

# IT'S A SLIPPERY SLOPE TO RESEARCH MISCONDUCT

It doesn't matter if you're an undergraduate researcher, a graduate student, a post-doc, or a principal investigator who is performing federally funded research, writing a research paper, or leading a research program; research integrity matters at every level.

Small lapses in judgment could lead to a slippery slope ending in research misconduct.



Be vigilant against these common lapses:

## 1. TAKING SHORTCUTS

Lack of care in experimentation that might impact reproducibility

## 2. CHEATING

Such as puffery, which is inflating your resume, can establish dangerous behavior patterns

## 3. "BEAUTIFICATION" OF IMAGES

Removing an unwanted feature, even if unrelated to the result, could be scientifically significant

## 4. LACK OF APPROPRIATE CONTROLS

Failure to perform a control with the experimental sample could affect result interpretation

## 5. COMPOSITE IMAGES

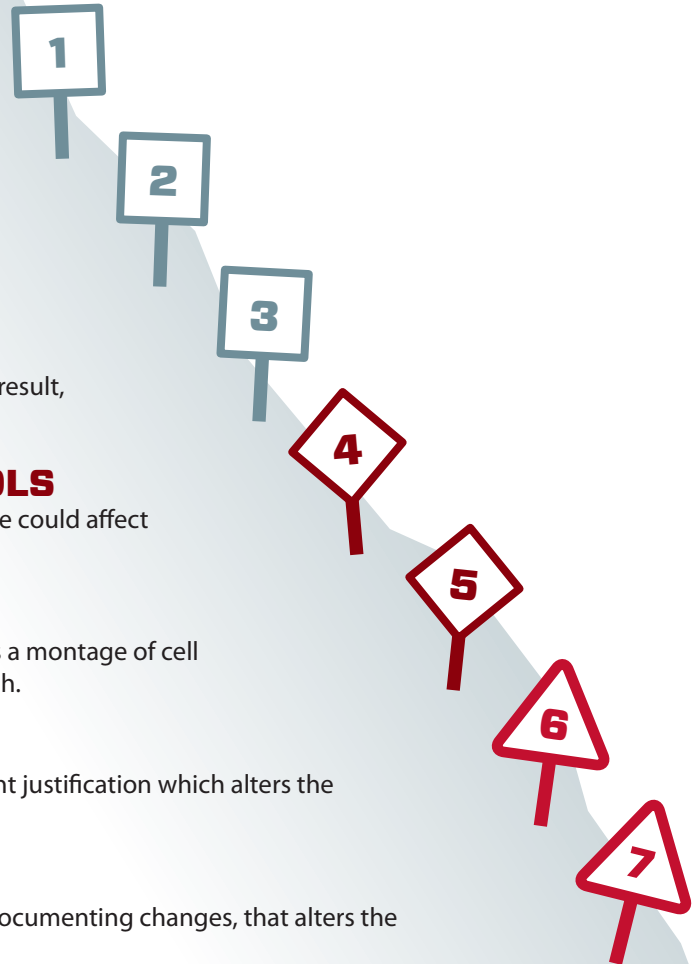
Assemblies of images that are not clearly labeled, such as a montage of cell images from the same experiment but not labeled as such.

## 6. OUTLIERS

Omitting outlier data without appropriate pre-experiment justification which alters the overall conclusion of the analysis

## 7. IMAGE MANIPULATION

Splicing, cutting, or cropping images; without properly documenting changes, that alters the results or falsely claims a result which was not obtained.



**Questionable or Detrimental Research Practices may be considered research misconduct in some cases, but the facts of each case differ and must be individually evaluated.**

*Adapted with gratitude from the Office of Research Integrity, here: <https://ori.hhs.gov/sites/default/files/2018-12/Slippery%20Slope%20ORM%20Rasterized.pdf>*