



The 21st century news jungle: food for thought to survive



Matteo Martini

- University Guglielmo Marconi Rome
- INFN – Laboratori Nazionali di Frascati
- Frascati Scienza

Who am I?

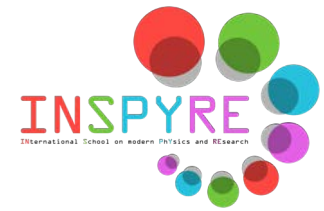
As shown in the cover slide, I have 3 affiliations (University, Research Center and Cultural Association)

The organizers of INSPIRE said this is very “rock” but I have currently some personality disorders to force these three different people to coexist together



Due to this forced coexistence, now the question is “What will be the argument of this seminar?” or, in other words, “How can I annoying you for the next hour?”

The scientific approach

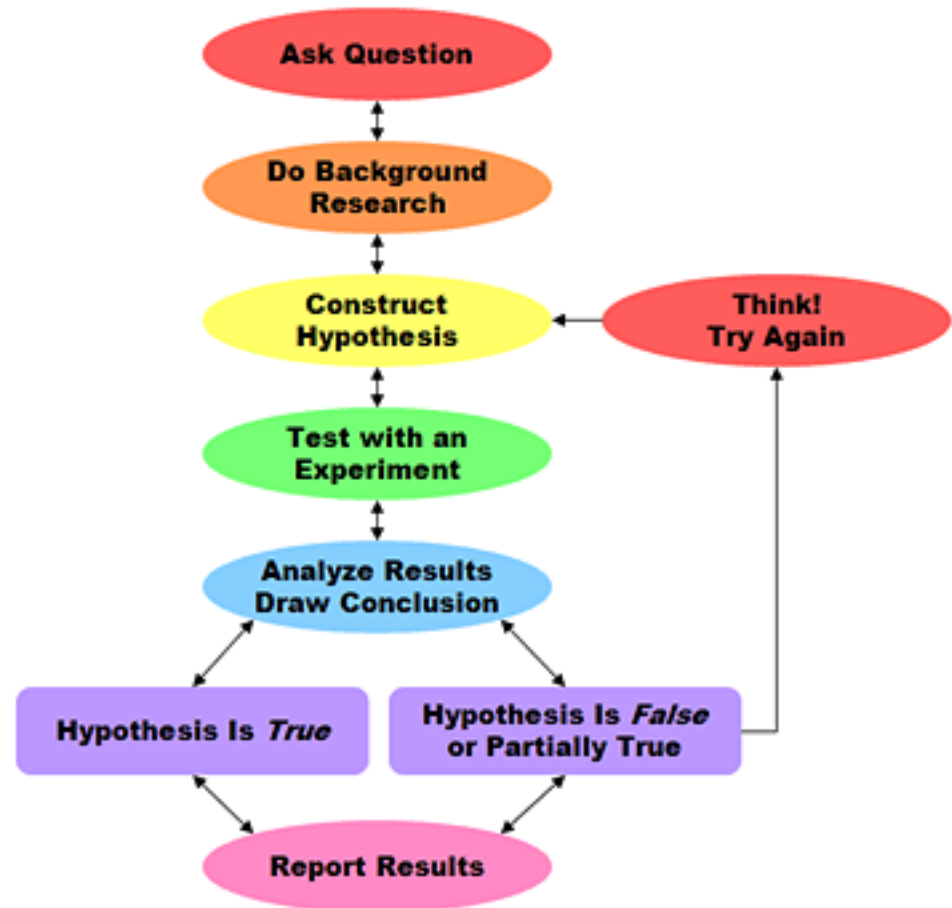


During INSPYRE, you had the possibility to follow an important scientific program with extraordinary speakers.

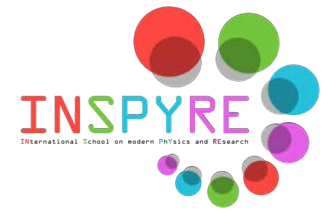
The arguments of the lessons are only the first concepts you learned.

There is an additional skill that INSPYRE is offering you, the scientific approach.

Scientific approach is not a concept is a way of thinking, of analyzing a problem and to examine everything.



The 21st century jungle



Now I want to discuss with you how we can use this scientific approach in our everyday life

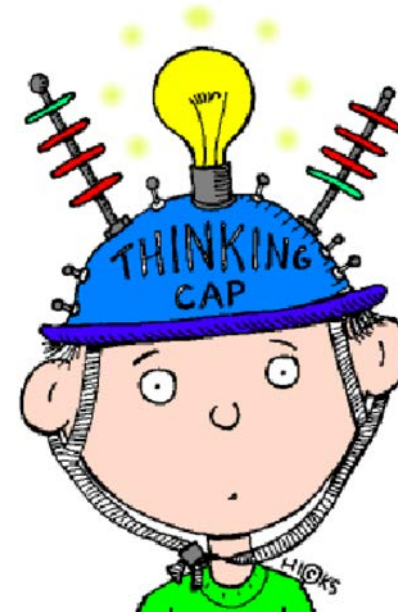
In particular, I want to discuss if a scientific approach can help us in:

- disentangle real from fake news
- Debunk false myths and hoaxes
- Understand when a source is reliable or not

This is the 21st century jungle for which today, in social network era, we need scientific tools to survive.

What are these scientific tools?

- Approach
- Critical thinking
- Curiosity
- Skepticism
- Prudence
- Mistrust



During this seminar, I will not debunk nothing, I will only discuss with you presenting various aspects and various points of view.

For every “news” YOU have to decide if this can be real or fake.

2012 Phenomenon

Why a physicist want to speak about this stuff?

I am sure all of you remember the famous date of 21 of December 2012

This date corresponded to the end of the 5126 years long count Mayan Calendar

Moreover, various theories indicated for this date important moments of various cultures (New Age, Chinese, Hindu, Hopi, Sumerian)

For this reason a large worldwide attention was concentrated on 21 December 2012.



With "2012 phenomenon" we indicated various eschatological beliefs with cataclysms or global transformations that would occur on 21 December 2012.

Among the large number of events, the most discussed (and believed) were:

- Earth-Sun-Galaxy center alignment;
- Mars-Jupiter-Saturn alignment;
- Collision of Earth with a mysterious X planet of the Solar System
- Collision of Earth with a big asteroid;
- Magnetic thunderstorm from Sun;
- Sun magnetic poles shift;
- Earth magnetic poles shift;
- Backward spin of Earth.

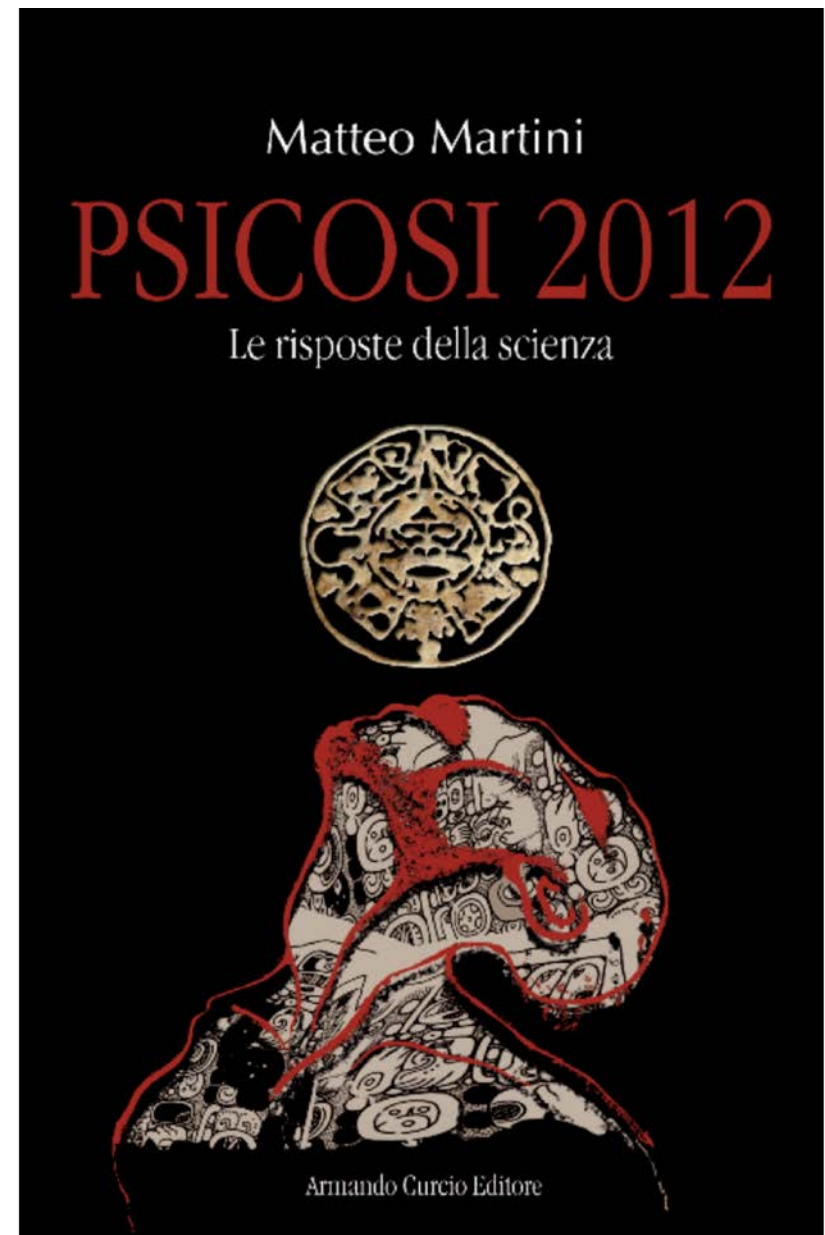


This is a scene of a famous Italian movie "Non ci resta che piangere" where a friar says to the main character:
"Remember that you must die"

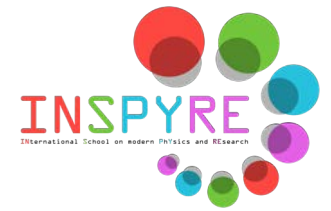
In 2012, I published in Italy the book “Psicosi 2012: le risposte della scienza” or “Psychosis 2012: the answers from science”

In this book I presented the most famous events expected for the 21 December 2012 in this way:

- Presentation of the event
- How the specific phenomenon works for science
- Considerations on the supposed event
- Scientific considerations if the event could happen, if already happened in the past and the possible (real) consequences



