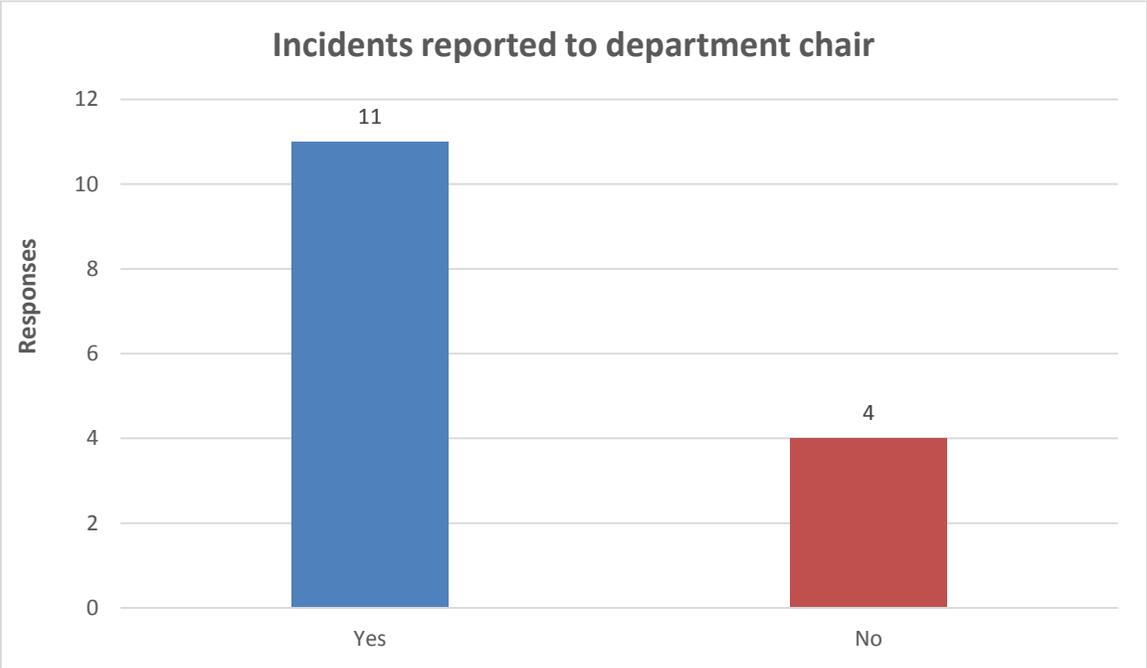
**Q26. /Q40. In the last year, has your work unit experienced an incident (injury, spill, and near-miss) while under your supervision/ while working in your current role at UF?**



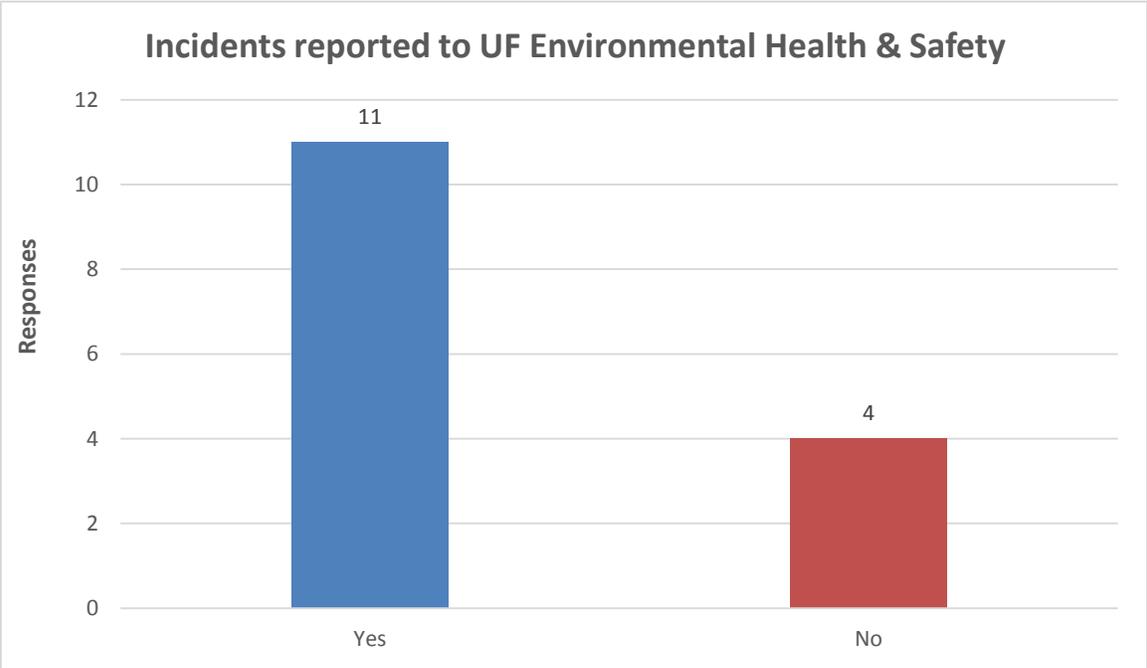
**Q27. In the last year, has an incident in your work unit resulted in changing a procedure to prevent it from happening again?**



