

# **Geoethics as a common thread that binds a geoscience department together**

Vince Cronin, IAPG and Baylor University

A wide-angle photograph of a desert landscape. The foreground is dominated by vast, undulating sand dunes with fine, rhythmic ripples across their surface. In the distance, a range of rugged mountains is visible, with some peaks covered in snow. The sky is a clear, vibrant blue, dotted with several fluffy white clouds. The overall scene is bright and open.

# GeoEthics

[CroninProjects.org/ Ethics-RFG2018/](http://CroninProjects.org/Ethics-RFG2018/)



Sign over a door at Rudder Center, Texas A&M University. Photo by Vince Cronin.

## Geoethics as a common thread that binds a geoscience department together

Vince Cronin, Geosciences Department, Baylor University ([Vince\\_Cronin@baylor.edu](mailto:Vince_Cronin@baylor.edu))

Keynote presentation at the [RFG 2018](#) session R10 on Geoethics in Geoscience Education, Communication, and Citizen Science  
4:00-4:30 PM, Wednesday, 20 June 2018, Room 119 of the Vancouver Convention Center, RFG#1812

Revised 6 June 2018

### Presentation files

- Microsoft PowerPoint file: [CroninProjects.org/Ethics-RFG2018/Cronin-GeoEthics-RFG2018-keynote.pptx](http://CroninProjects.org/Ethics-RFG2018/Cronin-GeoEthics-RFG2018-keynote.pptx) (14.3 MB)
- Adobe Acrobat PDF file: [CroninProjects.org/Ethics-RFG2018/Cronin-GeoEthics-RFG2018-keynote.pdf](http://CroninProjects.org/Ethics-RFG2018/Cronin-GeoEthics-RFG2018-keynote.pdf) (14.2 MB)
- Draft script: [CroninProjects.org/Ethics-RFG2018/Cronin-KeynoteScript-RFG2018.pdf](http://CroninProjects.org/Ethics-RFG2018/Cronin-KeynoteScript-RFG2018.pdf) (122 KB)

### Abstract

It is the responsibility of experienced geoscientists to facilitate the development of students and novices as ethical geoscientists. Novice geoscientists

more

**Authority**

less

**department head**

**faculty members**

**graduate/ugrad program directors**

**staff members**

**student employees (TAs, postdocs, etc.)**

more

**Authority**

less

**board of trustees/regents**  
**football and basketball coaches**

**president**

**provost**

**graduate school dean**

**college dean**

**associate deans**

**department head**

**faculty members**

**graduate/ugrad program directors**

**staff members**

**student employees (TAs, postdocs, etc.)**

# Typical effective criteria for tenure and promotion in a US research university

# **Typical effective criteria for tenure and promotion in a US research university**

- **external funding**

# Typical effective criteria for tenure and promotion in a US research university

- external funding
- published papers



# **Typical effective criteria for tenure and promotion in a US research university**

- **external funding**
- **published papers**
- **doctorates awarded**

# Typical effective criteria for tenure and promotion in a US research university

- external funding
- published papers
- doctorates awarded
- collegiality

# Typical effective criteria for tenure and promotion in a US research university

- external funding
- published papers
- doctorates awarded
- collegiality
- teaching

# Typical effective criteria for tenure and promotion in a US research university

- external funding
- published papers
- doctorates awarded
- collegiality
- teaching
- service

