

ODGOVORNA PROVEDBA ISTRAŽIVANJA

(RESPONSIBLE CONDUCT OF RESEARCH, RCR)

prof. dr. sc. Vedran Katavić

ZNANSTVENA PRIJEVARA

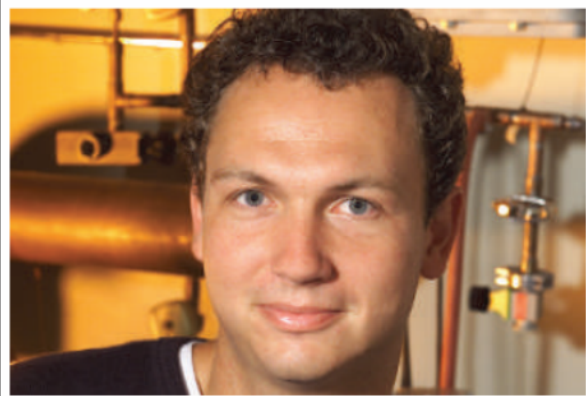
(+ QRP – questionable research practices)

- 8 Science
- 6 Phys Rev Letters
- 5 Nature

JON SUDBØ



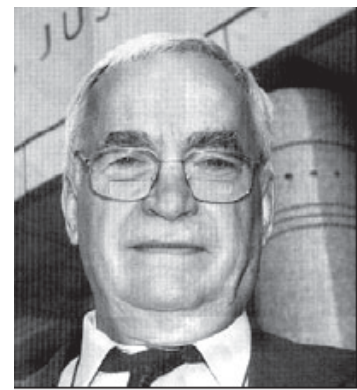
JAN HENDRIK SCHÖN



WOO SUK HWANG



RAGNAR RYLANDER



30 godina savjetnik
Phillip-Morris
duhanske industrije



~30 radova

DIEDERIK STAPEL



~90 radova

JOACHIM BOLDT



70 radova (istraga)

ALIRIO MELENDEZ



30 radova

NAOKI MORI



ANIL POTTI



7 radova , više patenata, kliničkih pokusa, grantova...

WILLIAM HAMMAN

pilot (kardiolog, MD PhD)



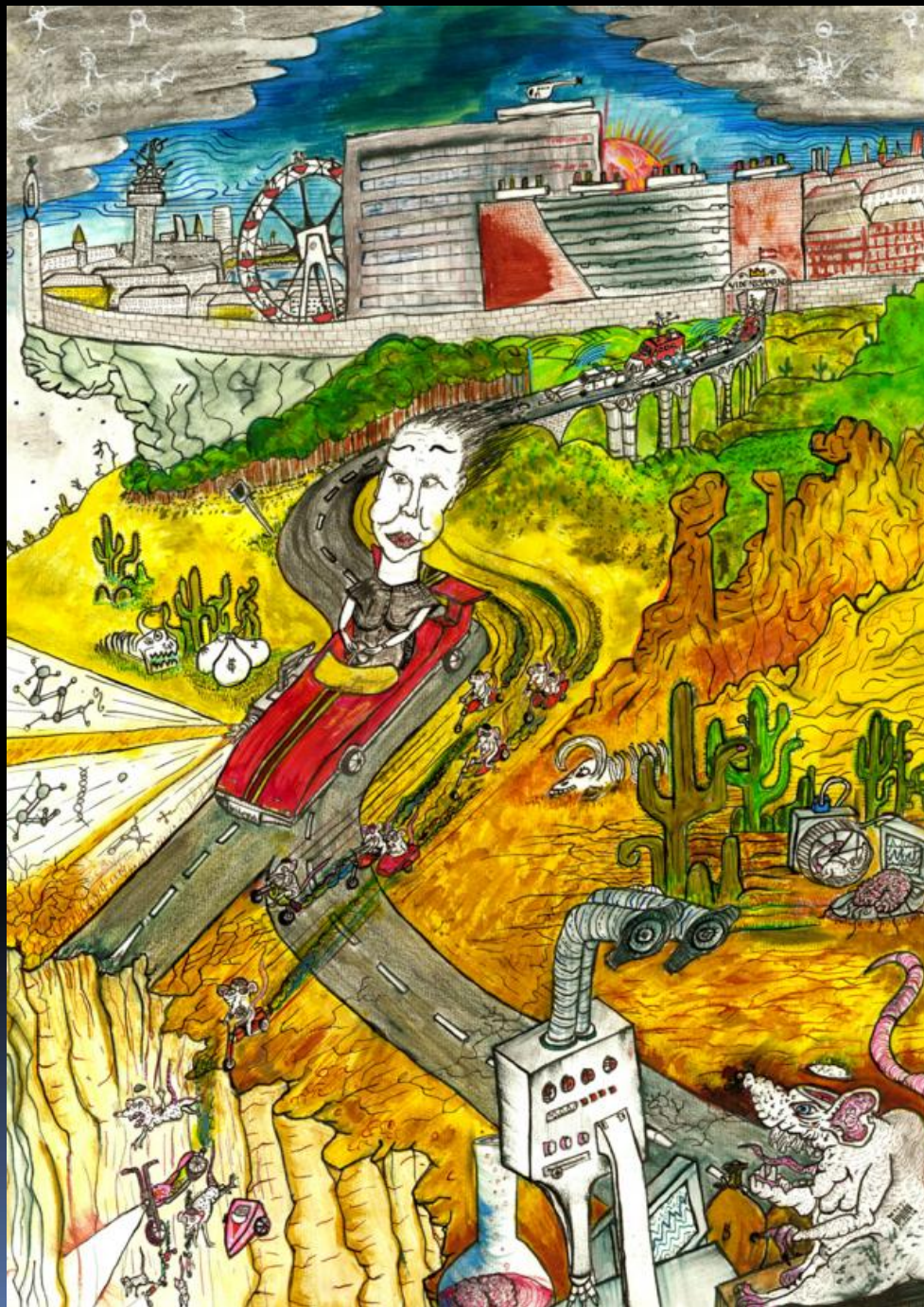
**Više MILIJUNSKIH grantova, plaća
(\$250 k), 6 publikacija...**