**Q28. Did you report the incident(s) to your department chair?**



**Q29. Did you report the incident(s) to UF Environmental Health & Safety?**



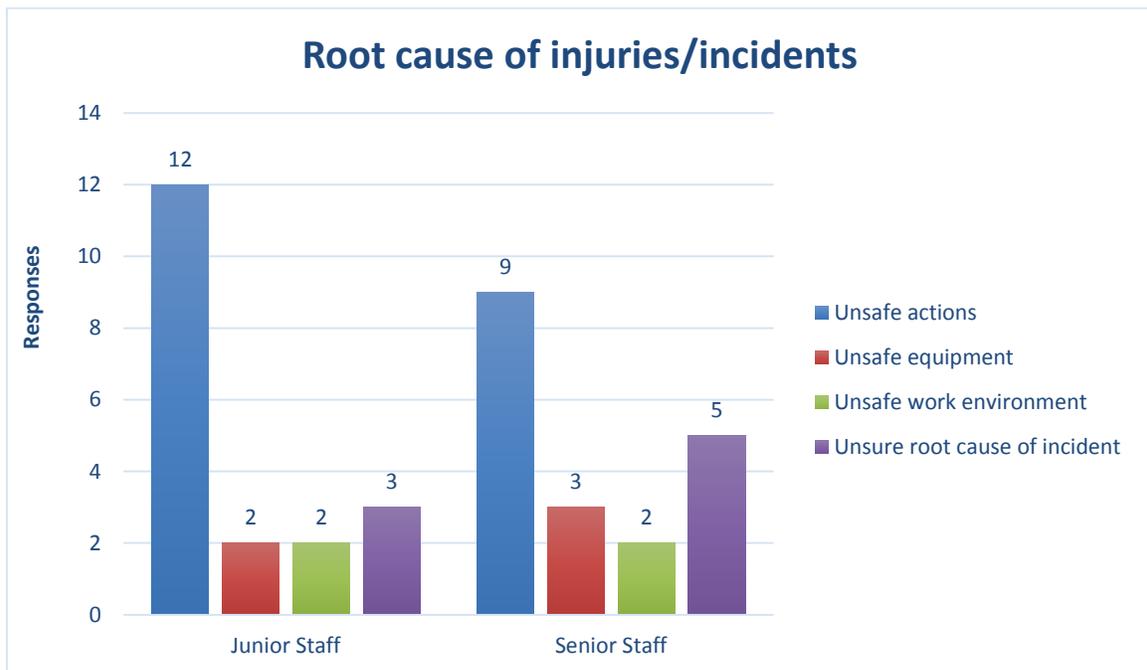
**Q34. Agree or disagree- "I feel comfortable speaking to my peers about safety concerns." (Undergraduate student, Graduate student, Post-doc, Administrative support, Research Scientist)**

	Mean	Mean	Respondents
Agreement		87.58	590

**Q35. Agree or Disagree- "I feel comfortable speaking to my supervisor about safety concerns."**

	Mean	Mean	Respondents
Agreement		88.15	594

## Q42. Root cause of injuries/incidents



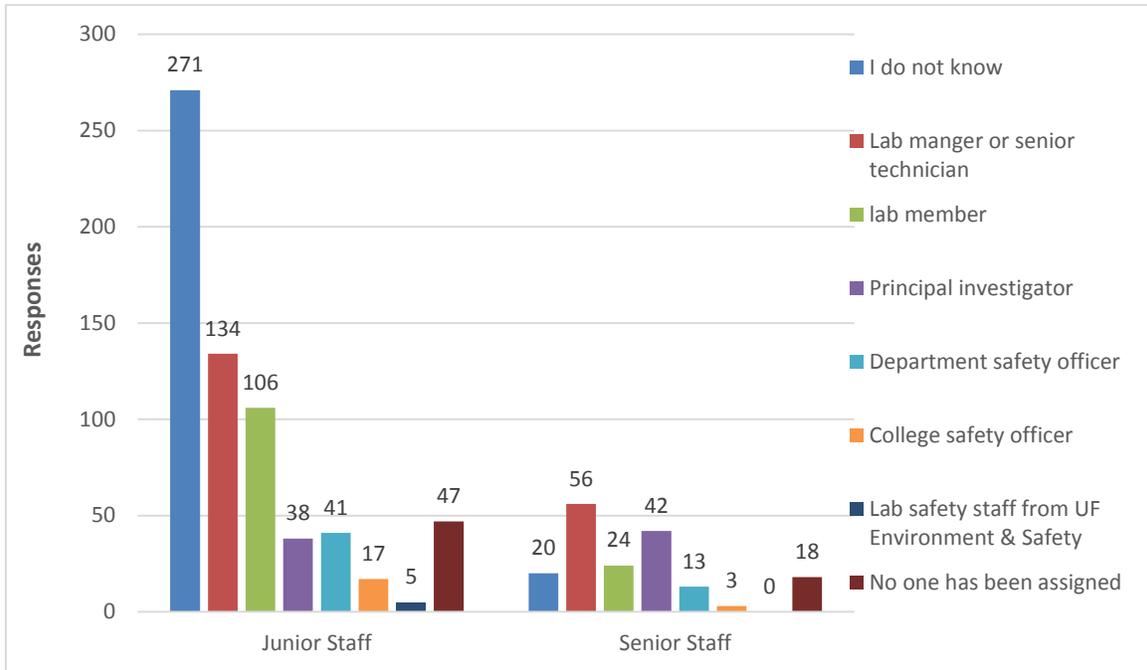
According to our survey, most of the respondents believe that incidents/injuries took place because of the unsafe actions of the person working.

Source: University of California Center for Laboratory Safety, BioRAFT and Nature Publishing Group (September 2012). *Laboratory Safety Culture Survey*.

### **Is compliance with safety procedures perceived to be directly correlated with the severity and frequency of injuries/incidents in the laboratory?**

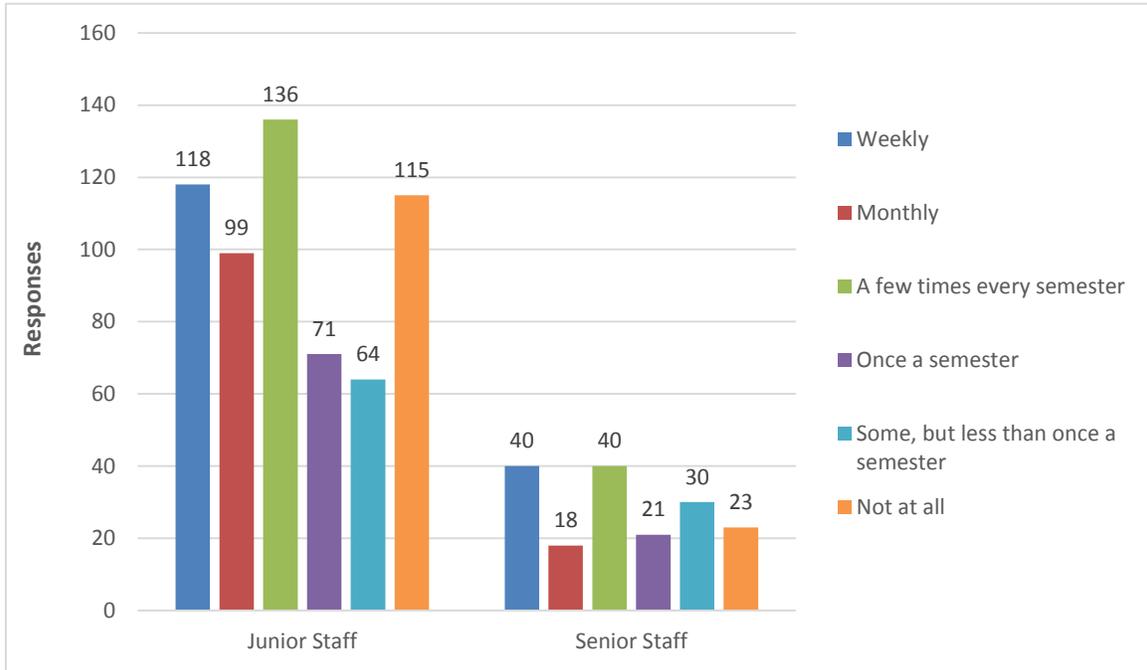
- 51% of the respondent those who were aware of at least one major injury agreed that the number of injuries could have been reduced if lab safety procedures were followed
- 37% disagreed upon minor injuries could have been reduced and 26% disagreed upon reduction of major injuries if lab procedures were followed

