

# Research Integrity: Why Is This Such a Problem?

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Other roles where I am constantly aware of the importance of research integrity

- SWOG (Vice Chair, Translational Medicine)
- JAMA Oncology (Deputy Editor)
- 4 Clinical Trial Data Monitoring Committees

**GCC Workshop: October, 2022**

# Research Integrity And Its Effects On Drug Development

- Integrity of laboratory research and how this impacts clinical outcomes
  - The issue at hand
    - The spectrum
  - Why does this occur?
  - What can we do to fix this?

# Don't Be Surprised if You Feel One or More of the Following Emotions After This Lecture

- Shocked
- Angry
- Embarrassed (Guilty?)
- Entertained
- Discouraged
- Reinvigorated
  - You don't have to publish in CNS to have a successful career and more importantly, to make significant contributions!
- All of the above

# Everything You Need to Know About Research Integrity From One Site

<https://ori.hhs.gov/infographics>

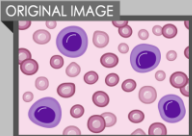
# TIPS FOR PRESENTING SCIENTIFIC IMAGES with INTEGRITY

Images should clearly and correctly represent research results. Minor image processing may be acceptable but, as depicted below there's a fine line between enhancing an image and distorting it.

**BE AWARE:** Undocumented image manipulations can lead to accusations of research misconduct.

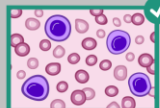
**67%** of ORI's closed research misconduct cases involved image manipulation.\*

\*between 2011 and 2015

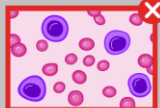


## COLOR ENHANCEMENTS

Changing the contrast, color, or brightness



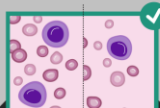
Ensure that the meaning of the image stays the same and fine details are not removed.



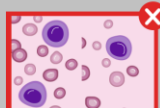
Contrast and saturation were increased causing the background cells to disappear.

## SPLICE & PASTE

Combining multiple images into one image



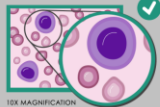
Clearly indicate where two images were joined using a dividing line and labels.



Two images were combined causing them to look like new data.

## CROP

Cutting out components and resizing



Use a magnification panel to highlight desired visual data.



Reference information was selectively removed from the image causing loss of data.

## WHAT ELSE MUST YOU DO?

- Clearly document all changes made to an image.
- Retain the unprocessed image for your records.
- Follow journal guidelines for permissible processing.

LEARN MORE ABOUT IMAGE PROCESSING:  
<http://ori.hhs.gov/ImageProcessing>



# WRITE ETHICALLY

FROM START TO FINISH

## PREPARE

**USE PRIMARY LITERATURE**

Secondary sources might have misinterpreted the work

**HAVE A THOROUGH UNDERSTANDING OF YOUR SOURCES**

Accurately communicate their ideas and terminology

## WRITE

**AVOID SELECTIVE REPORTING**

Present unbiased information by acknowledging conflicting evidence and alternative interpretations

## CITE YOUR SOURCES

DO NOT PLAGIARIZE

USE YOUR OWN WORDS AND SENTENCE STRUCTURE

MAINTAIN THE INTENDED & MEANING OF THE SOURCE

QUOTE VERBATIM TEXT

## PUBLISH

**AVOID GIFT AUTHORSHIP IS UNETHICAL**

Only include those who have made substantial contributions to a project

Give proper authorship or acknowledgment to those who have contributed to a paper

**AVOID GHOST AUTHORSHIP**



Learn more about ethical writing: [ori.hhs.gov/ethical\\_writing](http://ori.hhs.gov/ethical_writing)

Boig, M. In J. L. Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical

# RESEARCH TRINEES

## WHAT YOU NEED TO KNOW ABOUT RESEARCH MISCONDUCT



# Got Questions? Ask ORI.

HOW DO I MAKE AN ALLEGATION OF RESEARCH MISCONDUCT?

I'm the RIO, and I'm not sure what to do about...?

Is it okay to use ORI's educational materials in my RCR course?

How do I use ORI's forensic image tools?

I think someone plagiarized my work. What do I do?

I reported misconduct; then my contract wasn't renewed. Is this retaliation?

I REPORTED MISCONDUCT BUT HAVEN'T HEARD ANYTHING... WHAT'S HAPPENING?

If we can't answer your question, we can refer you to the people who can.



Email us at [AskORI@hhs.gov](mailto:AskORI@hhs.gov) if you have questions about research integrity.



# 5 WAYS SUPERVISORS CAN PROMOTE RESEARCH INTEGRITY

Are you a principal investigator, research coordinator, academic advisor, or mentor? Roles such as these place you in a unique position to cultivate exceptional research practices among the next generation of researchers.

- BE AVAILABLE & APPROACHABLE**  
Your team wants to learn from YOU!
- REVIEW RAW DATA**  
You are responsible for the integrity of your team's data.
- COMMUNICATE EXPECTATIONS**  
Prevent misunderstandings by making sure everyone is on the same page.
- PROVIDE TRAINING and GUIDANCE**  
Avoid making assumptions about anyone's skills or knowledge.
- KNOW YOUR RESEARCH INTEGRITY OFFICER**  
Be prepared in case you ever suspect research misconduct.



# YOU SUSPECT RESEARCH MISCONDUCT NOW WHAT?

- AVOID CONFRONTATION**  
Direct confrontation may lead to retaliation and/or tampering with evidence.
- KEEP NOTES**  
Document details and save communications related to the misconduct. This will help you recall important information needed by the institution.
- EDUCATE YOURSELF**  
Read your institution's research misconduct policy or contact the U.S. Office of Research Integrity (ORI) with questions.
- SEEK SUPPORT**  
You may want to get advice from someone you trust to help you consider all options.
- CONSULT YOUR RESEARCH INTEGRITY OFFICER (RIO)**  
RIOs can help you better understand the situation. You can speak in hypotheticals as you consider making an official allegation.

- REPORTING MISCONDUCT IS DIFFICULT... BUT IT CAN BE WORTH IT.**
- PEOPLE OFTEN WORRY ABOUT:**
  - The reputation and career of the accused
  - How others in the lab will be affected
  - Implications for their own career
  - Possible retaliation
- REPORTING MISCONDUCT HELPS**
  - Prevent false and misleading information from entering the research record
  - Correct the scientific literature
  - Ensure funding is awarded to responsible research
  - Protect the public's trust in science

- BE SPECIFIC**  
Provide the RIO with specific examples of suspected misconduct and where it occurred (e.g. manuscripts, presentations, posters, grant applications, etc.).
- BE AVAILABLE**  
The RIO may require your help identifying and examining evidence, explaining how the research was falsified, fabricated, or plagiarized, and cooperating as a witness.
- BE PREPARED FOR SILENCE**  
Institutional policies may limit your access to confidential information about research misconduct proceedings.
- BE PATIENT**  
Research misconduct proceedings take considerable effort and time to complete.

# MAKE AN INFORMED DECISION

If you want to talk anonymously or report misconduct contact ORI at 240-453-8800 or [AskORI@hhs.gov](mailto:AskORI@hhs.gov).

# POSSIBLE RED FLAGS OF RESEARCH MISCONDUCT

- TIME**
  - Usable data are only generated when there is a pressing deadline
  - Experiments are completed faster than usual
- RESULTS**
  - Data are too good to be true
  - Findings can't be replicated by others in the lab
- LACK OF TRANSPARENCY**
  - Raw data can't be produced when requested
  - Research materials and protocols are kept hidden
  - Work is mostly done when no one else is around

If you suspect research misconduct

# Sources of Information on the Topic of Research Integrity

- Retractionwatch.com
- PubPeer
- Leaders in the field
  - Elizabeth Bik (twitter)
  - Arturo Casadevall
- <http://forbetterscience.com>
- Office of Research Integrity

## Welcome to another edition of The RW Daily.

Know someone who would enjoy The RW Daily? They can subscribe [here](#).



*Margaret Salinas*

"Are Your Participants Real? Dealing with [Fraud in Recruiting Older Adults Online](#)."

[Read more](#)



*Ilinca I. Ciubotariu*

"Improving research integrity: a framework for [responsible science communication](#)."

[Read more](#)



*Princess Dennar*

"A Black Doctor Tried To Diversify Medicine. [Then She Lost Her Job](#)." (Buzzfeed News)

[Read more](#)

### Worthwhile Reads Elsewhere

- An obituary is [retracted](#).

### ICYMI

- Weekend reads: Dogs removed from controversial research facility; 'an unacceptable idea'; ['blind spots on western blots'](#)



# COVID Retractions as of October 14, 2022

**Retracted**

1. "SG Technology and induction of coronavirus in skin cells," published in *Biological Regulators & Homeostatic Agents* on July 16, 2020, [withdrawn on July 24, 2020](#), our coverage [here](#).

2. "A review of convalescent plasma transfusion in COVID-19: Old wine reserved for special occasions," published in *Lung India* on September 16, 2020; [retracted December 31, 2020](#).

3. "Acute serotonizing myelitis and acute motor axonal neuropathy in a COVID-19 patient," published in *Journal of Neurology* on August 9, 2020; unknown date of retraction.

4. "An epidemiological investigation of a novel coronavirus pneumonia cluster epidemic spread in public transportation" also titled "An epidemiological investigation of 2019 novel coronavirus diseases through aerosol-borne transmission by public transport," published in early March in *Practical Preventive Medicine* and [retracted](#) sometime in mid-April. More context [here](#).

5. "Anal swabs as the potentially optimal specimen for SARS-CoV-2 detection to evaluate the hospital discharge of COVID-19 patients," published on August 14, 2020 in *Future Microbiology*; [retracted](#) on April 13, 2021.

6. "Analysis of Ten Microsecond simulation data of SARS-CoV-2 dimeric main protease," preprint posted on *bioRxiv*, April 12, 2020, [withdrawn April 16, 2020](#).

7. "Analysis of thin-section CT in patients with coronavirus disease (COVID-19) after hospital discharge," published on May 15, 2020 in *Clinical Imaging*; [retraction date/s is/are unknown](#).

8. "Autopsy and Histologic Findings of Patients with Novel Coronavirus Pneumonia: The Pathologic Association with Hypoxemia," published on February 13, 2020 in *Medical Science Monitor*; [retracted](#) on March 1, 2021.

9. "Calcifediol Treatment and COVID-19-Related Outcomes," posted to *Preprints with The Lancet* on January 22 and removed on February 19, 2020. Our coverage [here](#).

10. "Can quantitative RT-PCR for SARS-CoV-2 help in better management of patients and control of coronavirus disease-2019 pandemic," published on November 16, 2020 in *Indian Journal of Medical Microbiology*; [unknown date of retraction](#).

11. "Can Traditional Chinese Medicine provide insights into controlling the COVID-19 pandemic: Serpinization-induced lithospheric long-wavelength magnetic anomalies in Proterozoic bedrocks in a weakened geomagnetic field mediate the aberrant transformation of biogenic molecules in COVID-19 via magnetic catalysis," published in *Science of the Total Environment* on October 8, 2020, "temporary removal" on November 5, 2020, subsequently [retracted](#) on an unknown date. Our

12. "Can You AI Differentiate Cats from Covid-19? Simple Efficient Uncertainty Estimation for Deep Learning Safety," reportedly to be presented at the *ICML 2020 Workshop on Uncertainty and Robustness in Deep Learning* in July 2020, removed sometime before June 17, 2020. [Improbable Research](#) discusses it [here](#).

13. "Cardiovascular Disease, Drug Therapy, and Mortality in Covid-19," published in the *New England Journal of Medicine* on May 1, 2020, subjected to an [expression of concern](#) on June 2, 2020 and [retracted](#) on June 4.

14. "Characteristics and risk factors for COVID-19 diagnosis and adverse outcomes in Mexico: an analysis of 89,756 laboratory-confirmed COVID-19 cases," published in the *European Respiratory Journal* on July 31, 2020, and [retracted](#) on March 4, 2021.

15. "Chinese medical staff request international medical assistance in fighting against COVID-19," letter in *The Lancet*, published February 24, 2020 and [retracted](#) February 26, 2020. More context [here](#).

16. "Chinese mental health burden during the COVID-19 pandemic," published in *Asian Journal of Psychiatry* on April 14, 2020 and [retracted](#) on November 4, 2020. Our coverage [here](#).

17. "Clinical and Epidemiological Characteristics of 34 Children With 2019 Novel Coronavirus Infection in Shenzhen," published in *Zhonghua Er Ke Za Zhi* on February 17, 2020, date of retraction unknown.

18. "Clinical manifestations and outcome of SARS-CoV-2 infection during pregnancy," published on March 5, 2020 in *Journal of Infectious Diseases*; [unknown date of retraction](#). [Hat tip](#).

19. "Chloroquine or hydroxychloroquine for COVID-19: why might they be hazardous?" published in *The Lancet* on May 22, 2020; [retracted and replaced July 9, 2020](#). Our coverage [here](#).

20. "Clinical sequelae of the novel coronavirus: does COVID-19 infection predispose patients to cancer?," published in *Future Oncology* in May 2020, [retracted for plagiarism](#) in December 2020. Our coverage [here](#).

21. "Computational analysis suggests putative intermediate animal hosts of the SARS-CoV-2," preprint posted on *bioRxiv* on April 5, 2020, [withdrawn April 20, 2020](#).

22. "Convalescent plasma therapy in COVID-19: Every dark cloud has a silver lining," published on October 16, 2020 in *Journal of Anaesthesiology Clinical Pharmacology*; [retracted](#) January 18, 2021.

23. "Corona Virus Killed by Sound Vibrations Produced by Thali or Ghanti: A Potential Hypothesis," published in March-August 2020 issue of *Journal of Molecular Pharmacokinetics and Biopharmacy Affairs*; date of retraction [unknown](#).

24. "Coronavirus disease-2019: A brief compilation of facts," published on May 8, 2020 in the *Journal of Oral and Maxillofacial Pathology*; [retracted](#) in the May-August 2020 issue.

25. "Countering false news in the COVID-19 era: The public's opinion on the role of an honest and reliable website," published on November 17, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

26. "COVID-19: A global and continental overview of the second wave and its (relatively) attenuated case fatality ratio," published on October 3, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

27. "COVID-19: Combined supply-side and demand-side shocks, so lift restrictions (carefully) lest GDP declines ultimately kill more than COVID-19," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

28. "COVID-19: Mathematical estimation of delay to deaths in relation to upsurges in positive rates," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

29. "COVID-19: The possible seasonal shape of things to come," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

30. "COVID-19, Suicide, and Femicide: rapid research using Google Search," published on January 22, 2021 in *The Journal of General Psychology*; [withdrawn May 19, 2021](#). See our coverage [here](#).

31. "COVID-19 and potential global mortality - Revisited," published on April 30, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

32. "COVID-19 Emergency Responders in FDA's Center for Drug Evaluation and Research," published sometime after April 6, 2020 in *Journal of the American Pharmacists Association*, date of retraction unknown.

33. "COVID-19 in Africa and collateral effects on health systems and their immunization programs," published on October 9, 2020 in *Vaccine*; [retraction date is unknown](#).

34. "COVID-19 is a sexist, sexist, ruthless, dispassionate and opportunistic - Protecting our vulnerable," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

35. "COVID-19, its novel vaccination and fake news - What a brew," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

36. "COVID-19 related acute decline in paediatric admissions in Malta, a population-based study," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

37. "Decrease in Hospitalizations for COVID-19 After Mask Mandates in 1083 U.S. Counties," medRxiv preprint posted on October 23, 2020 and [withdrawn](#) on November 4, 2020.

38. "Deep learning system to screen coronavirus disease 2019 pneumonia," published on April 22, 2020 in *Applied Intelligence*, date of retraction is unknown.

39. "Dyslipidemia Increases the Risk of Severe COVID-19: A Systematic Review, Meta-analysis, and Meta-regression," published on February 8, 2021 in *Journal of Clinical and Experimental Hepatology*; [retracted](#) on unknown date.

40. "Effectiveness of Surgical and Cotton Masks in Blocking SARS-CoV-2: A Controlled Comparison in 4 Patients," published on April 6, 2020 in the *Annals of Internal Medicine*; [retracted](#) on June 1, 2020.

41. "Effectiveness of ZVESAMTM (Avipridin) in accelerating recovery and shortening hospitalization in critically-ill patients with COVID-19 Respiratory Failure: interim report from a phase 2b3 multicenter trial," published on February 27, 2021 in *SSRN*; [removed without notice](#) on an unknown date.

42. "Effects of the COVID-19 Pandemic on Stroke Patients," published on August 24, 2020 in *Cureus*; [retracted](#) on January 13, 2021.

43. "Emergency Preparedness and COVID-19: A Review of AWWA Policy Statements and Guidance," published on August 4, 2020 in *Openflow*; [retracted](#) on December 4, 2020.

44. "Epidemiological and clinical features of the 2019 novel coronavirus outbreak in China," medRxiv preprint posted on February 11, 2020 and [withdrawn](#) February 21, 2020. More context [here](#).

45. "Experience on radiological examinations and infection prevention for COVID-19 in radiology department," published on March 31, 2020 in *Radiology of Infectious Diseases*; date of retraction is unknown.

46. "Etiomass in the COVID-19 era: a health hypothesis," published on November 22, 2020 in *Medical Hypotheses*; [retracted](#) on or about May 3, 2021. Our coverage [here](#).

47. "First viral replication of Covid-19 identified in the peritoneal dialysis fluid," published in *Bulletin de la Dialyse & Domicile* on April 13, 2020, [retracted](#) on April 20, 2020. Our coverage [here](#).

