### RESEARCH INTEGRITY: A TOP PRIORITY FOR ANY UNIVERSITY



PROF. LEONARDO D. DE CASTRO, PH.D.

Chair

PHILIPPINE HEALTH RESEARCH ETHICS BOARD

# The pleasures and perils of scientific research

# Credit and responsibility for scientific achievements

# SCIENCE AND TRUTHFULNESS

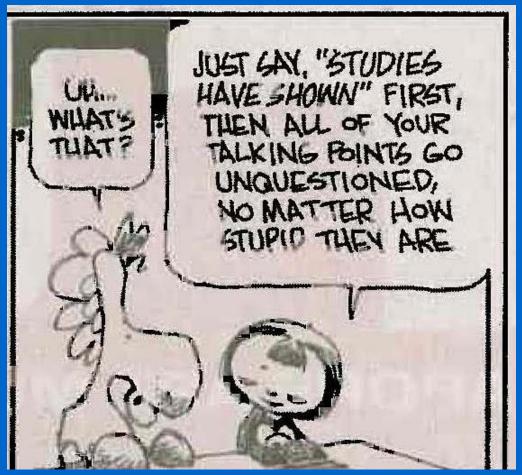
• The only ethical principle which has made science possible is that the truth shall be told all the time.

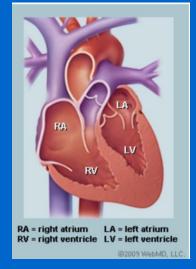
 A false statement of fact, made deliberately, is the most serious crime a scientist can commit.





# THE POWER OF RESEARCH: "Studies have shown"





### CARDIAC STEM CELLS (CSCs) RANDOMIZED TRIAL:

- Infusion of Cardiac Stem Cells increases heart's functional capacity, improves quality of life, and reduces size of heart scar
  - Results in substantial improvement in Left Ventricle systolic function
  - No adverse effects

### Previous knowledge:

Myocardial regeneration ceases at birth and cannot occur in adulthood



Piero Anversa became legendary due to studies using cardiac stem cells to regrow the human heart













**NEWS & OPINION** 

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### The Lancet Retracts Cardiac Stem Cell Clinical Trial Paper

The publication of the SCIPIO trial is among many by Piero Anversa's lab that Harvard Medical School flagged for fraudulent data.

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Mar 14, 2019 KERRY GRENS











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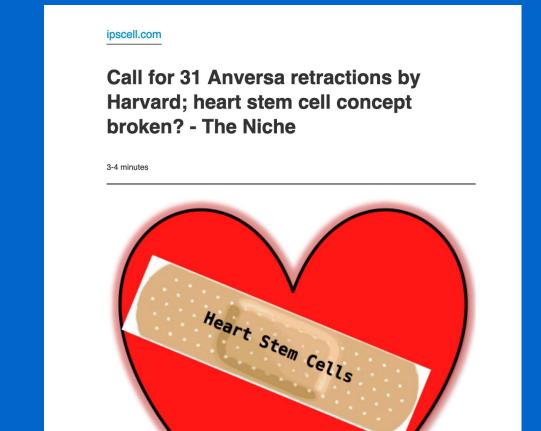


### Fall from grace

In 2017, Brigham and other hospitals had to pay the government US\$10 million to settle claims that Anversa and a colleague used bogus data to obtain their grant funding



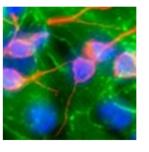
In October 2018, Harvard Medical School and Brigham and Women's Hospital (Anversa's former institutions) asked journals to retract 31 of his lab's papers.



https://ipscell.com/2018/10/call-for-31-anversa-retractions-by-harvard-heart-stem-cell-concept-broken/

ipscell.com





### THE NICHE

**KNOEPFLER LAB STEM CELL BLOG** 

# Call for 31 Anversa retractions by Harvard; heart stem cell concept broken?

October 16, 2018 ♣ Paul Knoepfler ▷ heart stem cell, retractions ▷ 1





- Does this mean the end of the idea of endogenous adult heart stem cells?
- Where's the evidence that bone marrow cells could make heart cells
- How many millions of dollars of research funding have been wasted?
- How many patients have been put at risk unnecessarily?
- How many other researchers have been misled by the fake news?



# New England Journal pulls one paper, probes two others from stem cell researcher

By ELIZABETH COONEY @cooney\_liz / OCTOBER 17, 2018

Several of Anversa's co-authors of the 2011 study "Evidence for human lung stem cells" asked the journal to retract their paper, citing an investigation by Harvard and the Brigham that concluded some of the images in the article were manipulated.

https://www.statnews.com/2018/10/17/nejm-retract-stem-cell-anversa/



## New England Journal pulls one paper, probes two others from stem cell researcher

By ELIZABETH COONEY @cooney\_liz / OCTOBER 17, 2018

Investigation of Anversa's work at the Brigham found evidence consistent with fabrication of data and image manipulation

https://www.statnews.com/2018/10/17/nejm-retract-stem-cell-anversa/



# New England Journal pulls one paper, probes two others from stem cell researcher

By ELIZABETH COONEY @cooney\_liz / OCTOBER 17, 2018

- \* "Drs. Anversa and Leri stand by the scientific findings in their papers, including the existence and potential therapeutic benefits of cardiac stem cells."
- Other research teams tried, but failed to reproduce results reported in Anversa's papers

https://www.statnews.com/2018/10/17/nejm-retract-stem-cell-anversa/



#### The Lancet Retracts Cardiac Stem Cell Clinical Trial Paper

The publication of the SCIPIO trial is among many by Piero Anversa's lab that Harvard Medical School flagged for fraudulent data.

