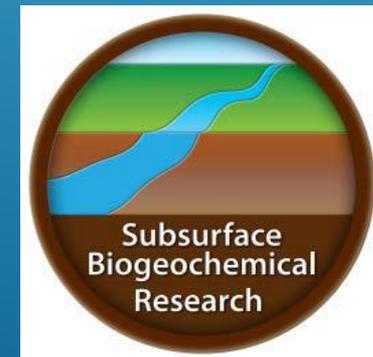


# COMPLEXITY AND INNOVATION: THE HUMAN DIMENSION ETHICS, INTEGRITY, AND DIVERSITY IN THE RESEARCH ENVIRONMENT

Department of Energy Environmental  
System Science Primary Investigator's  
Meeting, May 2018

Linda C Gundersen  
Retired, U.S Geological Survey



# AGENDA

- Intro to Terms and concepts in **Ethics, Integrity, and Diversity**
- Dimensions of **Scientific Integrity and Professional Ethics**
- **Diversity, Inclusion, Bias, and Discrimination** in the sciences – with emphasis on laboratory and field environments



# TRUST IS THE FOUNDATION FOR ALL SCIENCE

**“The scientific enterprise is built on a foundation of trust.**

Society trusts that scientific research results are an **honest and accurate reflection of a researcher’s work.**

Researchers equally trust that their colleagues have gathered data carefully, have used appropriate analytic and statistical techniques, have reported their results accurately, and have **treated the work of other researchers with respect.”**

*But this can be undermined!*

**From “On Being a Scientist” – National Academy of Sciences 3<sup>rd</sup> Edition**

Free PDF! - <http://www.nap.edu/catalog/12192/on-being-a-scientist-a-guide-to-responsible-conduct-in>



# SCIENCE RELIES ON THE HUMAN DIMENSION

- ▶ Science relies on who we are, our experiences, what interests us, how we behave by ourselves, and with others, and what we think the goal of our science is (**our values**).
  - ▶ Understanding our **implicit and explicit biases** and fostering an **ethical culture of diversity, inclusion, and scientific integrity** is critical to the advancement and excellence of science.
- 

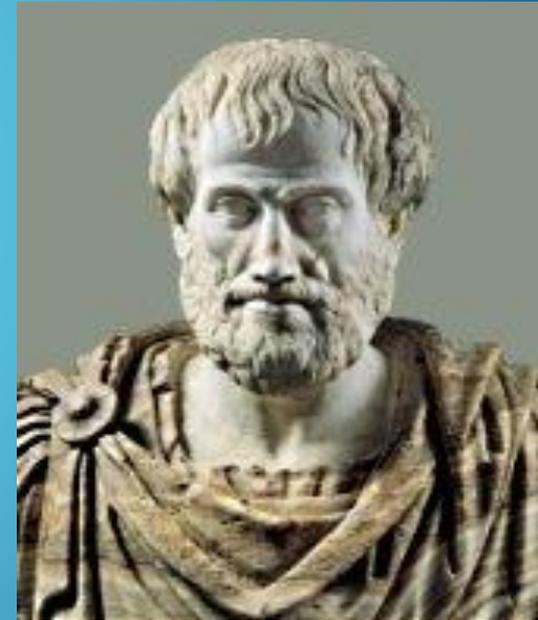
# WHAT IS ETHICS?

1. **Philosophical science**, rationally examines moral beliefs and behavior.
2. **Moral principals and behavioral codes** that govern a **person's or groups behavior. From the Greek *ethos*** – meaning custom or habit.

## Origins in the Ancient Greeks

**Aristotle: Virtue Ethics** – virtue, truth, reason, honor, goodness, justice, *ethos* (custom/habit) – practicing conscious choice with moral purpose.

**Hippocrates – The Hippocratic Oath** – Among first professional (applied) ethics codes: respect for teachers, students, patients, reverence for life, confidentiality, and competence. avoidance of harm, injustice, corruption, and sexual harassment.





# WHAT IS ETHICS?

**Micro-ethics** - **an individual scientist's** behavior and their interactions with others and within the profession. Includes scientific integrity (responsible conduct of research).

**Macro-ethics** - responsibility of scientists to science and society including impacts of their work on well-being and decision-making – justice, respect for life, beneficence





# EXAMPLE OF MICRO TO MACRO

Microethics: publish sound objective science in a peer reviewed journal on the probability of a landslide in a residential area.

To go Macro – Provide objective recommendations for mitigation including uncertainty and alternatives, speak at a town hearing about the hazard and its uncertainty and probability, engage with engineers and the community, must stay within area of knowledge, but provide objective information for **public's and decision-makers' awareness and understanding** in a proactive manner. – geoethics and environmental ethics

# GEOETHICS AND ENVIRONMENTAL ETHICS

Geoethics includes ethical, social, economic, and cultural implications of using Earth sciences for societal benefits and what the societal role and responsibility of a geoscientist is. Includes issues of climate change; sustainability; resource development and stewardship, risk and mitigation of natural hazards; environmental health; geoscience communication

- ▶ International Association for Promoting Geoethics - <http://www.geoethics.org/>

Environmental Ethics examines the appropriate human use, respect for, conservation, preservation, and understanding of the natural world.

- ▶ International Society for Environmental Ethics <https://enviroethics.org/>



# WHAT IS SCIENTIFIC INTEGRITY ?

## Scientific Integrity

Adherence to ethical principals (such as honesty), that apply to the rigorous standards of the scientific process, and to the professional values, codes, and practices of the scientific community.

Honesty, objectivity, fairness, openness, accountability, stewardship, clarity, reproducibility, and utility of your scientific research, publications, and communications.