higher

**Pecking Order**

lower

**tenured**

**distinguished or endowed full professor**

**full professor**

**associate professor**

---

**assistant professor**

**senior lecturer**

**lecturer**

***ad hoc* faculty**

**research-support staff**

**teaching-support staff**

**office staff**

**facilities staff**

higher

**Pecking Order**

lower

**Ph.D. from one of the “right” programs**

**Ph.D. from somewhere else**

**Master of Science**

**Master of Arts**

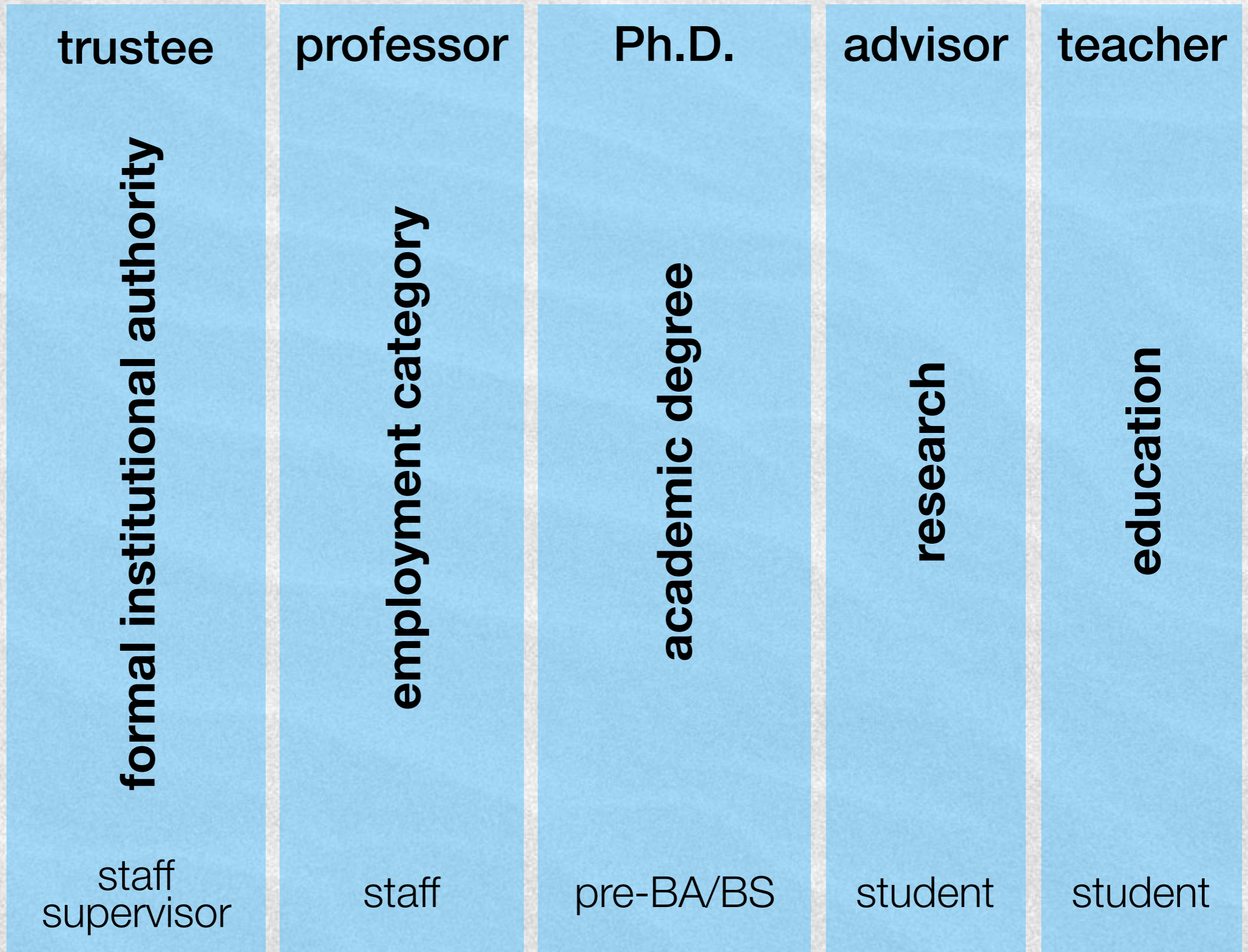
**Bachelor of Science**

**Bachelor of Arts**

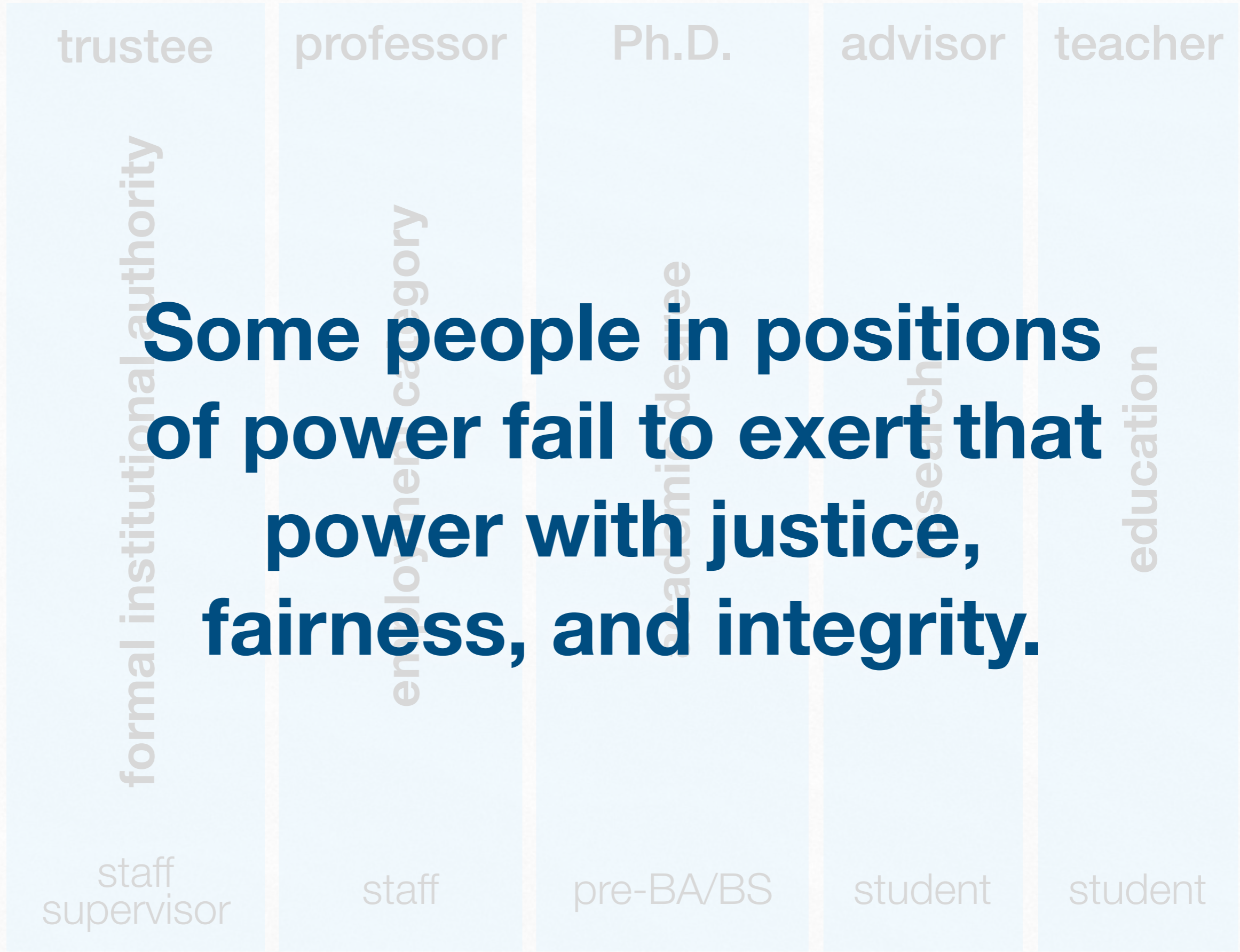
**high-school graduate**

**associate’s degree**

more  
**Power**  
less



more  
**Power**  
less





more ↑  
**Power**  
↓ less

trustee  
formal institutional authority  
staff supervisor

professor  
employment category  
staff

Ph.D.  
academic degree  
pre-BA/BS

advisor  
research  
student

teacher  
education  
student

**discrimination**

more ↑  
**Power**  
↓ less

trustee  
formal institutional authority  
staff supervisor

professor  
employment category  
staff

Ph.D.  
academic degree  
pre-BA/BS

advisor  
research  
student

teacher  
education  
student

**discrimination**  
**sexual harassment**

more ↑  
**Power**  
↓ less

trustee  
formal institutional authority  
staff supervisor

professor  
employment category  
staff

Ph.D.  
academic degree  
pre-BA/BS

advisor  
research  
student

teacher  
education  
student

**discrimination**  
**sexual harassment**  
**retaliation**

more ↑  
**Power**  
↓ less

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**discrimination**  
**sexual harassment**  
**retaliation**  
**coersion**