48. "Forensic case-work analysis and legal challenges during pandemic: An update from Pakistan," published in *Legal Medicine* in October 2020, [retracted](#) at an unclear date.

49. "From SARS-CoV to Wuhan 2019-nCoV Outbreak: Similarity of Early Epidemic and Prediction of Future Trends," preprint posted on *bioRxiv* on January 25, 2020, [withdrawn](#) on January 28, 2020.

50. "Holidays over: A review of school COVID-19 outbreaks up to September 2020," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

51. "Homeopathy combat against coronavirus disease (Covid-19)," published on June 5, 2020 in the *Journal of Public Health* and [retracted](#) on August 3, 2020. See our

52. "Hospital factors associated with SARS-CoV-2 infection among healthcare personnel in Greece," published in *The Journal of Hospital Infection* on October 22, 2020, "Temporary Removal" date not provided. Still showing temporary removal as of December 29, 2020.

53. "Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis," published in *The Lancet* on May 22, 2020, subjected to an expression of concern on June 2 and [retracted](#) on June 4.

54. "Hydroxychloroquine plus azithromycin: a potential interest in reducing in-hospital mortality due to COVID-19 pneumonia (IH-ZV-COVID)?" preprint posted on *medRxiv*, May 11, 2020, [withdrawn](#) on May 20, 2020. Our coverage [here](#).

55. "Incidence and mortality of COVID-19 in Iranian multiple sclerosis patients treated with disease-modifying therapies," published September 15, 2020 in *Revista Neurologica* and [retracted](#) on October 4, 2020.

56. "Impact of lockdown and health anxiety during COVID-19 pandemic among inpatients of a psychiatric hospital: an observational study," published on November 10, 2020 in the *Asian Journal of Psychiatry*; [unknown date of retraction](#).

57. "Intersectionality and Inequalities in Medical Risk for Severe COVID-19 in the Canadian Longitudinal Study on Aging," published September 24, 2020 in *The Gerontologist*; [retracted](#) January 22, 2021.

58. "Intracranial Hemorrhage in COVID-19 Patients on ECMO: Characteristics and Future Directions," published on June 6, 2020 in the *Journal of Cardiovascular and Vascular Anesthesia*; [retraction date is unknown](#).

59. "Ivermectin in COVID-19 Related Critical Illness," preprint posted in April 2020 on *SSRN: Social Science Resource Network*; [retracted](#) sometime in May. Reporting from [The Scientist](#) [here](#).

60. "Liver impairment associated with disease progression in COVID-19 patients," published April 15, 2020 in *Liver International* and [retracted](#) in August/September 2020.

61. "Lung disease severity, Coronary Artery Calcium, Coronary Inflammation and Mortality in COVID-19 Related Critical Illness," medRxiv preprint posted May 6, 2020 and [withdrawn](#) June 20, 2020.

62. "Lung ultrasound score in establishing the timing of intubation in COVID-19 interstitial pneumonia: A preliminary retrospective observational study," published in *PLOS ONE* on September 3, 2020; [expression of concern](#) published in *PLOS ONE* on November 30, 2020; [retracted](#) December 31, 2020. Our coverage [here](#).

63. "Malta Tourism losses due to second wave of COVID-19," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021.

64. "Managing college operations during the coronavirus outbreak," published April 10, 2020 in *Journal of the American Pharmacists Association*, date of retraction un-

65. "Mechanical ventilation in COVID-19: Is it due to patient or virology factors," published on June 14, 2020 in the *Annals of Medicine and Surgery*; date of retraction is unknown.

66. "Mental health burden for the public affected by the COVID-19 outbreak in China: Who will be the high-risk group?," published April 14, 2020 in *Psychology, Health & Medicine* and [retracted](#) on October 23, 2020. Our coverage [here](#).

67. "Mental health status and coping strategy of medical workers in China during the COVID-19 outbreak," preprint posted on *medRxiv* on February 25, 2020, [withdrawn](#) on March 7, 2020.

68. "Mortality of a pregnant patient diagnosed with COVID-19: A case report with clinical, radiological, and histopathological findings," published in *Travel Medicine and Infectious Disease* on April 11, 2020, [retracted](#) on May 2, 2020. Our coverage [here](#).

69. "mRNA Vaccines to Prevent COVID-19 Disease and Reported Allergic Reactions: Current Evidence and Approach," published December 31, 2020 in *The Journal of Allergy and Clinical Immunology: In Practice*. [Temporary Removal](#) published on unknown date.

70. "Needed: Less influenza vaccine hesitancy and less presenteeism among health care workers in the COVID-19 era," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

71. "No Deliberate Effect of Lockdown Due to COVID-19 Pandemic on Glycaemic Control, Measured by Glucose Monitoring, in Adults with Type 1 Diabetes," published on May 12, 2020 in *Diabetes Technology & Therapeutics*; [retracted July 27, 2020](#). Our coverage [here](#).

72. "Noninvasive versus Invasive ventilation: one modality cannot fit all during COVID-19 outbreak," published on July 8, 2020 in the *Korean Journal of Anesthesiology*; [retracted](#) on September 14, 2020. Our coverage [here](#).

73. "Noteworthy Neurological Manifestations Associated With COVID-19 Infection," published on July 3, 2020 in *Cureus*; [retracted](#) on March 5, 2021.

74. "Novel research opportunities: an unfortunate small silver lining to COVID-19," published on October 2, 2020 in *Early Human Development*; [retracted](#) on sometime in March, 2021. See our coverage [here](#).

75. "Novel research opportunities 2: An unfortunate small silver lining to COVID-19," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

76. "Nurses reports of actual work hours and preferred work hours per shift among intensive nurses during coronavirus disease 2019 (COVID-19) epidemic: A cross-sectional survey," published on May 16, 2020 in the *International Journal of Nursing Studies*; date of retraction is unknown.

77. "Obesity and mortality of COVID-19: Meta-analysis," published on July 9, 2020 in *Obesity Research & Clinical Practice*; [retracted](#) February 6, 2021.

78. "One of COVID-19's many costs: Malta's expenditure in consumables and non-consumables, a population-based study," published on October 1, 2021 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

79. "Patterns of COVID-19 Mortality and Vitamin D: An Indonesian Study," preprint posted on April 30, 2020 in *SSRN: Social Science Resource Network*; [retraction date unknown](#). ([Hat tip](#) to HealthNerd)

80. "Phytotherapeutic options for the treatment of COVID-19: A concise viewpoint," published on August 20, 2020 in *Phytotherapy Research*; [retracted](#) on December 30, 2020.

81. "Potential False-Positive Rate Among the 'Asymptomatic' Infected Individuals in Close Contacts of COVID-19 Patients," published March 5, 2020 in the *Chinese Journal of Epidemiology* and [retracted](#) a few days later. More context [here](#).

82. "Proposal for Initiative of Evidence-based Treatment of COVID-19 Patients with 'Worming Expedita,'" published on October 7, 2020 in the *American Journal of Respiratory and Critical Care Medicine*; date of retraction [unknown](#).

83. "Psychosis: A Presentation of COVID-19," published on June 12, 2020 in *Psychosomatics*; date of retraction is unknown.

84. "Psychiatric Predictors of COVID-19 Outcomes in a Skilled Nursing Facility Cohort," medRxiv preprint posted May 26, 2020, and [withdrawn](#) June 21, 2020.

85. "Racial Disparity Amongst Stroke Patients During the Coronavirus Disease 2019 Pandemic," published on September 10, 2020 in *Cureus*; [retracted](#) on January 13, 2021.

86. "Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis & Treatment of COVID-19," published as an abstract at Frontiers in Pharmacology in January 2021, removed without a notice by March 1, 2021. Coverage by [The Scientist](#) [here](#).

87. "Safe school reopening under COVID-19 restrictions - Measures implemented in San Andrea independent school in Malta," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

88. "SARS-CoV-2 infects T lymphocytes through its spike protein-mediated membrane fusion," published in *Cellular & Molecular Immunology* April 7, 2020, subjected to an expression of concern in early June 2020, [retracted](#) July 10, 2020. Our coverage [here](#).

89. "SARS-CoV-2 was Unexpectedly Deadlier than Push-scooters: Could Hydroxychloroquine be the Unique Solution?," published on August 15, 2020 in *Asian Journal of Medicine and Health*; [retracted](#) August 16, 2020. Our coverage [here](#).

90. "Seeding of outbreaks of COVID-19 by contaminated fresh and frozen food," pre-

91. "Selenium-associated gene signatures within the SARS-CoV-2-host genomic interaction interface," published on July 15, 2020 in *Free Radical Biology & Medicine*; date of retraction is unknown.

92. "Sharp decline in acute and elective hospital attendances and admissions due to COVID-19 in Malta (Q1 2020) - A population-based study," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

93. "Smoking Prevalence is Low in Symptomatic Patients Admitted for COVID-19," medRxiv preprint posted May 10, 2020 and [withdrawn](#) June 13, 2020.

94. "Some health effects of global warming," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

95. "Sports and sportsmen as role models - or otherwise - in the COVID-19 era," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

96. "Subsegmental Thrombus in COVID-19 Pneumonia: Immuno-Thrombosis or Pulmonary Embolism? Data Analysis of Hospitalized Patients with Coronavirus Disease," published on August 24, 2020 in *Heart, Lung and Circulation*; [retraction date is unknown](#).

97. "The early cryptic transmission and evolution of SARS-CoV-2 in human hosts," preprint posted on November 17, 2020 in *SSRN: Social Science Resource Network*; [withdrawn](#) at an unknown date. Coverage in the media [here](#).

98. "The Role of Vitamin D in Suppressing Cytokine Storm in COVID-19 Patients and Associated Mortality," preprint posted on April 10, 2020 in *medRxiv*; [withdrawn](#) on April 15, 2020.

99. "Theoretical novel COVID-19 vaccination risk of rare and severe adverse events versus COVID-19 mortality," published on October 1, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

100. "The way in which COVID-19 changed behaviour on social media in Malta," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

101. "The Spanish Flu, COVID-19 and Malta's reactions: Contrasts and similarities," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

102. "To wear or not to wear? Adherence to face mask use during the COVID-19 and Spanish influenza pandemics," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

103. "Treatment Response to Hydroxychloroquine, Lopinavir/Ritonavir, and Antibiotics for Moderate COVID-19: A First Report on the Pharmacological Outcomes from South Korea," preprint posted May 18, 2020 in *medRxiv*, and with-

104. "Uncanny similarity of unique inserts in the 2019-nCoV spike protein to HIV-1 gp120 and Gag," preprint posted January 31, 2020 in *bioRxiv* and [withdrawn](#) February 2, 2020. More context [here](#).

105. "Usefulness of Ivermectin in COVID-19 illness," preprint posted on April 19, 2020 on *SSRN: Social Science Resource Network*; [retracted](#) sometime thereafter.

106. "Vaccine hesitancy among Maltese healthcare workers toward influenza and novel COVID-19 vaccination," published on October 1, 2020 in *Early Human Development*; [retracted](#) on sometime in March, 2021. See our coverage [here](#).

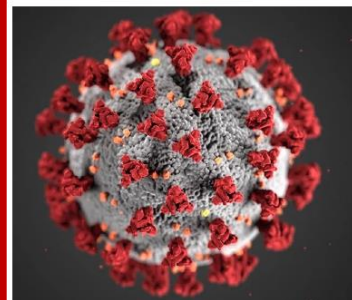
107. "Vaccine hesitancy in Maltese family physicians and their trainees vis-à-vis influenza and novel COVID-19 vaccination," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

108. "Vaccine hesitancy in the University of Malta Faculties of Health Sciences, Dentistry and Medicine vis-à-vis influenza and novel COVID-19 vaccination," published on November 12, 2020 in *Early Human Development*; [retracted](#) sometime in March, 2021. See our coverage [here](#).

109. "Vitamin D Level of Mild and Severe Elderly Cases of COVID-19: A Preliminary Report," preprint posted on May 5, 2020 in *SSRN: Social Science Resource Network*; [unknown date of retraction](#).

110. "Vitamin D supplementation could possibly improve clinical outcomes of patients infected with Coronavirus-2019 (COVID2019)," preprint posted on April 9, 2020 in *SSRN: Social Science Resource Network*; [unknown date of retraction](#).

Retracted coronavirus (COVID-19) papers



Total of 264!!



# Journal/Editor Responsibilities

## Is the Lancet complicit in research fraud?

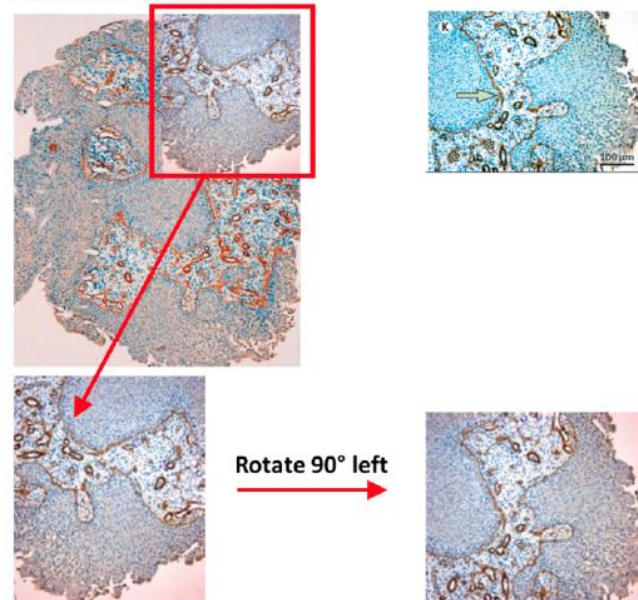
This blog was written jointly by Patricia Murray, Professor of Stem Cell Biology and Regenerative Medicine, University of Liverpool, UK and Peter Wilmshurst.

The editor of a medical journal that charges readers for access to articles whilst knowingly keeping fraudulent articles on its website is as guilty of financial fraud as an art dealer who knowingly sells forged artworks, but there is no moral equivalence. The complicity in fraud by the editor of the medical journal may also cause death and harm to patients.

Identical samples in Fig.4 of Gonfiotti et al (2014) and Fig 3K of Badylak et al (2012)

Fig. 4 in Gonfiotti et al (2014). Immunohistochemical staining at 4 years after transplantation. Immunostaining of implanted airway showing strong immunoreactivity against anti-laminin.

Fig. 3K in Badylak et al (2012). Laminin staining at 1 year after transplantation.



If the inset in Fig. 4 of Gonfiotti et al (2014) (outlined in red) is rotated 90° to the left, it is clear that it is identical to Fig. 3K in Badylak et al (2012). It appears that the colour has been modified in the 2014 paper to increase the levels of red/cyan, but the sample itself is identical.

# PubPeer

The **PubPeer** Foundation is a California-registered public-benefit corporation with nonprofit status in the US. The overarching goal --- is to improve the quality of scientific research by enabling innovative approaches for community interaction---pubpeer.com is a service run for the benefit of its readers and commenters, who create its content. **Our current focus is maintaining and developing the PubPeer online platform for post-publication peer review.**

## **Gamma-tocotrienol promotes TRAIL-induced apoptosis through reactive oxygen species/extracellular signal-regulated kinase/p53-mediated upregulation of death receptors**

Molecular Cancer Therapeutics (2010) - 12 Comments

pubmed: 20682650 doi: 10.1158/1535-7163.mct-10-0277 issn: 1538-8514 issn: 1535-7163

Ramaswamy Kannappan, Jayaraj Ravindran, Sahdeo Prasad, Bokyoung Sung, Vivek R. Yadav, Simone Reuter, Madan M. Chaturvedi, Bharat B. Aggarwal

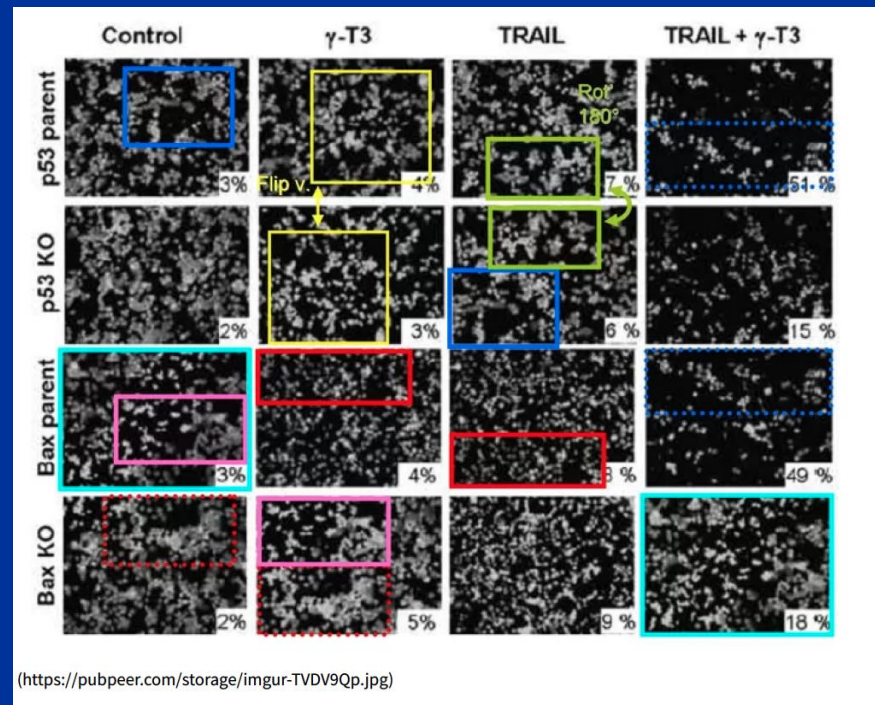
#1 **Paul S Brookes** commented 6 years ago

Seeing this beautiful example of "creative image management" highlighted on Twitter (actually had over 100 re-tweets at last count)....