2012 Phenomenon

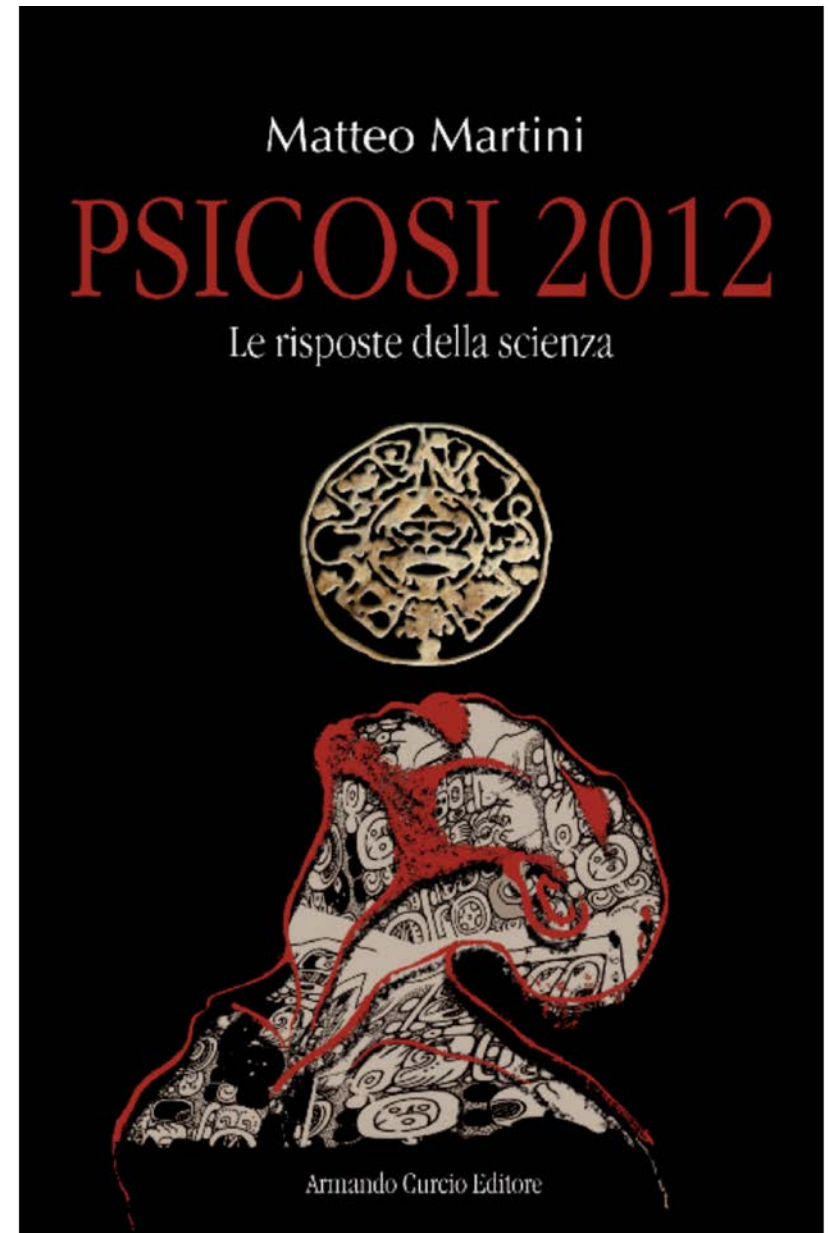


In other words I have used attention created by the supposed end of the world to ... explain science.

Psicosi 2012 is a scientific book that explain in a communicative way:

- The concept of time
- The different calendars used today and in the past
- Gravitational law and orbits of the solar system bodies
- Origin and evolution of the Earth magnetic field
- Solar cycles and sun magnetic field

Am I taking advantage of the sensitivity of people? Probably yes but for a worthy goal.



I want to give a practical example on how I like communicate science.

Lets start with a riddle!

Do you know what is the most expensive violin in the world?

The answer is the “Lady Blunt” violin made in 1721 by the Italian luthier Antonio Stradivari.

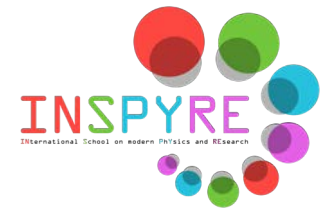
The last price of the violin was 16 million USD.

Why it cost so much?

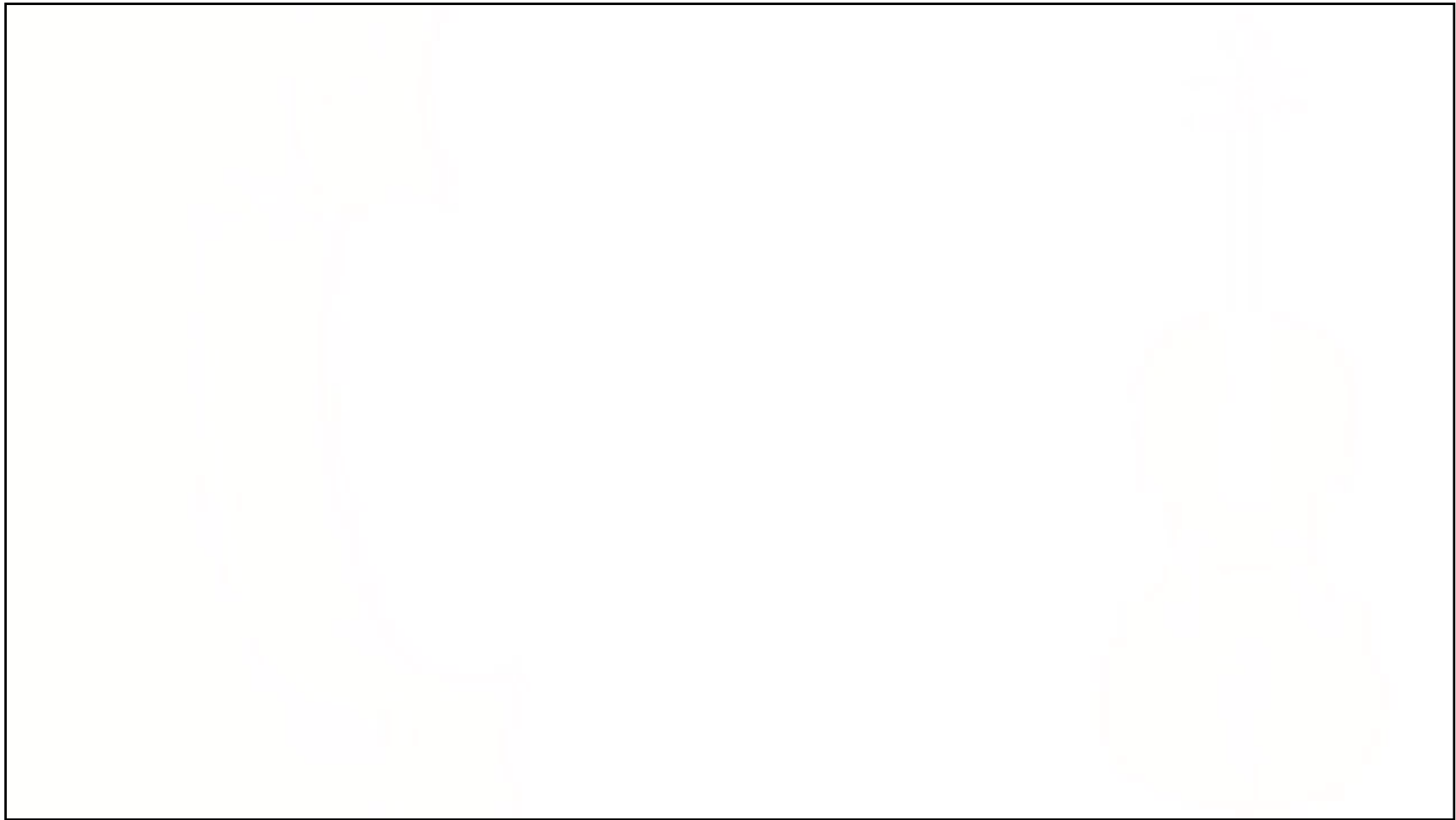
- Stradivari was one of the best luthier in the history.
- The violin is perfectly conserved.
- It was owned by Anne Blunt, daughter of Ada Lovelace and granddaughter of Lord Byron.
- The violin was made during Stradivari “gold age”. All violins made by Stradivari in this period have extraordinary sound properties.



A 16 million dollars sound



If you are curious to listen the sound of the Lady Blunt...



Red spruces secret

Stradivari is for sure one of the best violin maker in the history and he developed production techniques and wood processing never used before.

But, there is also another secret in Stradivari violins and in the spruce wood used to make them.



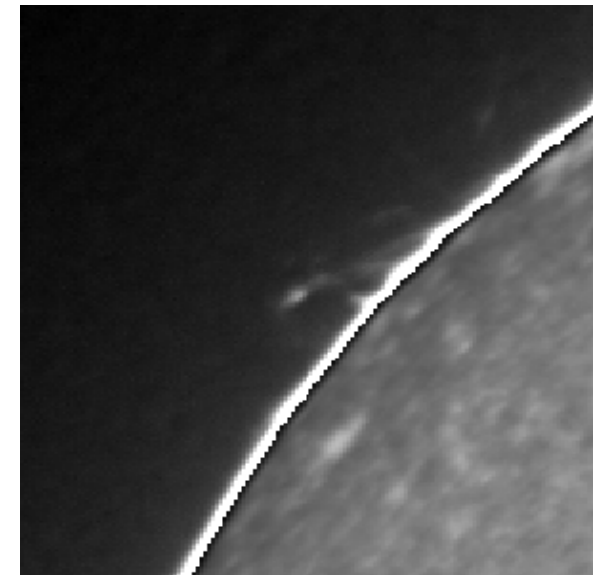
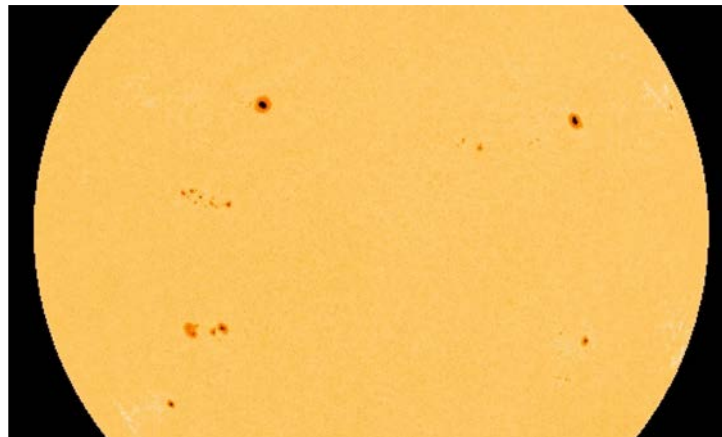
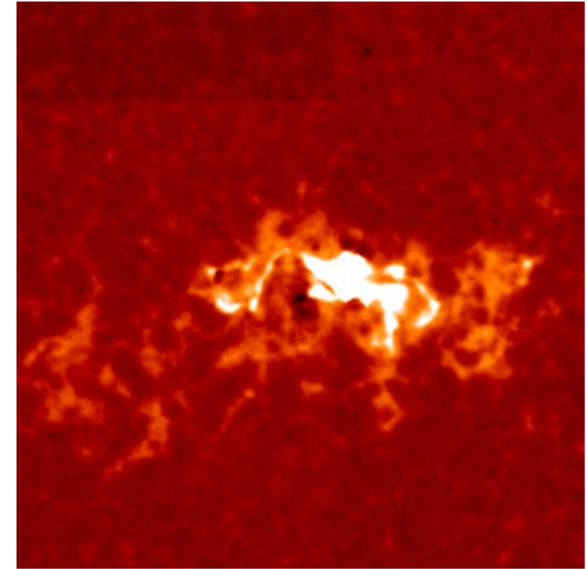
The Sun magnetic activity

Let's reveal this secret starting from Sun.