more ↑  
**Power**  
↓ less



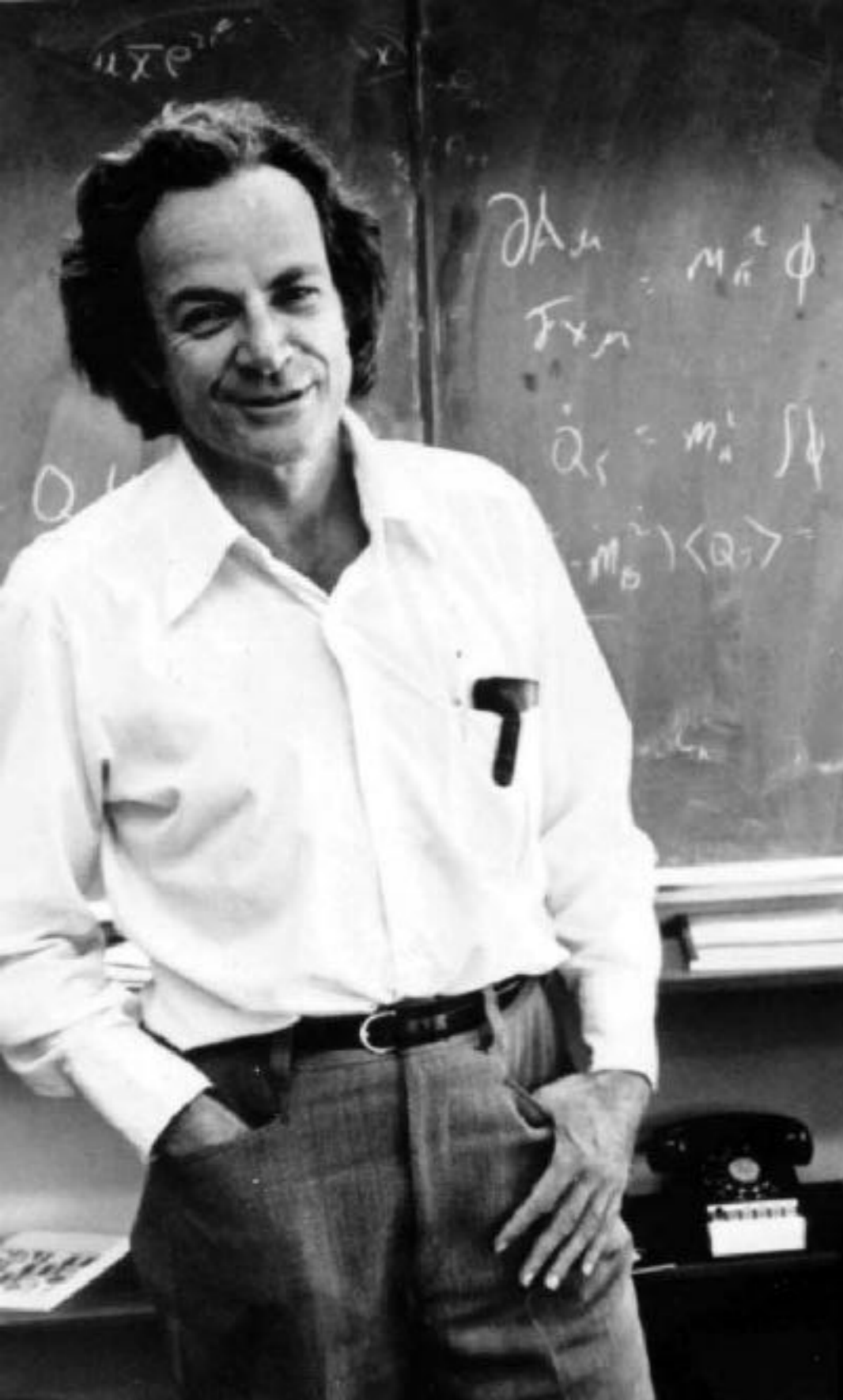


**A faculty member should  
facilitate student learning and  
positive development.**

**A faculty member should facilitate student learning and positive development.**

**A department should model an ideal geoscience community.**





**Richard Feynman**

“...our responsibility is to do what we can, learn what we can, improve the solutions, and pass them on.”

### **Requirements for a Major in Geology**

Forty-six semester hours including the following:

- A. One course from GEO 1401, 1402, 1403, 1405, 1408.  
(Majors are encouraged to take 1405.)
- B. GEO 1406, 3319, 3427, 3430, 3435, 3442, 3445, and 46C3 (Capstone Field Experience).
- C. Nine semester hours of "3000" – "4000" level Geology electives. Note: GEO 3325, 4313, 4314 and 4487 will not apply toward the major.
- D. A grade of "C" or better in geology courses used for the major.
- E. All senior-level candidates must complete the Geology exit exam.

Required courses in other fields:

- A. BIO 1306-1106 or BIO 1305-1105 or BIO 1403 or an upper-level biology course.
- B. CHE 1301, 1101, 1302, 1102.
- C. MTH 1321 and 1322.
- D. PHY 1408 and 1409; or 1420 and 1430.
- E. Geology majors are urged to substitute ENG 3300 for ENG 1304.

### **Requirements for a Secondary Major in Geology**

Thirty-four semester hours including the following:

- A. GEO 1403 or 1405.