Core Values from Fostering Integrity in Research – National Academies Press 2017. <https://www.nap.edu/catalog/21896/fostering-integrity-in-research>

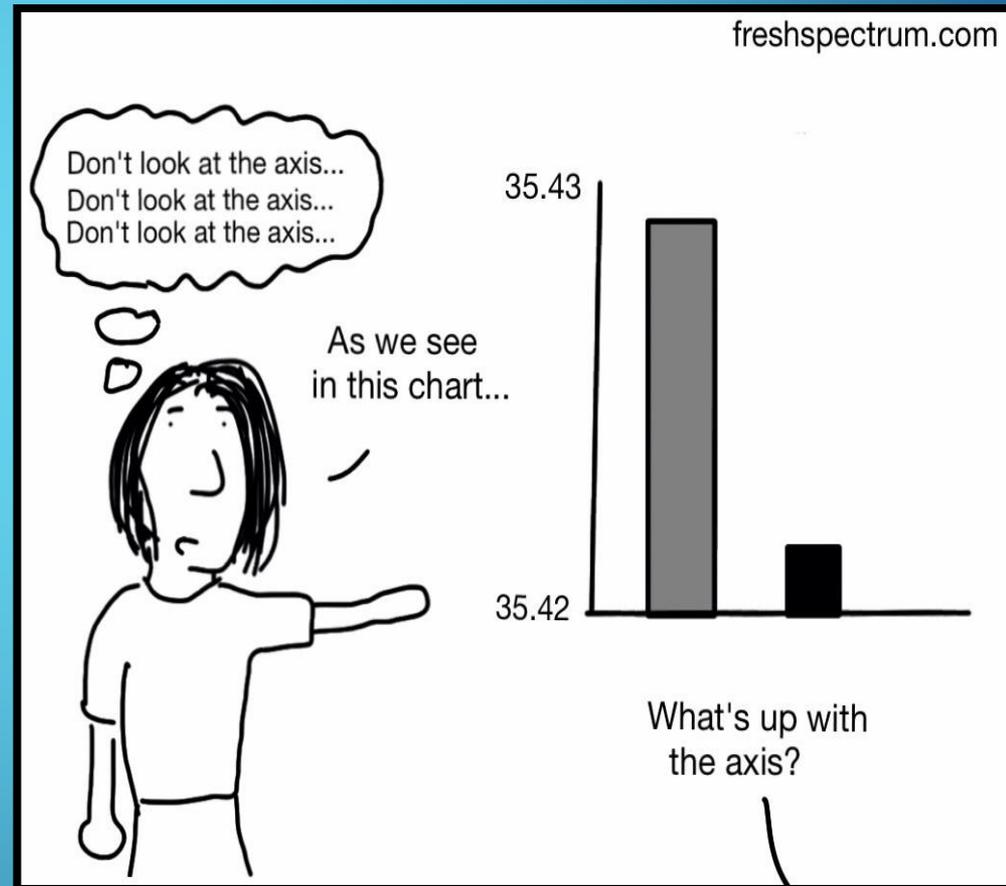
# RESEARCH MISCONDUCT

## Federal definition of misconduct:

Fabrication, falsification, plagiarism  
(not honest mistake)

## Detrimental Behaviors:

Censorship, bias, conflict of interest, theft of intellectual property, discrimination, harassment, bullying, mismanagement of people and resources, unprofessional behavior, and inadequate procedural safety and security that endangers integrity of data or the safety and health of people, animals, resources, or the environment.





# Why do scientists engage in misconduct?

Dubois et al. 2016,  
 Misconduct: Lessons  
 from  
 researcher rehab,  
 Comment in  
 Nature, June , p173-175.

## WHY RESEARCHERS STUMBLER

Instructors on the Professionalism and Integrity Program assessed underlying causes (often more than one) for researchers' lapses.

Proximate cause	Ultimate cause of researcher lapse	% of participants
Lack of attention	Overextended, not detail-oriented or distracted by personal problems.	 72%
Unsure of rules	An increase in regulations since researcher began career, lack of mentoring or cultural differences.	 56%
Did not prioritize compliance	Failed to recognize seriousness of violations, biased thinking or cultural differences.	 56%
Relationship problems, political tensions	Communicated aggressively or worked with difficult personalities.	 36%
Staff lacked adequate training or integrity	Failed to provide adequate training, did not create culture of compliance in lab or had difficulty hiring individuals.	 28%
Poor communication	Failed to hold regular meetings with research team.	 26%
Ambition	Driven personality, desire for promotion or competition for funding.	 21%
Conflicting roles (physician-scientist)	Interacted with individuals as both patients and research participants.	 21%
Did not anticipate consequences	Failed to consider ways a project could go wrong.	 13%
Lack of resources	Inadequate institutional investment in researcher's programme.	 10%
Followed poor instructions	Rigid hierarchy in research programme and the absence of positive mentors to consult.	 10%

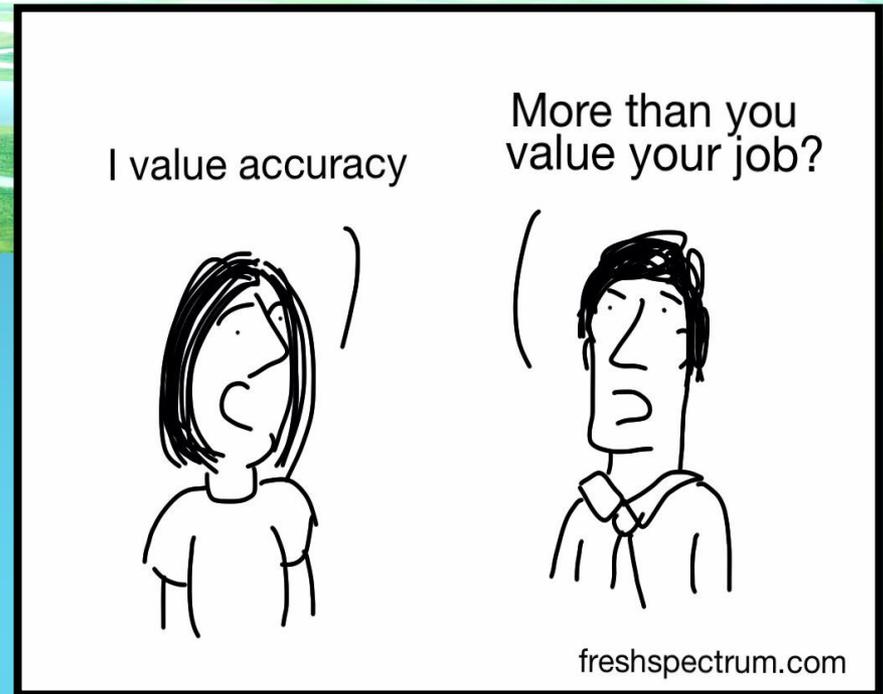
# ON VALUES

We attach **values** to everything.