Solar magnetic activity is not constant following a 11 years cycle since every 11 years sun magnetic poles are inverted.

The intense activity of the sun corresponds to a large number of sunspots on solar surface

Sunspots were first observed by Galileo thanks to the invention of his telescope

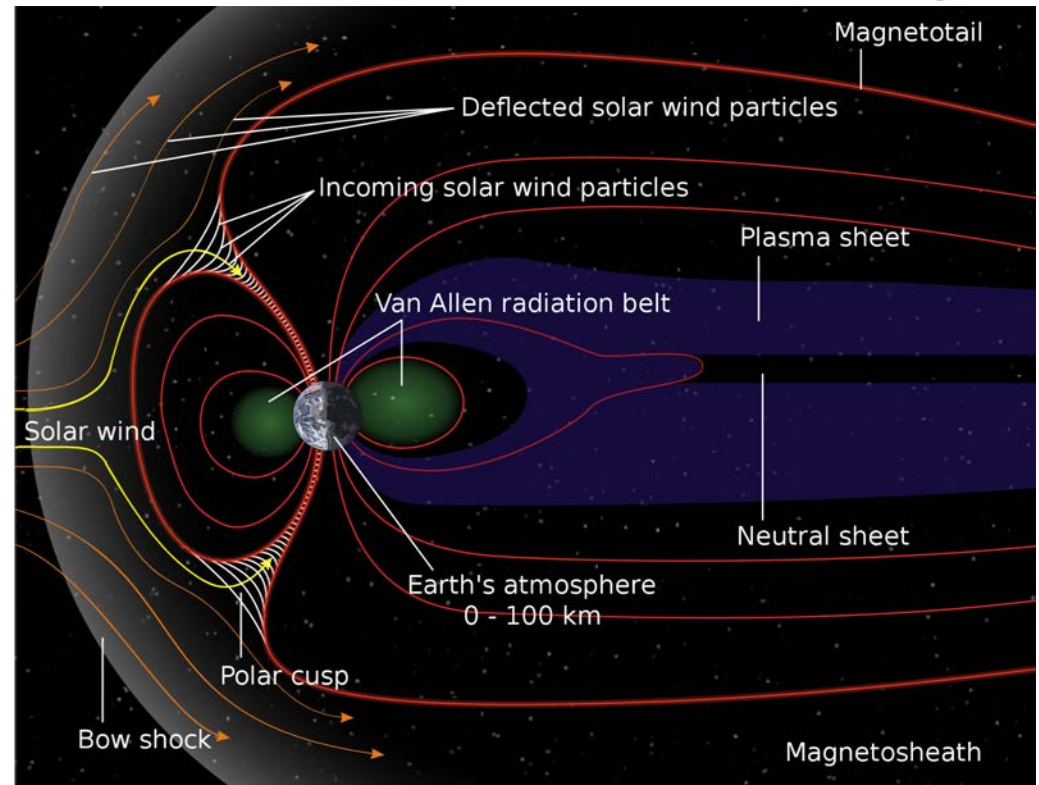
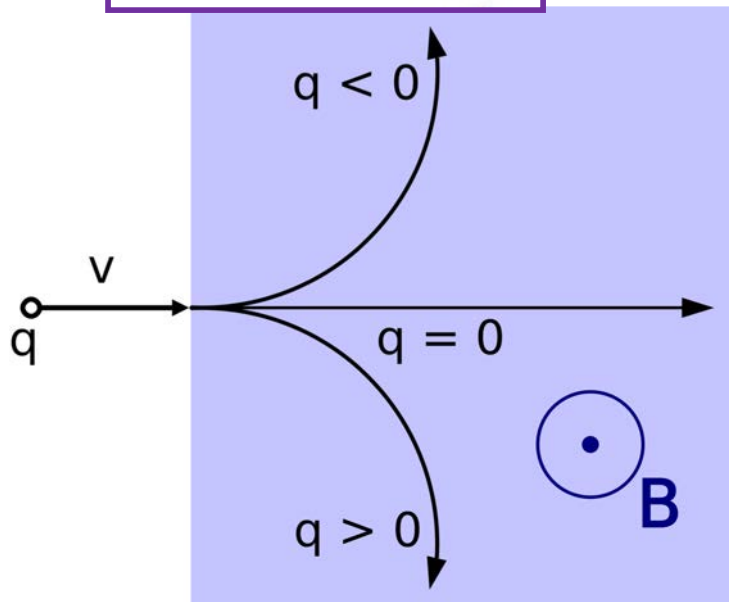


Charged particles in B field

An intense magnetic activity of the sun has important effects on Earth.

Solar wind is a stream of charged particle (mostly electrons and protons) released from Sun Corona in the Solar System.

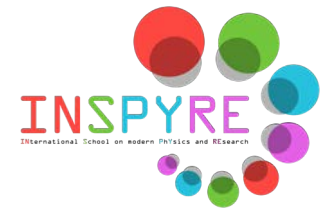
$$\vec{F}_B = q \vec{v} \times \vec{B}$$



This stream can reach Earth that is protected by its magnetosphere

Charged particles are deflected by magnetic field following Lorentz force

Solar wind and magnetosphere



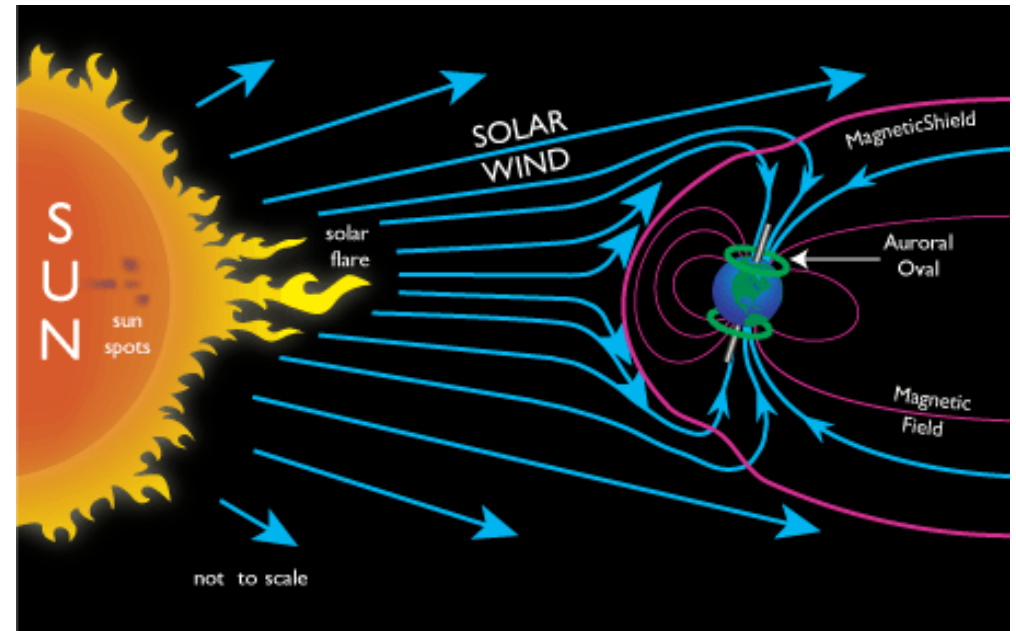
Do you know what is one of the most beautiful effect of the solar wind particles entering into atmosphere and collide with Nitrogen and Oxygen thus releasing visible radiation?



Solar wind and magnetosphere

Particles coming from Sun can enter inside atmosphere following Earth magnetic field lines.

Due to Earth magnetic field structure, it is clear why auroras can be seen only at certain latitudes.