MILENA PENKOWA



- pronevjera novca, falsificiranje službenih dokumenata
- optuživanje vlastitih (PhD) studenata
- zloraba sredstava s projekata
- falsificiranje istraživanja (nepostojanje 750 štakora)
- "smrt" i "uskrnuće" majke i sestre
- ljubavna veza s ministrom znanosti
- retrakcije...

MEIK BRÜSCH



12 radova

**SILVIA BULFONE-
PAUS**



RALF PAUS



PETER ZABEL



**Direktor (bivši)
Istraživačkog
središta BORSTEL**

**215 radova
pod istragom/sumnjom**

FRIEDHELM HERRMANN



MARION BRACH



ROLAND MERTELSMANN



ANDREW WAKEFIELD

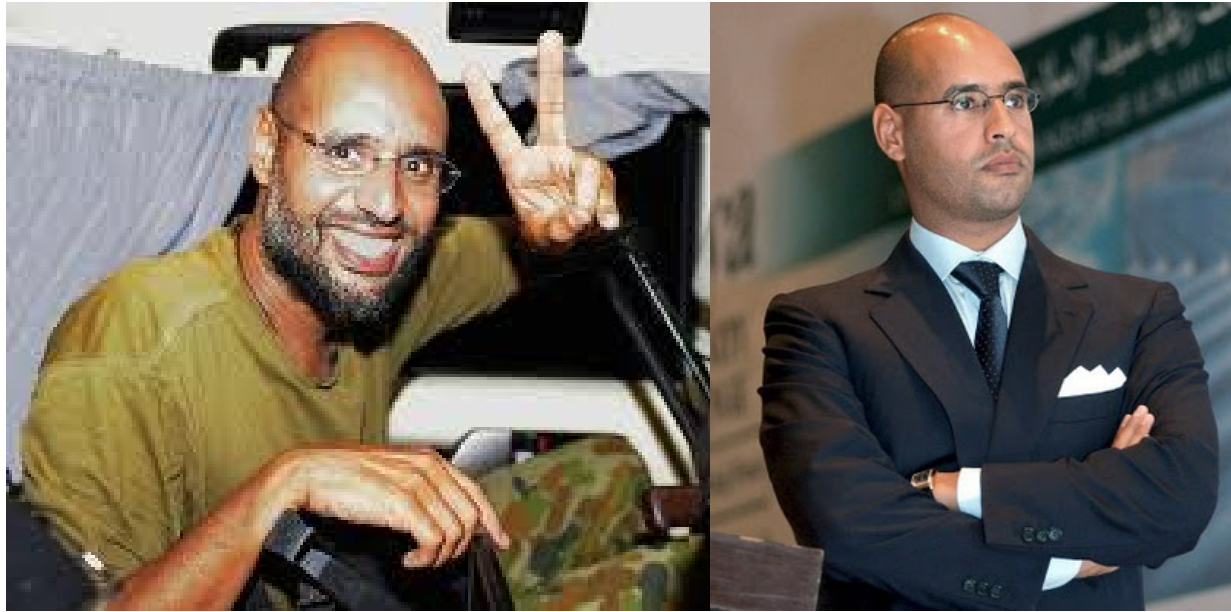


The Lancet 1998: MoPaRu cijepljenje i autizam

KARL-THEODOR zu GUTTENBERG

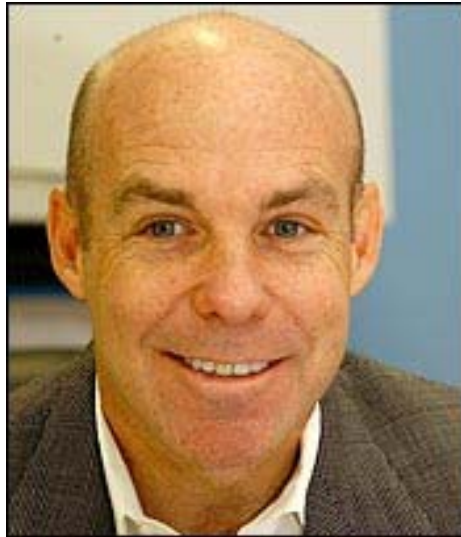


SAIF al-ISLAM GADDAFI



**London School of Economics
Donacija £1.5 M**

ERIC POEHLMAN



WALTER F. DeNINO



17 NIH grantova

10 "znanstvenih članaka"

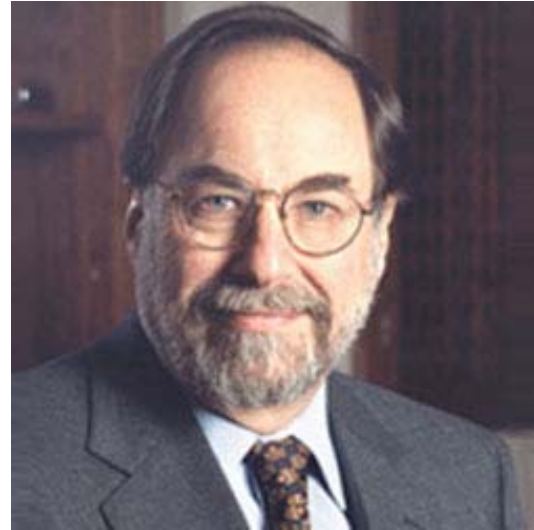
Trismarter
TRIATHLON COACHING & NUTRITION



THEREZA IMANISHI-KARI



