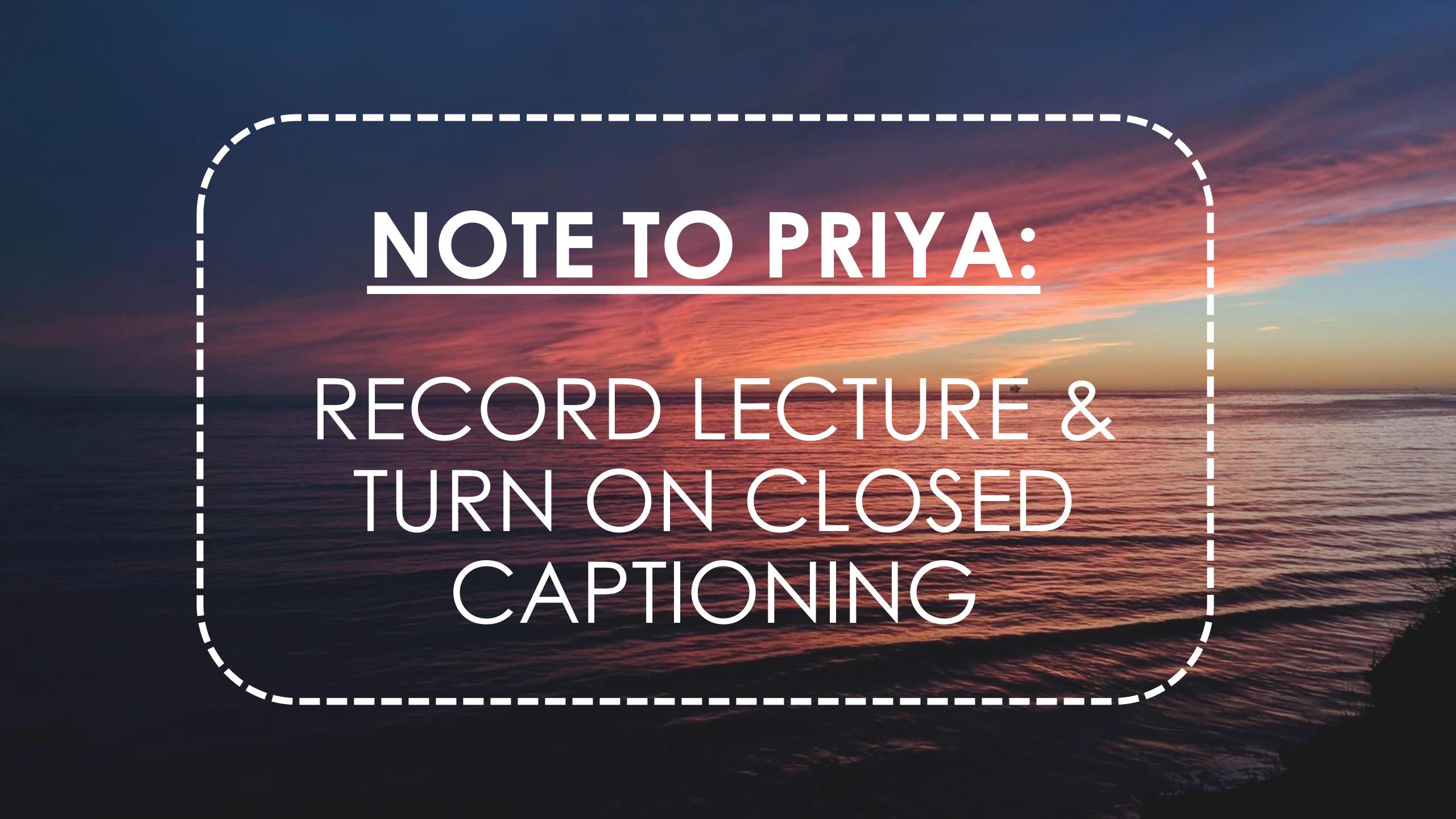
The background of the slide is a photograph of a coastal scene. The top half shows turquoise blue ocean water with white-capped waves crashing onto a sandy beach. The bottom half shows a close-up of the sandy beach, with the ocean's edge visible on the right.

LECTURE 9

SCIENCE ETHICS, ADVOCACY & ACTIVISM



NOTE TO PRIYA:

RECORD LECTURE &
TURN ON CLOSED
CAPTIONING

RULES OF ENGAGEMENT

Be Open & Encouraging

Communicate Effectively & Respectfully

Contribute / Participate In Group Conversations

Step Up / Step Back: Give people
time/space to answer

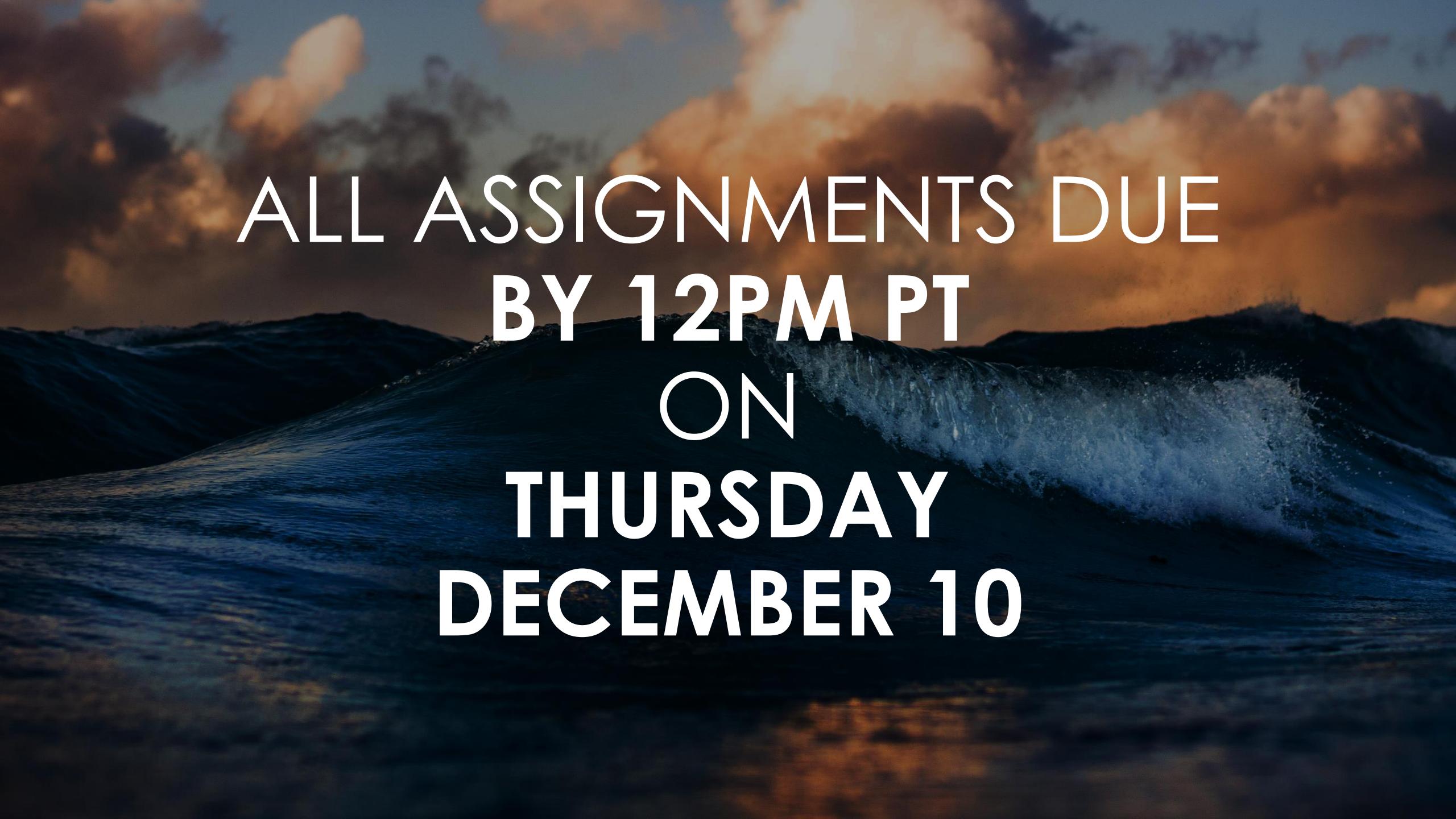
#BlackInMarineScience



**BLACK IN MARINE
SCIENCE WEEK**

NOV 29 - DEC 5, 2020

@BlackinMarSci
blackinmarsci.github.io
#BlackInMarineScience

The background of the image is a photograph of a sunset over the ocean. The sky is filled with large, billowing clouds that are lit from behind by the setting sun, creating a warm orange and yellow glow. In the foreground, there are several dark, blue-grey waves crashing towards the shore. The overall mood is dramatic and serene.

ALL ASSIGNMENTS DUE
BY 12PM PT
ON
THURSDAY
DECEMBER 10

WILD CARD CLASS

*SCUBA Diving +
Underwater Photography*



Anesti Vega

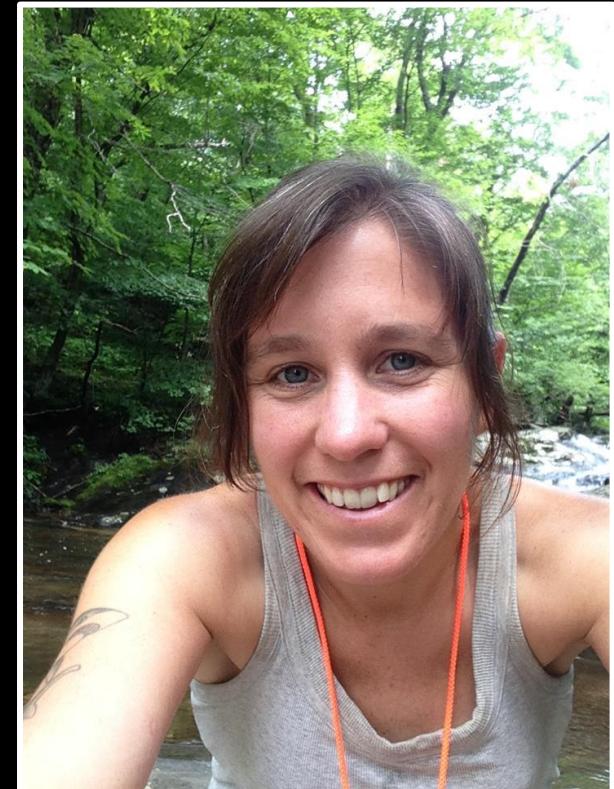
Lectures & Assignments

Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week
Week 10

SCUBA Diving / Underwater Photography + Jobs Outside of Research

- SCUBA Diving & Underwater Photography
 - [Anesti Vega](#), Shark scientist, SCUBA Diver & Photo/Videographer
 - [Instagram](#)
 - [Maluco Studios](#)
 - [IMDB Page](#)
- Jobs Outside of Research
 - [Emily Knight](#), Manager of the [Lenfest Ocean Program](#)
 - [LinkedIn Profile](#)
 - [Twitter](#)
 - [Medium Page](#)

*Jobs in Marine Science
OUTSIDE of research*



Emily Knight

WILD CARD CLASS

Assignment 8

Questions About ...