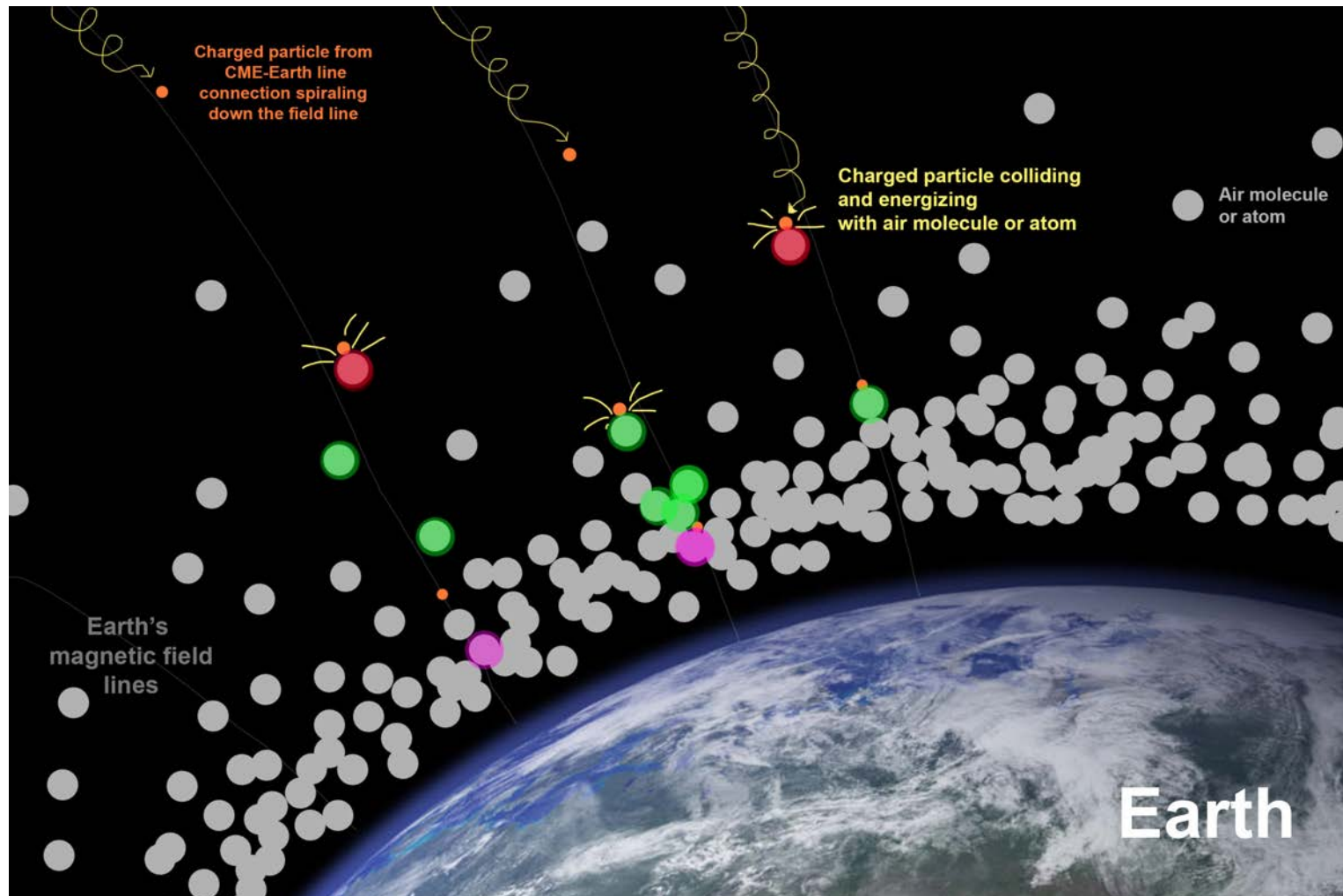


Northern lights can have different colors: red, green or blue-violet Why?

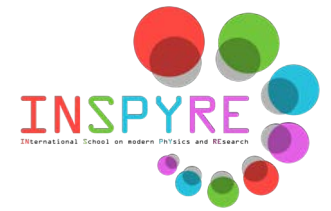


Solar wind and magnetosphere

- High altitude Oxygen molecules produce red radiation
- Medium altitude oxygen atoms produce green radiation
- Low altitude nitrogen produces blue-violet radiation



Solar wind and magnetosphere



Normally, northern lights are a superposition of the different wavelengths with a mix of the three colors.

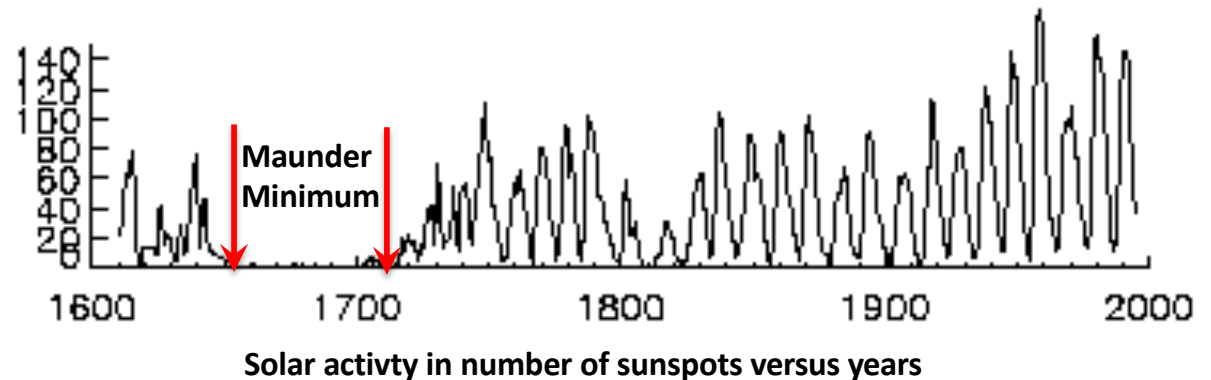


The Maunder minimum

Solar activity follow a 11 years cycle but its intensity (maximum and minimum) is not constant during time.

Between 1645 and 1710 there was a period of extraordinary low activity of the Sun called Maunder minimum

During this period there was a colder-than-average period called the “Little Ice Age”, Europe and North America went into a deep freeze: alpine glaciers extended over valley farmland; sea ice crept south from the Arctic; and the famous canals in Netherlands froze regularly (an event rare today).



“The great frost” (1683) by Jan Grifier shows a completely frozen Thames in London

Trees growth rate

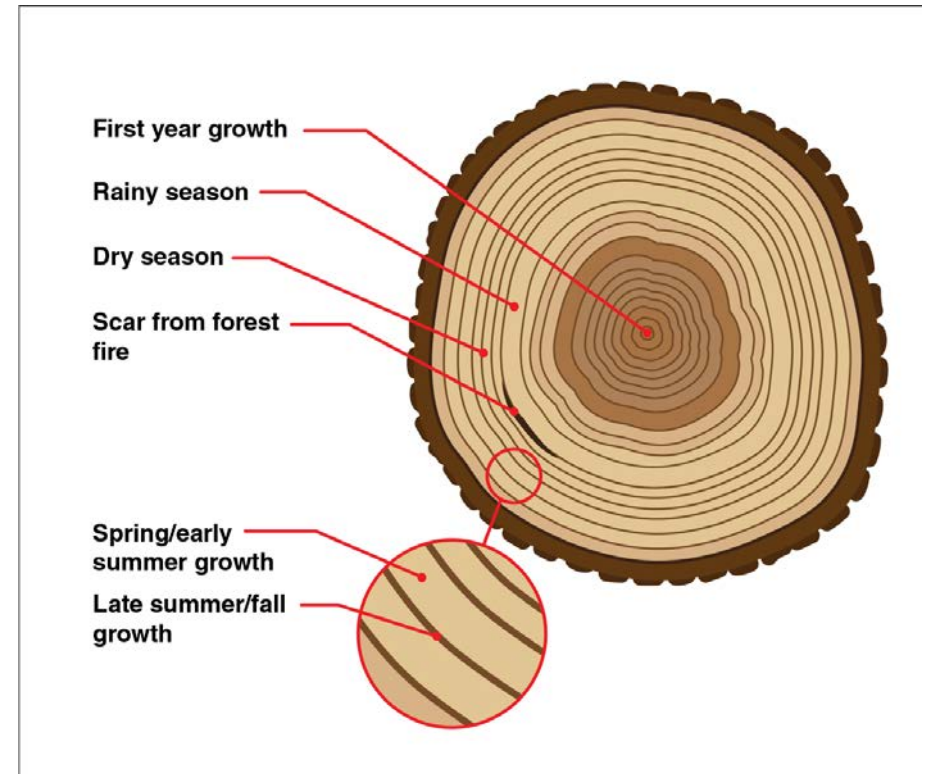
Now the question is: What is the link between Stradivari, Sun cycle and Maunder minimum?

We learned that the extraordinary low sun activity produce colder winter and this reduced the trees growth rate.

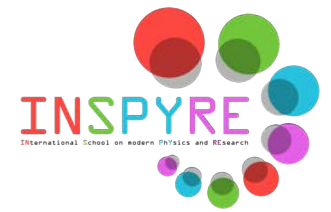
The unique conditions of the Maunder Minimum, with longer winters and cooler summers, produced wood that had higher-quality sound properties

During Stradivari's later decades, his "golden period", he used spruces that had grown mostly during the Maunder Minimum.

The lower temperatures, combined with elevation and soil conditions, produced spruces with unique and superior sound quality.



The Stradivari secret



Starting from the sound of a violin, we discussed:

- Solar activity;
- Sunspots;
- Sun magnetic fields;
- Earth magnetosphere;
- Lorentz force;
- Northern lights;
- Trees growth rate;

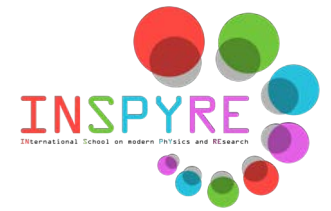


and we came back to the violin understanding one curiosity about Stradivari violins.

This first example let us understand how we can use our scientific knowledge or our curiosity when we read something.

Do you remember what I said about the magnanimous aim used to explain science? When the aim is not magnanimous, sensations and feelings can be used in a fraudulent way And here we arrive to fake news.

Questions time ...



Did I wake you?

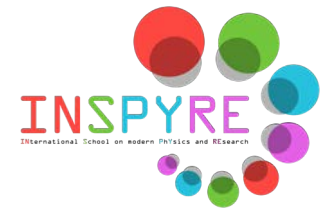


Questions?

Comments?

Are you sleeping?

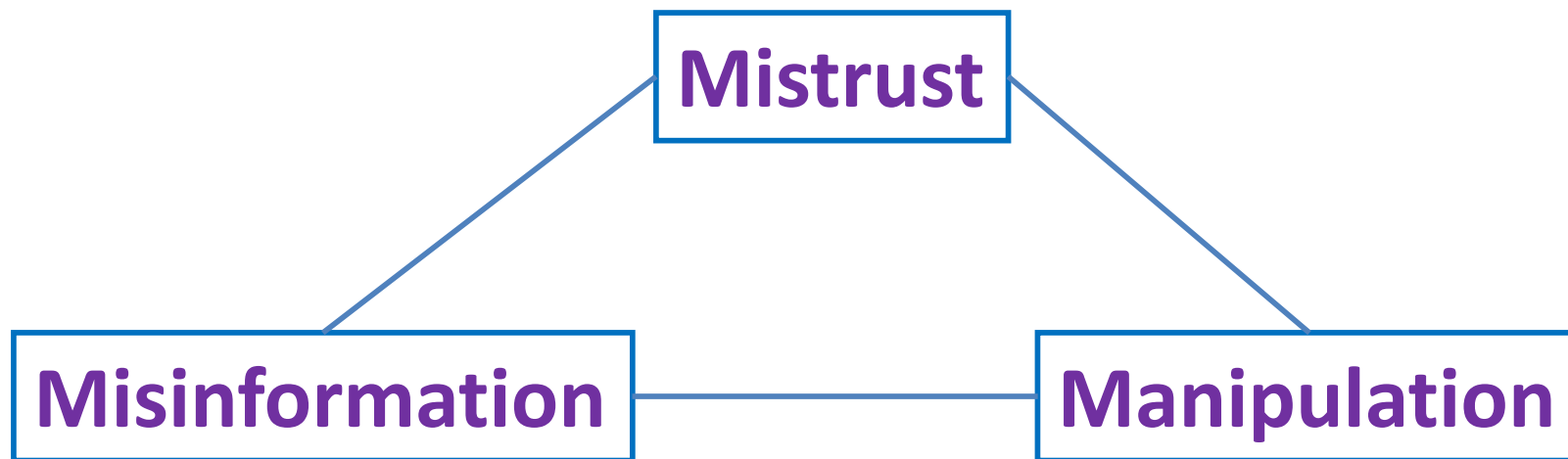
The 3-M of fake news



What is the definition of “fake news” or “false information”?