KERRY GRENS





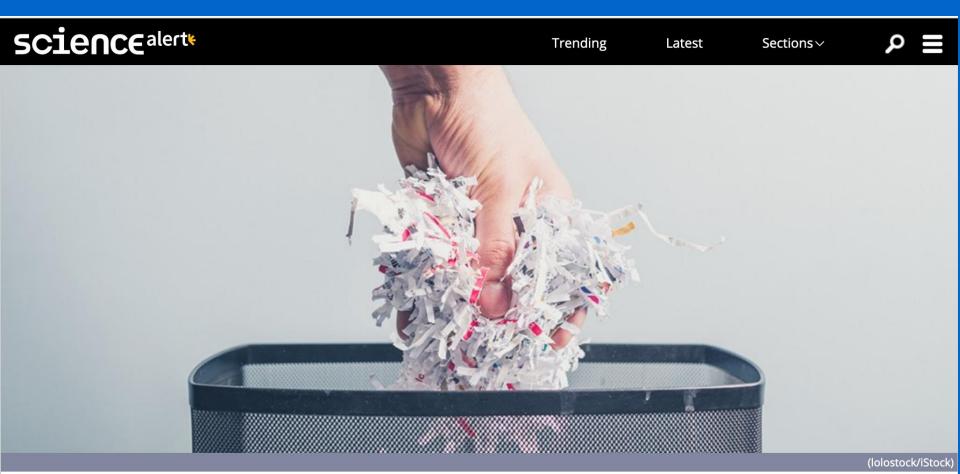




Outside investigators have found that these "c-kit positive" cells don't have regenerative capabilities in adult rodent hearts.

> https://www.the-scientist.com/news-opinion/the-lancet-retracts-cardiacstem-cell-clinical-trial-paper-65598





**COMMENT & OPINION** 

#### The Scale of Retractions in Science Is Far More Staggering Than You Might Think



ADAM MARCUS, IVAN ORANSKY, SPECIAL TO THE WASHINGTON POST 28 DEC 2018



### Opinion I More science than you think is retracted. Even more should be.

By Adam Marcus and Ivan Oransky December 26, 2018

Columbia University settled a "fake news" case for \$9.5 million in 2016.



https://www.washingtonpost.com/opinions/more-science-than-you-think-is-retracted-even-more-should-be/2018/12/26/dc14fa98-0950-11e9-a3f0-71c95106d96a story.html



- Duke University in North Carolina will pay \$112.5m to settle allegations it allowed fraudulent data to be used in federal research grant claims.
- In 2013, research coordinator Erin Potts-Kant at Duke's Foster Lab, was arrested for spending the laboratory's research budget on internet purchases.
  https://www.bmj.com/content/364/bmj.11422





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### Science

<del>comerciaes.</del>

### A scientist's fraudulent studies put patients at risk

By Adam Marcus, Retraction Watch



## SCIENTIFIC FAKE NEWS MISLEADS SCIENTISTS!

- Primary Prevention of Cardiovascular Disease with a Mediterranean Diet. N Engl J Med April 4, 2013 (Retracted in 2018)
- \*2150 Citations!

#### Conclusion

Mediterranean diet, plus extra-virgin olive oil or nuts, results in substantial reduction in the risk of major cardiovascular events



### SCIENTIFIC FAKE NEWS MISLEADS SCIENTISTS!

Cardiac stem cells in patients with ischaemic cardiomyopathy
 (SCIPIO): initial results of a randomised phase 1 trial. LANCET, NOV 2011 (Retracted in 2019)

#### Conclusion

Infusion of Cardiac Stem Cells led to increased heart function, improved quality of life, and reduced LV scar size

\*906 Citations!



### SCIENTIFIC FAKE NEWS MISLEADS SCIENTISTS!

Spontaneous human
 adult stem cell
 transformation. CANCER
 RESEARCH, APR 15 2005
 (Retracted in 2010)

Conclusion

"Mutant stem cells may

"Mutant stem cells may lead to cancer"

\*742 Citations!

### TOP 10 RETRACTED AUTHORS

<b>Yoshitaka Fujii</b> , Japan	169	<b>Hua Zhong</b> , China	41
<b>Joachim Boldt</b> , Germany	96	<b>Shigeaki Kato</b> , Japan	39
DO YOU WANT TO SEE YOUR			
NAME ON THIS LIST?			
Chen-yuan Peter Chen, Taiwan	43	<b>Hyung-in Moon</b> , South Korea	35
<b>Yoshihiro Sato</b> , Japan	43	<b>Jan Hendrik Schön,</b> United States	32



# Credit and RESPONSIBILITY for scientific achievements

JOINT RESPONSIBILITY

**CULTURE OF INTEGRITY** 



### HAVE A NICE DAY!

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