SCUBA Diving +
Underwater Photography

Jobs in Marine Science
OUTSIDE of research

Assignment 9

Questions For ...

Anesti Vega

Emily Knight

SCIENCE ETHICS, ADVOCACY, ACTIVISM



LEARNING GOALS

How scientists navigate their relationship with **each other** and **society**.

LEARNING GOALS

“It doesn’t take a lot to lose
your integrity, but it takes a lot
to get it back.”
- Anne Todgham

WHAT ARE SCIENTIFIC ETHICS?

“Scientific ethics calls for honesty and integrity in all stages of scientific practice ... [which ultimately] relate[s] to the production of unbiased scientific knowledge.”

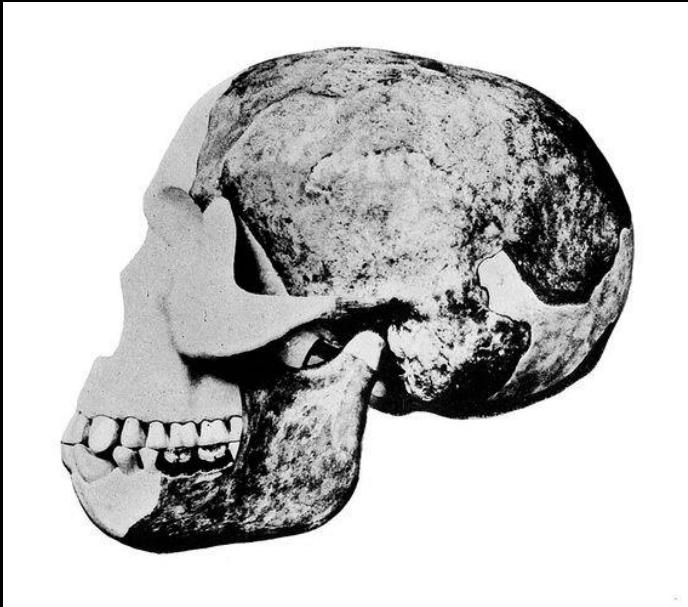
ETHICS ~ INTEGRITY

Don't do anything that would call into question the integrity of your science.

“Integrity beyond reproach.”
- The Nature Conservancy

PILDOWN MAN HOAX

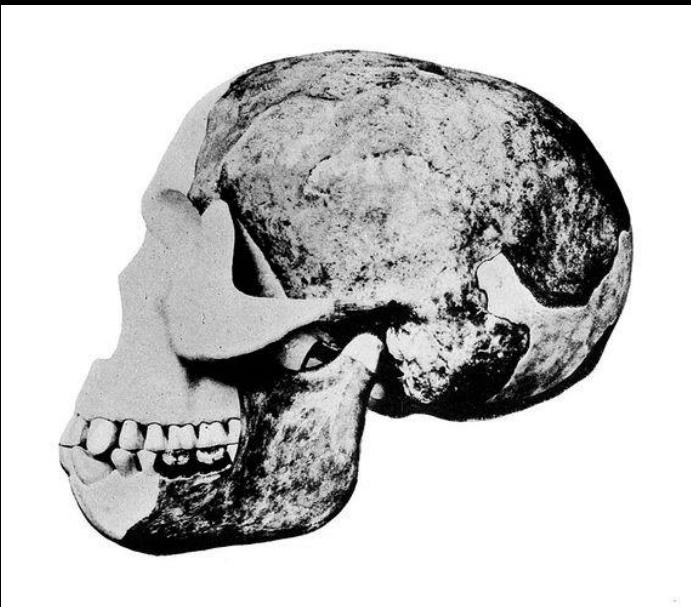
“link between man and apes”



nhm.ac.uk/our-science/departments-and-staff/library-and-archives/collections/piltdown-man.html