False information is news, stories or hoaxes created to deliberately misinform or deceive readers. Usually, these stories are created to either influence people’s views, push a political agenda or cause confusion and can often be a profitable business for online publishers.

Fake news are based on the 3-Ms rule:



Fake news categories

Fake news can be divided into 7 main categories

Propaganda



The deliberate publishing of untrue information and disguising it as news. Purely created to misinform audiences

Manipulation



The aim is the same but the construction is different

Fake news categories

Fake news can be divided into 7 main categories

Clickbait

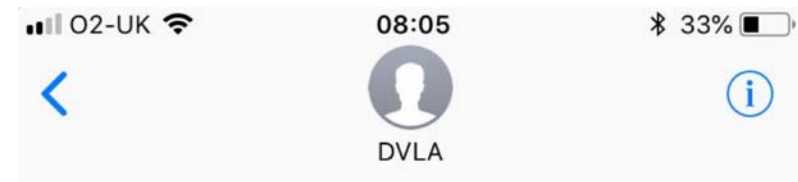
Man Tries to Hug a Wild Lion, You Won't Believe What Happens Next!

EARTH FORM — 1620 COMMENTS



Sensationalised headlines aimed at attracting attention for readership. Each time the article is read, the author owner of the advertisement receives a payment.

Phishing



Text Message
Today 02:56

DVLA: We have determined that you are eligible to receive a vehicle tax refund of 265.84 GBP Please submit your request via

[Tap to Load Preview](#)

[bit.do](#)

The aim is to collect personal information exploiting different tools

Fake news categories

Fake news can be divided into 7 main categories

Completely false news



False news with untrue information created only to misinform audience.

Fake news from satire



Satire news has the potential to be spread as though it is real news by those who do not understand its nature.

Fake news categories

Fake news can be divided into 7 main categories

DeepFake



Original with Michael J. Fox and Christopher Lloyd

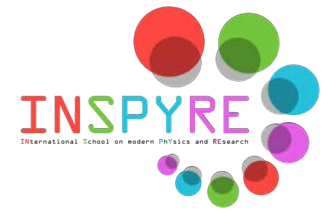


Deep fake with Robert Downey Jr e Tom Holland

Creation of media using AI and machine learning to manipulate or generate false visual or audio contents.

We can for example insert different actors in an existing scene or manipulate the speeches.

Debunking toolbox



Normally, fake news are built as a combination of these categories.

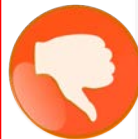
A preliminary list of suggestions to understand if a news is genuine or fake:

Debunking toolbox

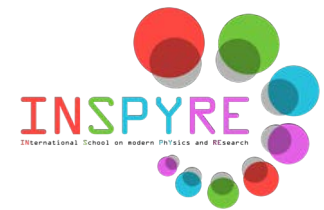
Normally, fake news are built as a combination of these categories.

A preliminary list of suggestions to understand if a news is genuine or fake:

- Check information source;



Debunking toolbox



Normally, fake news are built as a combination of these categories.

A preliminary list of suggestions to understand if a news is genuine or fake:

- Check information source;
- Do not stop at article title;

NEW YORK, NY – A recent study showed that 70% of people actually never read more than the headline of a science article before commenting and sharing. Most simply see a headline they like and click share and make a comment. A recent study showed that 70% of people actually never read more than the headline of a science article before commenting and sharing. Most simply see a headline they like and click share and make a comment.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nullam consectetur ipsum sit amet sem vestibulum eleifend. Donec sed metus nisi. Quisque ultricies nulla a risus facilisis vestibulum. Ut luctus feugiat nisi, eget molestie magna faucibus vitae. Morbi luctus orci eget semper fringilla. Proin vestibulum neque a ultrices aliquet. Fusce imperdiet purus in euismod accumsan. Suspendisse potenti. Nullam efficitur feugiat nibh, at pellentesque mauris. Suspendisse potenti. Maecenas efficitur urna velit, ut gravida enim vestibulum eu. Nullam suscipit finibus convallis lacinia. Aenean ex nunc, posuere sit amet mauris ac, venenatis efficitur nulla. Nam auctor eros eu libero rutrum, ac tristique nunc tincidunt. Mauris eu turpis rutrum mi scelerisque volutpat.

Aliquam feugiat enim eget neque cursus viverra. Maecenas nec quam pretium, feugiat nisi sed, finibus justo. Aliquam erat volutpat. Duis a molestie leo, ut volutpat nisl. Aenean sed tristique magna, maximus convallis elit. Pellentesque vel tellus arcu. Nulla tincidunt aliquet dolor. Cras fringilla arcu enim, a ornare dui accumsan a. Nam iaculis cursus magna, in tincidunt diam convallis id. Duis vitae elementum mauris, id feugiat nulla.

Vestibulum vitae odio nec sapien consectetur eleifend at nec risus. Mauris nisi nunc, convallis non ornare sit amet, dapibus in nisl. Etiam a metus a sem condimentum mattis. Aenean lacinia ultricies nunc, in convallis felis interdum id. Nulla non ultricies augue. Cras pretium arcu magna, eu cursus tellus varius nec. Nam egestas maximus nunc et dictum. Proin et dictum purus. Vivamus pellentesque sem nunc, nec maximus metus congue nec. Vestibulum pharetra enim at euismod auctor. Pellentesque ac vulputate felis.



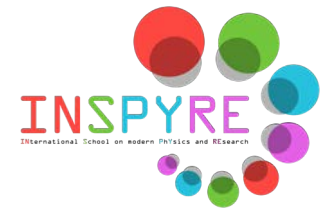
Study: 70% of Facebook users only read the headline of science stories before commenting

Simple experiment:

Click-Bait title but text filled only with Lorem Ipsum.

The article was shared thousands of times by users that read ... only headline

Debunking toolbox

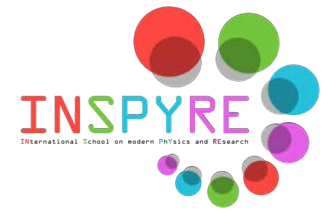


Normally, fake news are built as a combination of these categories.

A preliminary list of suggestions to understand if a news is genuine or fake:

- Check information source;
- Do not stop at article title;
- Compare different sources;
- Search on Google the news;
- Always be skeptical
- Use critical thinking

Debunking toolbox



Normally, fake news are built as a combination of these categories.

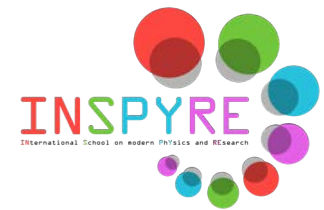
A preliminary list of suggestions to understand if a news is genuine or fake:

- Check information source;
- Do not stop at article title;
- Compare different sources;
- Search on Google the news;
- Always be skeptical
- Use critical thinking

It's not rocket
science ...

But science is in
the approach!

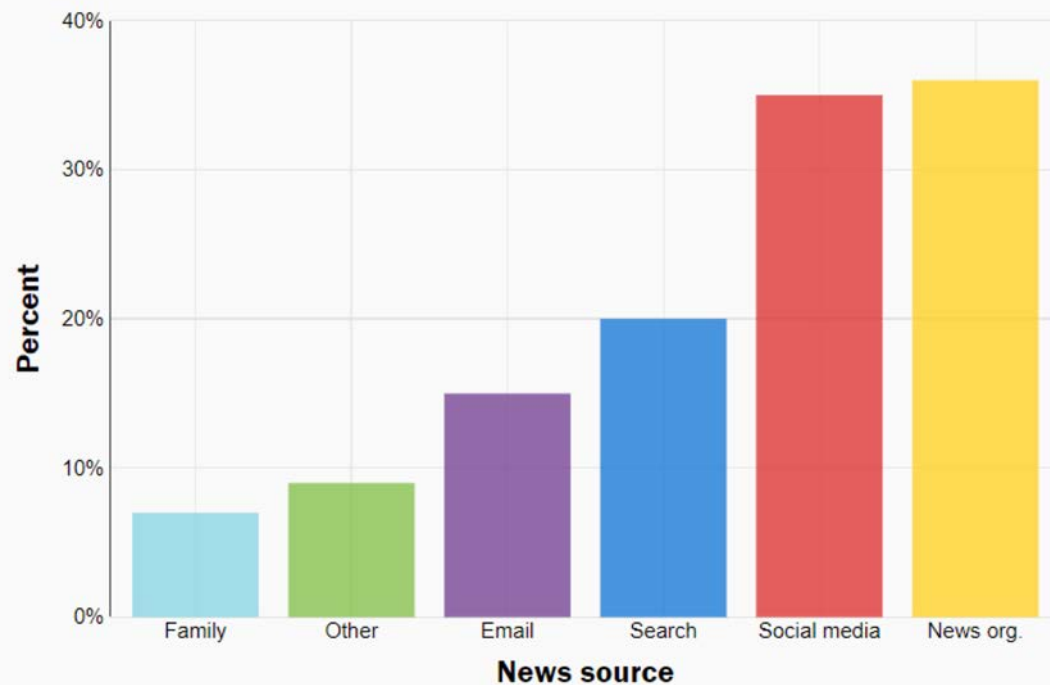
Fake news diffusion



There is a strong link between fake news and Internet (not only social networks)

To understand the diffusion of fake news we must understand where people get online news:

Figure 1: Where people get online news in the US, 2017



Online newspapers is comparable with social media

Here, all people are integrated not distinguishing by age

Fake news diffusion

Age differentiation gives additional information:

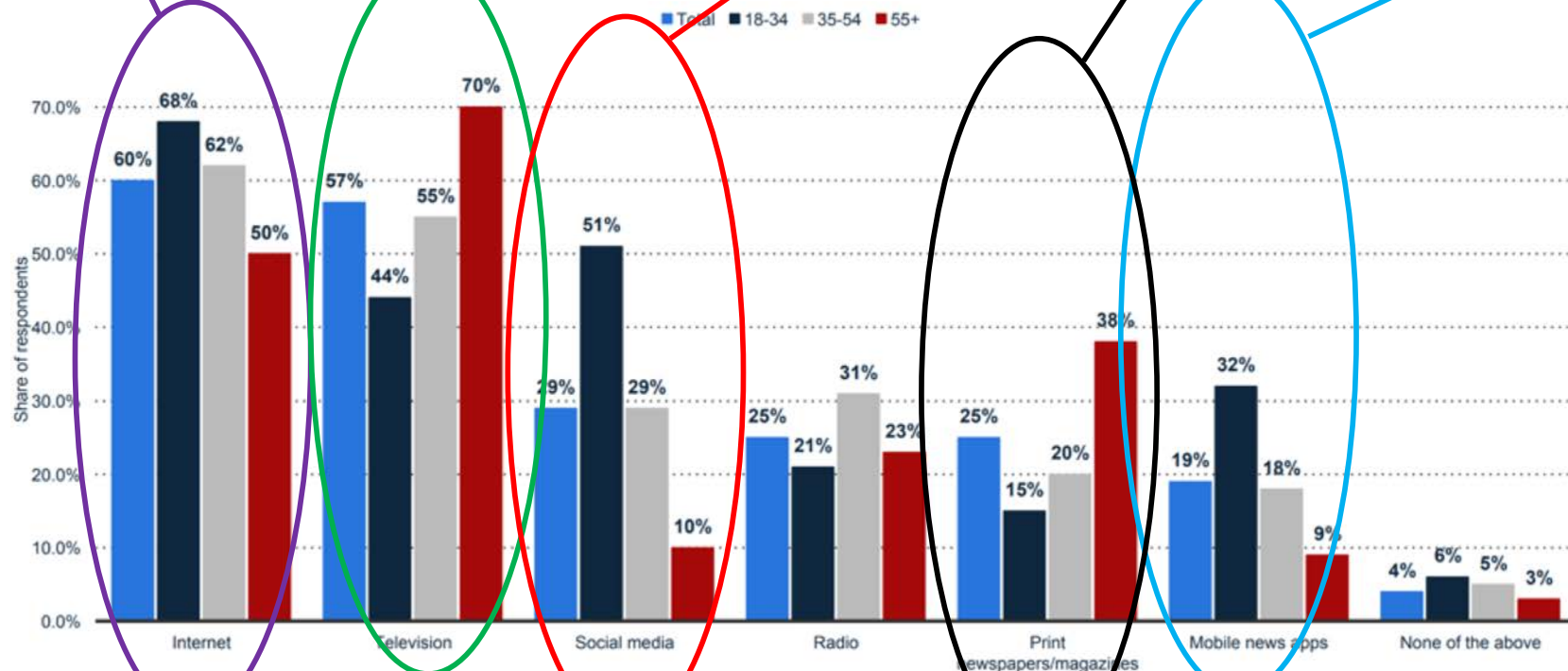
All use Internet but with a slight difference for 55+

Television is still largely used for news but there is an important difference between 18-34 and 55+

Youngsters largely used SM to get informed while 55+ not

Print newspapers are still largely used by 55+

Similar result of SM for mobile app but generally less used to get news



Fake news diffusion

Now we know:

- The origin of fake news;
- The different categories of fake news;
- Where people get information;

We can try to see together some real examples of fake news to try a scientific approach and (as we can see) to learn something more.

A first example of a couple of years ago:

A post on Facebook denounced an important multinational company to commercialize a 2-in-1 body wash and shampoo to have important side effects. The link invite people to share the post to access video contents.

Probably clickbait post. What is the leverage used to trigger audience?



Fake news and multinational corps

This image is the one reported in the post.

What do you feel seeing this image?

Probably you find it disgusting and you are curious to see the video but to do that, you must firstly share the post.



This is exactly what the video creator wants.

This activity is also named as SCAM attack and the goal is to make a content “viral”.

Fake news and multinational corps



First, the image used is only a photomontage of a lotus seeds on a man shoulder. Second, after shared the post on your personal profile, you discover that the video even does not exist.

The only aim is to create viral contents. Why?

Fake news leverage

As the number of sharings of a post increases, it increases also the popularity of the page that created that post.

As the popularity of a page increases, it increases the price that page can ask to other companies to publicize their products or they gain with pay-per-click.



Obviously, to create a working SCAM different sensitivities can be used as leverage: money, children, religion, etc.

Fake news leverage

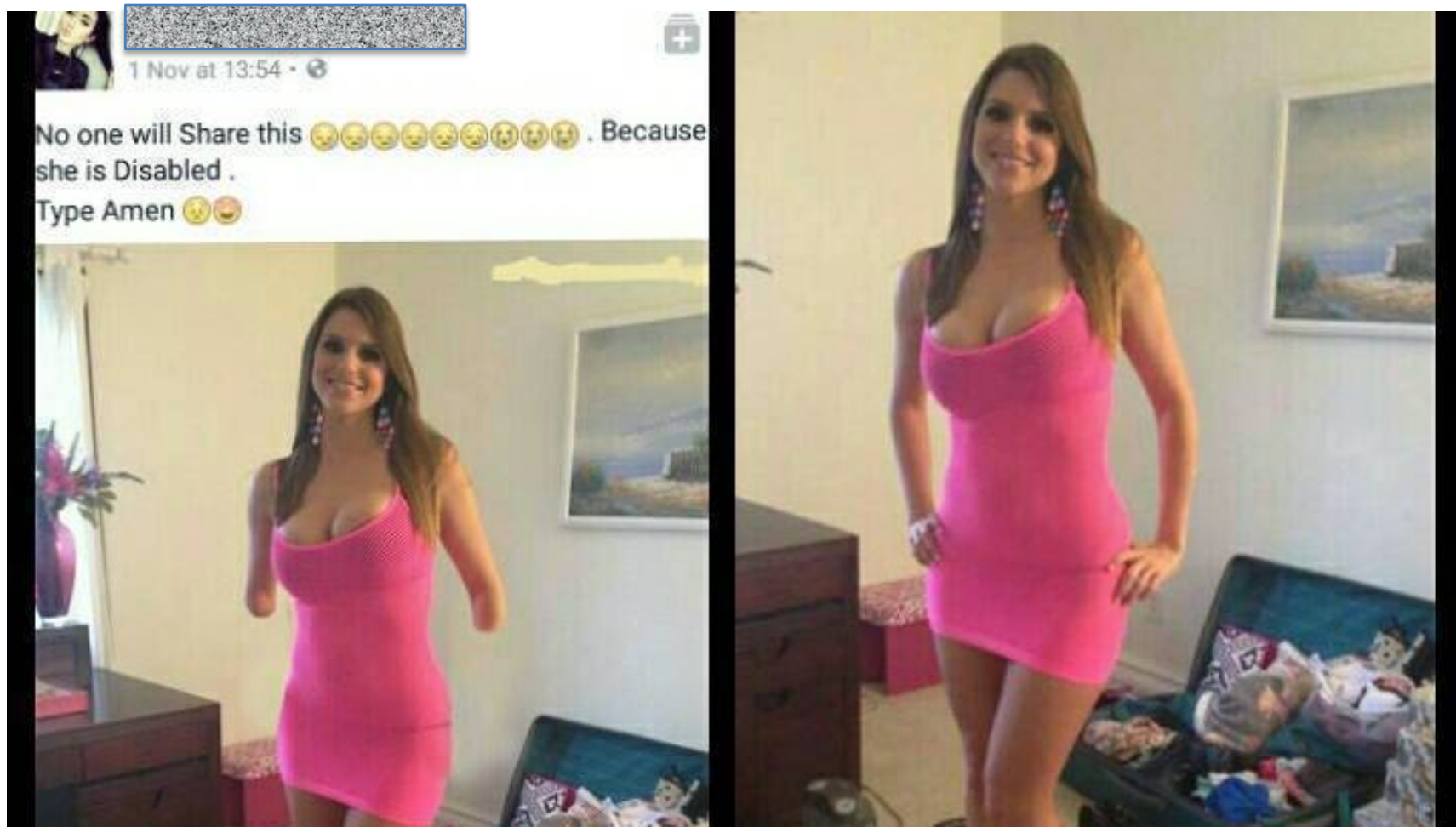
Or otherwise a combination of “sensitivities”: disabilities and beautiful girls



Fake news leverage

Or otherwise a combination of “sensitivities”: disabilities and beautiful girls ...

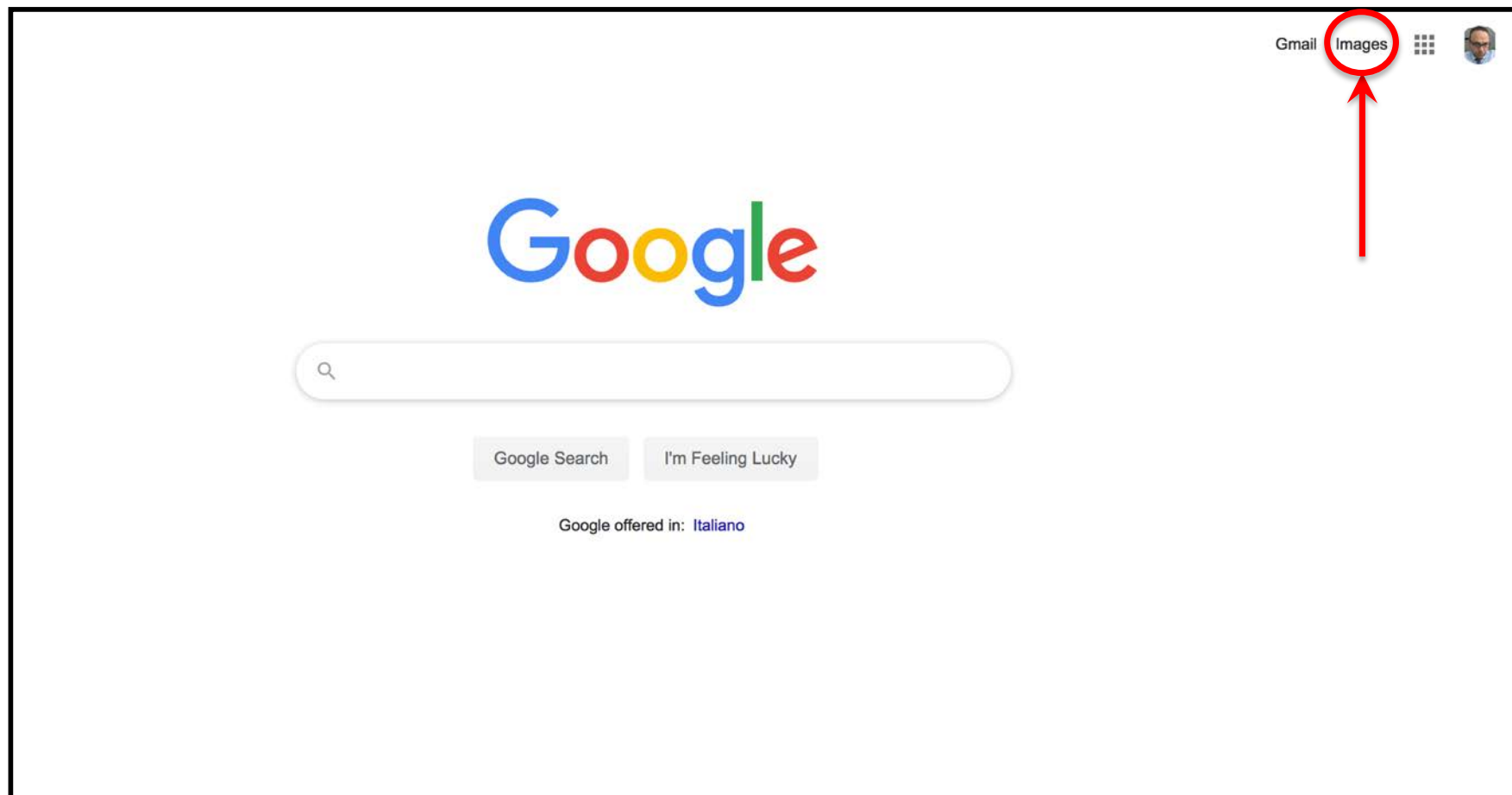
Here the comparison between the Facebook SCAM post and the real picture found on internet