<https://pubpeer.com/publications/B0EE98F42E52EE4F8B130E20059699>

(<https://pubpeer.com/publications/B0EE98F42E52EE4F8B130E20059699>)

... reminded me of this one that's been sitting in the archives for a few years. It's really one of my favorite examples of the art. Should be in all the textbooks.



Not everything on PubPeer is fraud. Mistakes can be made, and corrected.  
Read the comments and decide for yourself.

# Not Everyone on PubPeer is Evil

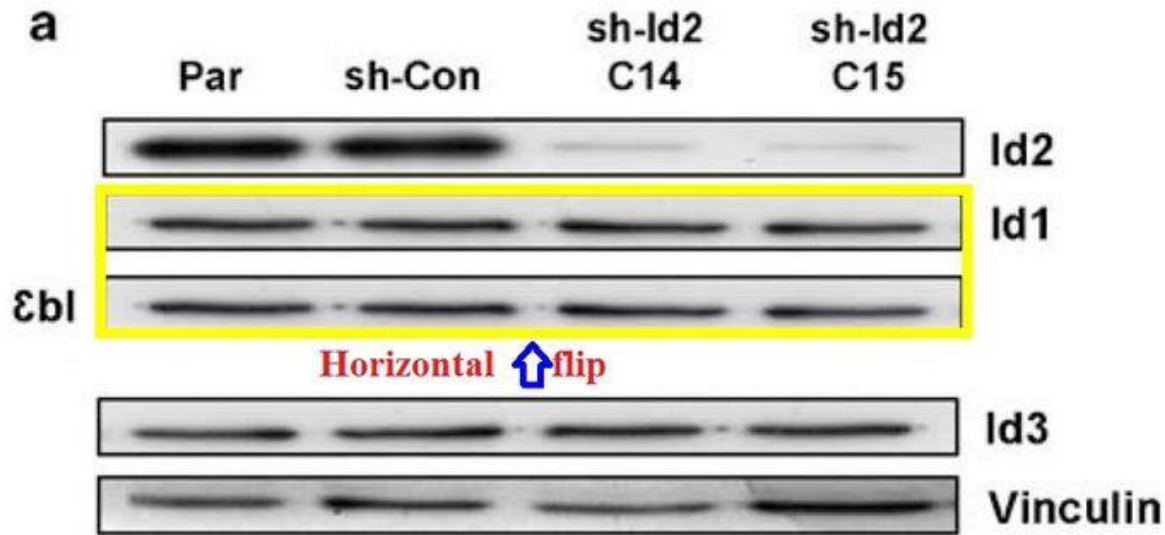



Figure 2a Oncogene. 2008 Dec 4;27(57):7192-200.

“Following the publication of this Article, it was brought to the attention of the Authors that a control for shRNA knock-down of Id2 in Fig. 2 was a duplicated and reversed set of bands from another control in the Figure. The row of bands on the western blot for Id3 is the same blot for Id1 knock-down, but “flipped” horizontally. This does not change the conclusions of the manuscript. The authors have submitted a revised Fig. 2, omitting this band, as they no longer have access to the reagents and cannot repeat this part of the experiment.”

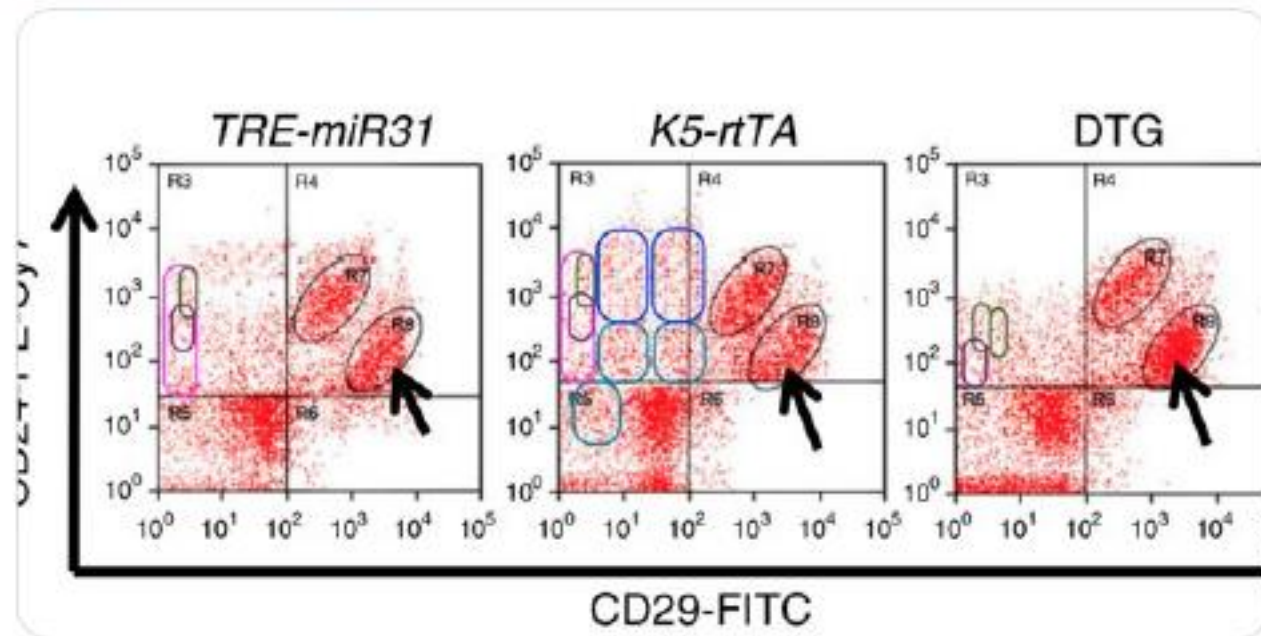
Gray.....Ellis



Elisabeth Bik   
@MicrobiomDigest



Oh dear. @NatureComms making #BadEditorialDecision here by issuing a correction. "The original version of this Article contained an error in Fig. 4. In the original Fig. 4a, different quadrants [...] contained similar unexplained groups of data points."  
[pubpeer.com/publications/3...](https://pubpeer.com/publications/3...)





# Do individual and institutional predictors of misconduct vary by country? Results of a matched-control analysis of problematic image duplications

Daniele Fanelli<sup>1\*</sup>, Matteo Schleicher<sup>1</sup>, Ferric C. Fang<sup>2</sup>, Arturo Casadevall<sup>3</sup>, Elisabeth M. Bik<sup>4</sup>

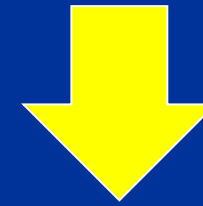
<sup>1</sup> Department of Methodology, London School of Economics and Political Science, London, United Kingdom, <sup>2</sup> Department of Laboratory Medicine and Pathology, University of Washington School of Medicine, Seattle, Washington, United States of America, <sup>3</sup> Department of Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, United States of America, <sup>4</sup> Harbers Bik LLC, Sunnyvale, CA, United States of America

\* [email@danielefanelli.com](mailto:email@danielefanelli.com)

PLOS 2022

## Abstract

Pressures to publish, perverse incentives, financial interest and gender are amongst the most commonly discussed risk factors for scientific misconduct. However, evidence of their association with actual data fabrication and falsification is inconclusive. A recent case-controlled analysis of articles containing problematic image duplications suggested that country of affiliation of first and last authors is a significant predictor of scientific misconduct. The same analysis found null or negative associations with individual proxies of publication rate, impact and gender. The latter findings, in line with previous evidence, failed to support common hypotheses about the prevalence and causes of misconduct, but country-level effects may have confounded these results. Here we extend and complete previous results by comparing, via matched-controls analysis, articles from authors in the same country. We found that evidence for individual-level risk factors may be significant in some countries, and null or opposite in others. In particular, in countries where publications are rewarded with cash incentives, and especially China, the risk of problematic image duplication was higher for more productive, more frequently cited, earlier-career researchers working in lower-ranking institutions, in accordance with a “misaligned incentives” explanation for scientific misconduct. However, a null or opposite pattern was observed in all other countries, and especially the USA, UK and Canada, countries where concerns for misaligned incentives are commonly expressed. In line with previous results, we failed to observe a statistically significant association with industry funding and with gender. This is the first direct evidence of a link between publication performance and risk of misconduct and between university ranking and risk of misconduct. Commonly hypothesised individual risk factors for scientific misconduct, including career status and productivity, might be relevant in countries where cash-reward policies generate perverse incentives. In most scientifically active countries, however, where other incentives systems are in place, these patterns are not observed, and



Scientific misconduct is more common in countries that reward authors with cash incentives.

**Peer Review History:** PLOS recognizes the benefits of transparency in the peer review process; therefore, we enable the publication of all of the content of peer review and author responses alongside final, published articles. The editorial history of this article is available here: <https://doi.org/10.1371/journal.pone.0255334>

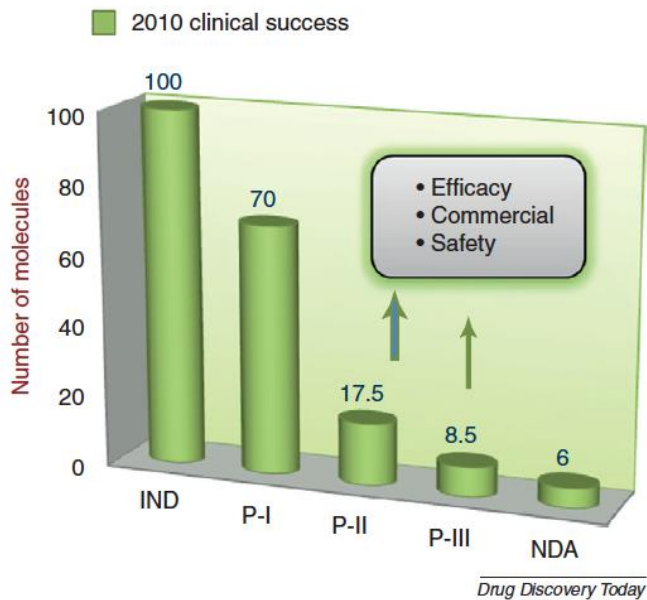


In Summary, Your Best, Most Concise, and Timely  
Resources on Data Integrity and Interesting Stories are....  
**Retraction Watch and PubPeer**

- Retraction Watch
  - Editors comment on retracted papers
- PubPeer
  - Peers comment on papers (sometimes names disclosed, sometime not)
    - Up to you to determine validity of “concerns”

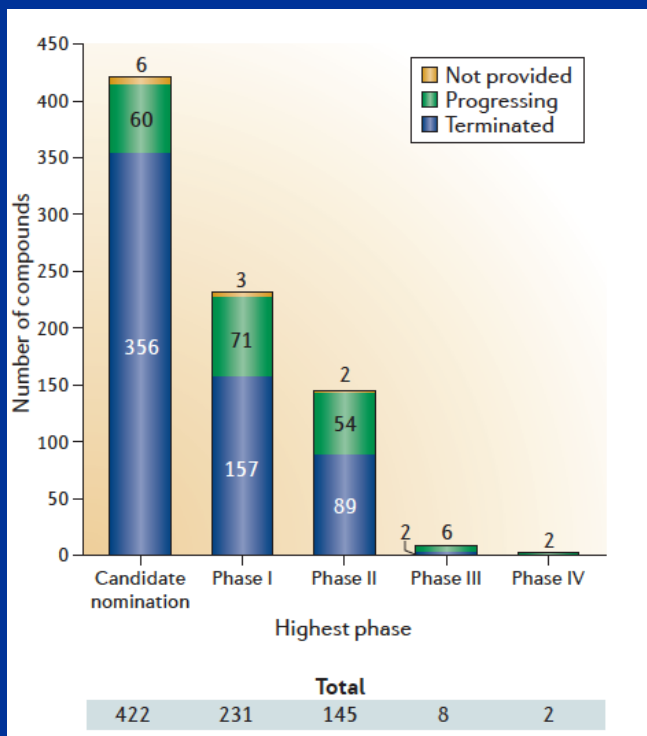
Note: The US Office of Research Integrity has very limited and focused information limited to those found guilty of misconduct

# Drug Development Failure Rates are Too High! (duh)



**FIGURE 3**  
Productivity trend during 2009 and 2010. The clinical rate of success is depicted as percentage surviving at each clinical phase based on attrition observed during 2009 and 2010.

Khanna, Drug Disc Today, 2012

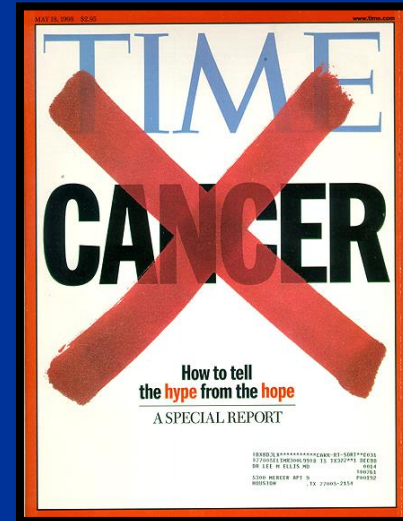
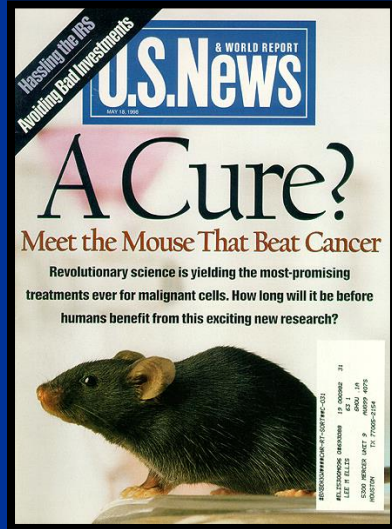


Waring, Nat Rev Drug Disc, 2015

-On average, it costs over a billion dollars to take a drug through Phase III, and the time to do this is 13-15 yrs.  
 -To improve upon this dismal ~5% success rate, we must *have more confidence in data* from very early in the drug development process\*

\* A more recent publication listed this at ~3.5% for cancer

# Why Haven't We Made Greater Strides in Treating Patients With Metastatic Disease?



- Perhaps the data leading to clinical trials are not as sound as they should be
  - What is the cause of this?



Bob Radinsky, PhD  
MDACC (1989-2000) → Amgen (2000)

*“Lee, do you realize that most of what’s published in academia cannot be reproduced?”*

“Glenn Begley has been prospectively collecting this data from studies done at Amgen”

Glenn’s results: Only 6 of 53 (11%) studies could be reproduced



# Reports on Issues With Data Reproducibility



Re-tested 70+ drugs from 221 independent studies<sup>1</sup>

→ 0 reproduced

→ **Minocycline**: effective in four separate ALS mouse studies **worsened** symptoms in a clinical trial of more than 400 patients<sup>2</sup>



Sponsored replication of 12 spinal cord injury studies

→ 2/12 successfully reproduced<sup>3</sup>



Conducted in-house target validation studies

→ 14/67 reproduced<sup>4</sup>



Attempted to reproduce 53 “landmark” oncology publications

→ 6/53 reproduced<sup>5</sup>

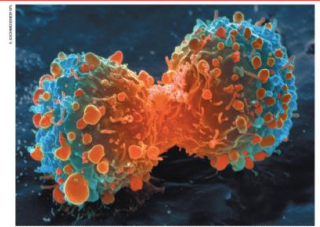
1. Scott et al. Amyotroph Lateral Scler. 9, 4-15 (2008).