DAVID BALTIMORE



- Nobel 1975.
- reverzna transkriptaza
- s Dulbecco i Temin



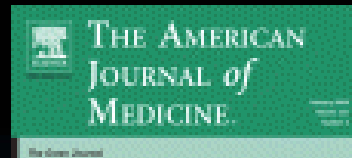
**Prije 10 godina suđenja, stvaranja ORI i
sudjelovanja FBI i tajne službe u istrazi**

Peer-review (recenzija)

**VIJAY R. SOMAN +
(PHILIP FELIG)**



HELENA WACHSLICHT-RODBARD



14 radova

DR PHILIP FELIG



AMY J. WAGERS



“Raskrinkavanje” drugih

Više prestižnih nagrada

**I sama “razotkrivena” – retrakcija
u Nature...**

BENGÜ SEZEN



FFP u PhD i barem 9 prestižnih članaka

Počela kao "Golden child"

Završila kao "Master of deception"

WILLIAM SUMMERLIN



1974. "TRANSPLANTACIJA" crnim flomasterom

VICTOR NINOV



"PRONAŠAO" 2 nova kemijska elementa – 116 i 118

CHARLES DAWSON

(1864-1916)



**Amater "arheolog" – pronašao "Eoanthropus dawsoni"
(Piltdown Man) te mnogobrojne neobjašnjive artefakte**

Među prvim "herojima" znanstvene prijevare

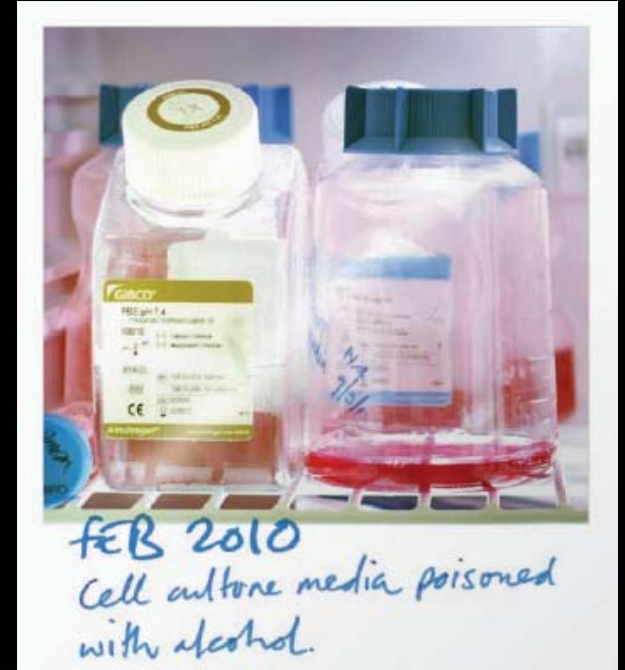
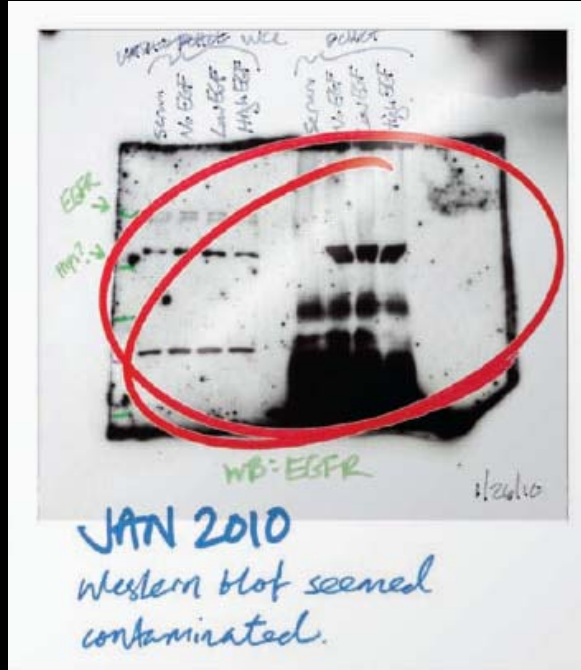