- B. GEO 1406, 3344, 3427, 3430, 3435, 3442, 3445.
- C. Three semesters hours of "4000" level Geology electives.
- D. A grade of "C" or better in geology courses used for the major.

### **Requirements for a Minor in Geology**

Eighteen semester hours including the following:

- A. GEO 1406.
- B. One course from GEO 1401, 1402, 1403, 1405, 1408.
- C. At least two courses from GEO 3319, 3427, 3430, 3435, 3445, 4341.
- D. One course from GEO 3341, 3344, 3442, 46C3.

Cargo Cult facsimile of an airplane, Melanesia



“I call these things cargo cult science, because they follow all the apparent precepts and forms of scientific investigation, but they’re missing something essential...

...It’s this type of integrity, this kind of care not to fool yourself, that is missing to a large extent in much of the research...”

Richard Feynman

# Geoethics in a geoscience department

**truth**

# Geoethics in a geoscience department

**moral  
agency**

**truth**

# Geoethics in a geoscience department

**dignity**

**moral  
agency**

**truth**

# Geoethics in a geoscience department

**human rights**

**dignity**

**moral  
agency**

**truth**

# Geoethics in a geoscience department

human rights

dignity

respect

moral  
agency

truth



# Geoethics in a geoscience department

human rights

dignity

respect

moral  
agency

character

truth

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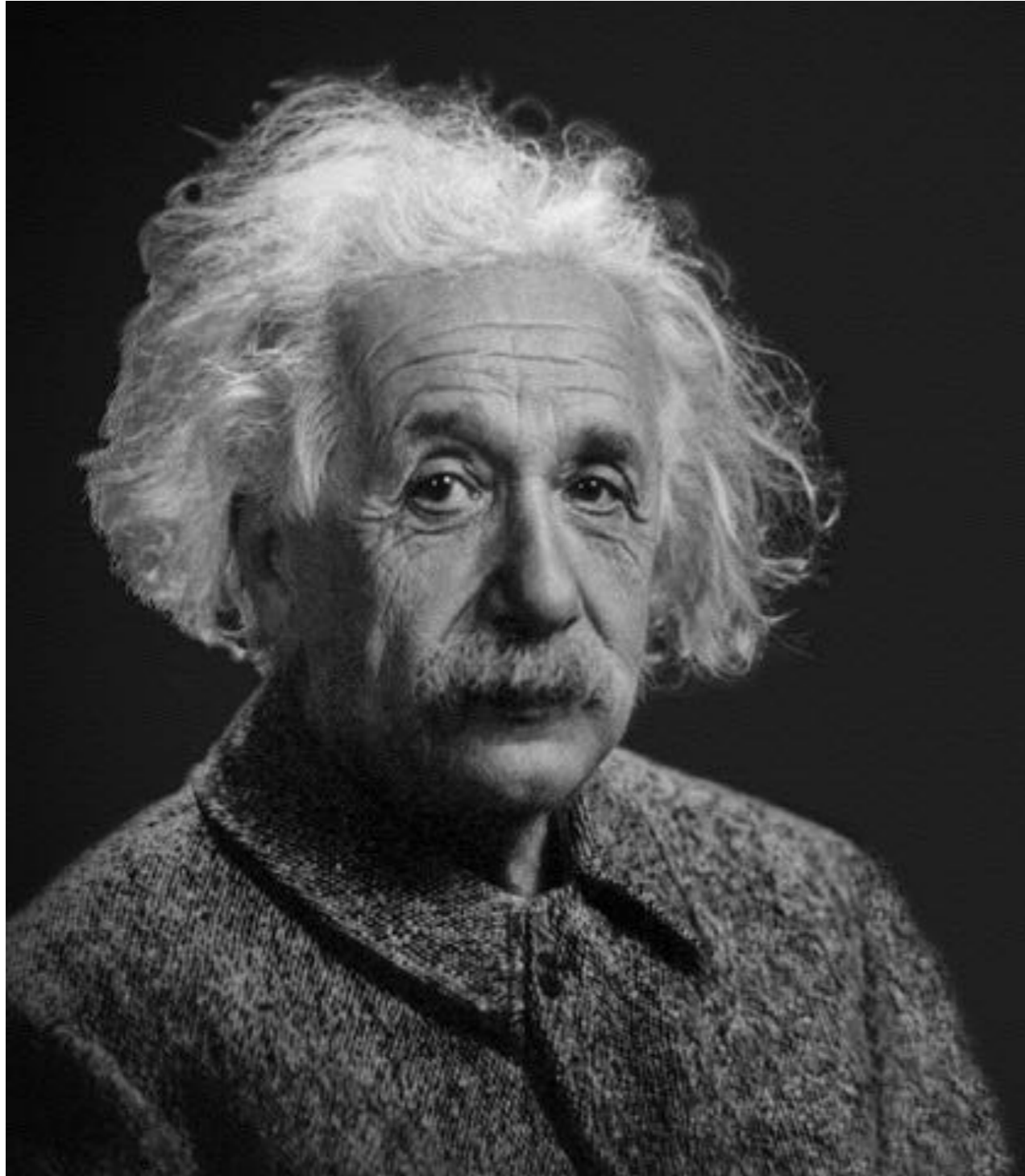
community