When we choose a project, choose a collaborator, collect a sample, record results, model a process, write a paper, we are **making decisions based upon values we have.**

- They may be **scientific integrity values**: honesty, objective empirical data, evidence-based interpretation, rigorous analysis
- They may be **ethical values**: beneficial to humanity, to the environment, save lives, do no harm, mitigate a problem
- Or they may be **personal values**: advance my career, beat the competition, get that next grant, please my boss, date that person, prove my point, make me look good.

This valuation changes the way we do our science!





# “SCIENTIFIC INTEGRITY REQUIRES ATTENTION TO VALUES IN ALL DOMAINS OF SCIENTIFIC PRACTICE” (TUANA, 2017)

- ▶ Much of what scientists are dealing with today are what Dr. Tuana **refers to as** “coupled ethical – epistemic issues” **which require both ethics and knowledge to solve.**
- ▶ Take climate change for instance: The question is not **simply “How is climate changing?” It can be, for example, “What are sustainable, scientifically sound, technologically feasible, economically efficient, and ethically defensible climate risk management strategies?”** (SCRiM, Penn State)
- ▶ This question requires rigorous innovative work from a diversity of people and ideas across many fields of social, biological, and physical sciences as well as conscience ethical decision-making.



# 5 MINUTE CHALLENGE

- ▶ Plane makes a crash landing on an island, 24 people survive, few have wilderness experience, in a few days they are starving. One person studies the fish and figures out how to catch them. He brings the catch back to cook and the others ask how he did it. He refuses to share the knowledge – but offers to share the fish as long as the others do all the other work such as getting water, gathering wood, building shelter, and cooking.\*
- ▶ Is the fisherman ethically doing the right thing/wrong thing? Why?
- ▶ What are the consequences if his proposal is accepted?
- ▶ What ethical, Integrity and diversity principals can we apply to this?
- ▶ How should this group of people survive?
- ▶ \* from *Ethics for the Information Age* by Michael Quinn 6<sup>th</sup> Edition 2015 Pearson Education Inc



# 5 MINUTE CHALLENGE – DE-BRIEF

- ▶ Not ethical! Does not consider the greater good, is not fair, reasonable, honorable, just, inclusive collaborative, Does not solve the most fundamental problems etc.
- ▶ Consequences include – depletion of food source, **dependence on a single source for food, “tyrannical rule”**, creating a fear based society, possible loss of life
- ▶ Does not use the scientific method, does not consider diversity of thought on the problem or responsible problem solving. Lacks excellence, honesty, open access, peer review.
- ▶ How to solve? Collaboration and a diversity of ideas is the best way to survive - utilize all perspectives to create innovative solutions

# 7 STEP GUIDE TO ETHICAL DECISION MAKING

1. State the Problem – what seems wrong?
2. Check the facts – who, what, and where
3. Identify relevant factors – laws, codes, rules
4. Develop list of options – how will you/group act?
5. Test options: harm test, greater good test, publicity test, defensibility test, reversibility test, colleague test, professional test, organization test, virtue test, ethics test.
6. Make a choice, collaboratively if you can.
7. What can you/others do to prevent future situations?

Adapted from Michael Davis, *Ethics and the University* (Routledge, London, 1999), pp. 166-67.

# RECENT AND RELEVANT SCIENTIFIC INTEGRITY AND PROFESSIONAL ETHICS POLICIES

- ▶ **International Council for Science (ICSU) Statute 5 - Freedom, Responsibility, and Universality of Science**
- ▶ **World Conference on Research Integrity- Singapore Statement as augmented by the American Geophysical Union**
- ▶ **DOE Diversity and Inclusion Vision and Goals**
- ▶ **Young Scientists Code of Ethics – World Economic Forum**
- ▶ **Recent Professional Societies – AGU, ESA, AAAS, and many others have created new integrity and ethics policies that include banning and taking action against harassment and discrimination in their activities.**

# ICSU STATUTE 5: THE PRINCIPLE OF UNIVERSALITY OF SCIENCE:

The **free and responsible practice of science** is fundamental to scientific advancement and human and environmental wellbeing. Such practice, in all its aspects, requires freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information, and other resources for research.

It requires **responsibility at all levels** to carry out and communicate scientific work with integrity, respect, fairness, trustworthiness, and transparency, recognizing its benefits and possible harms.

In advocating the free and responsible practice of science, ICSU promotes **equitable opportunities for access to science and its benefits**, and opposes discrimination based on such factors as ethnic origin, religion, citizenship, language, political or other opinion, sex, gender identity, sexual orientation, disability, or age.

# PRINCIPLES – SINGAPORE STATEMENT/AGU

- ▶ *Excellence, integrity, and honesty* in all aspects of research
- ▶ *Personal accountability* in the conduct of research and the dissemination of the results
- ▶ *Professional courtesy, equity, and fairness* in working with others
- ▶ *Freedom to responsibly pursue science* without interference or coercion
- ▶ *Unselfish cooperation* in research
- ▶ *Good stewardship* of research and data on behalf of others
- ▶ *Legal compliance* in all aspects of research, including intellectual property
- ▶ *Humane approach* in evaluating the implications of research on humans and animals



# RESPONSIBILITIES

- ▶ 1. Integrity: honesty, courtesy, equity, and fairness.
- ▶ 2. Adherence to Law and Regulations
- ▶ 3. Research Methods: competence, evidence, accuracy, objectivity, uncertainty
- ▶ 4. Research Records: clear, verification and replication
- ▶ 5. Research Findings: share, respect intellect. property, use data management and preservation
- ▶ 6. Responsibility: accountability, integrity, authorship
- ▶ 7. Acknowledgement: attribution of ideas and contributions
- ▶ 8. Peer Review: fair, impartial, prompt, rigorous, confidential constructive, responsive