30 SEPTEMBER 2010 | VOL 467 | NATURE | 517

SABOTAGE!

UMich, Ann Arbor





Vipul Bhrigu MD PhD

Heather Grames MD, PhD student

Nažalost (!?) nisu samo biomedicinari tak'i!



NADA BEHZIZ

The Californian of Bakersfield
The Daily Republic



JAYSON BLAIR

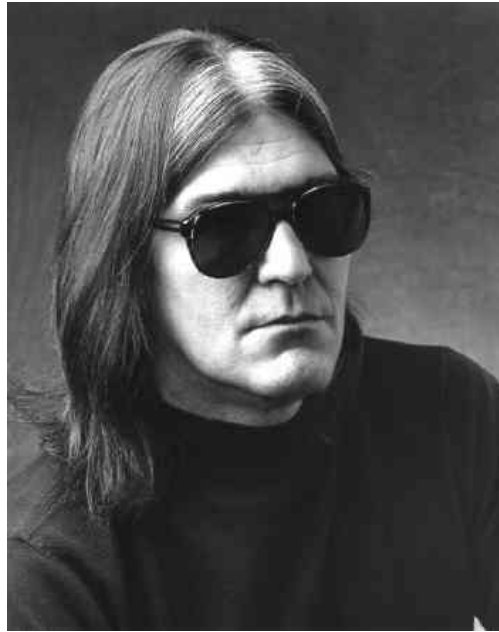
NY Times



JACK KELLEY

USA Today

“NOVINARI”



WARD CHURCHILL

I have a dream...
of becoming a PhD



“DR” MARTIN LUTHER KING, JR.

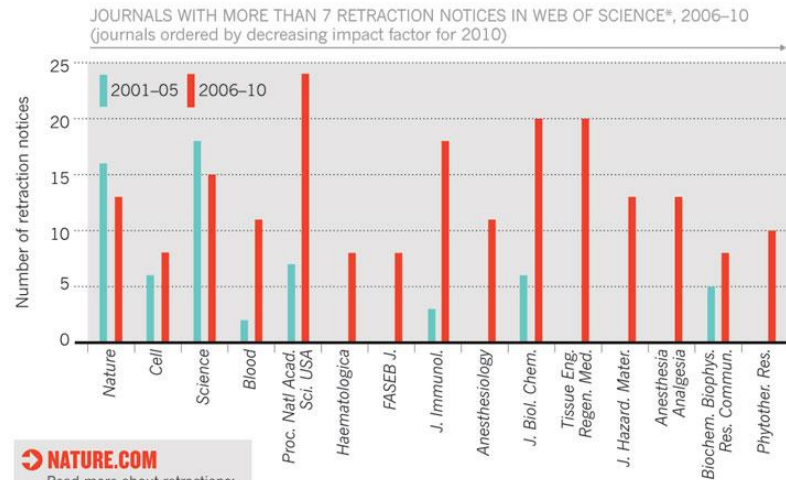
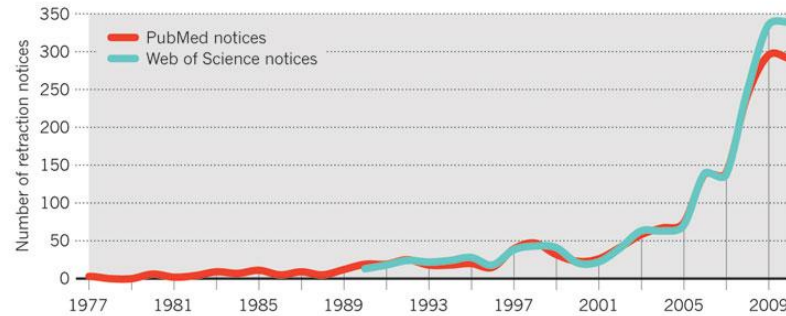
Domaća iskustva?!?