2. Gordon et al. Lancet Neurol. 6, 1045-1053 (2007).

3. Stuart et al. Experimental Neurology 233, 597-605 (2012).

4. Prinz et al. Nat Rev Drug Discov. 10, 712 (2011).

5. Begley and Ellis. Nature. 483, 531-3 (2012).

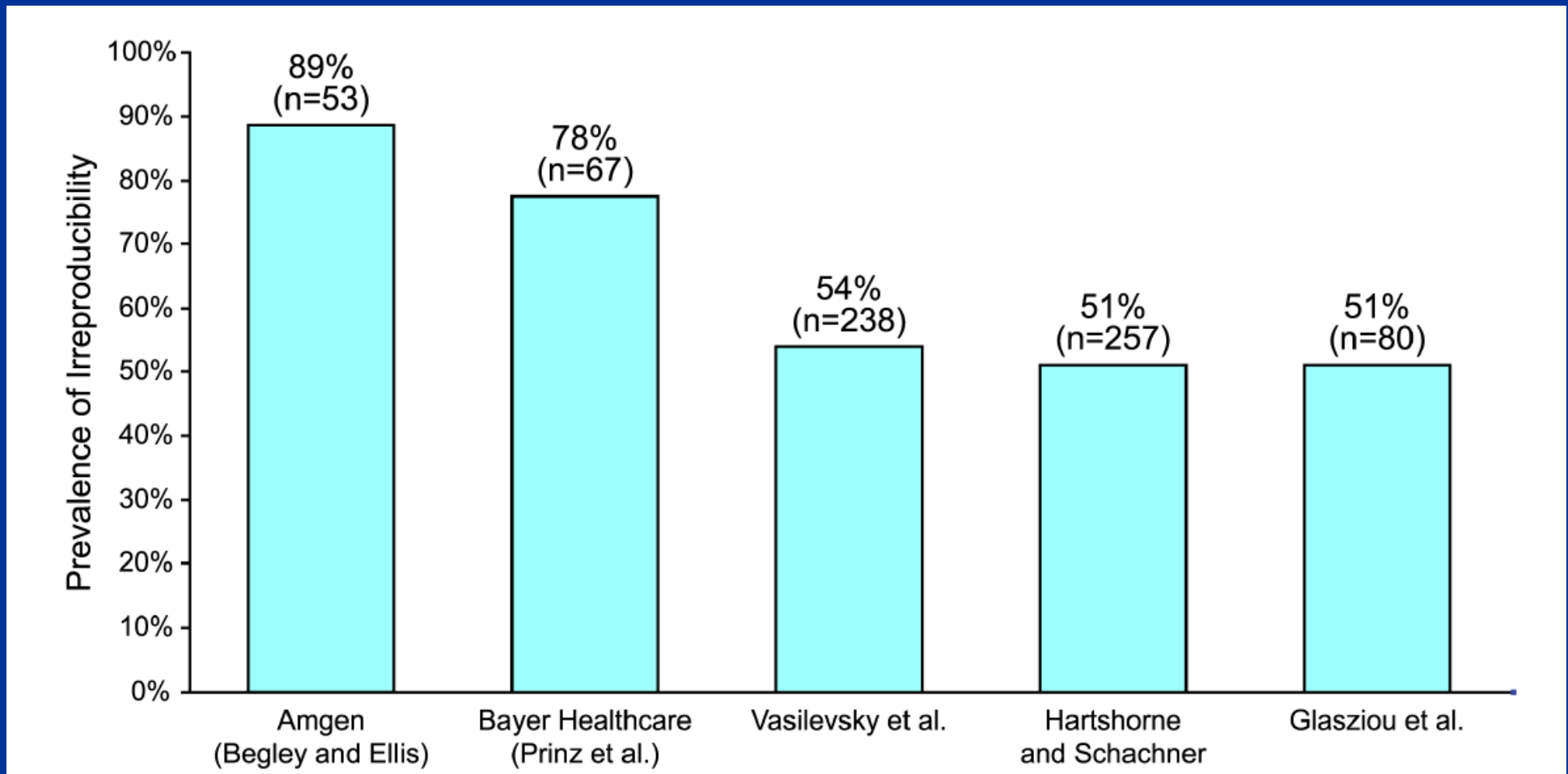


Raise standards for preclinical cancer research

C. Glenn Begley and Lee M. Ellis propose how methods, publications and incentives must change if patients are to benefit.



# The Prevalence of the Lack of Reproducibility in *Recently* Published Studies



# Is Amgen's Data on Data Reproducibility, Reproducible?

Errington et al. eLife 2021;

REPRODUCIBILITY IN CANCER BIOLOGY

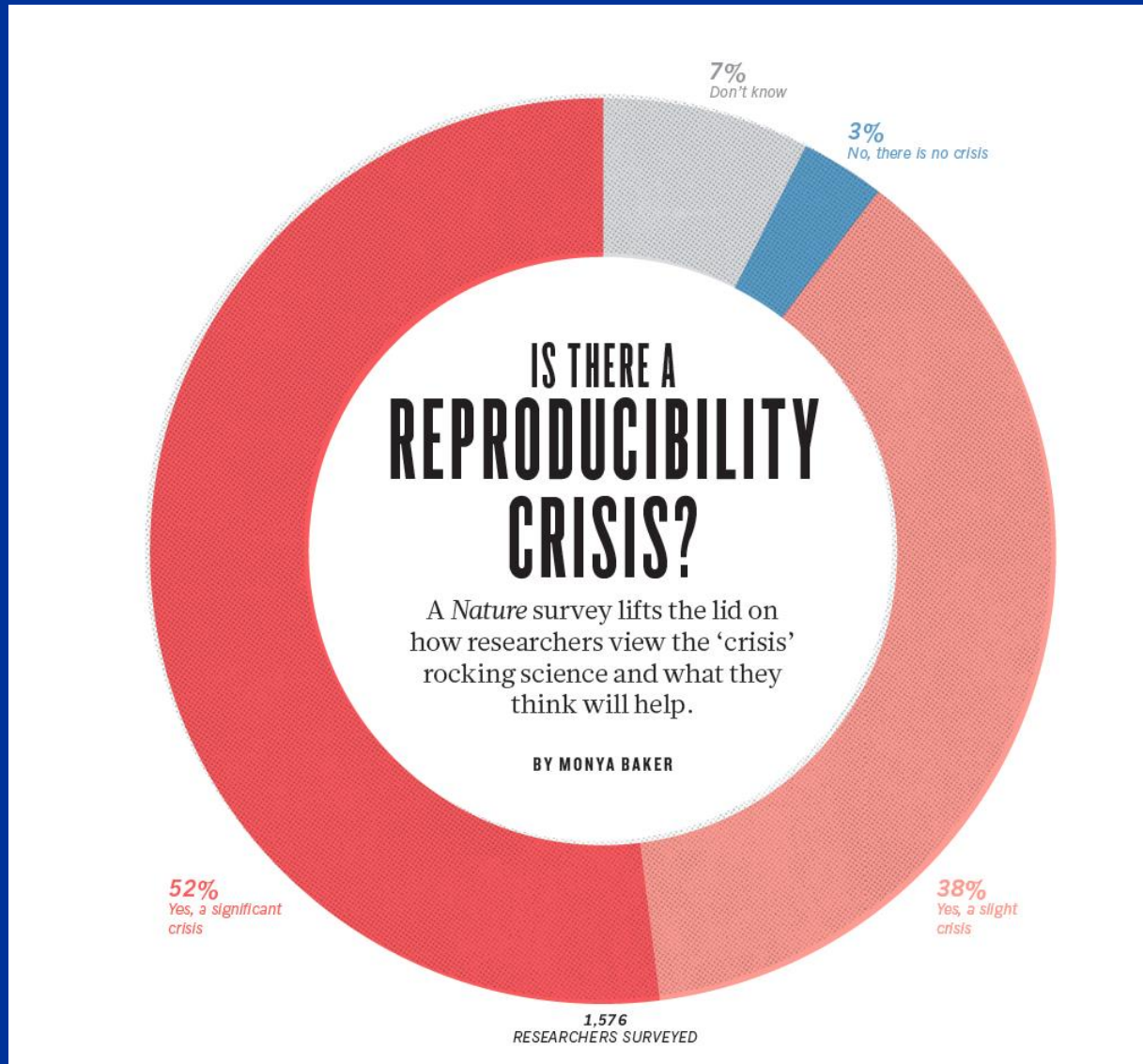
## Challenges for assessing replicability in preclinical cancer biology

50/193 = 26%  
reproducibility rate

**Abstract** We conducted the [Reproducibility Project: Cancer Biology](#) to investigate the replicability of preclinical research in cancer biology. The initial aim of the project was to repeat 193 experiments from 53 high-impact papers, using an approach in which the experimental protocols and plans for data analysis had to be peer reviewed and accepted for publication before experimental work could begin. However, the various barriers and challenges we encountered while designing and conducting the experiments meant that we were only able to repeat 50 experiments from 23 papers. Here we report these barriers and challenges. First, many original papers failed to report key descriptive and inferential statistics: the data needed to compute effect sizes and conduct power analyses was publicly accessible for just 4 of 193 experiments. Moreover, despite contacting the authors of the original papers, we were unable to obtain these data for 68% of the experiments. Second, none of the 193 experiments were described in sufficient detail in the original paper to enable us to design protocols to repeat the experiments, so we had to seek clarifications from the original authors. While authors were *extremely or very helpful* for 41% of experiments, they were *minimally helpful* for 9% of experiments, and *not at all helpful* (or did not respond to us) for 32% of experiments. Third, once experimental work started, 67% of the peer-reviewed protocols required modifications to complete the research and just 41% of those modifications could be implemented. Cumulatively, these three factors limited the number of experiments that could be repeated. This experience draws attention to a basic and fundamental concern about replication – it is hard to assess whether reported findings are credible.

**TIMOTHY M ERRINGTON\***, **ALEXANDRIA DENIS<sup>†</sup>**, **NICOLE PERFITO<sup>‡</sup>**,  
**ELIZABETH IORNS** AND **BRIAN A NOSEK**

# Nature Survey, May 2016



# The Spectrum of Reporting Preclinical and Clinical Data

*Not all non-reproducible events are due to evil people*

Honest      Sloppy      Selective Reporting      Falsification      Fabrication



What are the consequences?

- Clinical trials that are bound to fail
- Wasted time and effort of investigators and trainees
- A waste of money to try build on studies that are not sound
- Loss of confidence from our community

# The Spectrum of Reporting Preclinical and Clinical Data

Honest Sloppy Selective Reporting Falsification Fabrication



- Inappropriate Stats
- Cell line contamination/drift
- Journals don't like negative data
  - Therefore, PIs don't like negative data



# Selective Reporting of Laboratory Studies

- Journals prioritize “positive” results
  - If a drug works in 2 cell lines, and does not in 8, we only see the results on the 2 cell lines
- Students, post-docs, and faculty need publications for advancement
  - “*Publish or perish*”
  - In many labs, 2 trainees work on the same project competing with each other...*guess who wins?*
- Therefore, we tend to report only the “positive” data and ignore the negative data

## Highlight negative results to improve science

*Publishers, reviewers and other members of the scientific community must fight science's preference for positive results – for the benefit of all, says Devang Mehta.*

The pressure to publish a positive story can also lead scientists to spin their results in a better light, and, in extreme instances, to commit fraud and manipulate data. In fields such as biotechnology and genomics, social scientists have already pointed out that hyping up the science could foster unrealistic expectations in an already sceptical public, counter-intuitively leading to greater distrust when real-world advances come at a slower pace.

**We need reviewers and publishers to commit to publishing negative results in their journals. We need academic conferences to embrace honest discussions of failed experiments. We need funding agencies to support scientists who produce/report *negative results*. And, as scientists, we must acknowledge that all reliable studies should be reported (and accessible), irrespective of its outcome.**

# The Spectrum of Reporting Preclinical and Clinical Data

*The more difficult issue to address*

Honest Sloppy Selective Reporting Falsification Fabrication



Let's Talk About  
"Misconduct"

*Do Investigators Intentionally Falsify  
or Fabricate Data?*

To: Ellis, Lee M

Dear Sir,

I read your article titled "Raise standards for preclinical cancer research" published in Nature. I felt so happy to learn that the scientific community has been realizing a fact that people in cancer research field have been publishing fraud/non-reproducible data.

I lost my father, 2 of my uncles, aunt and two sister-in-laws because of cancer. Above bitter experiences made me to dedicate my life in finding solution to cancer. With a well-defined career goal of finding treatment to cancer, I entered into cancer research. After completion of Ph.D. from a Nobel Laureate group in Germany, I went to US to work on cancer. As a postdoc in the US, I had to change 7 research labs in 7 years due to the following reason:

PI's wanted me to produce falsified data and I refused to do so. Many PIs fired me as soon as they realized that I don't do wrong things. To cover them up, they sabotaged my professional life as well personal character.

Situation in cancer research field is so bad that nearly 90% of scientists in cancer research field, especially in the US, have been publishing fraud data. [REDACTED]

- 1) Publish fraud data
- 2) Meet all legal requirements to get grants from funding agencies
- 3) Lobby with the members of funding agency study sections by offering donations, effortless favor and get grants
- 4) Bargain high salaries with institutions where they are working using funding as bait



# Does Misconduct Occur in the Clinic?

*Dr. Baggerly will “wow” you with his talk on this!!*

## The Anil Potti retraction record so far

Tracking retractions as

with 16 comments

A [60 Minutes segment Sunday on Anil Potti](#) has drawn national attention to the case, so we thought this would be a good time to compile all of the retractions and corrections in one place.

Duke has [said](#) that about a third of Potti's 40-some-odd papers would be retracted, and another third would have “a portion retracted with other components remaining intact,” so this list will continue to grow. We'll update it as we hear about new changes.

Retractions:

1. [“Gene-expression patterns predict phenotypes of immune-mediated thrombosis,”](#) in *Blood*
2. [“Upregulated Oncogenic Pathways in Patients Exposed to Tobacco Smoke May Provide a Novel Approach to Lung Cancer Chemoprevention,”](#) in *CHEST*
3. [“Characterizing the Clinical Relevance of an Embryonic Stem Cell Phenotype in Lung Adenocarcinoma,”](#) in *Clinical Cancer Research*
4. [“An Integrated Genomic-Based Approach to Individualized Treatment of Patients With Advanced-Stage Ovarian Cancer”](#) in the *Journal of Clinical Oncology (JCO)*
5. [“Pharmacogenomic Strategies Provide a Rational Approach to the Treatment of Cisplatin-Resistant Patients With Advanced Cancer”](#) also in the JCO
6. [“Gene Expression Signatures, Clinicopathological Features, and Individualized Therapy in Breast Cancer”](#) in the *Journal of the American Medical Association (JAMA)*
7. [“Validation of gene signatures that predict the response of breast cancer to neoadjuvant chemotherapy: a substudy of the EORTC 10994/BIG 00-01 clinical trial,”](#) in *The Lancet Oncology*
8. [“Genomic signatures to guide the use of chemotherapeutics,”](#) in *Nature Medicine*
9. [“A Genomic Strategy to Refine Prognosis in Early-Stage Non-Small-Cell Lung Cancer,”](#) in the *New England Journal of Medicine (NEJM)*
10. [“An Integrated Approach to the Prediction of Chemotherapeutic Response in Patients with Breast Cancer”](#) in *PLoS ONE*
11. [“A genomic approach to colon cancer risk stratification yields biologic insights into therapeutic opportunities”](#) in the *Proceedings of the National Academy of Sciences (PNAS)*



Dr. Anil Potti is an oncologist in Grand Forks, North Dakota. He is a Board Certified Medical Oncologist and Clinician and takes special interest in serving patients with blood and cancer problems. An alumnus of the University of North Dakota, he has received numerous awards like the Alpha Omega Alpha (AOA) Award, Resident of the Year Award and several Outstanding Teacher of the Year Awards. Presently, Dr. Potti looks forward to dedicating his efforts to helping cancer patients and their families in this region. As he says, “sure, the weather may be cold, but the people sure are warm.”

Ivan Oransky  
RetractionWatch.com

# Famous Fraudulent Papers The Impacted Patient's Lives!

- Breast cancer and bone marrow transplants
  - Bezwoda et al. 1999 ASCO Annual Meeting
- Autism and vaccines
  - Wakefield et al. 1998 The Lancet
- Stem cells and tracheal transplants
  - Macchiarini et al. Karolinska, The Lancet

Wikipedia provides great summaries

# Vaccines and Autism

## Wakefield, et al. Lancet 1998

- Wakefield did not conduct the study according to ethical standards for research.
- Wakefield lied in the *Lancet* paper when he wrote that the participating children were referred independently after being diagnosed with IBD or other major GI issues. In fact, many of the children were chosen specifically by Wakefield, and others were recruited with the help of the same lawyer who was paying him to conduct the study.
- Wakefield subjected vulnerable autistic and other developmentally challenged children to a variety of difficult GI tests, including colonoscopy and lumbar puncture (i.e., spinal tap), without any medical indication to benefit the children.
- Even before publication of the study, Wakefield was working on patenting his own version of a measles vaccine, which he would sell at a great profit as a supposedly “safe” alternative to the MMR vaccine. The father of one of the children in Wakefield’s study was a cofounder of the planned business that would market this product.
- Unrelated to the particular paper in question, the GMC panel also found that Wakefield had paid children at his own son’s birthday party £5 each so he could draw their blood for use in his research. He later joked about this during a lecture.
- And more including financial conflict of interest

# No Institute Is Immune!

## Journal retracts 7 papers by MD Anderson cancer researcher long under investigation

An MD Anderson Cancer Center researcher who has been under investigation by the institution for at least several years has had seven papers retracted from a single journal. Bharat Aggarwal told us in 2012 that MD Anderson was investigating his work, but in 2013 threatened to sue us for reporting on the case. Aggarwal is ... [Continue reading](#) →

## MD Anderson postdoc faked results of Novartis anti-cancer compound study

A former postdoc at MD Anderson Cancer Center faked the results of a mouse study of a Novartis compound designed to fight brain tumors, according to the Office of Research Integrity (ORI). Jun Fu “admitted to knowingly and intentionally falsifying Figure 8a” in “Novel HSP90 Inhibitor NVP-HSP990 Targets Cell-Cycle Regulators to Ablate Olig2-Positive Glioma Tumor-Initiating ... [Continue](#)

## A cancer researcher said she collected blood from 98 people. It was all her own.

A researcher collected her own blood and forged the labels so it would appear to be samples from nearly 100 people, according to a new finding of research misconduct released today by the U.S. Office of Research Integrity (ORI). The former researcher at the University of Texas MD Anderson Cancer Center swapped her own blood ... [Continue reading](#) →

## Data fabrication by ex-Harvard researcher takes down paper on Huntington's disease

### Harvard teaching hospital to pay \$10 million to settle research misconduct allegations

Brigham and Women's Hospital and its parent healthcare network have agreed to pay \$10 million to the U.S. government to resolve allegations it fraudulently obtained federal funding. The case, which involves three former Harvard stem cell researchers, dates back several years. In 2014, *Circulation* retracted a paper by Piero Anversa, Annarosa Leri, and Jan Kajstura, ... [Continue reading](#) →

### [Two more retractions appear for prominent MIT cancer researcher Robert Weinberg](#)

[with 8 comments](#)

As PIs, we have to keep track of data in real time, not just when ready for submission to *CNS*.

Two identical retraction notices have popped up for MIT professor [Robert Weinberg](#), a highly-cited cancer researcher who had [a retraction](#) and a [correction](#) in 2013, both in *Cancer Cell*.