# RESPONSIBILITIES CONT.

- ▶ 9. Conflict of Interest: financial, personal, professional
- ▶ 10. Public Communication: area of expertise, distinguish professional comments from opinions
- ▶ 11. Reporting Irresponsible Research Practices: FFP, harassment, discrimination, bullying and other irresponsible behaviors
- ▶ 12. Environment: creating and upholding a safe, open, and professional environment
- ▶ 13. Misconduct: not engage in FFP, harassment discrimination, bullying, other detrimental behaviors
- ▶ 14. Societal Considerations: weigh societal benefits of research against the costs and risks
- ▶ 15. Stewardship of the Earth: responsibly, accurately, clearly inform the public on impacts to the well-being of Earth and society



# 5 MINUTE CHALLENGE - SCIENTIFIC INTEGRITY

- ▶ You help a friend with a science project that is similar to yours. You provide **some leads, references, and a draft of your paper “in press” that you think will** be helpful. Your colleague is struggling; he does not have much data and is short on time.
- ▶ **In a month, you head to a science meeting, visit your friend’s poster, and you** recognize passages from your own paper and from the references you gave to him. The passages are nearly verbatim and there are no citations; the data graphs look perfect; your colleague is the lone author; and now here he is strolling up to you, smiling.
- ▶ What are the scientific integrity and ethical issues?
- ▶ Who is affected?
- ▶ What are your options?
- ▶ What resources are there?
- ▶ Lessons learned?

From Gundersen, 2017 Case Studies for Scientific Integrity and Geoethics Practice in American Geophysical Union Special Publication 73.  
<https://doi.org/10.1002/9781119067825.app1>

# DIVERSITY AND INCLUSION--DOE

## VISION

- ▶ DOE is an inclusive workplace where every employee contributes their experiences and backgrounds to spark solutions that address the nation's energy, environmental and nuclear challenges.



## STRATEGIC GOALS

- ▶ GOAL 1: Enhance employee productivity and organizational performance by building an inclusive, collaborative, and open environment that enhances the employee experience.
- ▶ GOAL 2: Engages leadership to embed sustainable inclusive behaviors in policies, practices, and processes that leverage diverse perspectives.
- ▶ GOAL 3: Optimize workplace inclusion efforts using data driven approaches to create innovative organizational solutions to achieve its mission.

# WORLD ECONOMIC FORUM – YOUNG SCIENTISTS CODE OF ETHICS (YSCE-WEF)

- ▶ **Engage with the public** - having an open two-way communication about science and the implications of research, as well as its need for society.
- ▶ **Pursue the truth** - following the research where it leads, rather than confirming an already formed opinion.
- ▶ **Minimize harm** - researchers should minimize harm to science, to others, to the environment, to society and to themselves.
- ▶ **Engage with decision-makers** - going beyond developing solutions, conducting experiments and publishing data. Situations arise in which there is an ethical responsibility to engage with decision-makers – for instance to understand the impact of climate change on populations.
- ▶ **Support diversity** - providing an environment in which the ideas of all are evaluated equally, regardless of individual characteristics, on the basis of evidence.
- ▶ **Be a mentor** – being available, guiding, trusting, and empowering less experienced researchers to help them reach their professional goals and realize their full potential. Creating an environment of trust and respect for all individuals.
- ▶ **Be accountable** - **taking responsibility for one's actions, resources, and results** when carrying out research.



# SUPPORT DIVERSITY - YSCE-WEF

- ▶ Providing an environment in which the **ideas of all are evaluated equally**, regardless of individual characteristics, on the basis of evidence.
- ▶ Diversity is not simply the representation of individuals and ideas but is actual inclusion, which can only be achieved by creating a culture of openness, and recognizing and addressing **unconscious or implicit bias**.
- ▶ A diverse and inclusive scientific workforce draws from the **widest range of backgrounds, perspectives and experiences** to maximize innovation for the benefit of society.

# DIVERSITY - YSCE-WEF

Diversity directly affects scientific outcomes and society. Decades of research in sociology, economics and organizational psychology show that diverse groups are more innovative and creative than homogeneous ones. (Recent work regarding scientific groups is providing similar results.) People from different backgrounds bring varied information, viewpoints and opinions to the table, and groups undertake a more comprehensive analysis of different perspectives when in a socially diverse environment, enhancing creativity.

**Hong L, (2004) Groups of diverse problem solvers can outperform groups of high-ability problem solvers PNAS 101(46):16385–16389**

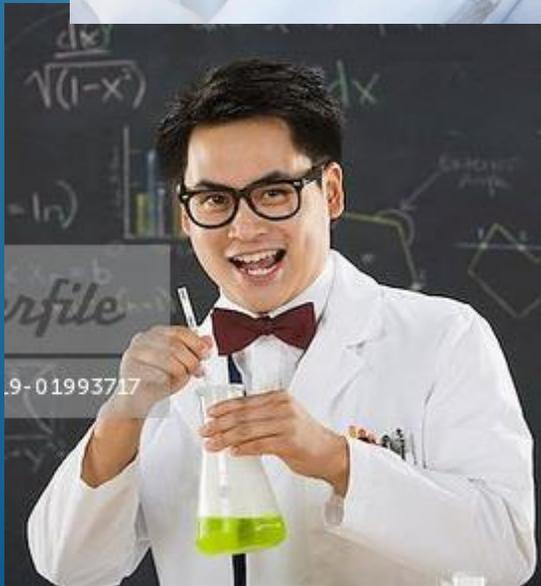
**Bell, S. 2007, Deep-level composition variables as predictors of team performance: a meta-analysis. J of App Psy92(3) 595-615**