- CMJ – Croatian Medical Journal
- OEZVO – Odbor za etiku u znanosti i visokom obrazovanju



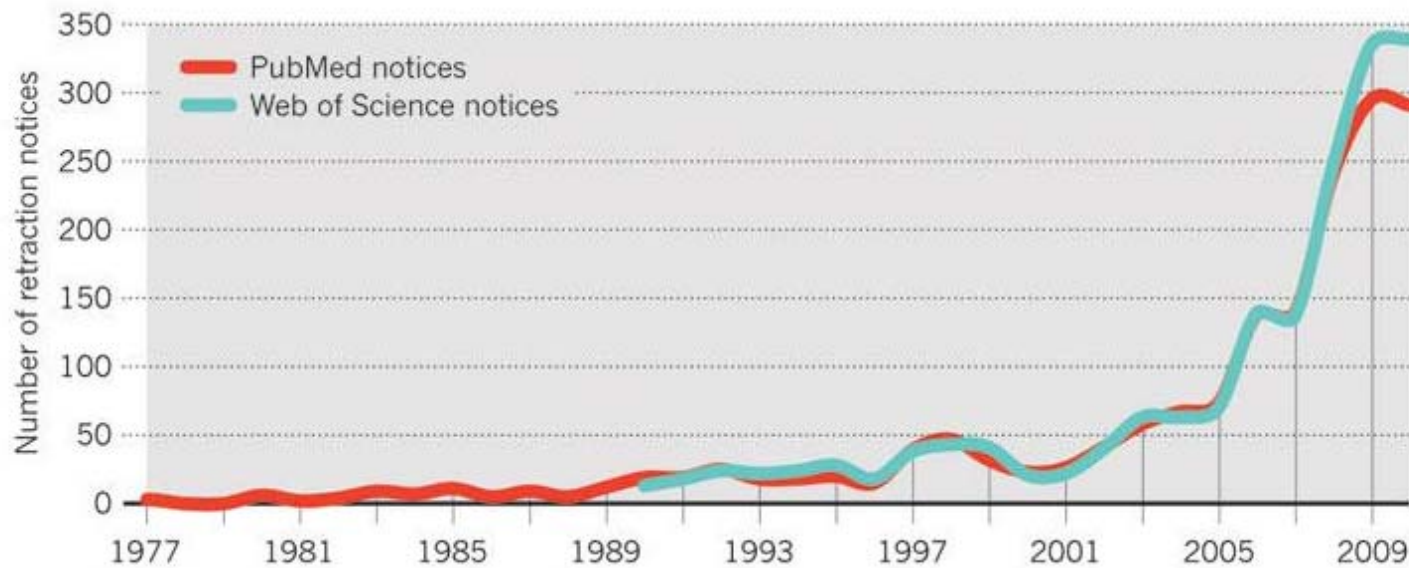
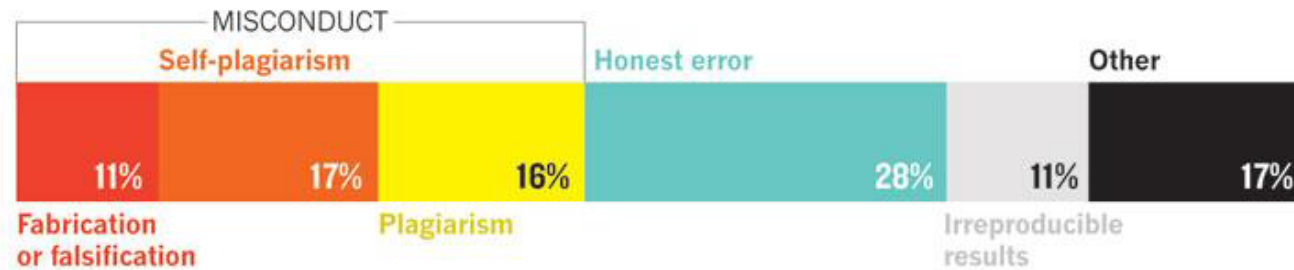
RISE OF THE RETRACTIONS

In the past decade, the number of retraction notices has shot up 10-fold (**top**), even as the literature has expanded by only 44%. It is likely that only about half of all retractions are for researcher misconduct (**middle**). Higher-impact journals have logged more retraction notices over the past decade, but much of the increase during 2006–10 came from lower-impact journals (**bottom**).