PILDOWN MAN HOAX

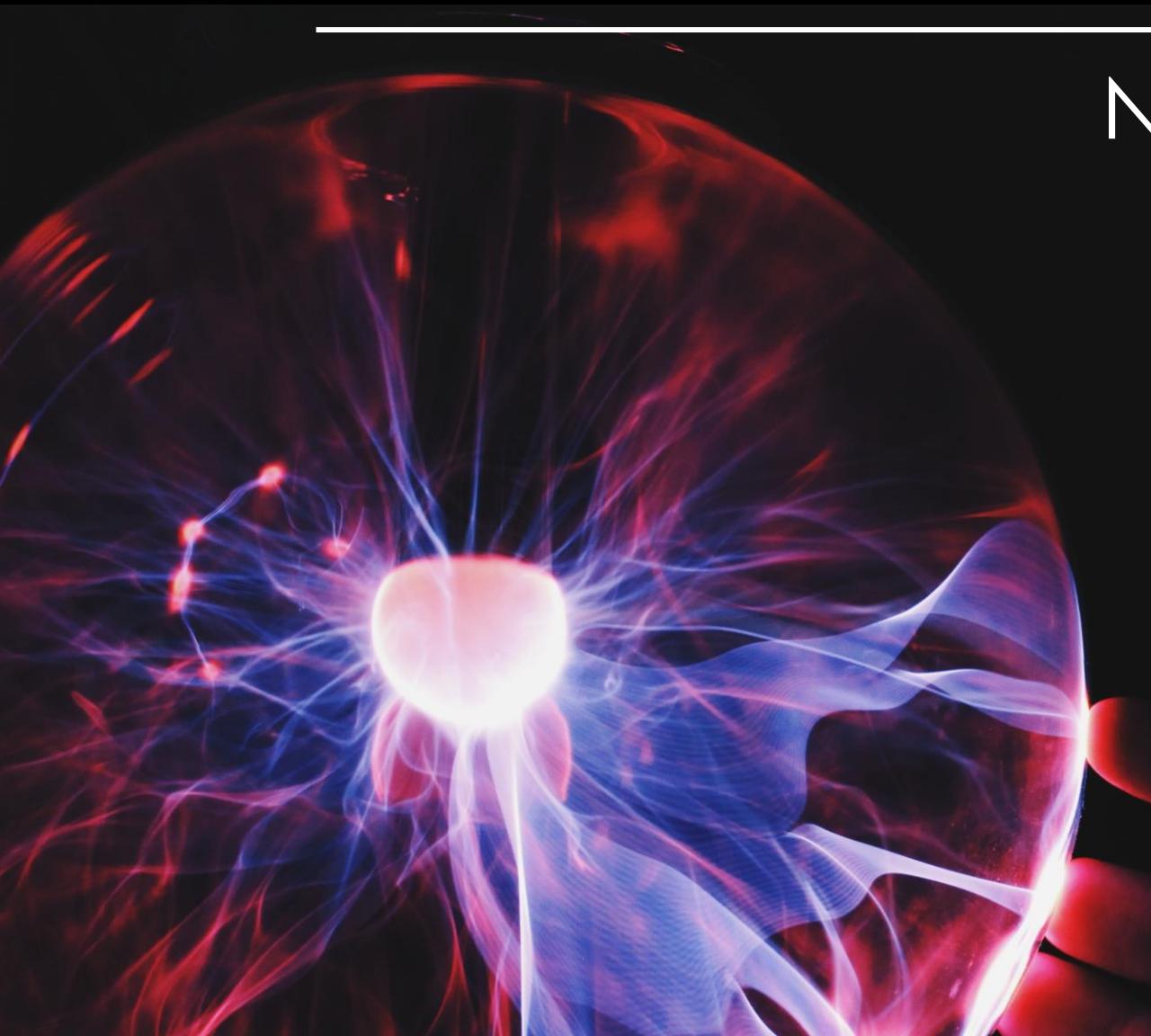
WHAT WENT WRONG?



INTELLECTUAL PROPERTY



INTELLECTUAL PROPERTY



Not just patents – ideas are the currency of science!

DON'T scoop/plagiarize others' work

Give credit where credit's due:

- Plagiarism
- Authorship

CONFLICT OF INTEREST



CONFLICT OF INTEREST



Conflict of interest: when an individual's vested interest (money / status / relationships) may cause them to make *biased* decisions