### Q44. Who manages day-to-day safety matters for your work unit?

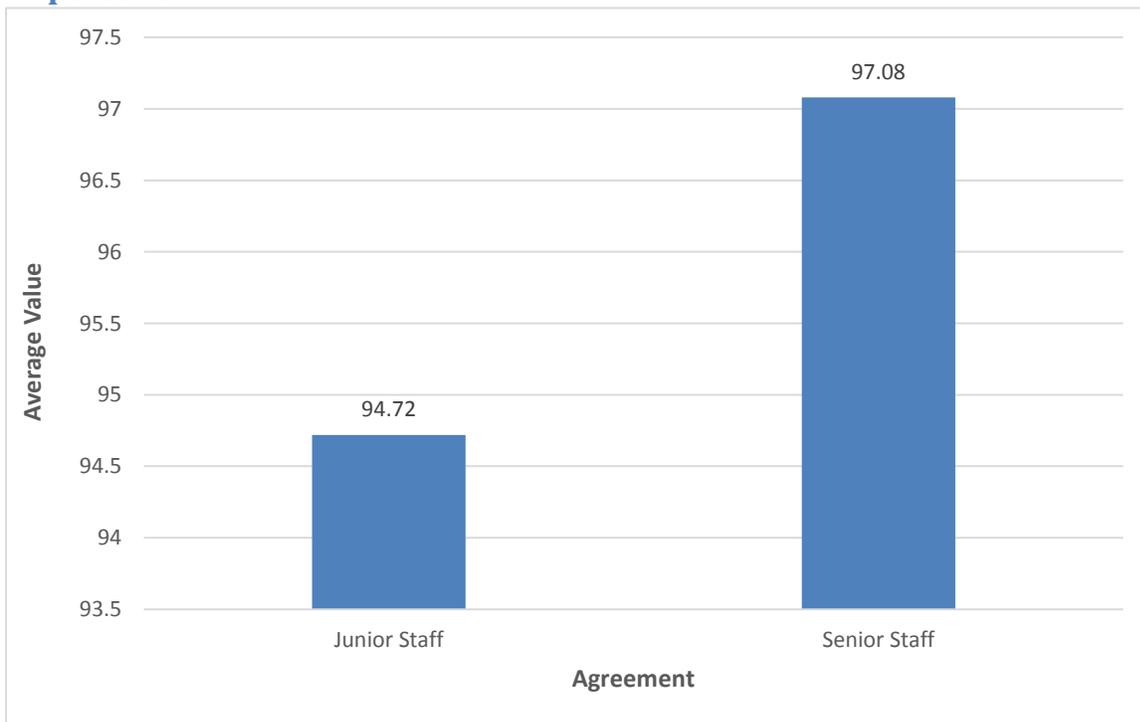


Responses	Junior Count	Senior Count	Total
I do not know	271	20	291
Lab manager or senior technician	134	56	190
Lab member	106	24	130
Principal Investigator	38	42	80
Department safety officer	41	13	54
College safety officer	17	3	20
Lab safety staff from UF Environment & Safety	5	0	5
No one has been assigned	47	18	65

**Q46. How often are routine safety checks or inspections performed by members of your work unit?**



**Q47. Agree or disagree- "I personally feel that safety in the workplace is very important."**



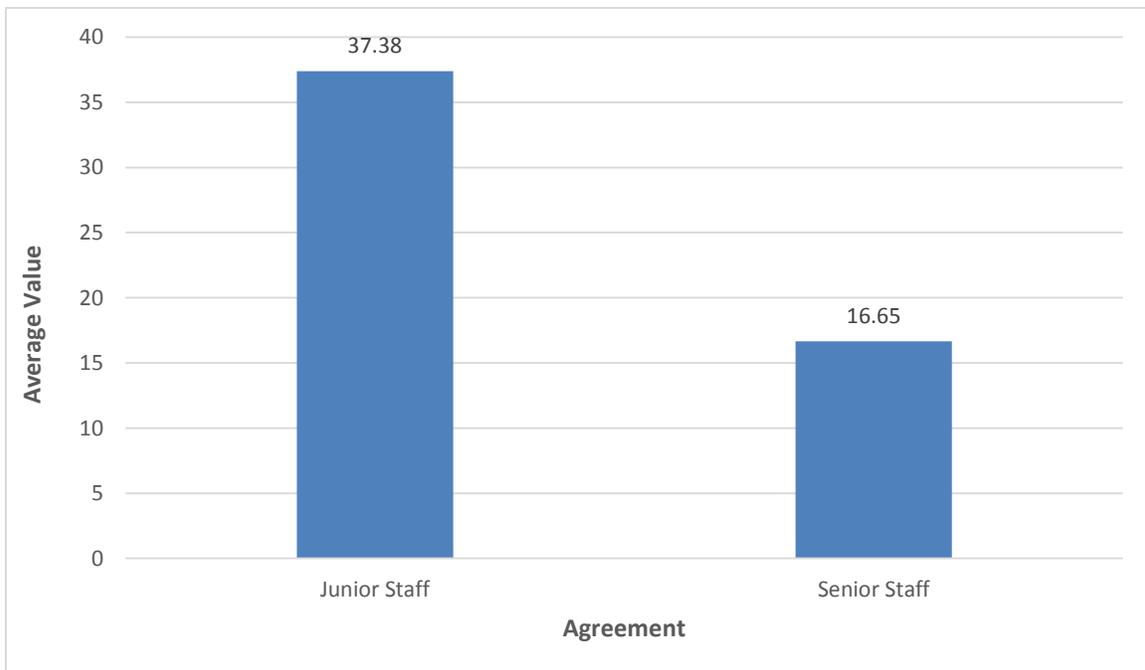
### Q48. Agree or disagree- "My supervisor or PI sets a good example for safety."