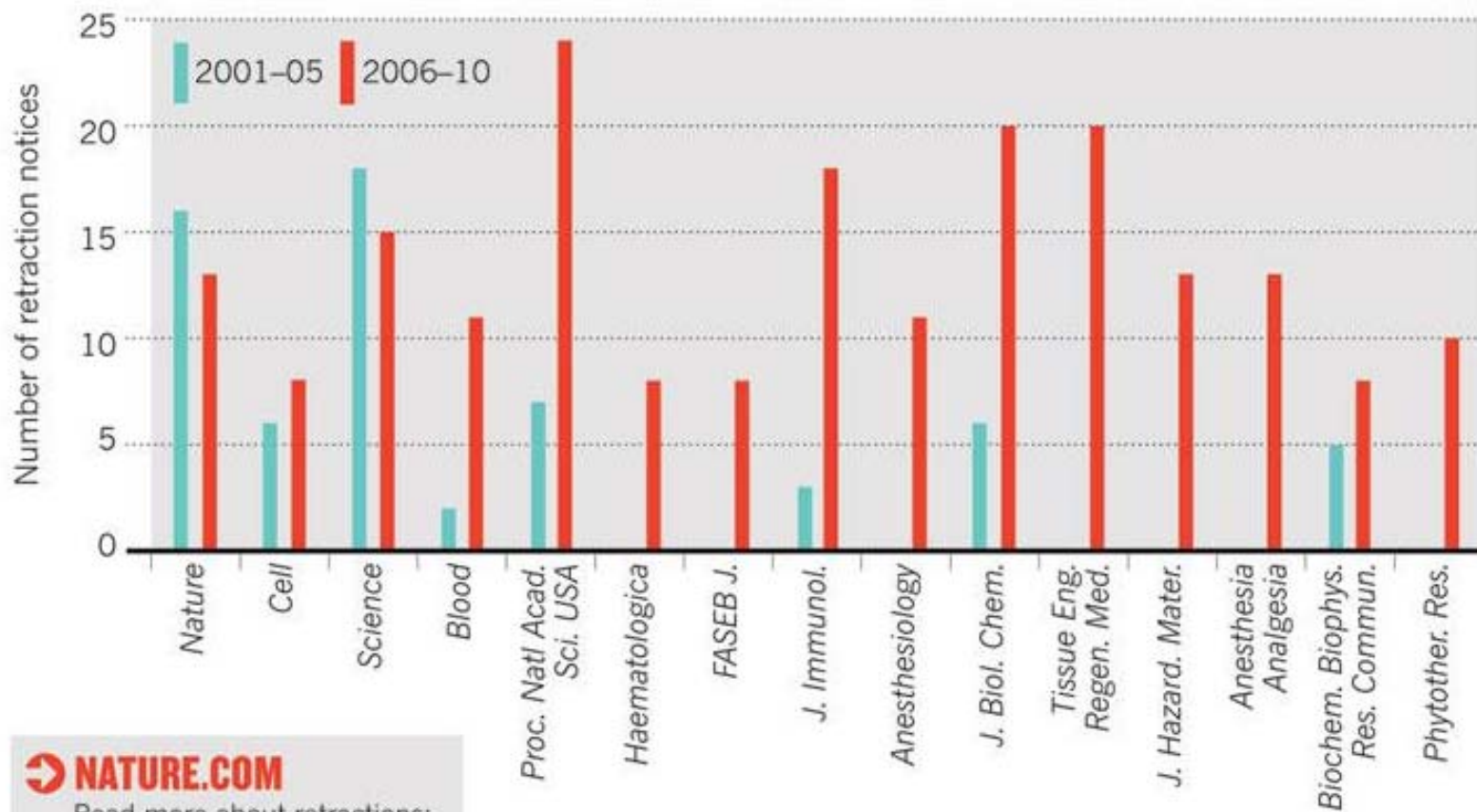
NATURE.COM
Read more about retractions:
go.nature.com/2uweek

*Not shown: *Acta Crystallographica E* saw 81 retractions during 2006-10.