* Journals often require you to declare any COIs upon publication

MANAGING FINANCES



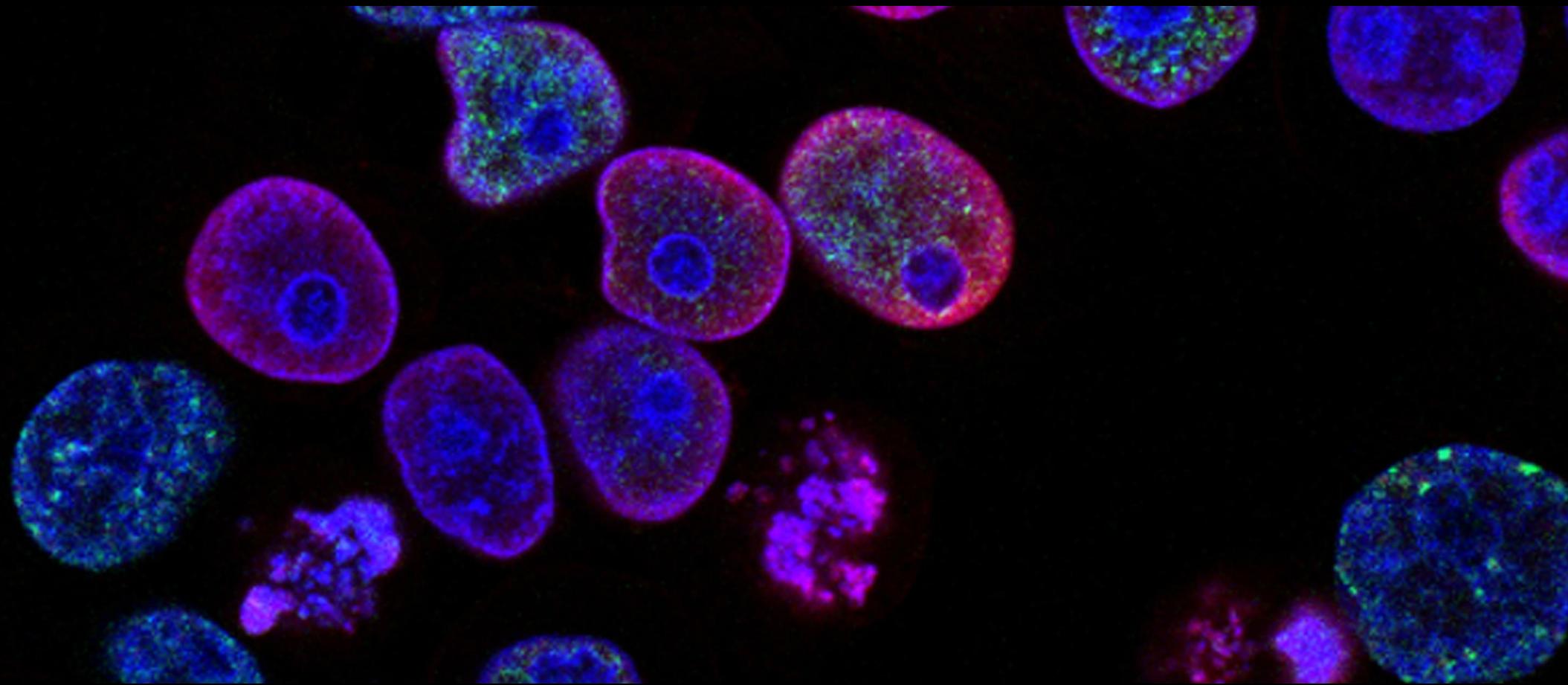
MANAGING FINANCES

Be wary of how you
spend your funds:
public trust

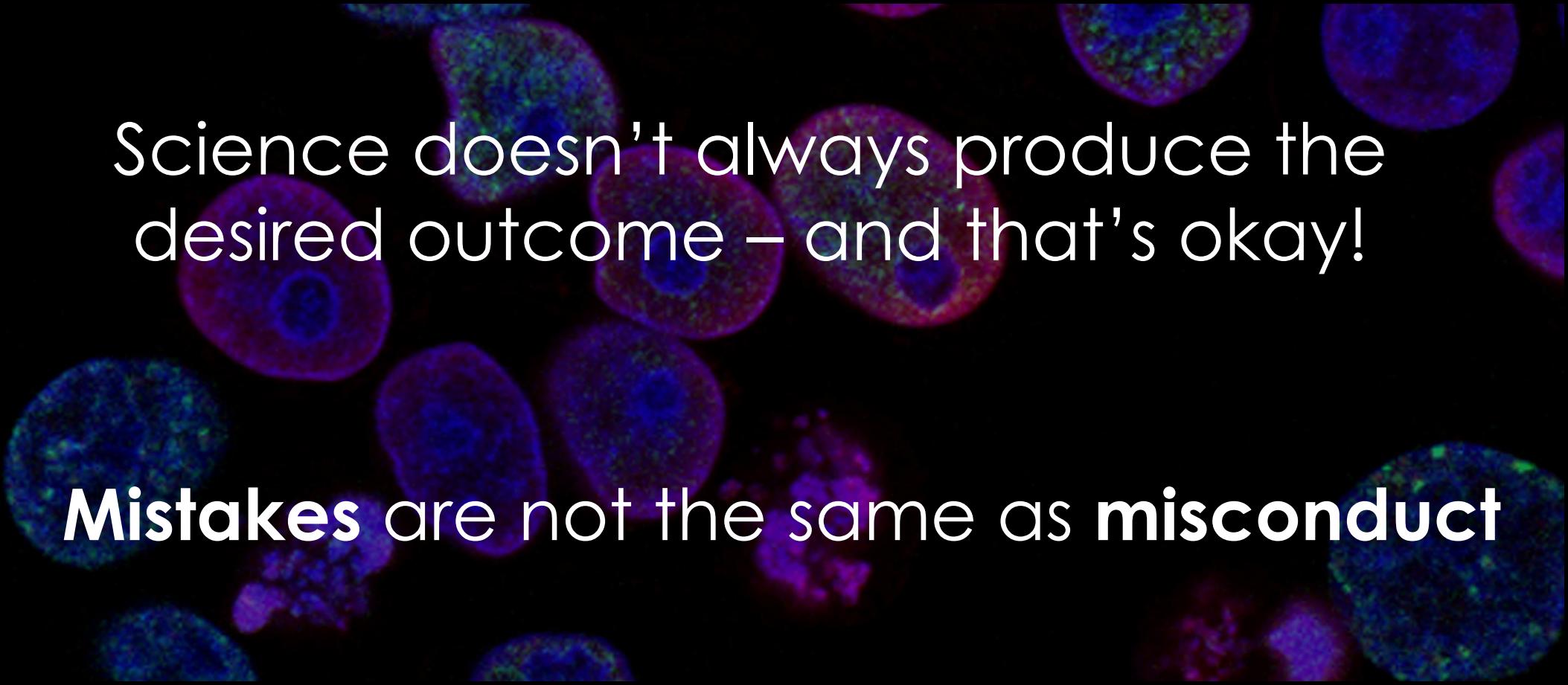
Taxpayer dollars +
mission-drive
organizations often fund
science!