85% of the respondents **strongly agree** that their supervisor or PI sets a good example for safety-

	Mean	Mean	Respondents
Agreement		86.31	501

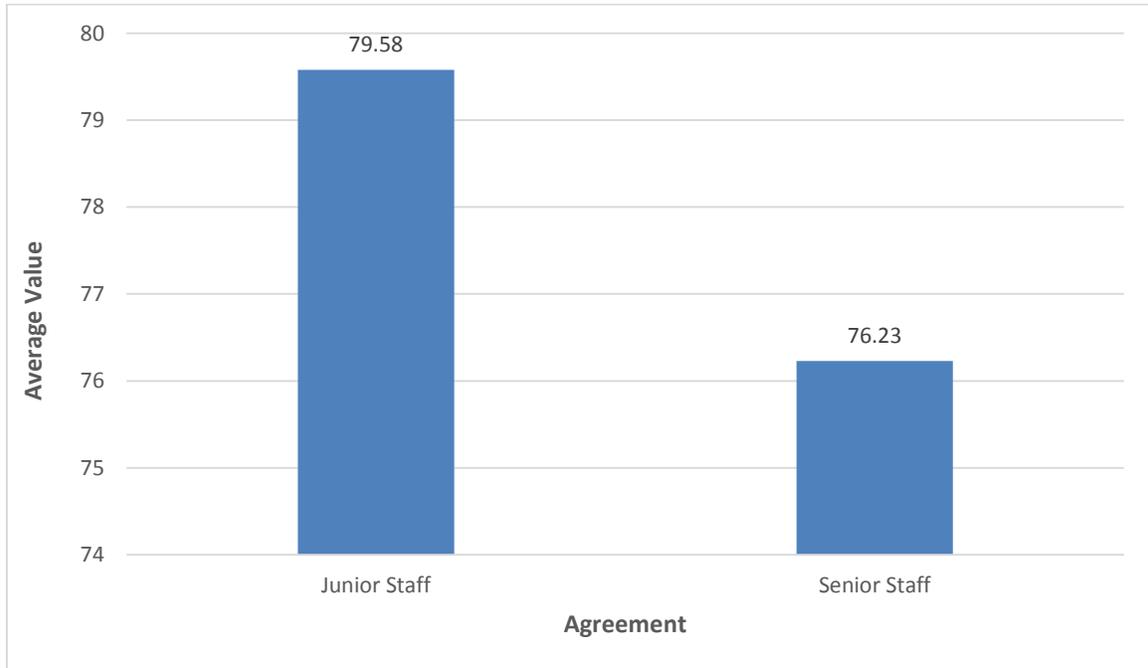
### Q49. Agree or disagree- "The safety procedures currently required for my work unit are too stringent."

Majority of the respondents **disagree** that their safety procedures required for their work are too stringent.



## Q50. Agree or disagree- "My peers demonstrate that safety is very important."

425 of 579 i.e. **73%** of respondents **strongly agree** that their peers demonstrates safety is very important during work.



Source: University of California Center for Laboratory Safety, BioRAFT and Nature Publishing Group (September 2012). *Laboratory Safety Culture Survey*.

### Do researchers perceive a significant gap between their own and their superiors' view on lab safety?

- 95% said that they themselves considered safety very important
- 81% said safety is considered important or very important to their superiors

Our survey shows similar results, most of the respondents strongly agree that they personally feel safety as very important, their peers demonstrate safety as very important and their superiors or PI sets a good example for importance of safety.

## Q45. Comments about managing day-to-day safety matters.

### Comments-

- If we have any safety issues i report it to my colleague or my supervisor. The request is always taken into consideration.
- Everyone in the lab should be informed of general safety and those who need special training should be given the same.
- Our office manager follows up on this and makes sure the right personnel get the information needed.
- People tend to disregard my comments if I say anything about safety or hazardous waste. It's frustrating to not have any recourse if someone continually ignores warnings. My advisor will step in and threaten to revoke access if it gets really bad, but I wish I could motivate people to follow protocols.
- I feel quite comfortable working in my office environment and have no additional comments to make.
- I answered the question about do you use mechanical, industrial, or electrical equipment on a daily basis as "yes" and I should have said "no" because of the nature of my job. I answered yes because I do work with electrical equipment daily (computer, printer, Xerox, etc.).
- In general I've found that many universities wide safety procedures don't really ensure a more save work environment, but rather just ensure that those in charge of safety are free of liability and insurers are happy. I've found that some of these practices are very time consuming, without much of a payoff in actual lab safety. This makes me somewhat hesitant to approach EH&S in some cases.
- all Staff Engineers take on this responsibility
- My day-to-day work is an office environment. I infrequently have provided temporary assistance in a lab environment, after a discussion of risks and safety.
- The Reactor Manager (i.e. lab manager) is responsible for day-to-day operation of the UFTR.
- Safety issues influencing office administrative staff would more likely be related to first aid and/or basic emergency response.
- I believe a multilayered approach is essential. First, the individual working in the lab has a responsibility for their own safety. Second, the PI is responsible for making sure that there is a culture of safety in the group and that students/postdocs have appropriate training. Third, administration has to set a culture of safety in the department and be proactive in developing safer activities and holding faculty responsible for the safety culture in their groups. Finally, the college has responsibility for developing infrastructure for a healthy safety culture and for keeping it on the front burner for all individuals.
- Lab Inspectors fail when it's time to do follow ups. Also they are only concern with very few things and overall do not understand the research that is taking place in the lab and can't

evaluate the safety of each particular lab. I think inspectors should be familiar with equipment safety as well as the conditions at each lab. It seems that they are completely oblivious to air filtration, storage conditions ...