character

truth

integrity

**The just exercise of  
power and authority**



**Albert Einstein**

“Truth is what stands the test of experience.”

“The only ethical principle which has made science possible is that the **truth shall be told all the time.**

...A false statement of fact made deliberately is the most serious crime a scientist can commit.”



**Charles Percy Snow**

**Moral agency** is a person's ability to make moral judgments based on an assessment of right and wrong, to take responsibility for their actions, and to be held accountable for those actions.

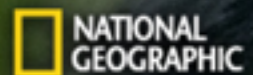
**Dignity** is an existential characteristic  
of life.

George Kateb  
**Human Dignity** (2011)





bonobo



Photograph by Christian Ziegler

© COPYRIGHT CHRISTIAN ZIEGLER. ALL RIGHTS RESERVED.

“We can distinguish between the dignity of the human species as a whole and the dignity of every human individual.”

George Kateb  
Human Dignity (2011)

“...recognition of the **inherent dignity**  
and of the **equal and inalienable**  
**rights** of all members of the human  
family is the foundation of freedom,  
justice, and peace in the world...”

Universal Declaration of Human Rights  
Adopted, United Nations General Assembly, 1948

Every human being  
has the same dignity  
— the same existential status —  
as every other human being.

**Dignity** does *not* vary with

# **Dignity** does *not* vary with age

**Dignity** does *not* vary with  
age  
ability

**Dignity** does *not* vary with  
age  
ability  
gender identity



**Dignity** does *not* vary with  
age  
ability  
gender identity  
skin color

**Dignity** does *not* vary with  
age  
ability  
gender identity  
skin color  
tribe

**Dignity** does *not* vary with  
age  
ability  
gender identity  
skin color  
tribe  
nationality

**Dignity** does *not* vary with

- age
- ability
- gender identity
- skin color
- tribe
- nationality
- ancestry

**Dignity** does *not* vary with

- age
- ability
- gender identity
- skin color
- tribe
- nationality
- ancestry
- wealth

**Dignity** does *not* vary with

- age
- ability
- gender identity
- skin color
- tribe
- nationality
- ancestry
- wealth
- power

**Dignity** does *not* vary with

- age
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- skin color
- tribe
- nationality
- ancestry
- wealth
- power

or any other attribute of an individual person.