These two new retractions, in *Genes and Development*, stem directly from [another paper by Weinberg and colleagues in \*Cell\*](#) that will apparently be retracted, as the “same analytical methodology was used,” according to the notices [see bottom of the post for an update].

MD Anderson noted in 87 instances in search of Retraction Watch Database 10/16/22

Retraction Watch search

## The Retraction Watch Leaderboard

Who has the most retractions? Here's our unofficial list (see notes on methodology), which we'll update as more information comes to light:

1. [Yoshitaka Fujii](#) (total retractions: 183) See also: [Final report of investigating committee](#), [our reporting](#), [additional coverage](#)
2. [Joachim Boldt](#) (164) See also: [Editors-in-chief statement](#), [our coverage](#)
3. [Hironobu Ueshima](#) (121) See also: [our coverage](#)
4. [Yoshihiro Sato](#) (110) See also: [our coverage](#)
5. [Ali Nazari](#) (96) See also: [our coverage](#)
6. [Jun Iwamoto](#) (85) See also: [our coverage](#)
7. [Diederik Stapel](#) (58) See also: [our coverage](#)
8. [Yuhji Saitoh](#) (56) See also: [our coverage](#)
9. [Adrian Maxim](#) (48) See also: [our coverage](#)
10. [Chen-Yuan \(Peter\) Chen](#) (43) See also: [SAGE](#), [our coverage](#)
11. [Shahaboddin Shamshirband](#) (42) See also: [our coverage](#)
12. [Fazlul Sarkar](#) (41) See also: [our coverage](#)
13. [Hua Zhong](#) (41) See also: [journal notice](#)
14. [Shigeaki Kato](#) (40) See also: [our coverage](#)
15. [James Hunton](#) (37) See also: [our coverage](#)
16. [Hyung-In Moon](#) (35) See also: [our coverage](#)
17. [Antonio Orlandi](#) (34) See also: [our coverage](#)
18. [Dimitris Liakopoulos](#) (33) (NB: We're counting a book he co-authored as a single retraction. The book has 13 retracted chapters with DOIs that are not included in this figure.) See also: [our coverage](#)
19. [Amelec Vilorio aka Jesus Silva](#) (33) See also: [our coverage](#)
20. [Jose L Calvo-Guirado](#) (32) See also: [our coverage](#)
21. [Jan Hendrik Schön](#) (32) See also: [our coverage](#)
22. [Naoki Mori](#) (31) See also: [our coverage](#)
23. [Bharat Aggarwal](#) (30) See also: [our coverage](#)
24. [Soon-Gi Shin](#) (30) See also: [our coverage](#)
25. [Victor Grech](#) (29) See also: [our coverage](#)
26. [Tao Liu](#) (29) See also: [our coverage](#)
27. [Cheng-Wu Chen](#) (28) See also: [our coverage](#)
28. [A Salar Elahi](#) (27) See also: [our coverage](#)
29. [Prashant K Sharma](#) (27) See also: [our coverage](#)
30. [Richard L E Barnett](#) (26) See also: [our coverage](#)

We note that all of the top 30 are men, which agrees with the general findings of a [2013 paper suggesting that men are more likely to have papers retracted for fraud](#).

10/16/22



# An IRB Approved Survey Conducted at The MD Anderson Cancer Center

OPEN ACCESS Freely available online



## A Survey on Data Reproducibility in Cancer Research Provides Insights into Our Limited Ability to Translate Findings from the Laboratory to the Clinic

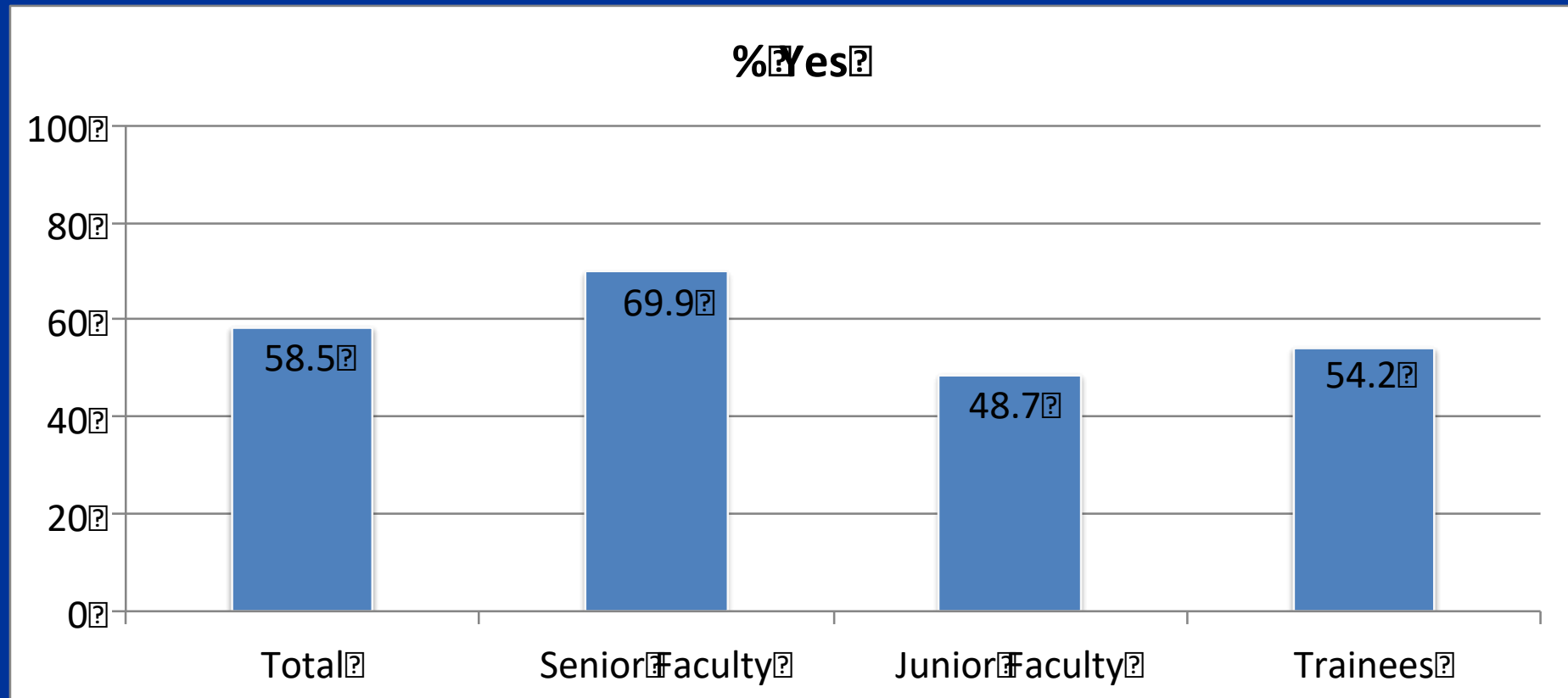
Aaron Mobley<sup>1</sup>, Suzanne K. Linder<sup>2</sup>, Russell Braeuer<sup>1</sup>, Lee M. Ellis<sup>1,3\*</sup>, Leonard Zwelling<sup>4\*</sup>

240 responses in 6 hrs  
311 responses after 3 days

IRB Approved Protocol  
PI: Len Zwelling, MD  
Co-PI: Lee Ellis



# Have You Ever Tried To Reproduce A Finding From A Published Paper And Not Been Able To Do So?



# Driving Forces for Irreproducible Data

(>90 respondents-Trainees Only)

- Were you ever **pressured to publish findings** of which you had doubt?
  - 22%
- Have you noted **pressure from a mentor** to prove that his/her hypothesis was correct, even though the data you generated may not support the hypothesis?
  - 31%
- Are you aware of mentors who require a **high impact publication** before a trainee can leave the lab?
  - 49%

# Selected Comments From the Survey

- crumbling of integrity and value - bean counters judging science by journal names - institutional failure on dealing with alleged fraud.
- Everything here in US is screwed up. There is nothing to do other than move out. .... Who publishes more deserve respect, while others who are honest and cast doubt about their own results (or third party results) as condemned. There is no way out. It is either join the "bright team" or be labeled as incompetent.
- ... my previous mentor and also our current neighbor lab PI push too much to produce best data all the time. .. sometimes it make trainee consider manipulates data only to escape from stress. Especially, many international trainees (postdoc) also have VISA issue. Thus, PI starts push them with visa issue trainees feel a lot of stress and eventually it make them can do whatever PI WANT.
- From my experience, no one will help you if you stand up for what is right. ....The system is unfortunately broken ....
- Pressure is ....from the job market and funding dynamics. The impact factor insanity is destroying science. A small group of powerful editors and friends control everything.

# A Survey on Data Reproducibility and the Effect of Publication Process on the Ethical Reporting of Laboratory Research

Delphine R. Boulbes<sup>1</sup>, Tracy Costello<sup>2</sup>, Keith Baggerly<sup>3</sup>, Fan Fan<sup>1</sup>, Rui Wang<sup>1</sup>,  
Rajat Bhattacharya<sup>1</sup>, Xiangcang Ye<sup>1</sup>, and Lee M. Ellis<sup>1,4</sup> Clin Cancer Res; 2018

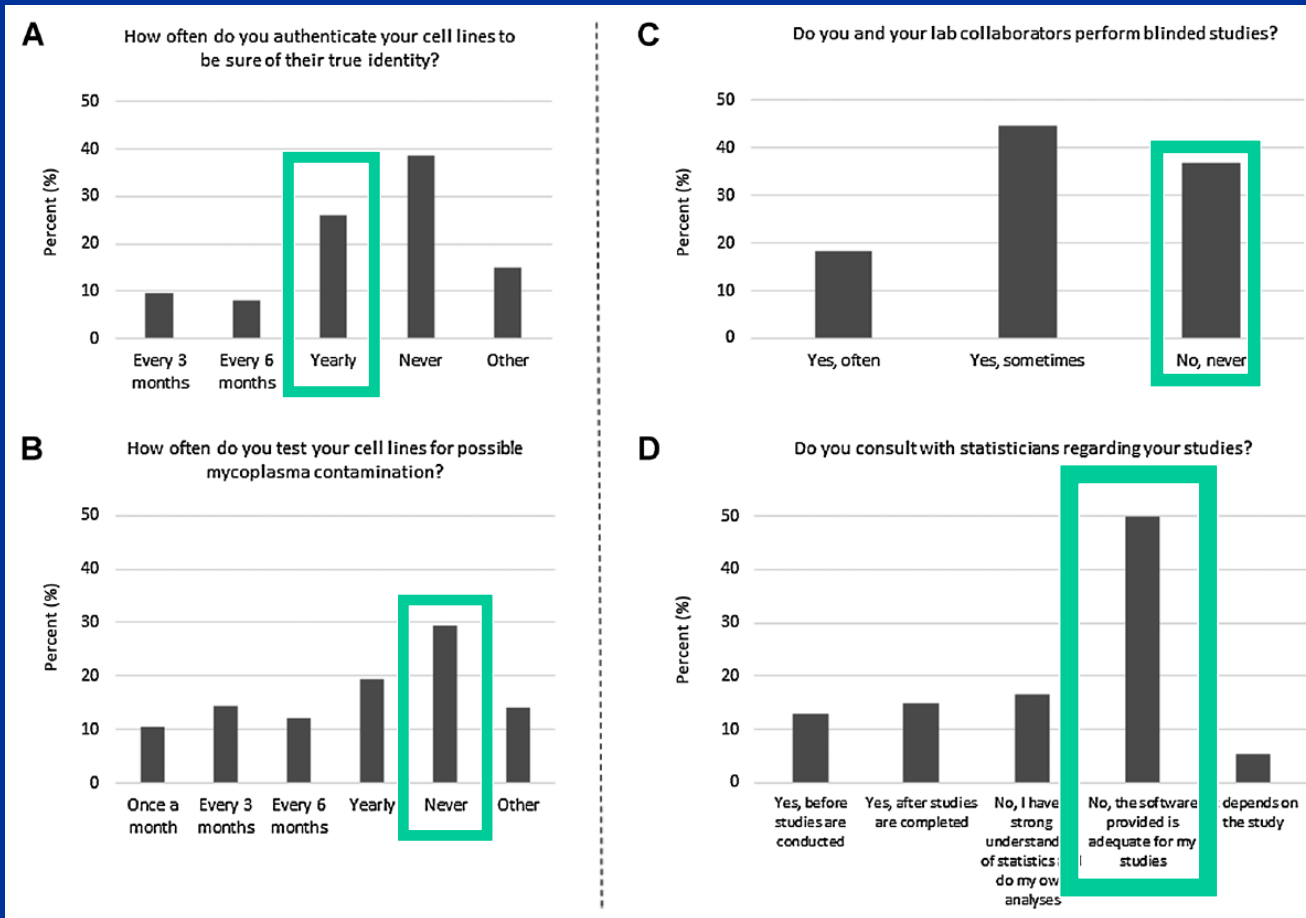
## Population Characteristics (n=467)

Students 10.7%

Postdocs 89.3%

Cancer Biology 60.6%

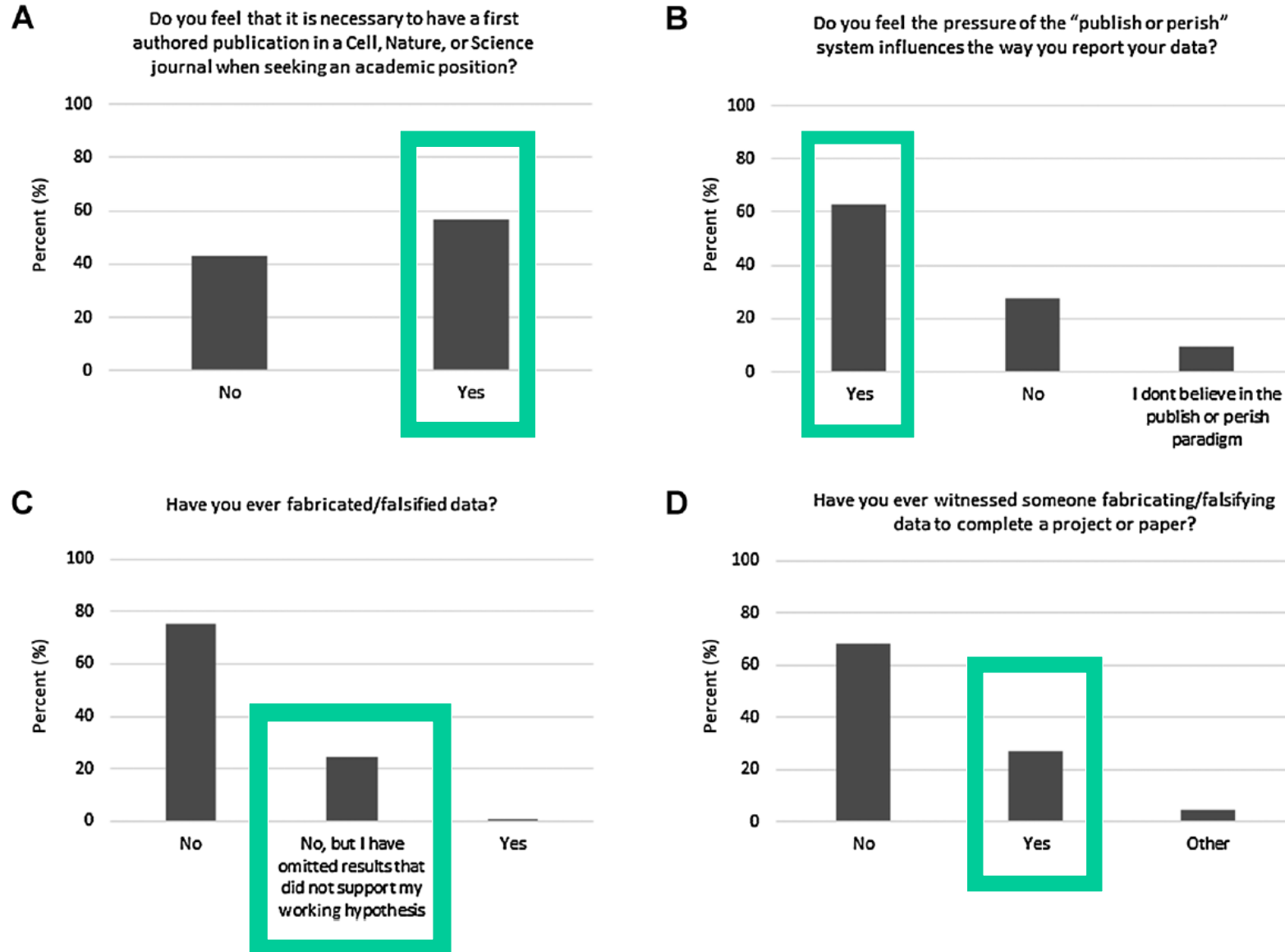
# Best Research Practices



## Take home points

- < 50% of investigators verify cell lines at least every year
- Just over half test for mycoplasma yearly
- < 20% of investigators perform blinded studies as a routine
- < 50% consult with a statistician

# Research Integrity and Reporting Transparency



**Figure 3.**

Responses to questions about research integrity and transparency. Responses were provided by all 467 respondents to questions 5 (A), 27 (B), 10 (C), and 11 (D).



# The Publication Process

- For 35% of participants, the revision process was >12 months for a high impact journal
- The cost of revision was >25K (40%) and >100K in 10%
- In 25% of those surveyed, the manuscript did *not improve significantly after revision*  
(in their opinion)

## Comment in Pubpeer

The findings of this paper are not particularly surprising. But I thought the conclusions and discussion was solidly grounded in the evidence they found. Your supervisor can tell you all they like that your career advancement doesn't depend on your results as long as you do good work, but then you see the big weightings on publication record in your fellowship application and you know what the real deal is. Unfortunately as sensible as the conclusions are, I see the likelihood of their implementation any time soon as likely as my negative results getting into Nature.