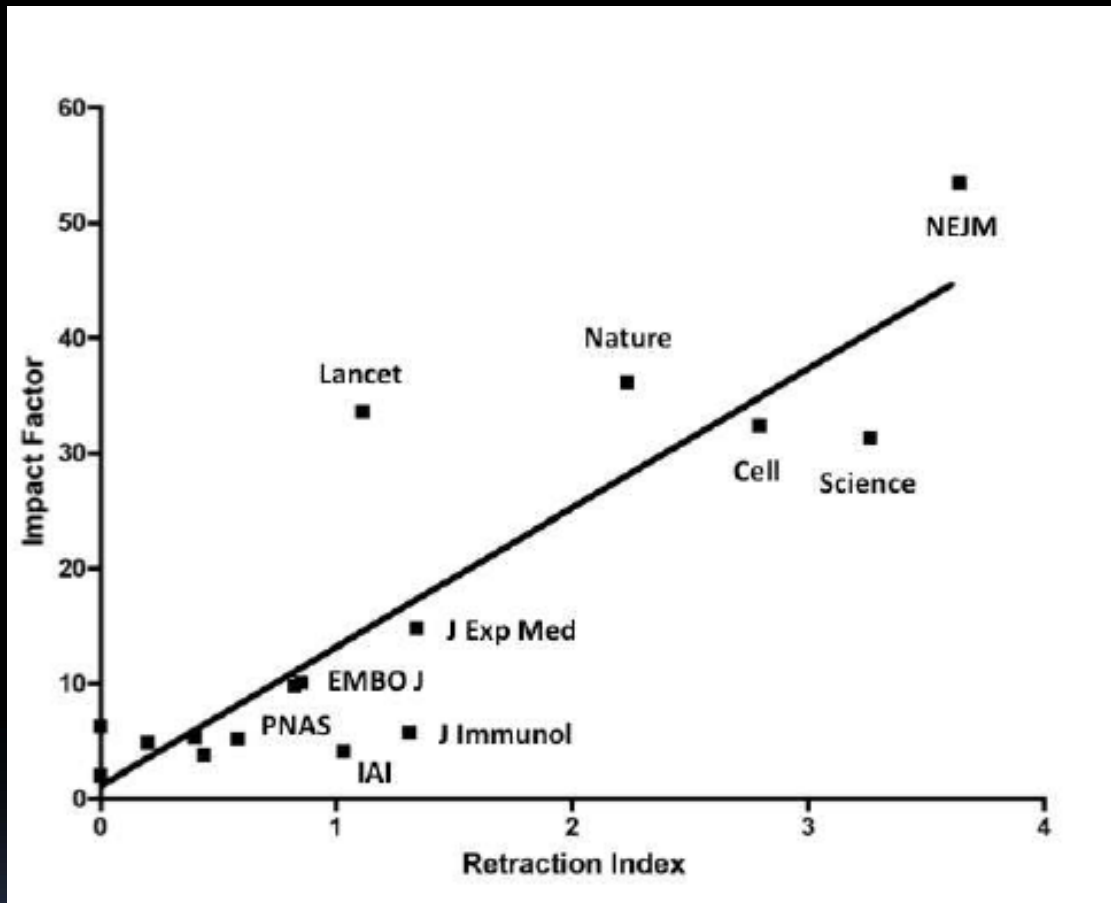
U posljednjih 10 g: 44% više publikacija → 10× više retrakcija

JOURNALS WITH MORE THAN 7 RETRACTION NOTICES IN WEB OF SCIENCE*, 2006–10
 (journals ordered by decreasing impact factor for 2010)



Read more about retractions:
go.nature.com/2uweek

*Not shown: *Acta Crystallographica E* saw 81 retractions during 2006–10.



Infection and Immunity 2011

KAKO DALJE?

RCR

3 pitanja o “etičnosti”



1. Je li to **ISTINA**?

- Falsificiranje
- Fabrikacija
- Plagiranje
- QRP:
 - kompetencija
 - statistika...

2. Je li to **PRAVEDNO**?



istraživač

ORP

istraživač

bioetika

ispitanik

ustanova

3. Je li to PAMETNO/MUDRO?



Profesor Baltazar – ©



QRP

(upitni postupci u znanosti)

- neispravno vođenje lab. zabilješki
- nedovoljno dugotrajno čuvanje lab. zabilješki
- “patologije” autorstva
- “nesuradljivost”
- “blagonaklona” statistika
- odnos prema “podređenima”
- “puhanje u svoja jedra”
- ...

Znanstvenoistraživačka
čestitost

(Research Integrity)

RI

Z-I čestitost

- o teško "pozitivno" definirati

Briga da javno prikazani rezultati dosljedno odgovaraju provedenim istraživanjima, tj. da **NE** postoji znanstveno "nepoštenje" (*scientific misconduct*).

Scientific misconduct

- **F, F, P** u predlaganju, provođenju, reviziji ili prikazivanju istraživanja i njihovih rezultata
- **NE** uključuje “poštenu” pogrešku (**ispričiva zabluda**) ili razlike u promišljanjima

Scientific misconduct

- **fabrikacija** – izmišljanje podataka i rezultata, te njihovo bilježenje i prikazivanje
- **falsificiranje** – mijenjanje/izbacivanje/prepravljanje podataka ili rezultata
- **plagiranje** – otuđivanje ideja, postupaka, rezultata ili riječi bez citiranja ili “honoriranja”

AUTORSTVO

ICMJE kriteriji autorstva:

- A. koncept i ustroj ili raščlamba i tumačenje podataka i
- B. pisanje prve verzije članka ili njegova kritička revizija i
- C. završno odobrenje članka prije tiskanja