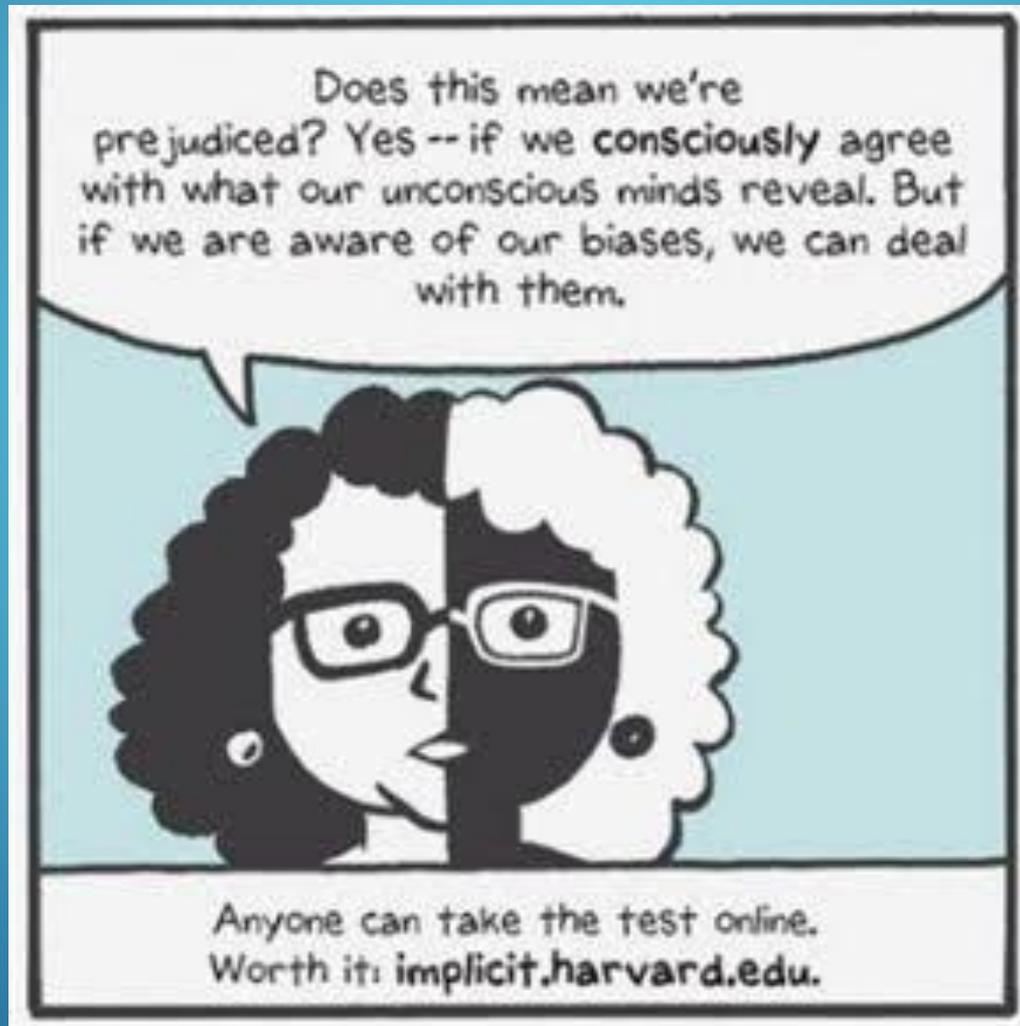
2014 Special Issue –  
Scientific American – How  
diversity empowers science  
and innovation.  
<https://www.scientificamerican.com/report/how-diversity-empowers-science-and-innovation/>

Neilsen et al 2017, Gender  
diversity leads to better  
science <https://doi.org/10.1073/pnas.1700616114>

# IMPLICIT BIAS IS PERVERSIVE

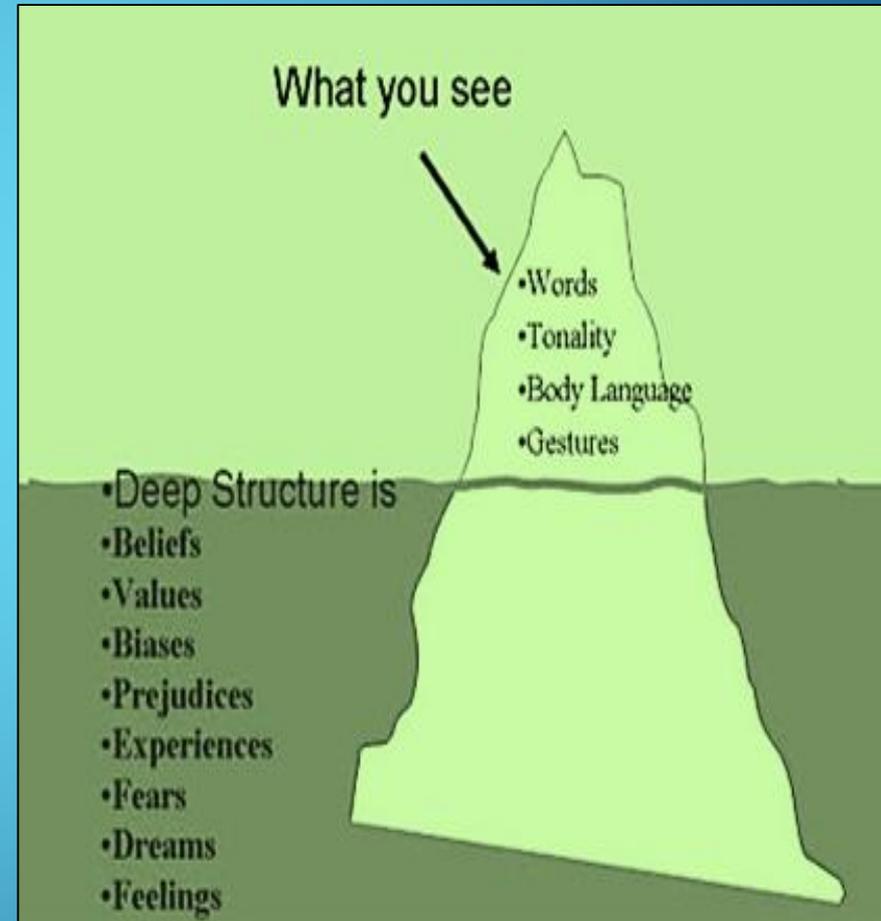


# IMPLICIT.HARVARD.EDU



# IMPLICIT (UNCONSCIENCE) AND EXPLICIT (CONSCIENCE) BIAS

- ▶ **Thoughts and feelings are “implicit”** if we are unaware of them or mistaken about their nature. They are **explicit** when we are fully aware of them. We have a **bias** when, rather than being neutral, we have a preference or aversion. Perception Institute
- ▶ **Implicit bias** drives our own explicit behavior and guides our perspective and decisions. Knowing our assumptions is critical to understanding what is driving our decisions and behaviors. This is especially true if we want to improve our behavior or broaden our approach.  
Thrive Community [Dr. Nitha Nagubadi](#)





# Double Jeopardy?

Gender Bias Against Women of Color in Science



# Harassment

Welcome Why Allies? Allies Blog Allies Pledge The Allies Becoming an



About Membership Leadership Publications Meetings Data Services Care

## STOP HARASSMENT



## REPORTING AN ALLEGATION

If you need to report an allegation of harassment by an AGU member, author, or individuals in connection with AGU-sponsored activities...