# The Erosion of Research Integrity: *The Need For a Culture Change*

- Integrity of laboratory research and how this impacts clinical outcomes
  - The issue at hand
    - The spectrum
  - Why does this occur?
  - What can we do to fix this?

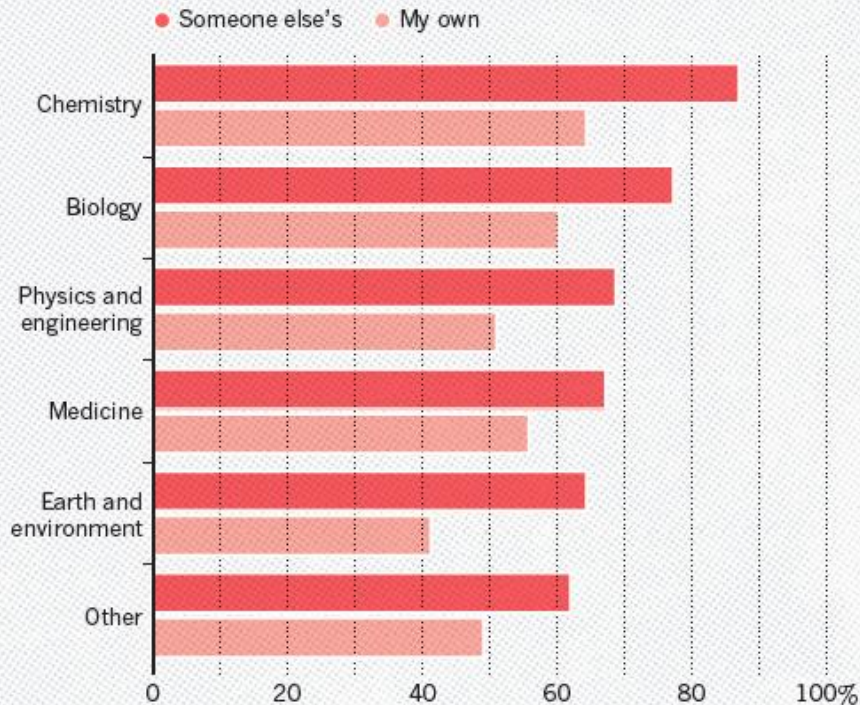
# Causes of “Massaging” of Data

Trainees	Faculty
<p>Occurs when trainees have a strong mentor - trainees do not want to challenge the hypothesis of the mentor - sometimes this is cultural - it is hard to challenge a mentor in the US when English is a 2nd language</p>	<p>“Publish or Perish” has morphed into only getting recognition for pubs in CNS (Cell, Nature, Science) – -Promotion and tenure for young faculty -Endowed Chairs for established investigators</p>
<p>Need high impact publications to obtain a job (or many pubs)</p>	<p>Grants: Preliminary data (Biosketch) for subsequent grants – some institutes require faculty to bring in 90-100% of salary off of grants</p>
<p>Cannot leave that lab as a post-doc, or cannot complete thesis as a student, unless you have a high impact publication</p>	<p>Stature and gratification (human nature)</p>
	<p>Financial gain: Patents and sublicensing</p>

# Nature Survey, May 2016

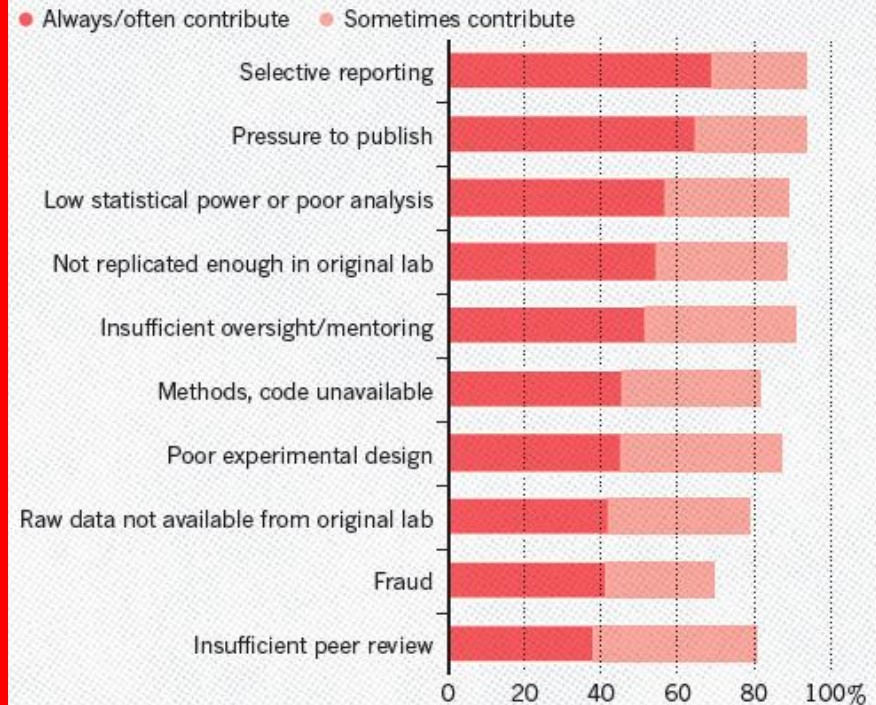
## HAVE YOU FAILED TO REPRODUCE AN EXPERIMENT?

Most scientists have experienced failure to reproduce results.



## WHAT FACTORS CONTRIBUTE TO IRREPRODUCIBLE RESEARCH?

Many top-rated factors relate to intense competition and time pressure.



Let's Talk About  
High Impact Publications  
and *“Impact Factor Mania”*

And what this does to our culture!



# Quote to a Post-Doc From a Successful Physician Scientist

*“You are nothing unless you  
publish in CNS!”*

# Causes for the Persistence of Impact Factor Mania

mBio 2014

Arturo Casadevall,<sup>a</sup> Ferric C. Fang<sup>b</sup>

Departments of Microbiology & Immunology and Medicine, Albert Einstein College of Medicine, Bronx, New York, USA<sup>a</sup>; Departments of Laboratory Medicine and Microbiology, University of Washington School of Medicine, Seattle, Washington, USA<sup>b</sup>

*“...associating the value of research with the journal where the work was published rather than the content of the work itself. The mania is causing profound distortions in the way science is done that are deleterious to the overall scientific enterprise.”*

**distortions in the way science is done that are deleterious to the overall scientific enterprise.** In this essay, we consider the forces responsible for the persistence of the mania and conclude that it is maintained because it disproportionately benefits elements of the scientific enterprise, including certain well-established scientists, journals, and administrative interests. Our essay suggests steps that can be taken to deal with this debilitating and destructive epidemic.

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Should we eliminate the Impact Factor?

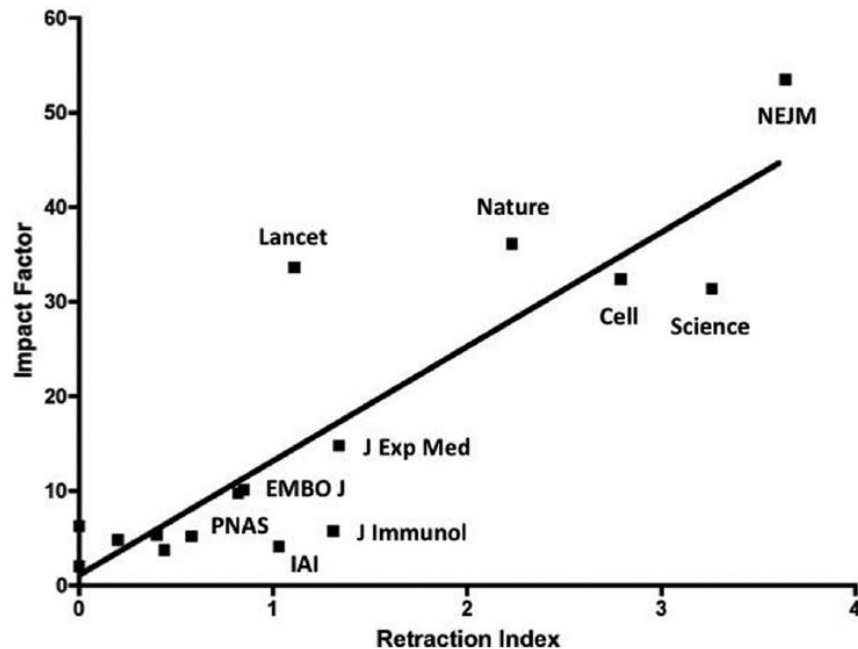
Nathan S. Blow, Ph.D., Editor-in-Chief, *BioTechniques*

## EDITORIAL

Fang and Casadevall  
Infection and Immunity, 2011

### Retracted Science and the Retraction Index<sup>▽</sup>

Articles may be retracted when their findings are no longer considered trustworthy due to scientific misconduct or error, they plagiarize previously published work, or they are found to violate ethical guidelines. Using a novel measure that we call the “retraction index,” we found that the frequency of retraction varies among journals and shows a strong correlation with the journal impact factor. Although retractions are relatively rare, the retraction process is essential for correcting the literature and maintaining trust in the scientific process.



The higher the impact factor, the higher the retraction index (also in the New York Times)

“A man who has committed a mistake, and doesn’t correct it, is committing another mistake.”  
—attributed to Confucius

### Misconduct accounts for the majority of retracted scientific publications

PNAS, 2012

Ferric C. Fang<sup>a,b,1</sup>, R. Grant Steen<sup>c,1</sup>, and Arturo Casadevall<sup>d,1,2</sup>

Departments of <sup>a</sup>Laboratory Medicine and <sup>b</sup>Microbiology, University of Washington School of Medicine, Seattle, WA 98195; <sup>c</sup>MediCC! Medical Communications Consultants, Chapel Hill, NC 27517; and <sup>d</sup>Department of Microbiology and Immunology, Albert Einstein College of Medicine, Bronx, NY 10461

Edited by Thomas Shenk, Princeton University, Princeton, NJ, and approved September 6, 2012 (received for review July 18, 2012)

# Nobel winner declares boycott of top science journals

Randy Schekman says his lab will no longer send papers to Nature, Cell and Science as they distort scientific process

How journals like Nature, Cell and Science are damaging science

Monday 9 December 2013 14.42 EST

Leading academic journals are distorting the scientific process and represent a "tyranny" that must be broken, according to a Nobel prize winner who has declared a boycott on the publications.

Schekman criticises Nature, Cell and Science for artificially restricting the number of papers they accept, a policy he says stokes demand "like fashion designers who create limited-edition handbags." He also attacks a widespread metric called an "impact factor", used by many top-tier journals in their marketing.

*Final, Final Comment on Impact  
Factor Mania*

*Strive for Nature*

*But Don't Lie or Die for Nature*

*(or compromise your ethics)*



# The Erosion of Research Integrity: *The Need For a Culture Change*

- Integrity of laboratory research and how this impacts clinical outcomes
  - The issue at hand
    - The spectrum
  - Why does this occur?
  - What can we do to fix this?

# Overall, We Need to Be Kinder as Reviewers, Mentors, and Editors

- Research can be challenging when we are seeking significant gains in knowledge!
  - And sometimes, the unexpected findings may be the most interesting findings!
- We should not torture our trainees to the point where they “*massage*” data in order to satisfy the PI, have a paper published in a high impact journal, or both!
- PIs need to implement *best research practices* and not just expect a *CNS* paper to land on your desk
  - PIs should have updates and input from start to finish.

2014

- Case Summary: Ahvazi, Bijan
- Case Summary: Chen, Li
- Case Summary: Cokonis, Melanie
- Case Summary: Deb, Kaushik
- Case Summary: Dzhura, Igor
- Case Summary: Freeman, Helen C.
- Case Summary: Fu, Jun
- Case Summary: Patel, Parag
- Case Summary: Suzuki, Makoto
- Case Summary: Takahashi, Takao
- Case Summary: Warne, James P.
- Case Summary: Xing, H. Rosie
- Case Summary: Zou, Zhihua



October, 2022

<https://ori.hhs.gov/frequently-asked-questions>

2016

- Case Summary: Cullinane, Andrew R.

2018

- Case Summary: Baughman, Brandi M.
- Case Summary: Eloutub, Maria Cristina Miron

2020

- Case Summary: Downs, Charles A.
- Case Summary: Fulford, Logan
- Case Summary: Jaiswal, Anil Kumar
- Case Summary: Jayant, Rahul Dev
- Case Summary: Kim, Shin-Hee
- Case Summary: Nemani, Prasadarao
- Case Summary: Panka, David
- Case Summary: Tataroglu, Ozgur
- Case Summary: Wan, Yihong
- Case Summary: Wang, Zhiwei

2015

- Case Summary: Anderson, David
- Case Summary: Asherin, Ryan
- Case Summary: Bitzegeio, Julia
- Case Summary: Blaylock, Brandi Lyn
- Case Summary: Briones, Teresita L.
- Case Summary: Dasmahapatra, Girija
- Case Summary: Fujita, Ryousuke
- Case Summary: Geraedts, Maria C.P.
- Case Summary: Kang, Bin
- Case Summary: Littlefield, Peter
- Case Summary: Massè, Julie
- Case Summary: Potti, Anil
- Case Summary: Reddy, Venkata J.
- Case Summary: Xiao, Dong

And, in 2021, there was a case of misconduct in the TMC!

2017

- Case Summary: Baughman, Brandi
- Case Summary: Chegini, Nasser
- Case Summary: Chetram, Mahandranauth
- Case Summary: El-Remessy, Azza
- Case Summary: Endo, Matthew
- Case Summary: Mirchandani, Alec
- Case Summary: Sauer, Frank

- Case Summary: Sen, Shiladitya
- Case Summary: Skau, Colleen T.
- Case Summary: Srivastava, Rakesh
- Case Summary: Wang, Li

2019

- Case Summary: Cruikshank, William W.
- Case Summary: Malhotra, Deepti
- Case Summary: Neumeister, Alexander
- Case Summary: Potts Kant, Erin N.
- Case Summary: Yakkanti, Sudhakar

2021  
-3 cases

2022  
-9 cases  
so far

Are We Doing Enough to Punish Those Who Violate Our Trust?  
*What are the consequences of being found guilty of misconduct?*

# Most Common ORI Actions

- Retract paper(s)
- Have research supervised for 3 yrs
- No service on committees for 2-3 yrs
- Most can still receive NIH funding

- For those found guilty of fraud, we must have a punishment that fits the crime.
- What is the deterrent for such behavior?
- Indeed, the entire system needs an overhaul, but let's start with making outright fraud something that can be deterred by tough punishment and prohibits this person from ever having the chance to do this again.
  - This is, of course, even more important for clinical fraud

# The Primary Inquiry Rests With Your NIH Funded Institution

## What the Office of Research Integrity Does

- Implements PHS regulations requiring institutions to respond to allegations of research misconduct
- Assures institutions requesting PHS funding have mechanisms in place to deal with allegations of research misconduct
- Provides assistance and guidance to institutions
- Can perform own investigation
- Leaves primary responsibility with the individual institutions
- Institutional Research Integrity Officer

-MLP/CC: W. Plunkett

**INHERENT CONFLICT OF INTEREST**

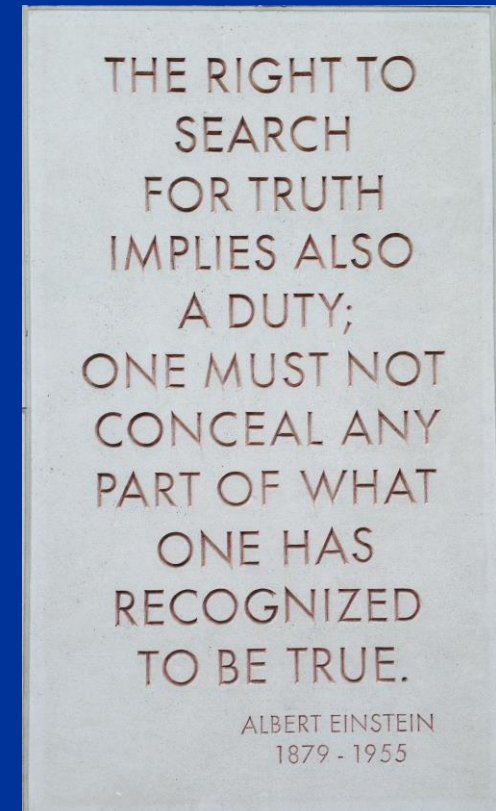
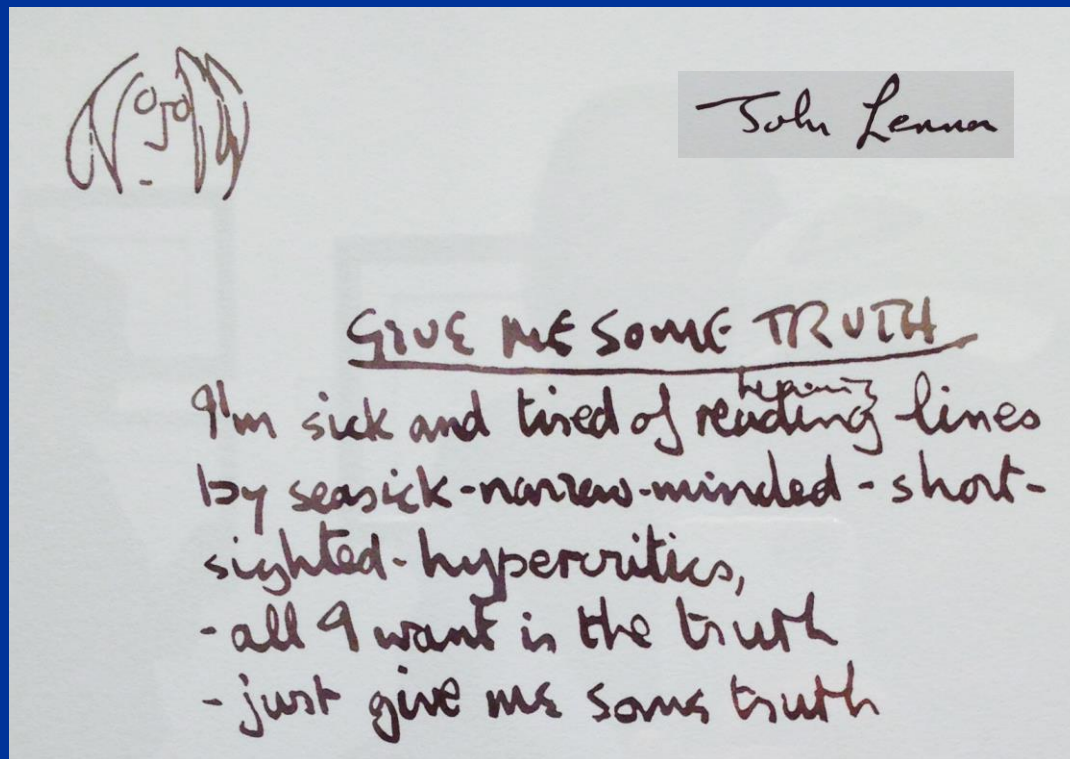
# Mechanism for Addressing Misconduct Is Institutional Dependent

- Allegations may be brought to Department Head, Division Head, or to the Provost and Executive Vice President (EVP)
- Provost & EVP and Res Integrity Officer (RIO) will assess the allegations
- Information-gathering and initial fact finding.
  - Conduct an Inquiry Panel of at least 3 faculty chosen by Provost & EVP and the Res Integrity Officer.