- Senior grad student handles logistics; reports to PI
- I think EH&S is dealt with well in the BME department, but I've just commenced working in the PERC/PS&T dept. where things are markedly less well organized. I've found expired chemicals, sharp waste on the bench and in a desk tidy with pens/pencils, silica powder in drawers (a potential risk for silicosis), chemicals stored together with no logical separation (toxic vs. non-toxic), biological waste that has not been disposed of in X months, etc... I realize this is a difficult lab space to manage because it is a "core facility". I cannot comprehend how EH&S passed the lab upon inspection last year - it looked like a bomb site, and the lab attached to it looks equally dilapidated.
- It may not be practical to assign someone for this, but there should be lab safety seminars and mandatory workshops to prevent most possible incidents
- I have been a Co-PI on some laboratory projects and both myself and the PI were very concerned about safe practices.
- Each Department should have someone in charge, not just depending on PIs to dump all the work on Graduate Students to figure out what is safe/unsafe by college and EHS standards
- We perform thorough checks whenever we work. In general there are no hazards associated with it.
- Refer to a previous comment.
- I am the lab safety manager of the lab I work in. We spend 15 minutes each group meeting ensuring that all safety concerns are adequately addressed
- Actually, my professor assigns everyone in our group to respond to and manage day by day, by reporting in progress reports for every week.
- I could use some more info on electrical safety
- The foreign graduate students are usually messy and disregard many safety precautions. They tend to not wear proper PPE all the time and tend to not properly identify the hazards of some materials thus putting all other members of the lab at risk of injury and long-term health effects. I have learned to not trust any foreign students to follow appropriate safety protocols.
- The office staff should receive training about our responsibility if there is an accident in a lab.
- In our unit I am the major person responsible for safety procedures and the PPD person helps to see that the facility is safe.
- We know there are safety matters that must be performed yet no one really takes them into account. The majority of safety lessons are given to graduate students and lab personnel. However, most of the people in the lab are students and student TA's who do not have this

training. The Graduate personnel are not allowed to teach the labs therefore safety performance has decreased tremendously from all my time here

- It would be nice to have an online yearly reminder for safety protocols. In addition to protocols for chemicals and machinery, include reminders about handling troubled students and emergencies.
- Dean removed our safety officer, despite the objections of our group, EHS, and several faculties. We have been unable to find a qualified replacement. We had funds to continue to support our prior safety manager.
- I believe we all know who is the go to person in charge of safety issues day to day, but I do not believe that this person has been officially assigned that job or fits any of the descriptions given on the previous page since we are an administrative unit. I am confident that person knows what to do and/or who to contact should the need arise.
- I feel that administrative staff needs to be trained about how to react when an accident occurs.
- Most of my responses have been tailored to the chemical safety requirements, which I perform primarily over at NRF, and is fairly well documented/regulated. However, in regards to electrical hazards at my lab, there is much less oversight. Admittedly they are probably of less direct danger, but very little instruction or training about safety with electrical systems has ever been provided.
- I'm just a student, and I don't have experience concerning this matter.
- I'm a software engineer, but we do have floor-based "safety czars" that are supposed to help up in an emergency.
- Safety in the offices is overlooked and neglected. Deliveries are allowed to be made in areas that have no training on how to handle materials safely- that damaged box could contain relay switches or it could contain chemicals. Deliveries are placed in areas that block entrances, exits and access to high traffic areas Office people regularly stick their hands in plugged in electrical equipment such as printer/copiers, report binders etc. We have just been so lucky.
- Who is our Safety Manager?
- In one lab I assisted with research at it was clear who would be doing the day to day and everyone was kind in charge of making sure all safety procedures were followed. On the new lab I am doing research safety is barely a concern beyond PPE. I do not know about hazardous waste pickups or where the MSDS sheets are. I just don't want to answer questions biased towards one lab or the other because one was very safe conscious within my department and know that I do research outside everything seems so lax
- I am unsure regarding the specific safety matters involved that the survey is inquiring about, but ISE does not operate any labs.
- The above statement should read "day-to-day" rather than "day-today". Safety is our focus. We manage a safety grant from FDOT.

- I make sure my personnel know exactly what to do when working with hazardous chemicals/equipment.
- Because of training, I feel we have a good knowledge of safety concerns and how to react if needed.
- I think professors should have a way bigger role into making safety a priority. I've seen labs had an accident and the PI didn't even come to the lab and check it out, or take measurements to solve/prevent what was going on (including people in flip-flops, without safety glasses, non-labeling chemicals, misusing gas tanks, etc.). Actually in one of the accidents I became aware in another group, University wasn't informed of what happened. There is so much we as students can do, when professors do not care about safety, because I can be doing things as safely as I can, but if the person next to me is not, they are endangering me as well. We as students usually don't have authority to ask for people to stop doing what they are doing unsafely.
- At our unit, we don't use chemicals, biochemical. We work with safety as it relates to roads and pedestrians, so it's hard for me to respond adequately to this survey.
- In my lab, the biggest safety concern comes from cleanliness and organization, or rather a lack thereof.
- I wear a dosimeter that is submitted regularly to EHS to make sure I am not exposed to high radiation levels
- I would like to see extra effort in training department staff, faculty and Graduates on safety procedures within the department.
- Most of the day-to-day safety matters are carried out by everyone in the group. We were all taught to pay attention to safety and to constantly be aware of any safety concerns and to point things out and follow through with the safety matters.
- Should be required as incoming student intake.
- Multiple people manage different aspects of the day to day matters, but you only let me check one....
- We have maintenance staff and technicians right next to our lab to help. We also have a person in the department assigned to making sure we are following safety guidelines. The members of my lab encourage safe behavior too.
- It works fine. If there is something should be done, the lab manager would be notified and finish it.
- Don't think any one takes care of the day-today safety matters.
- We all get trained and share overall responsibility for lab safety. I am responsible ultimately but since I am not in the lab every minute we work together. One Peterson is trained by EH&S and then acts our manager. We discuss safety every day and begin each weekly meeting discussing it.
- It should be introduced the specific reason why we need to do the way and what situation