Fake news leverage

Another simple trick to debunk hoax on Internet

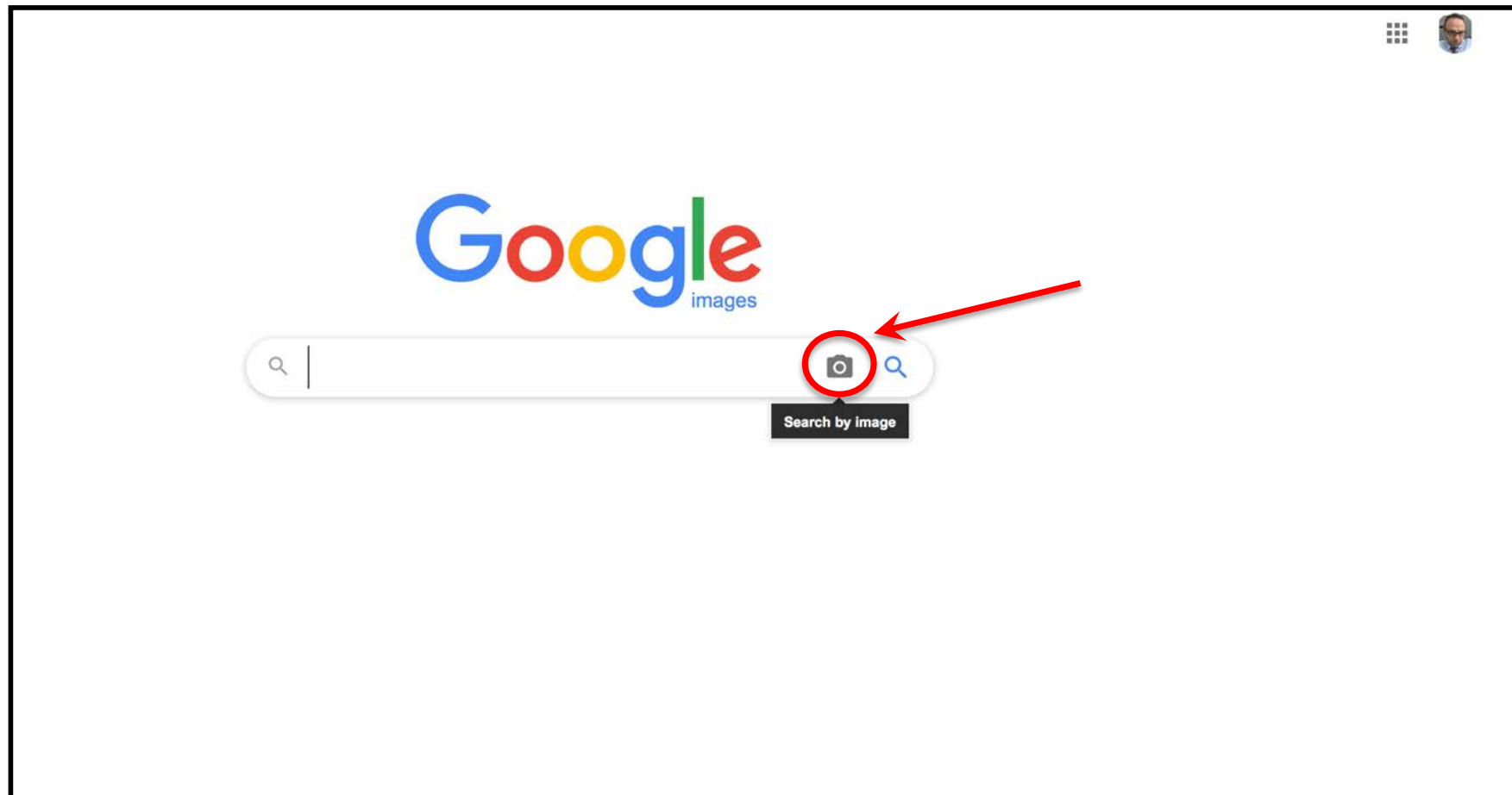
Do you know how to search image in Google starting from an image?



Fake news leverage

Clicking on “image” on Google main page a dedicated search engine will be opened

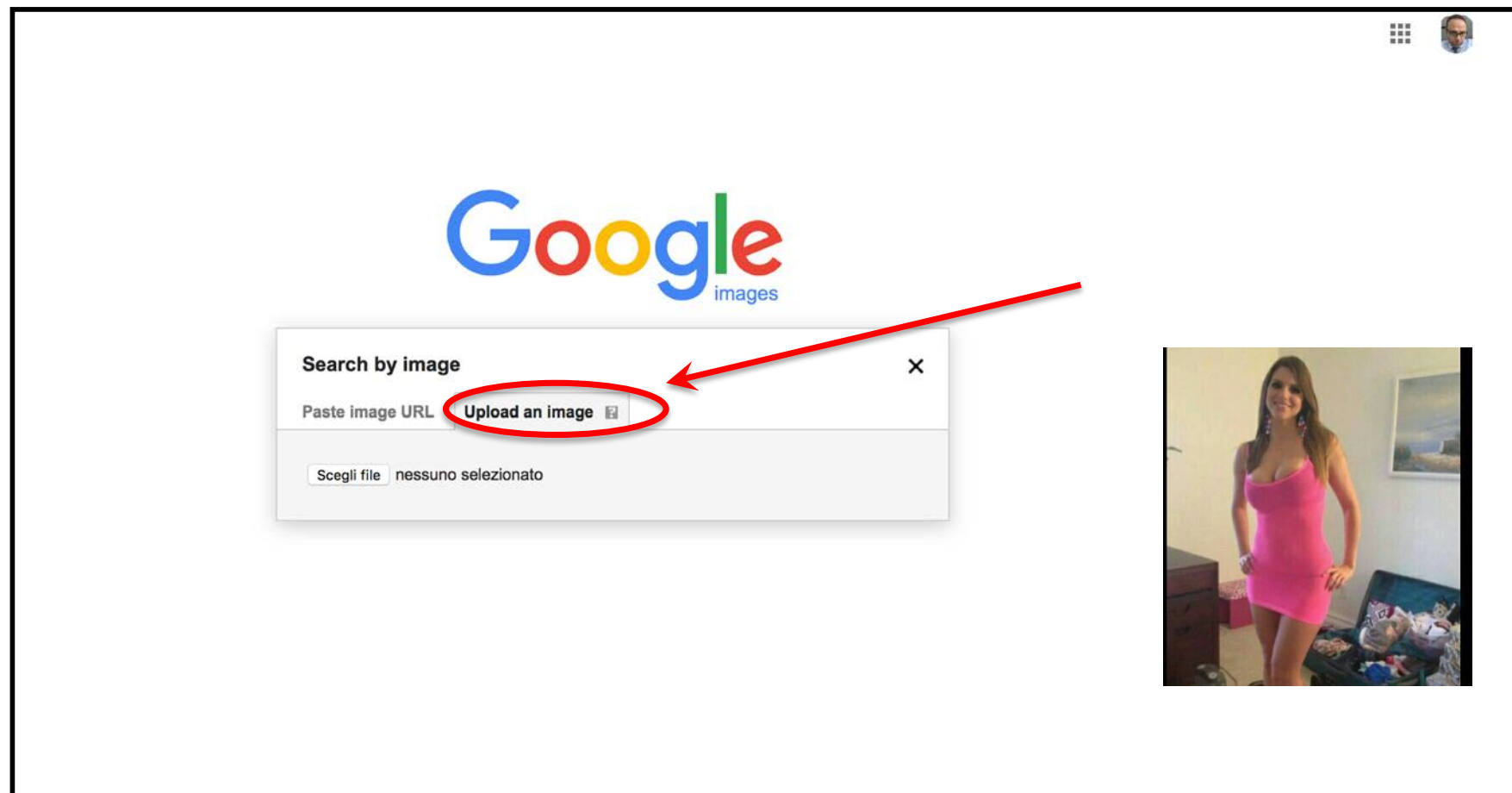
Here we can search by image directly



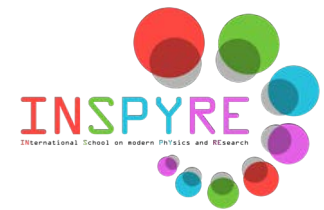
Fake news leverage

We can search using a URL of an image or upload an image from our computer

If I upload the image of the girl we discussed what I find?



Fake news leverage



Google automatically gives a description of the image

We find that the image is used in more than 3 billions pages of results!

Google

picture.jpg x

Q All Images Maps Shopping More Settings Tools

Page 2 of about 3,320,000,000 results (0.48 seconds)

www.facebook.com > Pages > Public Figure
Clara morgane - Home | Facebook
720 × 960 - Clara morgane. 272 likes. ancienne actrice de x devenu chanteuse aujourd'hui et mannequin a se heurte pour des calendriers.

www.facebook.com > DesencanteiOfc > photos
Desencantei - Photos | Facebook
719 × 951 - Desencantei. 172502 likes · 44394 talking about this. Blogger.

www.pinterest.com > pin
Pin on what I consider sexy - Pinterest
765 × 1844 - Welcome to Lust. Babe in Dress Babe in Dress. Pretty in pink Lingerie Outfits, Sexy Outfits, Tight Dresses, Short Dresses, Short. Saved from Uploaded by user ...

m.facebook.com > DesencanteiOfc > photos
Desencantei - Photos | Facebook

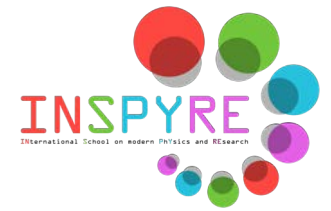
sext - Pinterest
474 × 1142 - Womens Sexy Lingerie Erotic Bow Lace Dress G-String Babydoll Nightwear INT Lingerie ... Piece Swimsuit For TeensBlack One Piece SwimsuitMicro Swimwear ... Avidlove Women Sexy Lace Nightgown Cotton Nightdress Stretch Mini Dress ...

www.clbxg.com > Pink-Short-Tight-Dresses
Pink Short Tight Dresses – Fashion dresses
500 × 667 - Apr 9, 2018 - Source:https://www.aliexpress.com/item/Skin-Tight-Women-Mini-Short-dress- 2017-Summer-sexy-Bodycon-Dress-v-neck-Clubwear-Pink-Velvet ...

www.pinterest.com > halmondmark > plus-size
137 Best Plus size images | Plus size, Fashion, Women
474 × 1142 - So beautiful stylish Sexy Outfits, Sexy Dresses, Short Dresses, Cute Outfits, ... Pretty in pink Tiny Shorts, Shorts With Tights, Short Skirts, Short Dresses, ... Slim Thick, Sexy Outfits, Curvy, Mini Skirts, Plus Size, Shorts, Platforms, Heels, Fashion ...

twitter.com > existenzse
Existenz.se (@Existenzse) | Twitter
606 × 604 - The latest Tweets from Existenz.se (@Existenzse). Trött på normie memes på vår fb/ig?? Då är detta stället för dig som inte är lättkränt!
https://t.co/zNo502hiLu.