RESEARCH MISCONDUCT



RESEARCH MISCONDUCT

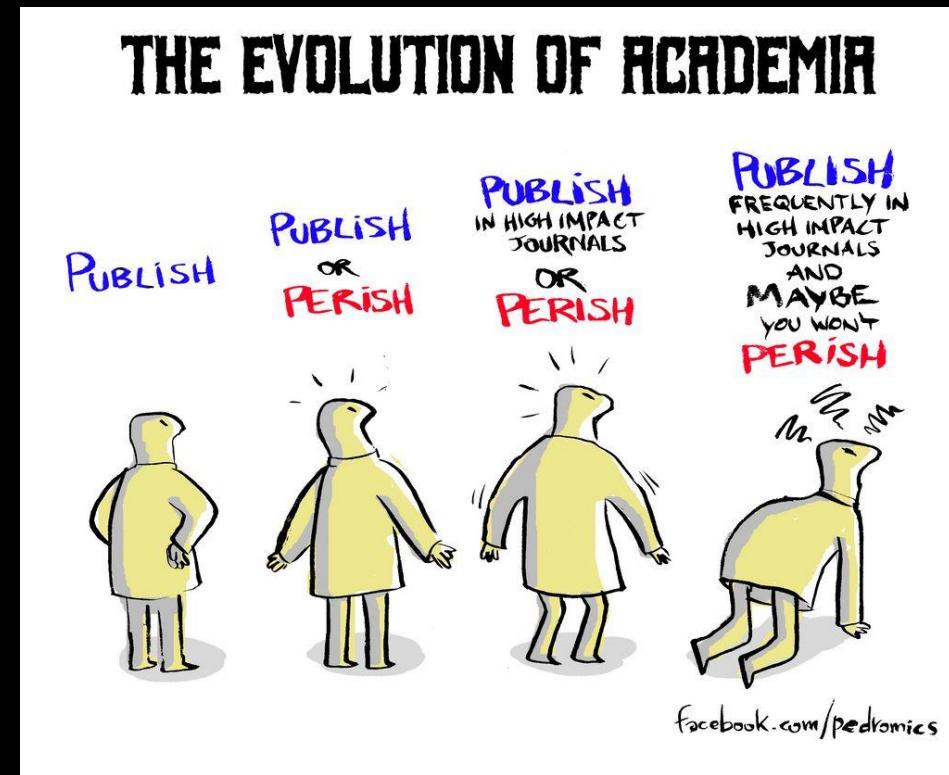


Science doesn't always produce the desired outcome – and that's okay!

Mistakes are not the same as **misconduct**

RESEARCH MISCONDUCT

“Publish or Perish”



RESEARCH MISCONDUCT

#PruittGate

Weeks	Treatment	Individual	pre-treatment					Post treatment				
			Bold1	Bold2	Bold3	Bold4	Bold5	Bold6	Bold7	Bold8	Bold9	Bold10
4	Mixed	M_4_10	297.91	356.56	600	160.66	600	160.66	600	119.83	153.53	241.34
4	Mixed	M_4_11	600	600	600	77.56	313.32	477.56	313.32	384.26	339.12	357.55
4	Mixed	M_4_12	600	600	600	335.09	212.22	335.09	412.22	414.03	415.46	399.41
4	Mixed	M_4_13	103.5	442.25	241.34	339.63	119.72	139.63	119.72	210.73	113.47	111.31
4	Mixed	M_4_14	600	600	600	178.41	68.57	463.77	441.23	420.89	369.81	402.63
4	Mixed	M_4_15	561.71	600	600	257.62	124.72	257.62	124.72	600	600	600
4	Mixed	M_4_16	600	281.46	600	562.01	183.25	562.01	183.25	600	84.53	600
4	Mixed	M_4_17	600	600	259.94	600	452.7	492.23	452.7	499.45	594.72	458.71
4	Mixed	M_4_18	600	170.13	58.75	435.60	28.22	35.21	28.22	83.75	600	12.21
4	Mixed	M_4_19	600	90.56	43.48	600	276.63	58.75	233.51	358.66	502.37	63.77
4	Mixed	M_4_20	600	277.53	63.77	600	165.58	600	165.58	46.35	334.00	600
4	Mixed	M_4_21	600	600	107.37	349.00	327.22	349.00	327.22	600	408.28	288.32
4	Mixed	M_4_22	264.59	600	583.78	600	209.16	482.35	409.16	484.53	495.62	317.35
4	Mixed	M_4_23	600	600	475.82	600	419.38	600	600	600	600	600
4	Mixed	M_4_24	35.72	137.59	100.26	113.47	312.17	13.54	19.5	53.97	66.21	58.75
4	Mixed	M_4_25	403.03	234.66	554.88	31.72	76.66	31.72	76.66	42.13	39.53	54.23
4	Mixed	M_4_26	83.00	170.56	600	518.31	600	518.31	600	305.85	498.31	554.88
4	Mixed	M_4_27	600	600	305.85	153.53	358.66	453.53	358.66	452.65	358.94	359.94
4	Mixed	M_4_28	600	600	600	91.91	590.41	591.91	590.41	500.21	454.23	443.37
4	Mixed	M_4_29	35.06	114.27	404.35	600	600	600	155.42	119.25	600	598.62
4	Mixed	M_4_30	252.47	600	600	262.83	194.62	262.83	194.62	24.56	530.35	171.75
4	Mixed	M_4_31	600	600	143.37	304.35	233.00	404.35	233.00	61.2	252.72	114.28
4	Mixed	M_4_32	110.53	600	600	600	600	495.56	577.45	585.56	497.56	583.78
4	Mixed	M_4_33	581.03	600	600	600	600	600	600	600	600	600
4	Mixed	M_4_34	23.06	600	183.28	352.25	181.06	552.25	181.06	114.04	188.09	214.94
4	Mixed	M_4_35	600	337.74	171.75	184.65	452.09	184.65	452.09	107.28	518.31	600
4	Mixed	M_4_36	600	600	598.62	237.40	91.79	237.40	91.79	600	383.22	199.38
4	Mixed	M_4_37	600	449.44	600	285.47	262.85	285.47	262.85	600	600	143.37
4	Mixed	M_4_38	251.06	600	600	600	198.57	512.23	398.57	477.00	482.09	482.34
4	Mixed	M_4_39	42.21	600	96.00	600	191.54	600	232.1	600	600	600
4	Mixed	M_4_40	471.34	600	146.53	201.83	260.09	201.83	260.09	471.75	72.19	100.26
4	Mixed	M_4_41	600	403.25	317.35	298.59	191.54	298.59	191.54	600	344.09	600
4	Mixed	M_4_42	600	84.53	600	600	348.88	600	348.88	600	441.94	182.09
4	Mixed	M_4_43	600	600	600	94.72	570.93	594.72	570.93	499.87	525.48	541.02