would cause

- it is important and necessary
- Keeping things clean is a pretty good indication that safety issues are being addressed
- In fact I have never encountered any accident since UF is really a safe place, I think
- I think students should be made more aware. By organizing drills and making as many students possible participate in them
- Some of the foreign students do not properly or adequately use PPE
- With new students constantly entering and leaving our lab, it is difficult to track and train all students.
- No real safety hazards exist in our lab the comprises computers only.
- I am having a hard time getting anyone to remove unlabeled/open samples from the lab. I have made mention of it many times and nothing ever happens. The samples have been in a fridge (generally unsealed) for over 5 years.
- Brought a PT lab manager on board 8 weeks ago. He will help us with student training and supervision.
- Everyone should take this thing seriously.
- I think the department should strengthen the importance of day-to-day safety to new students at the orientation on the first day, so that we all can understand the importance of safety in labs
- My supervisor and I both make sure our lab equipment is safe and student activities are conducted safely. It is a priority.
- I am concerned about the air quality in the Reed Lab. We've had it tested, but to my knowledge, we have not been made privy to the results. And the testing was done a year or two ago.
- We have SOPs (Standard Operating Procedures) for all processes conducted in the lab. These SOPs include safety measures for all chemicals and equipment used, as wells as links to MSDS for all chemicals in the lab
- We have had a couple of people from my work unit do departmental lab safety training and meetings, but since I'm not around the lab equipment, I don't know how the trickle down is working.
- Day to day matters are left to individual faculty, with little coordination.

## Q51. Concerns regarding overall Safety in the College of Engineering

The comments majorly focused on two important points-

1. More safety training needed for PI's, in-charges, students and providing more safety information notices.
2. Proper maintenance of laboratories.
3. More attention needed over International students

### Comments-

- If possible, it would be incredibly helpful to have a departmental lab safety manager - a designated individual who is very knowledgeable about lab safety and protocols, as well as responsible for ensuring that proper measures are being taken on a regular basis.
- Safety to me goes beyond the lab environment. For example, who is allowed afterhours access, who is given keys. What if another employee makes you feel unsafe due to their behavior.
- The air quality around the lab areas is bad. The air ducts and other equipment should be checked regularly.
- It's getting better but can still be appalling at times
- I have no concerns regarding safety.
- Stop worrying about safety, start worrying about cheating. Far more detrimental to the college in the long term.
- Graduate students don't seem to be the issue with safety, it appears that undergrads with little to no training or common sense are the people most likely to get hurt because they fail to absorb training information and are too afraid to ask questions.
- Upon visiting the core labs in the PS&T Building, they are dirty, unorganized and I question the safety of my health. Upon walking into room 104, there was an odor to the air that tingled my nose and started to give me a headache.
- Not safety related, but health related - there are COE employees and students who smoke outside of the doors at the rear entrance of Weil Hall. It annoys/concerns me to have to walk through their smoke as I come and leave the building.
- I would suggest that there be more training for present and new professors regarding UF EH&S safety and policies. They need to take more responsibility for their student's safety training. Simple things like NEVER wearing safety glasses inside labs are a big issue. PI's should also review procedures (like preparing chemical hygiene plans) before allowing them to work with hazardous materials.
- Because I don't work in a lab setting, my primary safety concerns are what to do in the event that we have an active shooter situation or other threats to my colleagues and I. With my office's close proximity to the stadium and the amount of foot traffic that comes through the building on a regular basis(Weil Hall), I would like to have more information on what to do if we

were to encounter situations like this.

- First aid kits and electronic defibrillators should be available in all buildings and clearly marked.
- Our unit provides constant ongoing safety assessment and supervision of users through a system of process review, spot supervision and surveillance. Infractions of safety guidelines are investigated and dealt with on the spot.
- Safety inspections need to be specific to the lab and particular research. There should be follow ups for repeat offenders.
- The biohazard management system "up the hill" (i.e. not in BME) is a little disorganized and could use some attention, especially if there is going to be bio anything in the new addition to Nuclear.
- One size does not fit all. It is important to put emphasis on the activities involving the greatest risk.
- My impression, from the BME and MSE departments is that it is well managed, but the PERC is not so well maintained.
- I feel the college should provide more resources, both financial and personnel (to assist the laboratory Director) to provide a safer environment and a better culture.
- The safety training we get is Hazardous waste management. There is no other required training for general lab safety.
- As engineers, we are exposed to many materials, equipment, and work environments that are dangerous and potentially life threatening, so having knowledgeable supervisors, PIs, and lab managers is key to student safety. I have personally done a work activity or worked with some equipment not knowing the danger until AFTER I was done and only realized the danger given MY OWN hindsight.
- I don't have any concern in my lab; we have more than sufficient protective equipment (Glasses, glove, first aid kit...) even if our hardware is not very dangerous. However, the linoleum floor make the lab highly unsafe for the hardware, we have ESD EVERY TIME we touch something without being grounded.
- I would suggest a maintenance unit at COE level, who provides PI's with monthly review on safety of laboratory facilities concerned with externally-funded research grant projects.
- College personnel exceed, on occasion, the logical extent of request at the detriment of research interests and cover their lack of knowledge and intrusiveness under the cover of "concern for safety".
- There is very little oversight by the college regarding safety. Eh&s seems to be the best place to get safety information, however their main concern is about chemical disposal. I would like to have more involvement with safety by the college. A place with centralized access to safety warning signs, procedures, etc.
- My PI has required compliance with all safety requirements and attention to PPE for all pertinent experiments. I believe that the office of EH&S asks good questions when they inspect,

and all lab members are now more aware of safety in their experiments (in the last 3 years or so).