**INHERENT CONFLICT OF INTEREST**



“....you’ve uncovered a thorny problem in academia—selfishness. In moments of weakness or at the extremes, this creates an undertow away from integrity in science and public health. This is the single biggest limitation in our field,.....”

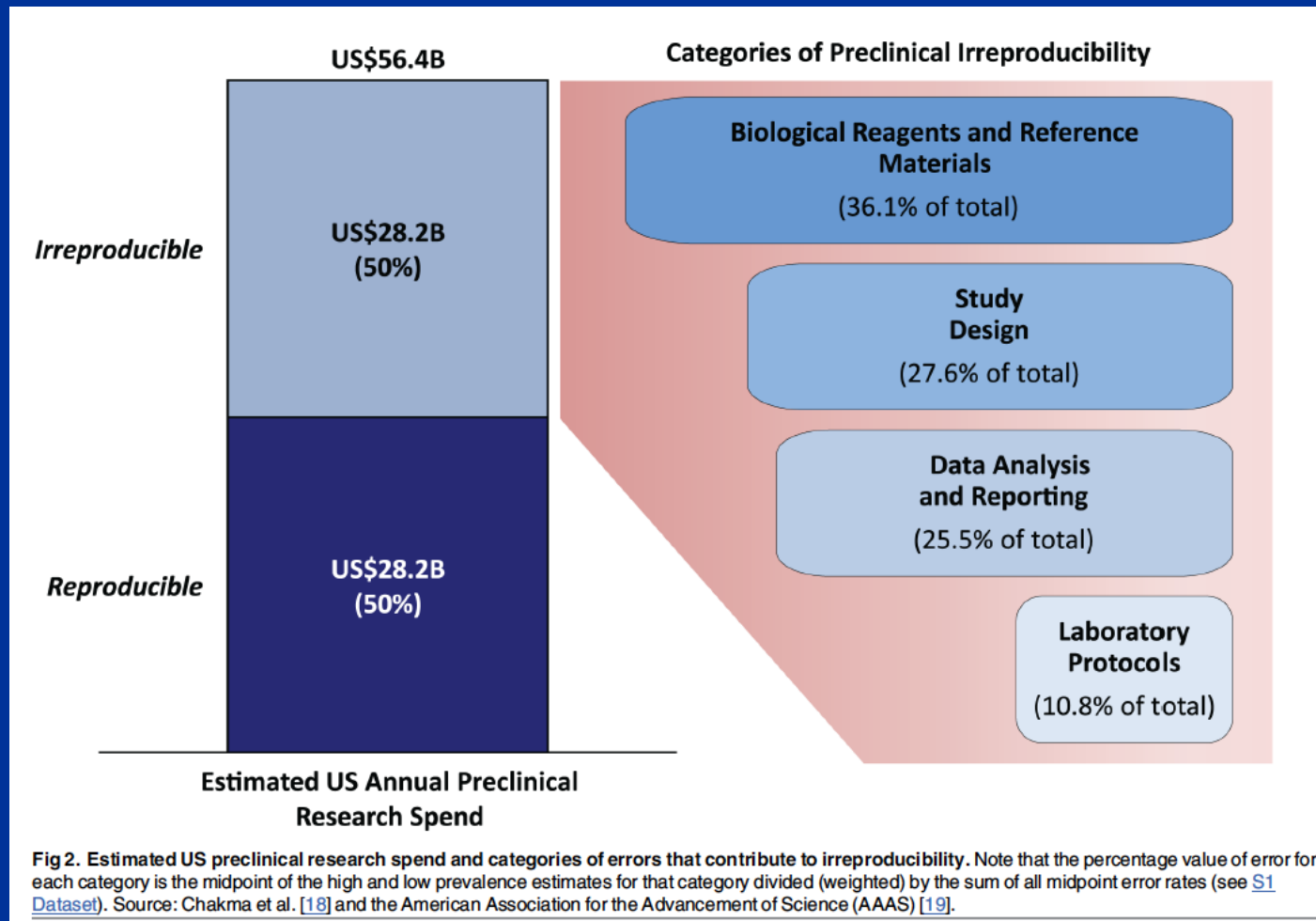




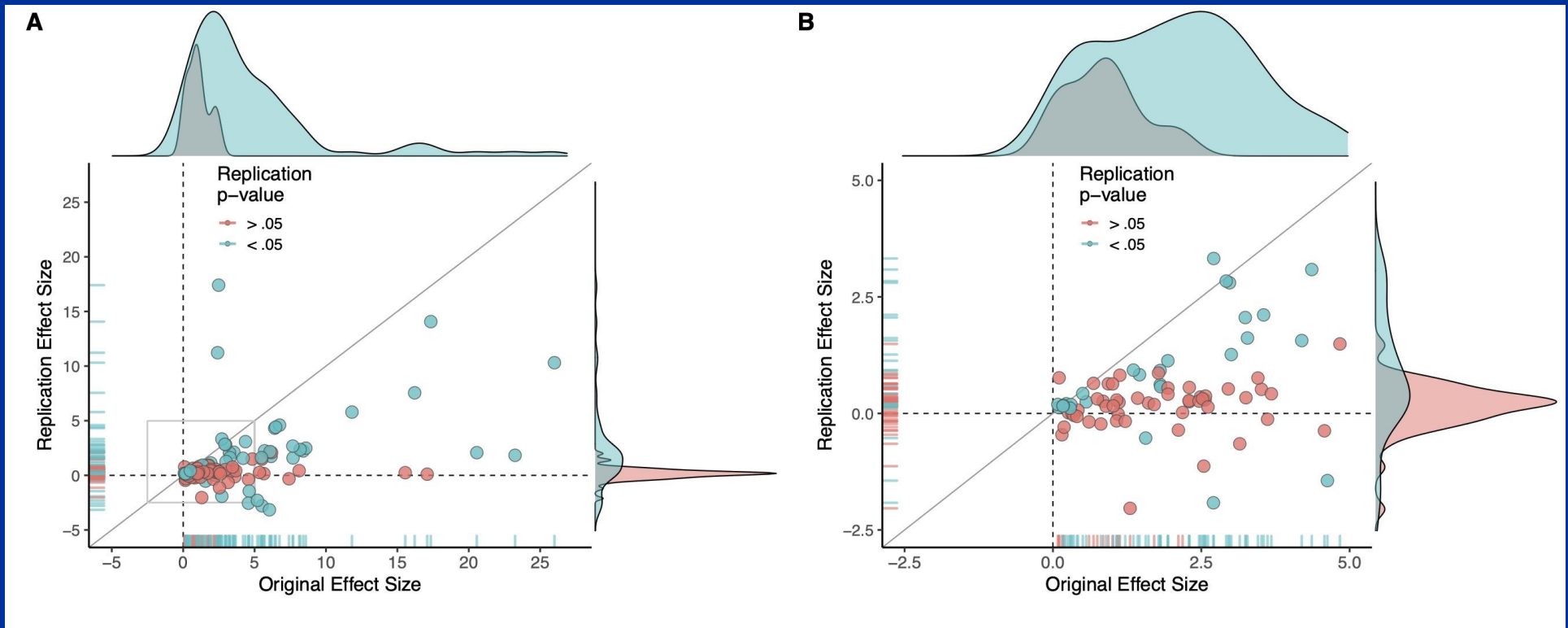
# The Economics of Reproducibility in Preclinical Research

Leonard P. Freedman<sup>1\*</sup>, Iain M. Cockburn<sup>2</sup>, Timothy S. Simcoe<sup>2,3</sup>

1 Global Biological Standards Institute, Washington, D.C., United States of America, 2 Boston University School of Management, Boston, Massachusetts, United States of America, 3 Council of Economic Advisers, Washington, D.C., United States of America



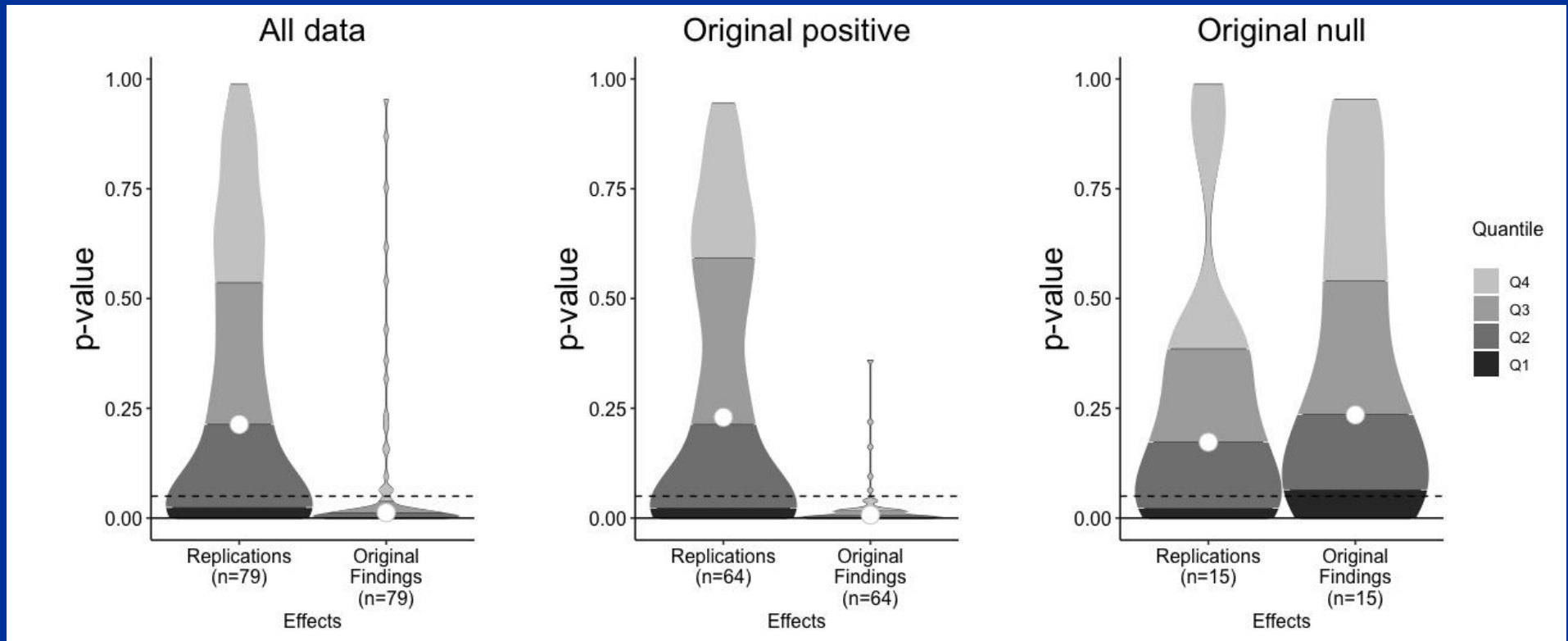
# Replication effects compared with original effects



Replications 85% smaller on average

*Zoomed in on effect sizes  $< 5$*

# Replication p values compared with original p values



# Meta-analysis conclusions

- Replication effects were much weaker than originals
- “Success” was low across replication criteria with variability due, in part to liberalness of the test
- Positive results were half as likely to replicate as null results
- Animal and non-animal declines similar magnitudes - animal effects lower success rate because small original effect sizes
- There is room for improvement



# Stimulus-triggered fate conversion of somatic cells into pluripotency

Haruko Obokata<sup>1,2,3</sup>, Teruhiko Wakayama<sup>3†</sup>, Yoshiki Sasaki<sup>4</sup>, Koji Kojima<sup>1</sup>, Martin P. Vacanti<sup>1,5</sup>, Hitoshi Niwa<sup>6</sup>, Masavuki Yamato<sup>7</sup> & Charles A. Vacanti<sup>1</sup>

30 JANUARY 2014 | VOL 505 | NATURE

Science Insider/AAAS August 6, 2014

## Senior RIKEN scientist involved in stem cell scandal commits suicide

NATURE | NEWS

A six-person committee — three RIKEN scientists, two university researchers and a lawyer — looked at six problems. Four were dismissed as innocent errors, but in two cases the committee found that Obokata had manipulated data in an intentionally misleading fashion. They branded it scientific misconduct.

01 April 2014 Updated: 02 April 2014, 01 April 2014

## The Problem of Irreproducible Bioscience Research

Jeffrey S. Flier

Perspectives in Biology and Medicine, Volume 65, Number 3, Summer  
2022, pp. 373-395 (Article)

# What is the Impact of Retracted Clinical Papers on Patients?

Retractions in the medical literature: how many patients are put at risk by flawed research?

R Grant Steen

*J Med Ethics* (2011)

**Table 1** Summary of the impact of 180 retracted clinical papers

	Number	Average per retracted paper
Citations of retracted papers		
Total citations	5503	30.6
Research-related citations	5143	28.6
Post-retraction citations	1973	11.0
Retraction-related citations	360	2.0
Review papers	1372	7.6
Patient studies	851	4.7
Subjects enrolled in retracted papers		
Total subjects	28 783	160.8
Patients at risk	17 783	99.3
Patients treated	9189	51.3
Subjects enrolled in secondary papers		
Total subjects	445 064	2472.6
Patients at risk	165 588	919.9
Patients treated	70 501	391.7

**Table 4** Comparison of studies retracted for fraud and for error

	Fraud (n=70) average	SD	Error (n=110) average	SD
Citations per retracted paper				
Total citations	34.8	77.8	29.0	83.5
Research-related citations	31.4	75.4	27.8	82.9
Post-retraction citations	8.6	12.6	12.8	29.7
Retraction-related citations	3.4	10.8	1.2	1.4
Review papers	8.9	22.9	7.1	21.5
Patient studies	5.9	9.7	4.2	8.0
Subjects enrolled in retracted papers				
Total subjects	147.0	291.5	163.2	411.8
Patients at risk	125.9	281.7	84.4	143.7
Treated patients	96.2	277.1	24.2	72.6
Subjects enrolled in secondary papers				
Total subjects	1,318.1	4648.7	3,272.4	25678.1
Patients at risk	1,075.2	4496.5	857.7	3883.5
Treated patients	882.4	4504.1	103.9	438.4

- Retracted papers impacted an average of 2,600 patients/paper
  - When papers were retracted for fraud, ~1,500 patients were impacted
- \*\*\*This does not take into account patients impacted by fraudulent or faulty preclinical studies!!