➤ $A + B + C = \text{AUTORSTVO}$

“PATOLOGIJE” AUTORSTVA

Guest – Gostujuće

Gift – Poklonjeno

Planted – Podmetnuto

Ghost AUTHOR – AUTOR duh

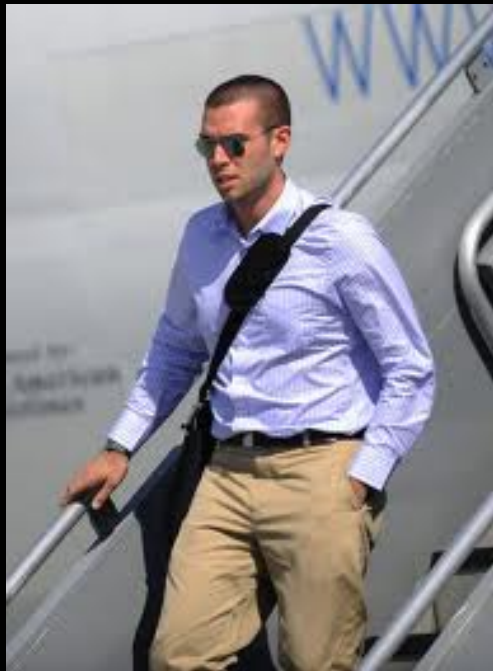
Ghost WRITER – PISAC duh

“Najpoznatiji” *ghost writer*



THEODORE CHAIKIN "TED" SORENSEN

JON FAVREAU



Autorstvo
vs.
Sudjelovanje

Autorsko
vs.
NE-autorsko

Effects of Different Doses of Physical Activity on Cardiorespiratory Fitness Among Sedentary, Overweight or Obese Postmenopausal Women With Elevated Blood Pressure

A Randomized Controlled Trial

JAMA, May 16, 2007—Vol 297, No. 19

Timothy S. Church, MD, MPH, PhD
Conrad P. Earnest, PhD
James S. Skinner, PhD
Steven N. Blair, PED

← **AUTORSTVO**

SUDJELOVANJE

u autorstvu

“tek” sudjelovanje

Author Contributions: Dr Church had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Church, Earnest, Skinner, Blair.

Acquisition of data: Church, Earnest.

Analysis and interpretation of data: Church, Blair.

Drafting of the manuscript: Church, Earnest, Blair.

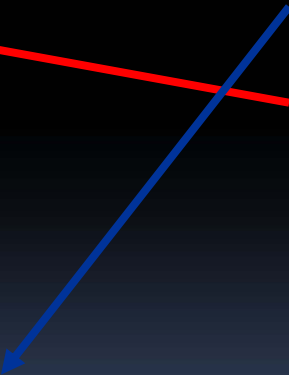
Critical revision of the manuscript for important intellectual content: Church, Earnest, Skinner, Blair.

Statistical analysis: Church.

Obtained funding: Skinner, Blair.

Administrative, technical, or material support: Earnest, Blair.

Study supervision: Church, Blair.



Sudjelovanje

koje **NIJE** povezano s AUTORSTVOM

- pristup materijalima ili pacijentima
- prikupljanje podataka
- statistička ekspertiza
- financijska potpora
- administrativna/tehnička potpora
- garancija integriteta

I što još treba?

Financial Disclosures: Dr Church reports having received honoraria for lectures from scientific, educational, and community groups; serving as a consultant for Trestle Tree Inc; and having a book in publication from which he will receive royalties. Dr Blair reports receiving book royalties from Human Kinetics; honoraria for service on the Medical Advisory Boards for Matria Health Care, Magellan Health Services, and Jenny Craig; and honoraria for lectures from scientific, educational, and community groups. Dr Blair also reports that he is paid as an Executive Lecturer by the University of North Texas. He gives these fees to the University of South Carolina Educational Foundation or to other nonprofit groups, and he reports that during the past 5-year period he has received a research grant from Jenny Craig. Dr Earnest reports having received honoraria for lectures from scientific, educational, and community groups. Dr Skinner reports having received honoraria for lectures from scientific, educational, and community groups.

I što još? I liti i tko još?

Funding/Support: This work was supported by grant HL66262 from the National Institutes of Health. We also thank Life Fitness for providing exercise equipment.

Role of Sponsor: The funding sponsor had no role in the design, protocol development, or in the conduct of the trial, data collection, data analysis, or manuscript preparation.

Acknowledgment: This work was performed at The Cooper Institute, and the staff is especially commended for their efforts. We thank The Cooper Institute Scientific Advisory Board and the DREW participants.

Autorstvo / *Sudjelovanje*

- a. kocept i dizajn istraživanja
- b. analiza i interpretacija podataka
- c. posjedovanje/pristup podacima*
- d. prikupljanje i sakupljanje podataka*
- e. statistička ekspertiza*
- f. pisanje prve verzije članka
- g. kritička revizija intelektualnog sadržaja rada
- h. završno odobravanje članka prije tiskanja
- i. priskrba financija*
- j. administrativna/tehnička/logistička potpora*
- k. garantiranje integriteta istraživanja*

Budite iskreni
Budite pošteni
Znajte pravila
Pitajte