## SAFEAGU

### Ethics, Response to Harassment, and Work-Climate Related Issues

AGU is committed to promoting a safe work environment in the Earth and Space sciences and ensuring that all AGU program activities are free from discrimination, bias or harassment of any type.

## TYPES OF HARASSMENT



HOME SEARCH

The New York Times

Sunday Review | OPINION

# She Wanted to Do Her Research. He Wanted to Talk 'Feelings.'

By A. HOPE JAHREN MARCH 4, 2016



Irene Rinaldi

Honolulu — OVER the past two decades as a professor, I've grown thousands of plants, studying how their biology shifts in response to our changing environment.

## Converse

Provocative loo... What New R... for Investors... The Unbear... Michael Bott... If Cruz Keep... Majority of D... Model in Cu... by British Re...

See More >

## RECENT

# Discrimination

JOURNAL OF GEOSCIENCE EDUCATION 64, 255-257 (2016)

## Sexual Harassment in the Sciences: A Call to Geoscience Faculty and Researchers to Respond

Kristen St. John,<sup>1</sup> Eric Riggs,<sup>2</sup> and Dave Mogk<sup>3</sup>

As geoscience educators we focus on teaching students about a wide range of geoscience topics and helping them develop scientific skills. However, we also (deliberately or through unconscious behavior) teach professionalism to our students.

Professional societies. Perspectives from victims of sexual harassment, legal professionals, and social science researchers set the stage for discussions on the challenges of, and potential countermeasures to, sexual harassment and assault in academia.

## Sexual Harassment Impacts Science Career Paths and Diversity Initiatives

Harassment in all forms creates a toxic work and learning environment that is stressful, unethical, and counterproductive to initiatives for increasing diversity among science faculty and students.

WIRED

## Month by Month, 2016 Cemented Science's Sexual Harassment Problem

BUSINESS CULTURE DESIGN DEAR SCIENCE

## SHARE

SHARE 1100

TWEET

COMMENT 16

EMAIL

# MONTH BY MONTH, 2016 CEMENTED SCIENCE'S SEXUAL HARASSMENT PROBLEM



# DISCRIMINATION, HARASSMENT, BULLYING

**Discrimination** unequal or unfair treatment in opportunities, education, benefits, evaluation, employment. Includes retaliation and harassment. Can be explicit, implicit, intentional, or unconscious.

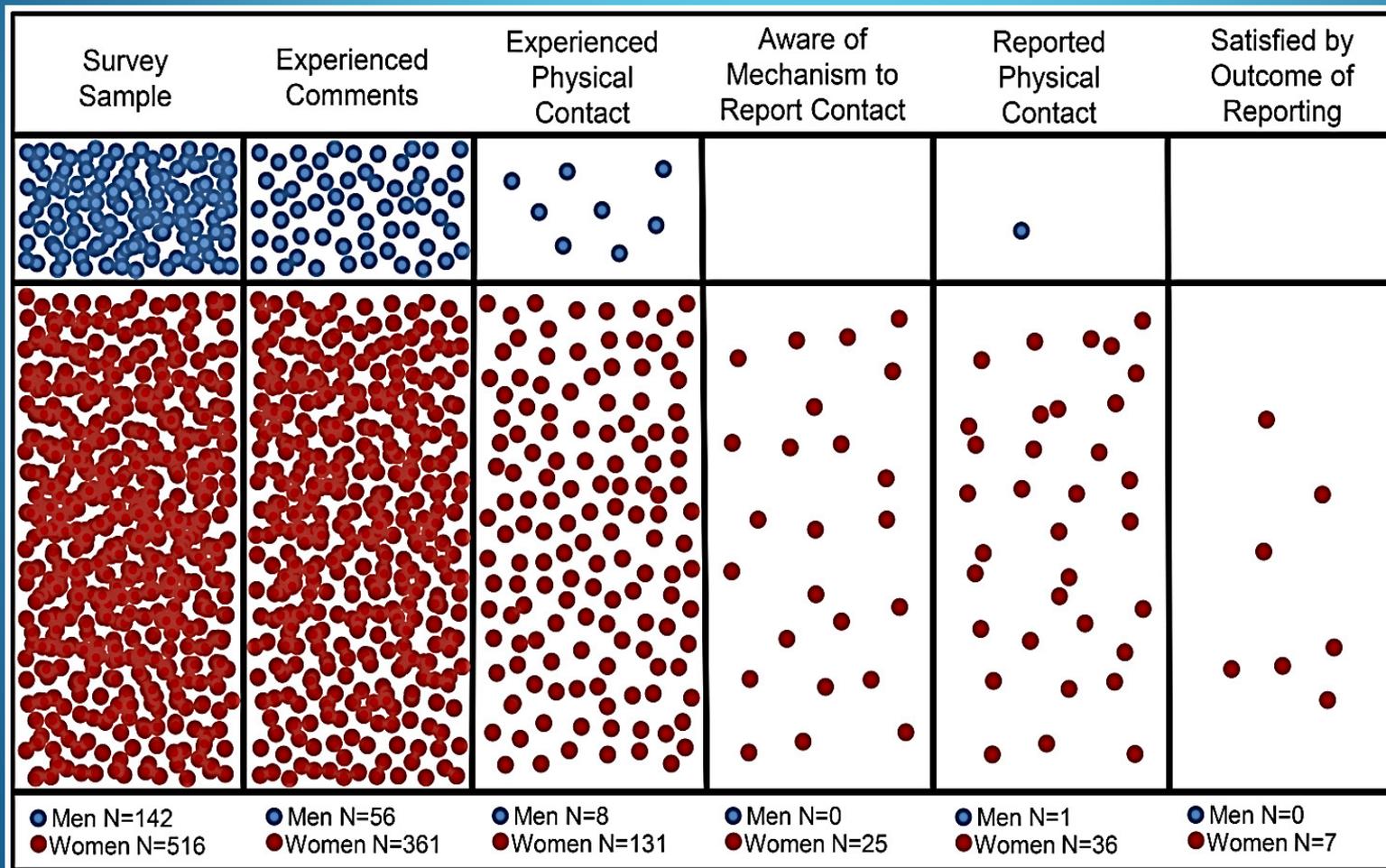
**Harassment** is discrimination - a single intense and severe act, or multiple persistent or pervasive acts, which are unwanted, unwelcome, demeaning, abusive, or offensive. Such conduct is harassment when 1) it becomes a condition of an opportunity, education, benefit, evaluation, or employment or 2) the conduct is severe or pervasive enough to create an environment that most people would consider intimidating, hostile, or abusive. These acts may include epithets, slurs, or negative stereotyping based on gender, race, sexual identity, or other categories, as protected by U.S. federal law. Also included are threatening, intimidating, or hostile acts; denigrating jokes and displays; or circulation of written or graphic material that denigrates or shows hostility or aversion toward an individual or a group.