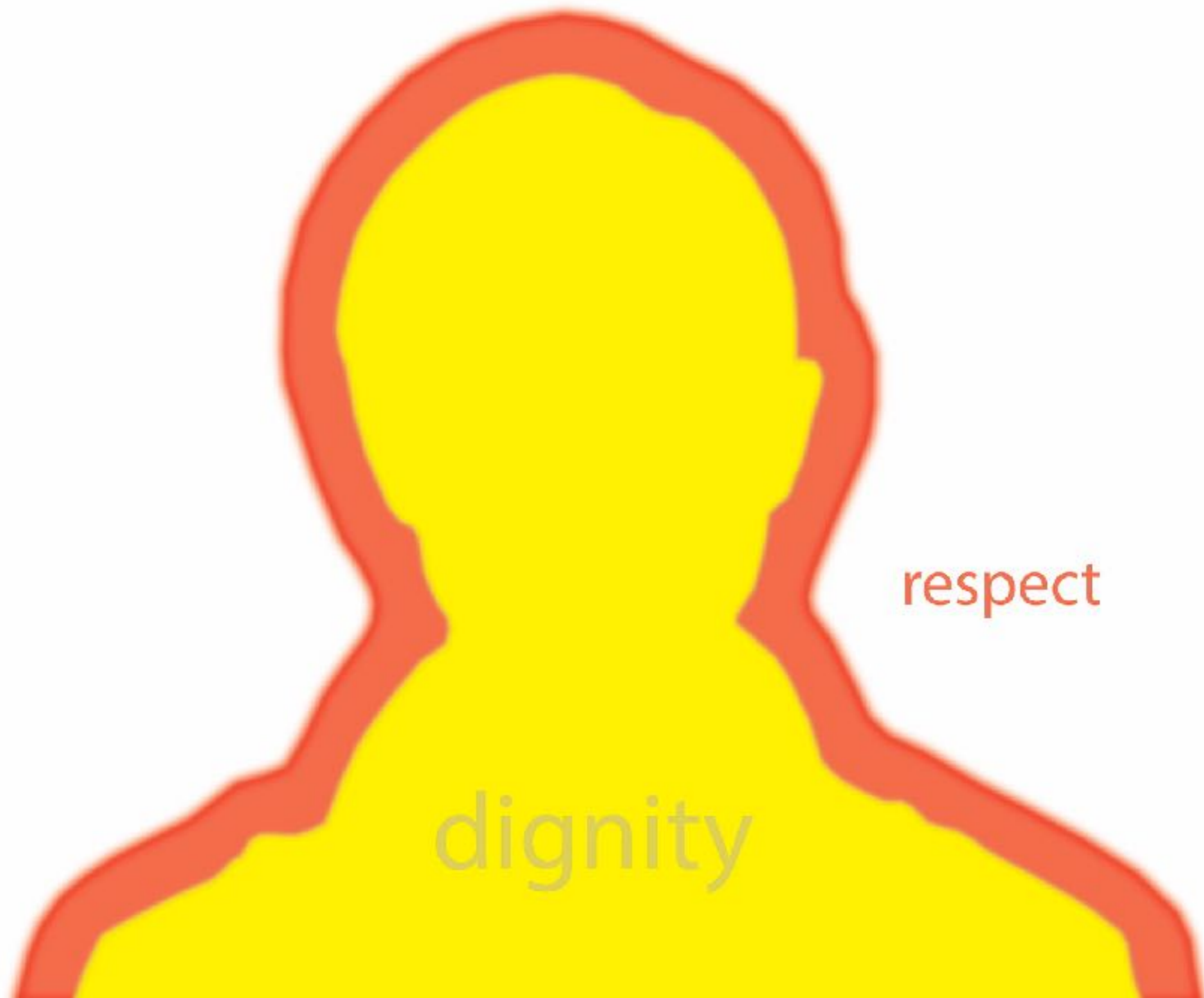
Your dignity is the same as mine,  
and yours is the same as every  
other human on the planet.