ecologyforthemasses.com/2020/02/04/pruittd-ata-and-the-ethics-of-data-in-science/

RESEARCH MISCONDUCT

#PruittGate

WHAT WENT WRONG?

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PUBLISHING

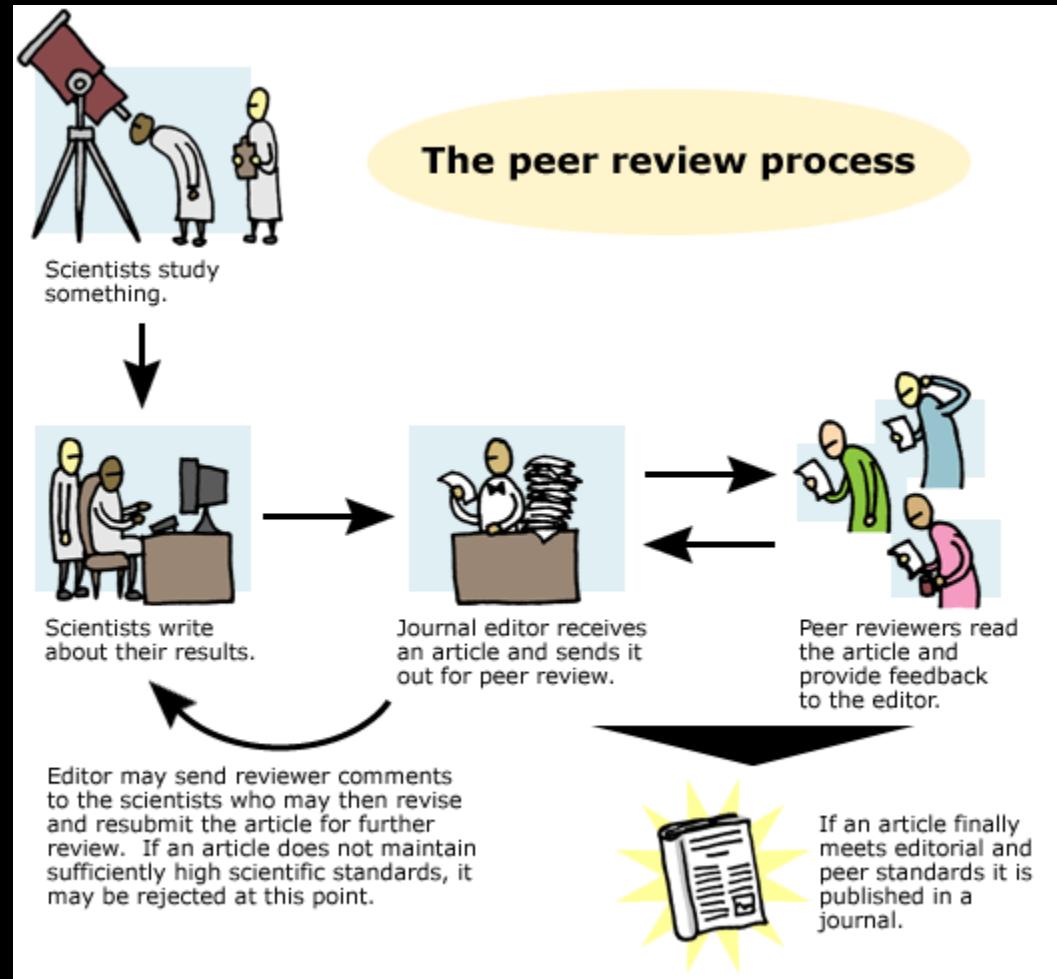
PUBLISHING

Journalism is often the public record of science



PUBLISHING

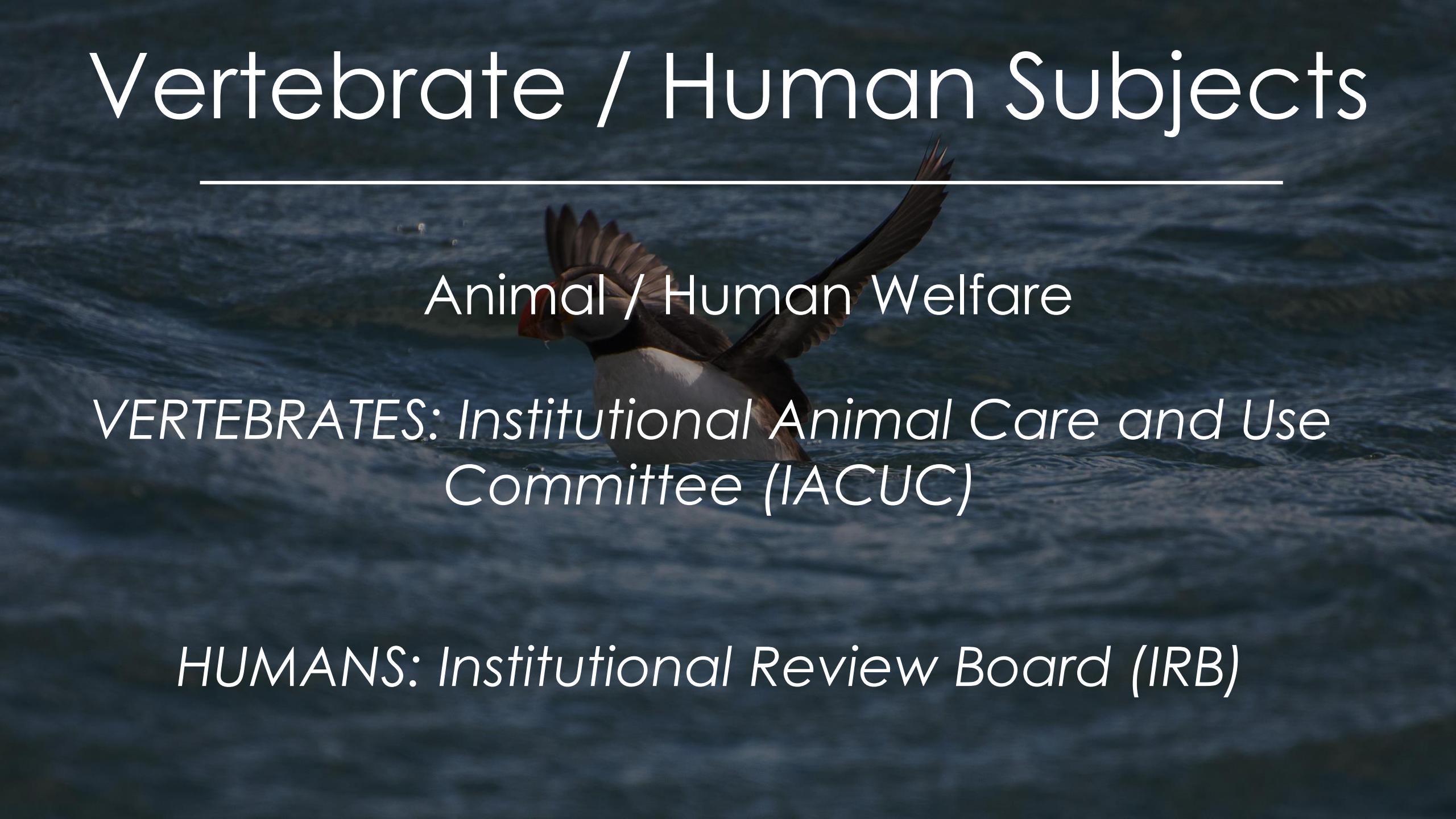
Peer Review as The Standard



Vertebrate / Human Subjects



Vertebrate / Human Subjects



Animal / Human Welfare

*VERTEBRATES: Institutional Animal Care and Use
Committee (IACUC)*

HUMANS: Institutional Review Board (IRB)

Creating a Culture of Belonging



RULES OF ENGAGEMENT

Be Open & Encouraging

Communicate Effectively & Respectfully

Contribute / Participate In Group Conversations

Step Up / Step Back: Give people
time/space to answer

Be collaborative,
considerate, conscientious
community members so
that Science gets a good
rap!



BREAK

SCIENCE ADVOCACY & ACTIVISM

Science

Contents ▾ News ▾ Careers ▾

SHARE | EDITORIAL

Science advocacy, defined

Joanne Padrón Carney
+ See all authors and affiliations

Science 18 Jul 2014:
Vol. 345, Issue 6194, pp. 243
DOI: 10.1126/science.1258492



Science Advocacy

chemistryworld.com/careers/should-scientists-be-activists/4011293.article

Science Activism

chemistryworld.com/careers/should-scientists-be-activists/4011293.article

BREAKOUT SESSIONS

1. What to you is the difference between ACTIVISM & ADVOCACY ?
2. What are the benefits and risks of being a science ACTIVIST or ADVOCATE ?
3. How does science ACTIVISM or ADVOCACY relate to your career aspirations?

LECTURE 10

SCUBA DIVING, UNDERWATER
PHOTOGRAPHY & MARINE SCIENCE
JOBS OUTSIDE OF RESEARCH