**Sexual Harassment** includes any unwanted and/or unwelcome sexual advances, requests for sexual favors, and verbal or physical harassment of a sexual nature, gender harassment and discrimination, sexual coercion.

**Bullying is harassment** - the use of force, threat, or coercion to abuse, intimidate, or aggressively dominate others, involves real or perceived power imbalance. Includes abusive criticism, humiliation, spreading rumors, physical and verbal attacks, isolation, undermining, and exclusion of individuals through any means.

From AGU Scientific Integrity and Professional Ethics Policy (<https://ethics.agu.org/policy/>)

Clancy KBH, Nelson RG, Rutherford JN, Hinde K (2014) Survey of academic field experiences (SAFE): trainees report harassment and assault. Plos One 9(7): E102172. <https://doi.org/10.1371/journal.pone.0102172>

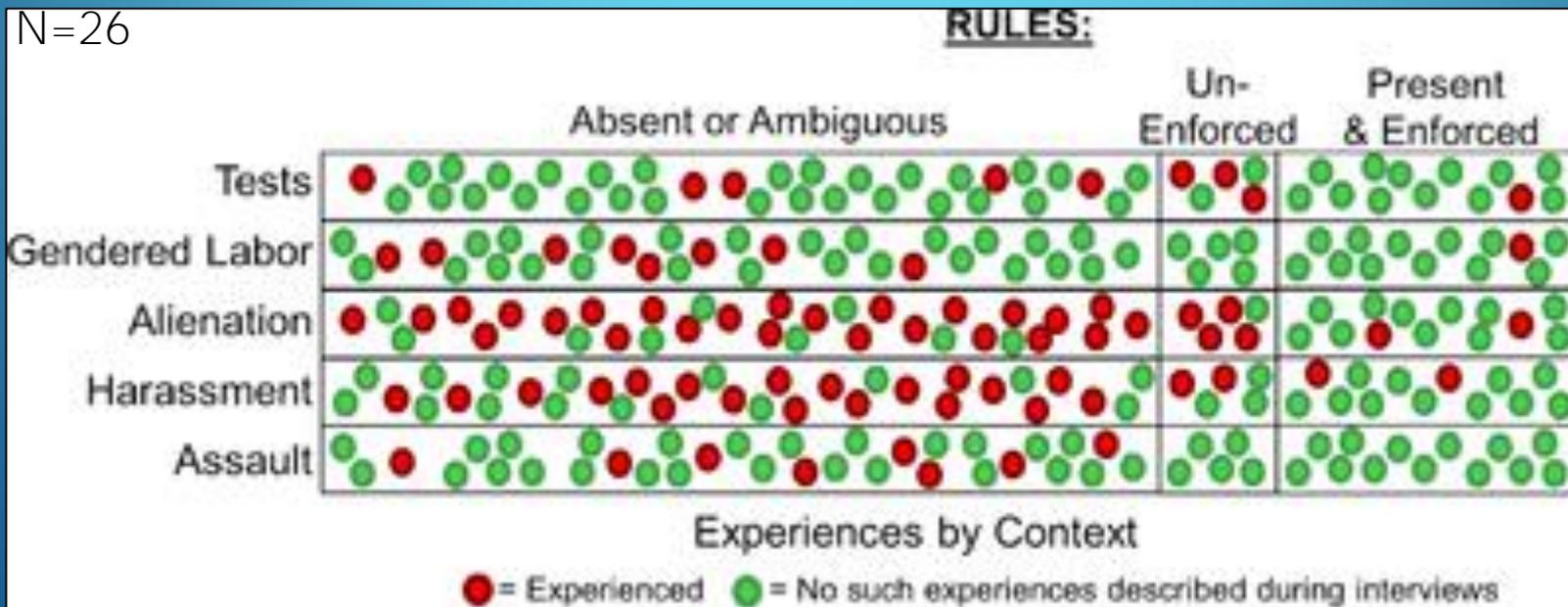


64%,  
Verbal  
Sexual  
Harassment

20%  
Sexual  
Assault

Nelson, R. G., Rutherford, J. N., Hinde, K. And Clancy, K. B. H. (2017), Signaling safety: characterizing fieldwork experiences and their implications for career trajectories. *American Anthropologist*, 119: 710–722. doi:10.1111/aman.12929

- ▶ Finding 1: field experiences differ according to presence or absence of rules, and consequences if rules were violated
- ▶ Finding 2: Hostile environments and negative experiences influenced careers
- ▶ Finding 3: Egalitarian behaviors and enforcement of rules governing behavior enhanced field experiences for respondents





# HARASSING ENVIRONMENTS

Environments where sexual harassment may be more frequent:

- ▶ Male dominated/monocultural
- ▶ Hierarchical/power differential
- ▶ High stress
- ▶ Casual drinking rules
- ▶ Harassment tolerated
- ▶ Lack of rules
- ▶ Lack of enforcement/sanctions
- ▶ Perceived risk for complaining
- ▶ Believe that complaints not taken seriously

# WHO IS AFFECTED? SEXUAL HARASSMENT

- ▶ Surveys show that women, minority women, and LGBTQ are most likely to be harassed – some examples:
- ▶ Across a variety of work environments and based on 86,578 respondents from 55 independent probability samples, 58% of women report having experienced harassing behaviors in academia, military, and private sector. (Iles et al 2003)
- ▶ Minority women may experience sexual harassment as a result of both gender and race discrimination, (Cortina et al. 2002; Murrell 1996, Berdahl and Moore 2006; Woods et al.2009)
- ▶ Survey of 525 graduate students, 38 percent of female students reported sexual harassment from faculty or staff and 58 percent described sexual harassment from other students. (Rosenthal et al. 2016)
- ▶ Survey of 489 lesbian, gay, bisexual, transgender and queer adults found 51% had experienced or knew someone who had experienced sexual harassment. (Discrimination in America <https://www.hsph.harvard.edu/horp/discrimination-in-america/>)

# IMPACT OF DISCRIMINATORY AND HARASSING ENVIRONMENTS

- ▶ Discrimination, harassment, and bullying in science can affect psychological and physical health, professional productivity, and scientific integrity.
- ▶ It produces fear, creates hostile work environments and drives people from the field, dept., or institution.
- ▶ It can limit and bias the science that is produced.
- ▶ People lose funding, jobs, careers, and sometimes their lives.

- ▶ Negative affects can extend to witnesses, work groups, and entire organizations.
- ▶ Costly loss of talent and disruption to the organization.
- ▶ Impacts recruitment and retention.
- ▶ To society it can mean the repression of a portion of its workforce and the replication and continuance of unethical, costly practices.

# TITLE IX RIGHTS – SEXUAL HARASSMENT

- ▶ Title IX of the Education Amendments of 1972 is a Federal civil rights law that prohibits discrimination on the basis of sex in education programs and activities that receive any Federal funding. Under Title IX, discrimination on the basis of sex can include sexual harassment or sexual violence, such as rape, sexual assault, sexual battery, and sexual coercion
- ▶ School must: Distribute A Policy Against Sex Discrimination
- ▶ Designate at least one employee responsible for coordinating **the school's compliance with Title IX.**
- ▶ Take immediate action to eliminate the sexual harassment
- ▶ Must promptly investigate and then take appropriate steps to resolve the situation.
- ▶ Depending on circumstances, may be criminally prosecuted, this does not relieve the school from the above responsibilities

# WHAT SHOULD YOU DO IF YOU SEE MISCONDUCT OR DHB?

- ▶ If conditions are right, speak with the person who may be conducting the misconduct to clarify the situation and/or advise in a non-threatening way that the conduct or action is inappropriate (Courageous Conversation/Bystander intervention)
- ▶ If the misconduct happens as part of a formal process related to science - publication, funding proposal, professional meeting etc - utilize the formal processes related to the journal, funding agency, or professional society, university etc.
- ▶ Speak to a supervisor, advisor, Dept. chair, if it is safe
- ▶ Speak with your university ethics office, EEOC office, Title IX coordinator or Student Resources office, security, 911
- ▶ Speak with an ethics person in your professional society
- ▶ Report the misconduct to the Inspector General of the funding Agency

# WHAT SHOULD YOU DO – BYSTANDER INTERVENTION - COMMUNITY

- ▶ Bystander – Speak up, advise that the conduct or action is **inappropriate**. **Protect and help remove the victim**. If it's a dangerous situation, call 911.
- ▶ <http://stepupprogram.org/> and <https://www.ihollaback.org>

<b><i>DIRECT</i></b> Confront the situation. Be firm, clear, and concise.	<b><i>DISTRACT</i></b> Take an indirect approach to de-escalate the situation. <small>*Ask for the time or directions</small>	<b><i>DELEGATE</i></b> Seek help from a third party.	<b><i>DOCUMENT</i></b> If it is safe to do so, document the incident.	<b><i>DELAY</i></b> Check in with the person being harassed.
<b><i>DOCUMENTATION TIPS</i></b>				
				
<b><i>KEEP A SAFE DISTANCE</i></b>	<b><i>FILM LANDMARKS</i></b>	<b><i>STATE THE DAY AND TIME</i></b>		

# 5 MINUTE CHALLENGE –BIAS AND DISCRIMINATION

Sally is a senior biology undergraduate, the only woman who has applied for a part time research job with a well-known professor. You are one of two male graduate students already working with the professor. You are helping him review the candidates for the job and he tells you to ignore all the female **students because they “simply will not cut it hiking all that way and carrying the heavy equipment needed.”**

- ▶ What are the consequences if you comply with the professors instructions?
- ▶ Is this bias? discrimination? Why or why not?
- ▶ What do you tell Sally if she asks what her chances are?
- ▶ What should you do?

Are your answers to the above any different if you know that Sally can bench press 100 lbs and is an experienced long distance backpacker? How about that Sally is experienced and already well known for being excellent in this area of research and clearly outperforms the other candidates?

From Gundersen, 2017 Case Studies for Scientific Integrity and Geoethics Practice in American Geophysical Union Special Publication 73. <https://doi.org/10.1002/9781119067825.app1>



# THANK YOU AND REMEMBER!

***“You will find your own ethical dilemmas in all parts of your lives, both personal and professional. We all have different desires and needs, but if we don't discover what we want from ourselves and what we stand for, we will live passively and unfulfilled. Sooner or later, we are all asked to compromise ourselves and the things we care about. We define ourselves by our actions. With each decision, we tell ourselves and the world who we are. Think about what you want out of this life, and recognize that there are many kinds of success.”***

Bill Watterson (author Calvin and Hobbes) Kenyon College  
Commencement, May 20, 1990 <http://web.mit.edu/jmorzins/www/C-H-speech.html>