**Dignity** is an  
existential characteristic  
of each of us.



**Human dignity** is the basis for our duty to respect each other and to serve as stewards of nature.

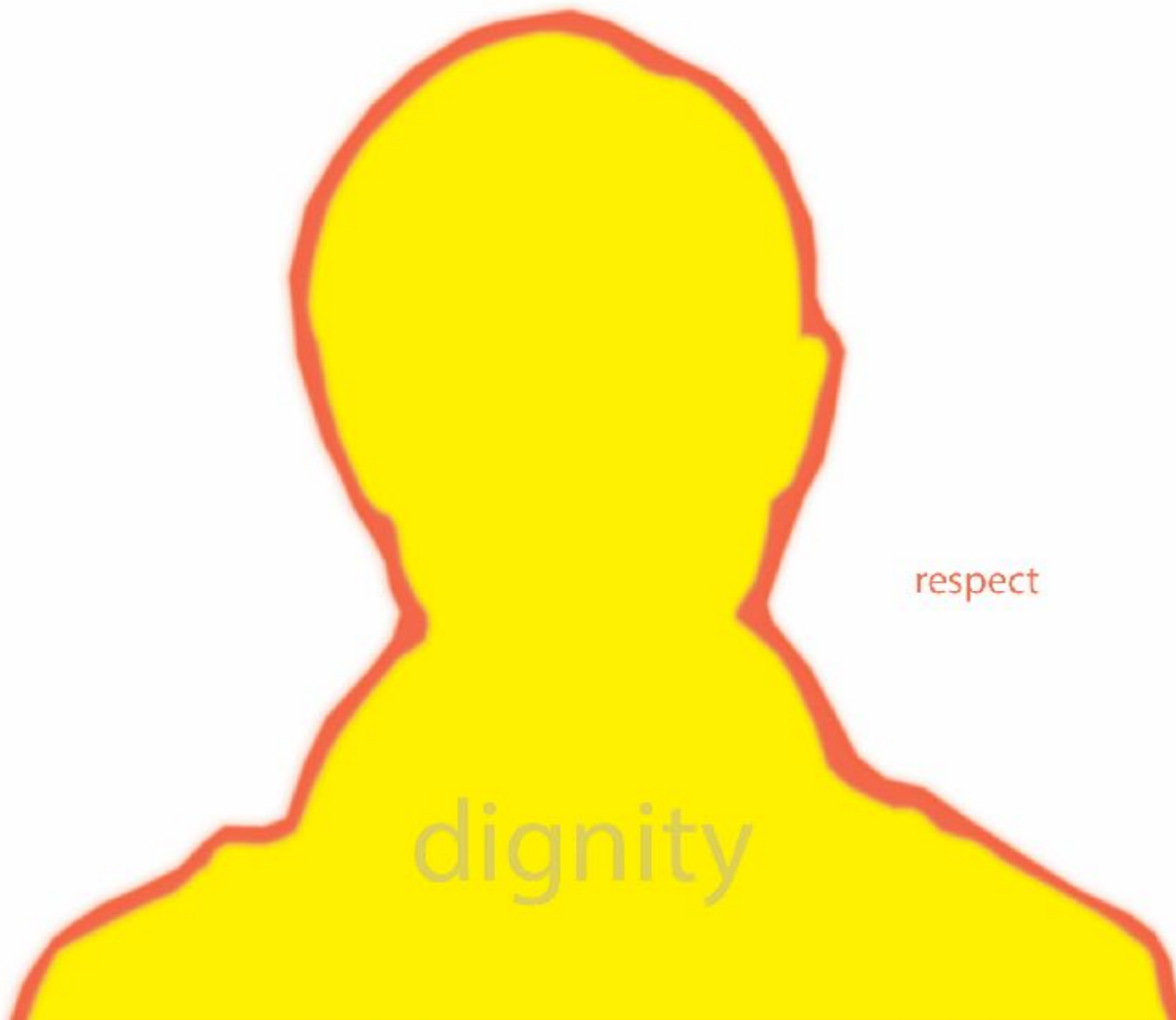






respect

dignity



respect

dignity















**Respect for a person:  
our experience with that person  
+  
bias**

**Allowing our regard or respect for  
another person to be based on bias is  
simply unreasonable discrimination.**



“Sometimes, I feel discriminated against, but it does not make me angry. It merely astonishes me. How can any deny themselves the pleasure of my company? It’s beyond me.”



**Zora Neal Hurston**

“...ethics asks us to pay attention to something beyond ourselves...  
To think or act ethically is to take care for the basic needs and legitimate expectations of others as well as our own.”

Anthony Weston (2013)

**Morality** is a prerequisite for any healthy community of humans.

Geoscience departments *are* communities.



***Integrity*** requires three steps:

1. ***Discerning*** what is right and what is wrong.
2. ***Acting on*** what you have discerned, even at personal cost; and
3. ***Saying openly*** that you are acting on your understanding of right from wrong.

Stephen Carter  
Integrity (1996)

# **Geoethics in a geoscience department**

**human rights**

**dignity**

**respect**

**moral  
agency**

**community**

**character**

**truth**

**integrity**

**The just exercise of  
power and authority**

It has become apparent that the practice of simply ***hoping*** students will learn about responsible research conduct and ethical behavior by observing exemplary behavior in their department is inadequate, and does not serve the needs of the student, the department, the geoscience community, or society as a whole.

*after* Stephanie Bird (2014)



**Step 1: Begin and sustain a genuine, ongoing conversation about ethics and integrity in your department.**



[Pixabay, Maialisa/641 images](https://www.pixabay.com/author/Maialisa/) (CC0)

**Step 2: Create a departmental web portal for ethics that is accessed through an obvious link on your department home page.**

For example, the pages from University of Texas at Austin ([www.isg.utexas.edu/people/jsg-community/guidelines/](http://www.isg.utexas.edu/people/jsg-community/guidelines/) and [www.isg.utexas.edu/people/jsg-community/workplace-issues/](http://www.isg.utexas.edu/people/jsg-community/workplace-issues/))

# People

Looking for someone?

HOME PEOPLE JSG COMMUNITY GUIDELINES FOR FACULTY, RESEARCH SCIENTISTS,...

## Guidelines for Faculty, Research Scientists, Students, and Staff of the Jackson School of Geosciences, UT Austin

**Preamble:** The guidelines below embody the best practices to be used by current faculty, research scientists, staff, teaching and research assistants. They are intended to provide a heightened awareness of the need to consciously establish effective and productive relationships that start with trust, courtesy, two-way communications, and shared expectations.

Effective research and education programs at the Jackson School of Geosciences (JSG) require a clear understanding of best practices in terms of a range of professional interactions among faculty, research scientists, undergraduate and graduate students, student advisees, and staff. Effective instruction, learning, advising, and research, and professional career growth requires open communication, ethical professional conduct between all individuals, collegial interactions, proactive mentoring, and a responsive administration to ensure a positive and successful setting across all levels of the educational endeavor.

To ensure a productive JSG setting, all staff, faculty, research scientists and students are expected to treat one another respectfully and fairly, and the professors, research advisors, and teaching assistants are expected to serve as role models, upholding the highest ethical and professional standards.

### People

Distinguished Postdoctoral Fellows Program

Find an Expert

Scientist Profiles

Employment Opportunities

JSG Community

- Jackson School of Geosciences Workplace Issues
- Guidelines for Faculty, Research Scientists, Students, and Staff of the Jackson School of Geosciences, UT Austin

Faculty Staff Research Scientist Staff Faculty Research Scientist & Peer Interactions +



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<a href="#">Faculty-Staff, Research Scientist-Staff, Faculty-Research Scientist &amp; Peer Interactions</a>	+
<a href="#">Faculty/Research Scientist Advisors &amp; Co-advisors (in addition to above)</a>	+
<a href="#">Graduate Students</a>	+
<a href="#">Department, School &amp; Programs</a>	+
<a href="#">Frequently Asked Questions For Graduate Students</a>	+
<a href="#">Dispute Resolution Guidelines</a>	+
<a href="#">Who To Talk To</a>	+
<a href="#">Process for Addressing Complaints/Concerns</a>	+
<a href="#">Consequences of Negative Actions</a>	+

## For Students

[SIGN GUIDELINE >](#)

# People

Looking for someone?