- I do not feel that the regulations for lab safety are currently either too stringent or too lax. I do feel that the rules are frequently not enforced in a pragmatic manner. In my opinion, when safety concerns are made an issue it is frequently dealt with using ineffective means that pacify management. A program such as a “safety month” or additional paperwork is fair examples of implemented solutions. These fixes make those responsible for handling safety feel better about addressing safety concerns, but in my opinion do not often have any meaningful impact. I would hope that in the future an emphasis on safety can yield sensible solutions to real concerns, without the gimmicks and stale Band-Aids that serve to give people the appearance of caring about lab safety.
- Safety seems to be less of a concern to international students whether it is because of a language or cultural difference. They have more of a cavalier attitude about it and is difficult to make them understand the need for safety.
- I think the ventilation system for hoods in NEB should be fixing or can handle for Acid fumes or gases.
- I don't feel unsafe, but if there were a website showing the specific hazards and safety procedures of the labs around me I would feel better
- Proper training is lacking. We take EH&S training but this is nowhere close to covering all the proper chemical handling procedures. All students should be required to take basic chemical handling classes before stepping foot inside a lab here. There should be specific training for the chemicals the students should be working with. The foreign students especially need this training requirement. I FEEL UNSAFE IN A LAB WITH NEW FOREIGN STUDENTS. First off, a lot of them speak terrible English so I'm sure they don't even understand what the warning labels on chemicals are saying. I constantly have to waste my time keeping an eye on all foreign students in my lab to make sure they are not releasing chemicals into the lab space that could kill me. The foreign students try to hide their mistakes with chemicals and are putting others at risk by not reporting accidents. They are afraid of repercussions from the PI and maybe even the department or college if they report accidents. Lazy and stupid people are putting my safety at risk, and I'm not satisfied with the safety protocols that are currently in place at UF. I have worked at a national lab and they are top notch in terms of safety. This university is at the bottom end of that spectrum. Safety training and safety awareness sucks here. Money needs to be spent to increase safety training and safety awareness programs in order to reach the same level as national labs. However, I do not have faith in the current upper level administrators at this university to make any progress on this issue. The administrators are lazy and don't get anything done. So I'm just hurrying to graduate so I can get out of this unsafe working environment so I can avoid the accidents that are bound to occur.
- Outside building doors that are not locked or that can be entered easily. Outside building lighting at night is not well luminated in all areas around exit doors and beyond.
- Lack of safety awareness is prominently notices in college of engineering. Students should be

made aware about safety precautions.

- It's not necessarily that safety isn't important to all who are concerned but that the ones responsible for safety are not given the respect of their superiors to comply with safety procedures. From the Management side of thing I believe It boils down to time and money. If it takes too much time overlook it. If it cost too much money we'll wait until we absolutely have to have it. In my opinion it's too late by then.
- many students disregard even the most basic of safety guild lines - I see them every day in the hall way with gloves on both hands, or, when in other labs, looking and the vast quantity of unlabeled chemicals and samples. Basic chemical hygiene is very lacking gin this department.
- Some professors emphasize safety; others assume students can determine what is safe.
- Since I do not work in a lab I can't comment on lab safety, but I do not see very much being done to protect administrative staff from work related injuries. For example sitting for 8 hours a day is unhealthy, but desks & monitors are not available which would make any amount of standing practical. Cleanliness of common spaces and restrooms is tolerable, but far from exceptional and lax standards here lead to illness, dust allergies, and various maladies. Occasionally foliage is substantially overgrown into walkways. It seems that where safety threats are imminent the college is very careful, but where threats are long term and less likely a liability the college is less concerned. All in all I would give us a C.
- I am not familiar with safety standards in labs, or what routines are used to inspect labs. I work in the financial area of MSE. However, I feel safe in the building and I have never personally been affected by a hazardous situation.
- The elevator inside the CISE (Computer Science Engineering) building is very scary. It has unusual or unsteady movement every now and then.
- Safety should be orchestrated among students, faculty, safety persons, physical plant department, and administrators, otherwise, it won't work.
- I am not concerned for my safety. I am missing some things I do not know, like how many times there are safety checks, I guessed a few times a semester, because I honestly I am not there enough to know when they are done or if they are done, the answer might have been never. I still feel that my research space is very safe by whatever means it is accomplished and that safety training is required of everyone. There should be some computer tests and lectures everyone completes, there are some very good ones from the FIU department of biomedical engineering I know of that are extensive and through. The material even covers EPA regulations and it is very interactive. I wish we had that to complement the safety training we receive in the labs which are too specific to each lab as if there were not others right next to them or as if we did not need to enter other labs regularly.
- I would need to know what is meant by "safety concerns"; however, I do not feel in any way threatened regarding safety concerns.
- I'd like to be more informed and/or aware of safety regulations and be more involved in training to increase my overall knowledge of safety in the workplace. Thanks

- As a suggestion, outside of the laboratory, an additional survey could be generated to assess COE faculty and staff concepts of safety in the office place, and potential hazards in dealing with disgruntled students (and sometimes parents) during advising, general information meetings, etc., who under various pressures and conditions could become just as explosive as many of the chemicals found within a lab. While this may not be a pressing issue of concern currently, it is most certainly a topic that should be added to our safety within the workplace discussion.
- Too many units with diapositing requirements inspect our labs. There is no reason to have to have a chemical spill kit AND a bio hazardous waste spill kit or 4 different safety inspections. Amalgamate - Amy is working on this and it's important.
- Maintain building upkeep on a regular basis. The attitude of "no budget" should not guide building upkeep and safety issues.
- I wrote in the previous space
- I feel that the over-arching safety organization for UF and the college of engineering is worthless. I feel like the emphasis is more placed on paperwork rather than actually making anything safe. True safety comes from a culture of safety within the lab, which I feel should be encouraged. However, safety organizations outside of my lab are very busy with making sure every piece of paper gets turned in, instead of fostering that culture of safety. I think lab cleanliness goes a long way towards promoting safety.
- Extra concentration should be addressed to Graduates as they often disregard safety procedures
- My biggest concern happens to be when there is a transfer of labs to another owner. I have noticed that many times there are left over chemicals that other professors leave behind for the new professors and researchers to "inherit". This is an issue because many times we are unaware of where these chemicals are stored and what chemicals they are or how to deal with them. I feel they should be more responsible for emptying out the lab before moving out. Or explicitly, leaving a notice of any leftover inventory, how much remains, how long it has been there, and how to deal with it if necessary.
- The use of departmental equipment by untrained individuals!
- The civil engineering lab in weil hall, though I do not usually conduct research there, is almost always vacant. The lab manager is impossible to find. Other lab personnel may or may not be present on a given day, and do not know how to use all of the equipment in the lab. The lab is nearly useless due to the age of the equipment and the lack of staff.
- Personally, I feel like our safety culture is pretty strong and is strongest when there is a healthy exchange of ideas between the safety officers and the laboratory personnel. The bad situations occur when the regulators are 'enforcers', which is very much my relationship with the UF IACUC. There is no trust in the exchanges with IACUC, because the relationship is confrontational at the start and there is not a space/environment where issues can be discussed freely. I have had a great relationship with Dr. Cannon and I am more fearful that the safety environment will become over-regulated, creating a culture where people are "incentivized" to not openly participate. In other words, carrots are more effective than sticks when it comes to

safety culture.