# Meta-analysis conclusions

- Replication effects were much weaker than originals
- “Success” was low across replication criteria with variability due, in part to liberalness of the test
- Positive results were half as likely to replicate as null results
- Animal and non-animal declines similar magnitudes - animal effects lower success rate because small original effect sizes
- There is room for improvement

# Retraction Watch Database: MD Anderson Cancer Center and Retractions

Please see this user guide before you get started							
Author(s):	Type to search:	Country(s):	From Date:	To:	Original Paper		
Title:	Type to search:		PublID/DOI:	PublID/DOI:	mm/dd/yyyy		
Reason(s) for Retraction:	Subject(s):	Article Type(s):	From Date:	To:	Retraction or Other Notice		
Journal:	Publisher:	Affiliation(s):	PublID/DOI:	PublID/DOI:	mm/dd/yyyy		
Notes:	URL:	Nature of Notice:	Retracted:	Paywalled:			
<b>Clear Search</b>							
Your search returned a large number of results. Only 50 are displayed. Narrow your search to view all results.							
Title/Subject(s)/Journal	Retraction or Other Notice	Reason(s)	Author(s)	Original Paper Date/PubMedID/DOI	Retraction or Other Notice Date/PubMedID/DOI	Article Type(s) Nature of Notice	Country Paywalled? Note
<p><b>Conversion of epithelial-to-mesenchymal transition to epigenetic transition is mediated by oxygen concentration in pancreatic cancer cells</b> (BLS) Biology - Cancer; (BLS) Biology - Cellular.</p> <p><i>Oncology Letters — Springer</i></p> <p>Department of General Surgery, The Second Affiliated Hospital of Medical College, Xi'an Jiaotong University, Xi'an, Shaanxi 710004, P.R. China</p> <p>The Institute for Population and Development Studies, School of Public Policy and Administration, Xi'an Jiaotong University, Xi'an, Shaanxi 710049, P.R. China</p> <p>Department of Pathology, Fudan University Shanghai Cancer Center, Shanghai 200032, P.R. China</p> <p>Department of General Surgery, First Affiliated Hospital of Medical College, Xi'an Jiaotong University, Xi'an, Shaanxi 710061, P.R. China</p> <p>Department of Gastrointestinal Surgery, Central Hospital of Zibo, Zibo, Shandong 255000, P.R. China</p> <p>Department of Surgical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX 77030, USA</p>	-Concerns/Issues About Data -Concerns/Issues About Image -Objections by Third Party -Undeclared Results	-Concerns/Issues About Data -Concerns/Issues About Image -Objections by Third Party -Undeclared Results	Shao Chen Xi Chen Wan Li Diao Zhao Yuan Pan Lin Jiao Jun Cao Yi Qian Yong Chen Gang Cao Yanling Li Li Wang Yuan Kang	03/08/2018 29731878 10.3892/ol.2018.8219	02/04/2022 35242235 10.3892/ol.2022.13227	Research Article Retraction	China United States No
<p><b>TBCRC026: Phase II Trial Correlating Standardized Uptake Value With Pathologic Complete Response to Preoperative Treatment in Breast Cancer</b> (HSC) Medicine - Oncology; (HSC) Medicine - Pharmacology; (HSC) Medicine - Rehabilitation Therapy; <i>Journal of Clinical Oncology — Official Journal of the American Society of Clinical Oncology — American Society of Clinical Oncology</i></p> <p>Johns Hopkins University School of Medicine, Baltimore, MD</p> <p>Vanderbilt University, Nashville, TN</p> <p>University of North Carolina, Chapel Hill, NC</p> <p>Mayo Clinic, Rochester, MN</p> <p> Baylor College of Medicine, Houston, TX</p> <p>University of Washington, Seattle, WA</p> <p>Indiana University, Indianapolis, IN</p> <p>The University of Texas MD Anderson Cancer Center, Houston, TX</p> <p>University of Alabama at Birmingham, Birmingham, AL</p> <p>Dana-Farber Cancer Institute, Boston, MA</p> <p>Washington University in St. Louis, St. Louis, MO</p>	-Error in Analyses -Retract and Replace	-Error in Analyses -Retract and Replace	Rosini M Connolly Jeffrey J Liaw Lilja Sobala Chunmei Yu Hannah Adams Catherine Kuty Gabriel Wandana Abramson Evan A Casper Amintha C Le Mouhaffar Ramawari Sreeraj Sreeraj Anna Maria Sotomaior Nicolas Valero Victor Vakharenko Jun Li Kang Eric P Water Melissa Camp Robert S Miller Antonio J Wolff Ashley Cimino-Mathews Bin H Park Richard L Wahl Nesred Stamatou	02/05/2019 30721110 10.1200/JCO.2018.78.7986	05/17/2021 33909659 10.1200/JCO.21.00752	Clinical Study Retraction	United States No
<p><b>The Akt inhibitor KP372-1 suppresses Akt activity and cell proliferation and induces apoptosis in thyroid cancer cells</b> (BLS) Biochemistry; (BLS) Biology - Cancer; (BLS) Biology - Cellular; <i>British Journal of Cancer — Springer — Nature Publishing Group</i></p> <p>Department of Head and Neck Surgery, The University of Texas MD Anderson Cancer Center, Houston, TX, USA</p> <p>Department of Pathology, The University of Texas MD Anderson Cancer Center, Houston, TX, USA</p> <p>Department of Molecular Therapeutics, The University of Texas MD Anderson Cancer Center, Houston, TX, USA</p>	-Concerns/Issues About Data -Duplication of Image -Misrepresentation of Images -Original Data not Provided	-Concerns/Issues About Data -Duplication of Image -Misrepresentation of Images -Original Data not Provided	Maheshwari Manali Sumanvika Kam Maha N Younas Samer A Jassir Adel K El Maghrabi Gordon B Mills Jeffery N Myers	05/03/2005 15470708 10.1038/sj.bjc.6602595	02/18/2021 314603199 10.1038/s41416-021-01299-9	Research Article Retraction	United States No
<p><b>Identification of de novo mutations in prenatally neurodevelopment-associated genes in schizophrenia in two Han Chinese patient-sibling family-based cohorts</b> (BLS) Genetics; (HSC) Medicine - Genetics; (HSC) Medicine - Pediatrics; (HSC) Medicine - Psychiatry; <i>Translational Psychiatry — Springer — Nature Publishing Group</i></p> <p>Center for Precision Health, School of Biomedical Informatics, The University of Texas Health Science Center at Houston, Houston, TX, 77030, USA</p> <p>Bio-X Institutes, Key Laboratory for the Genetics of Developmental and Neuro-psychiatric Disorders (Ministry of Education), Collaborative Innovation Center for Brain Science, Shanghai Jiao Tong University, Shanghai, China</p> <p>Shanghai Key Laboratory of Psychotic Disorders, Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China</p> <p>School of Biomedical Informatics, The University of Texas Health Science Center at Houston, Houston, TX, 77030, USA</p> <p>Virginia Institute of Psychiatric and Behavioral Genetics, Medical College of Virginia and Virginia Commonwealth University, Richmond, VA, 23298, USA</p> <p>Department of Psychiatry, University of California at San Diego, San Diego, CA, 92093, USA</p> <p>Department of Ecology and Evolutionary Biology, University of Colorado Boulder, Boulder, CO, 80509, USA</p> <p>Institute for Behavioral Genetics, University of Colorado Boulder, Boulder, CO, 80309, USA</p> <p>Nevada Institute of Personalized Medicine, University of Nevada Las Vegas, Las Vegas, NV, 89154, USA</p>	-Copyright Claims -Lack of Approval from Third Party	-Copyright Claims -Lack of Approval from Third Party	Shan Jiang Daishan Zhao Jun Ying Wang Pinglin He Chunmei Wan Xiaomeng Li Guangbin Cai Dongmei Cao Xiaomeng Jiang Genzhuo Li Kenduo Li Ming Yan Tianyi Zhao Jin Shina Wu Yunuo Li Jun He Jiaochun Chen Chengzhang Zhao Xianmei Chen	09/01/2020 32873781 10.1038/s41398-020-00987-z	12/01/2020 33208230 10.1038/s41398-020-01116-6	Research Article Retraction	China United States No

<p>Institute of Neuropsychiatric Science and Systems Biological Medicine, Shanghai Jiao Tong University, Shanghai, China</p> <p>MD Anderson Cancer Center UT Health Graduate School of Biomedical Sciences, Houston, TX, 77030, USA</p> <p>Human Genetics Center, School of Public Health, The University of Texas Health Science Center at Houston, Houston, TX, 77030, USA</p> <p>419 AL LLC, 10 Pinner Ct, Germantown, MD, 20878, USA</p> <p>Neoadjuvant chemotherapy as a comprehensive treatment in patients with lymphoid and hypopharyngeal carcinomas (HSC) Medicine - Oncology; (HSC) Medicine - Otolaryngology; (HSC) Medicine - Pharmacology; (HSC) Medicine - Rehabilitation Therapy; <i>Oncology Reports — Taylor &amp; Francis</i></p> <p>Department of Otolaryngology Head and Neck, Tongji First Central Hospital, Tianjin, China</p> <p>Department of Head and Neck Surgery, University of Texas MD Anderson Cancer Center, Houston, TX, USA</p> <p>Department of Otolaryngology, The First Affiliated Hospital of Chongqing Medical University, Chongqing, China</p> <p>Department of Ophthalmology, Yunnanqing Hospital of Qingdao University, Yantai, China</p> <p>Department of Radiation Oncology, Nanjing Medical University Affiliated Cancer Hospital, Jiangsu Cancer Hospital, Jiangsu Institute of Cancer Research, Nanjing, China</p> <p>Department of Otolaryngology, Union Hospital, Tongji Medical College, Hubei University of Science and Technology, Wuhan, China</p> <p>Department of Otolaryngology, Union Hospital, Tongji Medical College, Hubei University of Science and Technology, Wuhan, China</p> <p>Department of Radiation Oncology, Nanning Medical University Affiliated Cancer Hospital, Jiangsu Cancer Hospital, Jiangsu Institute of Cancer Research, Nanjing, China</p> <p>MDR-34s blocks osteoporosis and bone metastasis by inhibiting osteoclastogenesis and TRPV2 (BLS) Biology - Cellular; (BLS) Genetics; (HSC) Medicine - Orthopedics; <i>Journal of Orthopaedic Surgery — Nature Publishing Group</i></p> <p>Department of Pharmacology, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Department of Molecular Biology, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Simmons Cancer Center, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Department of Clinical Sciences, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Division of Cellular and Developmental Biology, Molecular and Cell Biology Department, University of California at Berkeley, Berkeley, 94720, California, USA</p> <p>Department of Gynecology and Obstetrics and Reproductive Medicine, The University of Texas MD Anderson Cancer Center, Houston, 77030, Texas, USA</p> <p>Department of Experimental Therapeutics, The University of Texas MD Anderson Cancer Center, Houston, 77030, Texas, USA</p> <p>Department of Cancer Biology, The University of Texas MD Anderson Cancer Center, Houston, 77030, Texas, USA</p> <p><a href="http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p><a href="http://retractionwatch.com/2021/12/21/wan-bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/12/21/wan-bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p>Identification of Novel Biomarkers for Pancreatic Cancer Using Integrated Transcriptomics With Functional Pathways Analysis (BLS) Biology - Cancer; (HSC) Biology - Cellular; (BLS) Genetics; <i>Journal of Cellular Physiology — Wiley</i></p> <p>Scientific Research Center, Shanghai Public Health Clinical Center, Shanghai, People's Republic of China</p> <p>Department of Bioinformatics and Computational Biology, The University of Texas MD Anderson Cancer Center, Houston, Texas</p> <p>Department of Epidemiology, The University of Texas MD Anderson Cancer Center, Houston, Texas</p> <p>Genomics Core, National Institute of Diabetes and Digestive and Kidney Diseases, National Institute of Health, Bethesda, Maryland, USA</p> <p><a href="http://retractionwatch.com/2017/08/15/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2017/08/15/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p><a href="http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p>	-Error in Analyses -Error in Methods	-Error in Analyses -Error in Methods	Xian Feng Wei Abinikha Srivastava Peng Lin Li Li Shaoyun Zhang Xiao Peng Chun Liu Junmei Liu Li Peng Li Fong Wu Guo Jun Li Yun Chen Li	03/18/2020 32186224 10.1089/109016489.2020.1373130	10/09/2020 33004259 10.1089/109016489.2020.1817662	Clinical Study Retraction	China United States No
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<p>Department of Pharmacology, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Department of Molecular Biology, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Simmons Cancer Center, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Department of Clinical Sciences, The University of Texas Southwestern Medical Center, Dallas, 75390, Texas, USA</p> <p>Division of Cellular and Developmental Biology, Molecular and Cell Biology Department, University of California at Berkeley, Berkeley, 94720, California, USA</p> <p>Department of Gynecology and Obstetrics and Reproductive Medicine, The University of Texas MD Anderson Cancer Center, Houston, 77030, Texas, USA</p> <p>Department of Experimental Therapeutics, The University of Texas MD Anderson Cancer Center, Houston, 77030, Texas, USA</p> <p>Department of Cancer Biology, The University of Texas MD Anderson Cancer Center, Houston, 77030, Texas, USA</p> <p><a href="http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p><a href="http://retractionwatch.com/2021/12/21/wan-bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/12/21/wan-bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p><a href="http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p><a href="http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p>	-Breach of Policy by Author -Concerns/Issues About Referencing/Attributions -Copyright Claims -Lack of Approval from Company/Institution -Objections by Third Party -Withdrawal	-Breach of Policy by Author -Concerns/Issues About Referencing/Attributions -Copyright Claims -Lack of Approval from Company/Institution -Objections by Third Party -Withdrawal	Xian Zhang Peng Dong Yun Wang Yun Wang Zhenjun Chen Zhenjun Chen Yun Wang Yun Wang	02/22/2016 26099071 10.1002/jcp.25553	03/10/2020 3044987 10.1002/jcp.26066	Research Article Retraction	China United States No
<p>Department of Bioinformatics and Computational Biology, The University of Texas MD Anderson Cancer Center, Houston, Texas</p> <p>Department of Epidemiology, The University of Texas MD Anderson Cancer Center, Houston, Texas</p> <p>Genomics Core, National Institute of Diabetes and Digestive and Kidney Diseases, National Institute of Health, Bethesda, Maryland, USA</p> <p><a href="http://retractionwatch.com/2017/08/15/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2017/08/15/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p><a href="http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/">http://retractionwatch.com/2021/06/51/bone-remodelling-osteoporosis-and-bone-metastasis-by-inhibiting-osteoclastogenesis-and-trpv2/</a></p> <p>Mechanism of sensitization process in the management of pain and the importance of descending pathways: a role for tapentadol (HSC) Medicine - Anesthesiology; (HSC) Medicine - Pharmacology; <i>Pain Management Research and Quality — Taylor &amp; Francis</i></p> <p>Department of Drug Sciences, University of Genoa, Genoa, Italy</p> <p>Oasi Research Institute - IRCCS, Troina, Italy</p> <p>Dept. Medical and Surgical Sciences and Biotechnologies, Sapienza University of Rome, Rome, Italy</p> <p>Anesthesiology and Intensive Care, University of L'Aquila, L'Aquila, Italy</p> <p>Supportive Care Center, MD Anderson Cancer Center, University of Texas, Houston, Texas, USA</p> <p>Main Regional Center for Pain Relief and Supportive Palliative Care, La Maddalena Cancer Center, Palermo, Italy</p> <p>Giulia Ortolano University of Perugia, Perugia, Italy</p> <p>Department of Pharmacy and Biotechnology, Alma Mater Studiorum, University of Bologna, Bologna, Italy</p> <p>Genomical Medical Division, Milan, Italy</p> <p>Division of Biostatistics, UCL, London, UK</p>	-Error in Data	-Error in Data	Elizabetta Capaci Flaminia Cichotzi Franco Marinanelli Serena Mercuri Giuseppe Esposito Pierluigi Romagnolo Mariafrancesca Nicolini Antonio R. DiStefano	12/11/2019 31822137 10.1080/03007995.2019.1703664	01/29/2020 31094946 10.1080/03007995.2019.1704283	Review Article Retraction	Italy United Kingdom United States No
<p>Pharmacokinetics of Collagen-Induced Arthritis by Regulating Th17 Cell Imbalance and Suppressing Osteoclastogenesis (HSC) Biochemistry; (HSC) Medicine - Immunology; (HSC) Medicine - Orthopedics; <i>Frontiers in Immunology — Frontiers</i></p> <p>Department of Pharmacy, Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China</p> <p>Shanghai Key Laboratory of Orthopedic Implants, Department of Orthopedic Surgery, Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China</p> <p>Department of Surgical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX, United States</p> <p>Bone Research Program, ANZAC Research Institute, University of Sydney, Sydney, NSW, Australia</p> <p>Department of Stomatology, Shanghai Ruiji Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China</p> <p>Department of Orthopedic Surgery, Shanghai Institute of Trumatology and Orthopedics, Shanghai, China</p> <p>Treatment of Ligament Constrictions Using Topical Flunixin Therapy in An &amp; Week-Old Female Infant (HSC) Medicine - Ophthalmology; (HSC) Medicine - Pediatrics; (HSC) Medicine - Pharmacology; <i>Journal of Pediatric Ophthalmology and Strabismus — HSC</i></p> <p>Baylor College of Medicine, Houston, Texas</p>	-Duplication of Image -Invagination by Journal Publisher -Manipulation of Images	-Duplication of Image -Invagination by Journal Publisher -Manipulation of Images	Tianyu Wang Jia Qian Zhenjun Chen Jun Zhang Junjun Wang Yun Wang Jun Zhang Jun Zhang Tianyu Wang	01/08/2019 30710685 10.3389/fimm.2018.01302	01/23/2020 32038665 10.3389/fimm.2020.00112	Research Article Retraction	Australia China United States No
<p>Department of Pathology, The University of Texas MD Anderson Cancer Center, Houston, TX, USA</p> <p>Department of Molecular Therapeutics, The University of Texas MD Anderson Cancer Center, Houston, TX, USA</p> <p>Department of Ecology and Evolutionary Biology, University of Colorado Boulder, Boulder, CO, 80509, USA</p> <p>Nevada Institute of Personalized Medicine, University of Nevada Las Vegas, Las Vegas, NV, 89154, USA</p>	-Concerns/Issues About Data -Concerns/Issues About Image -Lack of Approval from Third Party	-Concerns/Issues About Data -Concerns/Issues About Image -Lack of Approval from Third Party	Muhammad Mawla Hussian Haider Mawla Hussian Zaina Nihal Al-Mohammadi	08/29/2018 36180242 10.3928/01913913-20180806-01	01/23/2019 3673103 10.3928/01913913-20181210-02	Case Report Retraction	United States No