HOME / PEOPLE / JSG COMMUNITY / JACKSON SCHOOL OF GEOSCIENCES WORKPLACE...

## Jackson School of Geosciences Workplace Issues

The faculty, Research Scientists, Students, and Staff of the Jackson School are dedicated to creating a positive, inclusive work environment that embraces diversity in all forms and rejects any form of hostile work place, discrimination, or bullying. This web page is set up to inform you of your options if you have encountered issues that create a negative work environment.

GUIDELINES FOR WORKPLACE EXPECTATIONS FOR FACULTY, RESEARCH SCIENTISTS, STUDENTS, AND STAFF OF THE JACKSON SCHOOL OF GEOSCIENCES, UT AUSTIN

There are resources and people in the Jackson School, as well as across the Campus that are committed to helping resolve conflicts within our School and the University. If you have encountered a situation or person or group of people that have made your experience with us negative with respect to any of the workplace issues listed here, we hope you will inform us.

Specific University **contacts** exist for various offenses and are identified in the description of **Workplace Issues**. In addition, one can **contact** the Undergraduate or Graduate Coordinator, the Graduate Advisor, Human Resources representative in each unit, the Department Chair, the Associate Dean of Academic Affairs, or the Dean depending on your affiliation (undergraduate or graduate student, faculty, research scientist, staff) and the type of complaint.

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# Workplace Issues

Some workplace issues that may arise between students, staff, research scientists, and faculty at the Jackson School should be reported to help improve JSG yet others must be reported to a University contact by UT Austin policy. Descriptions of these situations and resources within the University system are given for each type of issue.

Bullying	+
Harassment	+
Sexual Harassment	+
Discrimination	+
Hostile Workplace or Work Environment	+
Interpersonal Violence	+
Faculty-Student Advisee Relationship Issues	+
Academic Integrity	+

## Harassment

Harassment is a type of discrimination that consists of a single intense and severe act, or of multiple persistent or pervasive acts, which are unwanted, unwelcome, demeaning, abusive, or offensive and based upon the victim's inclusion in a protected category such as race, color, religion, national origin, age, disability, citizenship, veteran status, sexual orientation, gender identity or gender expression. (from UT policy; [Handbook of Operating Procedures, 3-3020](#)).

Any person who believes he/she has been subject to harassment, as defined above, should report this to any University official, administrator or supervisor. Students are encouraged to contact the [Office of the Dean of Students](#), and employees to contact the [Office for Inclusion and Equity](#) (OIE). Every supervisor, administrator and University official is responsible for promptly reporting incidents that come to their attention to either the Office of the Dean of Students or the Office for Inclusion and Equity.

# Key Contacts

## Contacts within Jackson School of Geosciences and University of Texas at Austin

For most concerns or complaints, the first step is usually internal to JSG, but many University-wide resources are available. Below are the general contacts for each type of individual, followed by specific ones for certain types of complaints. In all cases, complaints can be made internally to the appropriate Jackson School contact or to a University contact. ***However, sexual harassment, any form of discrimination (including harassment) and interpersonal violence complaints must be reported by policy to the appropriate University contact.***

**Please note:** if you are worried about any kind of behavior towards you or anyone else, you may contact **BCAL** or call 512-232-5050, 24 hours a day.

Undergraduate Students	+
Graduate Students	+
Faculty	+
Research Scientists & Staff	+
Required University Reporting	+

**Step 3: Use the ethics portal to expose department members to ethics resources from the broader science/geoscience community**

**Step 4: Develop statements of  
ethical norms for your  
department**

**Don't reinvent the wheel, or try to address all problems at once. Take your time, listen, and be flexible.**

Start with aspirational statements.

Address issues of academic/scientific integrity, harassment, bullying, and discrimination *directly, honestly, and unambiguously.*

Focus on values and ethical principles that all can agree on.

You might develop resources aligned with the needs of specific groups within the department.

Try to keep your statements consistent with the norms of the broader geoscience community.

The goal is to capture and transmit “the sense of this community” about what it means to act with integrity, not to provide a means to justify or support judgmentalism.



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**Step 5: Provide every geoscience major (and grad student) with authoritative information about applied ethics in science or geoscience**

For example, Sigma Xi's *Honor in Science* (Jackson, 2000) or the National Academies' *On Being a Scientist* (NAP, 2009)

*Scientific Method in Brief* (Gauch, 2012)

**Step 6: Encourage each member of the department to develop their own personal commitment to integrity and geoethics.**

For example, IAPG's "GeoEthical Promise"  
[www.geoethics.org/geopromise](http://www.geoethics.org/geopromise)



- Develop departmental ethics resources in a very visible, collaborative, and transparent process
- Consider departmental ethics resources to be flexible works in progress — always subject to revision and improvement.

**Facilitating the  
development of ethical  
geoscientists is  
*our* responsibility.**