- I know of no safety training or response protocol except for leaving the building during a fire drill
- I have had to inform people that putting food and drinks in the sample fridge is unwise. It is extremely disappointing that my fellow students are not aware of the potential negative effects of this behavior.
- I think the doors that swing into the main hallways are unsafe and at the very least there should be a swing-mark painted on the floor outside these doors to warn people.
- Many new comers may wear sandals in the lab; this is not safe at all!
- EH&S are very good about clean up procedures and questions but in help with providing ways to make certain scenarios more safe or what equipment could be used they are not as helpful.
- We maintain close ties with the operators of our equipment every week. We don't work with dangerous equipment or materials, but take safety very seriously.
- As I mentioned in an earlier answer to a question, I am concerned about the air quality in the Reed Lab. We had it tested a year or two ago, but as far as I know, we have not been made privy to the results.

## Responses of Junior & Senior Staff (Tabular form)-

Junior Staff	Senior Staff
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Question	Common Answer	Common Answer	No. of responses out of 646	No. of responses out of 177
What are the average hours PER WEEK spent working with these materials or equipment?	<ul style="list-style-type: none"> <li>• 5 or fewer</li> <li>• 5 to 20 hours</li> </ul>	5 or fewer	350	139
What percentage of your time spent working with these materials or equipment is working ALONE, without anyone else present in your work area?	34.72%	23.06%	300	78
What percentage of your time spent working with these materials or equipment is OUTSIDE of the standard 8-to-5 work day (on weekends, late at night)?	23.31%	12.27%	231	67
Is personal protective equipment (PPE) required for your job?	Yes, PPE is required	Yes, PPE is required	345	140
How often do you use the required personal protective equipment (PPE)?	All the time	All the time	254	100
Before Experiments are conducted-	Hazards or risks are assessed informally (not documented)	<ul style="list-style-type: none"> <li>• Hazards or risks are assessed informally (not documented) (39%)</li> <li>• Hazard or risk assessment is conducted and documented</li> </ul>	340	138

		(27%) • I do not perform research in lab (27%)		
Who performs risk assessments for your experiments?	I do	I do	225	89
How often is safety discussed at faculty meetings?	N/A	Sometimes	N/A	174
Agree or disagree - "I know how to ensure that research and safety equipment (including personal protective equipment) is in proper working order"	82.86 ( Strongly Agree)	86.59 (Strongly Agree)	281	122
Agree or Disagree- "I know how to report an issue with research or safety equipment if one is found."	78.87 (Strongly Agree)	88.53 (Strongly Agree)	273	118
Agree or Disagree- "I believe the members of my work unit have received sufficient safety training in order to do their jobs in a safe manner."	83.55 (Strongly Agree)	84 (Strongly Agree)	520	152
Agree or Disagree- "My staff receives training on the specific agents or hazards that they work with in the lab."	N/A	91.04 (Strongly Agree)	N/A	116

Agree or Disagree- "I received safety training on the specific agents or hazards I work with."	79.99 (Strongly Agree)	N/A	254	N/A
Agree or Disagree- "If needed, I would feel comfortable speaking to UF Environmental Health & Safety about safety concerns."	82.41 (Strongly Agree)	90.96 (Strongly Agree)	556	159
Agree or Disagree- "As the work unit supervisor or PI, I regularly check on my staff to ensure they are performing their work duties in a safe manner."	N/A	90.51 (Strongly Agree)	N/A	115
Agree or Disagree- "My supervisor/lab manager/PI regularly checks ensure I am performing my work duties in a safe manner."	73.76 (Agree)	N/A	261	N/A
In the last year, has your work unit experienced an incident (injury, spill, and near-miss) while under your supervision/ while working in your current role at UF?	No	No	328	133
In the last year, has an incident in your work unit resulted in changing a procedure to prevent it from happening again?	N/A	Yes	N/A	19
Did you report the incident(s) to your department chair?	N/A	Yes	N/A	15

Did you report the incident(s) to UF Environmental Health & Safety?	N/A	Yes	N/A	15
Agree or disagree - "I feel comfortable speaking to my peers about safety concerns."	87.58 (Strongly Agree)	N/A	590	N/A
Agree or Disagree- "I feel comfortable speaking to my supervisor about safety concerns."	88.15 (Strongly Agree)	N/A	594	N/A
Agree or Disagree- "I have enough information to react appropriately if another work unit in my building has some kind of incident or emergency."	68.69 (Agree)	N/A	250	N/A
Did you report the incident(s) to your supervisor?	Yes	N/A	25	N/A
Were any of the incidents/injuries caused by the following? Select ALL that apply.	Unsafe actions	Unsafe actions	14	16
Who manages day-to-day safety matters for your work unit? This might include tasks such as identifying and tracking staff required training, giving a safety orientation to new lab members, doing monthly waste audits, calling for hazardous waste pick-ups, etc.	I do not know	<ul style="list-style-type: none"> <li>• Lab manager or senior technician/researcher (56%)</li> <li>• Principal investigator (42%)</li> </ul>	659	176

How often are routine safety checks or inspections performed by members of your work unit?	<ul style="list-style-type: none"> <li>• A few times every semester (23%)</li> <li>• Weekly (20%)</li> <li>• Not at all (19%)</li> <li>• Monthly (16%)</li> </ul>	<ul style="list-style-type: none"> <li>• A few times every semester (23%)</li> <li>• Weekly (23%)</li> </ul>	603	172
Agree or Disagree- "I personally feel that safety in the workplace is very important."	94.72 (Strongly Agree)	97.08 (Strongly Agree)	591	172
Agree or Disagree- "My supervisor or PI sets a good example for safety."	86.31 (Strongly Agree)	N/A	501	N/A
Agree or Disagree- "The safety procedures currently required for my work unit are too stringent."	37.38 (Disagree)	16.65 (Disagree)	435	130
Agree or Disagree- "My peers demonstrate that safety is very important."	79.58 (Strongly Agree)	76.23 (Strongly Agree)	451	124