Questions time ...



Did I wake you?

Questions?



Comments?

Are you sleeping?

Fake news and COVID-19

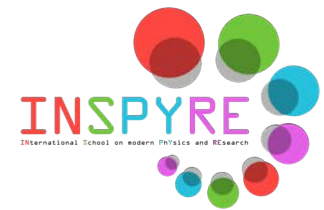
Leverage on people sensitivity is something really criminal.

A large “bibliography” exists obviously related to COVID-19

First conspiracy/fake news: COVID is a bio-weapon accidentally or deliberately diffused by Chinese government



COVID-19 as bio-weapon



Who published first this news? **The Washington Times.**

Real newspaper, real news we can think.

When analysing news, do not trust in no one (this is not a suggestion, is a must).



2015 TG Leonardo service



Another important news circulated in Italy (and not only) last week supporting the possibility COVID is a bio-weapon.

In 2015, the scientific TV program Leonardo produced a service telling about a super virus created in laboratory starting from SARS and using bats and rats to make virus communicable to humans.

The scientific research was conducted by North Carolina University and Chinese Academy of Science with the collaboration of the Wuhan Institute of virology



中国科学院武汉病毒研究所
WUHAN INSTITUTE OF VIROLOGY, CAS

The news says, in 2015 they created virus, in 2020 the virus is circulating

This news became viral and was shared also by politicians, journalists and other “influencers”

The 2 news to analyze

Two news (I do not indicated them as fake) in particular supporting COVID-19 as bio-weapon.

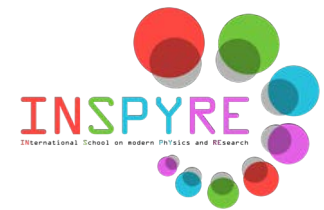
- First from an online newspaper
- Second connecting a serious TV service with the possible diffusion (involuntary?) of a super virus created in laboratory

This is a good chance to test a scientific approach.



Critical thinking ON

Who is The Washington Times



Let's start from the article studying the source of information

What we know about «The Washington Times»?

Trivial check, search on Wikipedia.

The Washington Times

From Wikipedia, the free encyclopedia

For the newspaper with a similar name published from 1894 to 1939, see [Washington Times \(1894–1939\)](#). For the newspaper with a similar name published from 1939 to 1954, see [Washington Times-Herald](#).

The Washington Times is an [American daily newspaper](#) published in [Washington, D.C.](#), that covers general interest topics with a particular emphasis on [national politics](#). Its [broadsheet](#) daily edition is distributed throughout the [District of Columbia](#) and in parts of [Maryland](#) and [Virginia](#). A weekly [tabloid](#) edition aimed at a national audience is also published.^[3]

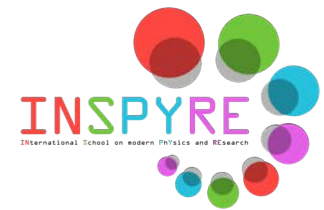
The Washington Times was founded on May 17, 1982, by [Unification movement](#) leader [Sun Myung Moon](#) and owned until 2010 by [News World Communications](#), an international media [conglomerate](#) founded by Moon. It is currently owned by Operations Holdings, which is owned by the Unification movement.^{[4][5]}

Throughout its history, *The Washington Times* has been known for its [conservative](#) political stance.^{[6][7][8][9]} It has published many columns which reject the [scientific consensus](#)es on [climate change](#),^{[10][11][12]} on [ozone depletion](#),^[13] on the harmful effects of [second-hand smoke](#),^{[14][15]} and which have spread [misinformation](#) regarding the [2019-2020 coronavirus outbreak](#).^[16] It has drawn controversy for publishing [racist](#) content, including commentary and [conspiracy theories](#) about U.S. President [Barack Obama](#),^{[17][18]} supporting [neo-Confederate historical revisionism](#),^[19] and promoting [Islamophobia](#).^[20]



Conservative political instance (is an opinion), reject scientific consensus on climate change, on ozone depletion, etc.

Natural origin of SARS-CoV-2



Searching on Google, we can find an interesting article published on “Nature”

naturemedicine

Correspondence | Published: 17 March 2020

The proximal origin of SARS-CoV-2

Kristian G. Andersen , Andrew Rambaut, W. Ian Lipkin, Edward C. Holmes & Robert F. Garry

Nature Medicine (2020) | [Cite this article](#)

1.67m Accesses | 1 Citations | 19552 Altmetric | [Metrics](#)

To the Editor — Since the first reports of novel pneumonia (COVID-19) in Wuhan, Hubei province, China^{1,2}, there has been considerable discussion on the origin of the causative virus, SARS-CoV-2³ (also referred to as HCoV-19)⁴. Infections with SARS-CoV-2 are now widespread, and as of 11 March 2020, 121,564 cases have been confirmed in more than 110 countries, with 4,373 deaths⁵.

SARS-CoV-2 is the seventh coronavirus known to infect humans; SARS-CoV, MERS-CoV and SARS-CoV-2 can cause severe disease, whereas HKU1, NL63, OC43 and 229E are associated with mild symptoms⁶. Here

When I report something, I always add a reference. You can check by yourself.



<https://www.nature.com/articles/s41591-020-0820-9>

Spike protein and mutation

Read the article is not simple for a not expert but some passages are very clear:

Theories of SARS-CoV-2 origins

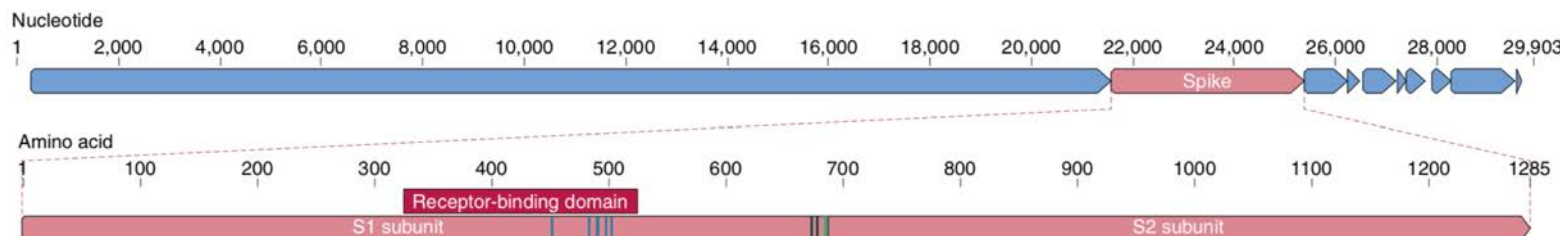
It is improbable that SARS-CoV-2 emerged through laboratory manipulation of a related SARS-CoV-like coronavirus. As noted above, the RBD of SARS-CoV-2 is optimized for binding to human ACE2 with an efficient solution different from those previously predicted^{7,11}. Furthermore, if genetic manipulation had been performed, one of the several reverse-genetic systems available for betacoronaviruses would probably have been used¹⁹. However, the genetic data irrefutably show that SARS-CoV-2 is not derived from any previously used virus backbone²⁰. Instead, we propose two scenarios that can plausibly explain the origin of SARS-CoV-2: (i) natural selection in an animal host before zoonotic transfer; and (ii) natural selection in humans following zoonotic transfer. We also discuss whether selection during passage could have given rise to SARS-CoV-2.

The study excludes the possibility of an in vitro mutation of the virus.

COVID-19 is surely a mutation of a CoV virus. The mutation is in the amino acid sequence of the spike protein that is up to 96% equal to other existing CoV virus in bats and pangolins

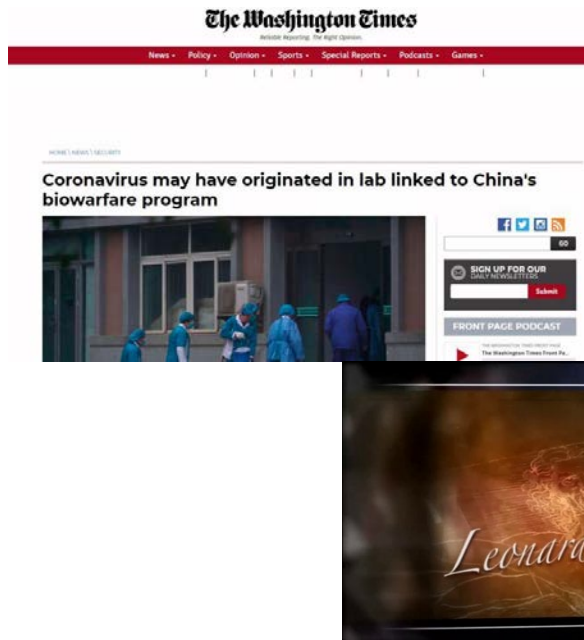
In the conclusion

The genomic features described here may explain in part the infectiousness and transmissibility of SARS-CoV-2 in humans. Although the evidence shows that SARS-CoV-2 is not a purposefully manipulated virus, it is currently impossible to prove or disprove the other theories of its origin described here. However, since we observed all notable SARS-CoV-2 features, including the optimized RBD and polybasic cleavage site, in related coronaviruses in nature, we do not believe that any type of laboratory-based scenario is plausible.



The challenge

Now we have this situation:



naturemedicine

Correspondence | Published: 17 March 2020

The proximal origin of SARS-CoV-2

Kristian G. Andersen , Andrew Rambaut, W. Ian Lipkin, Edward C. Holmes & Robert F. Garry

Nature Medicine (2020) | [Cite this article](#)

1.67m Accesses | 1 Citations | 19552 Altmetric | [Metrics](#)

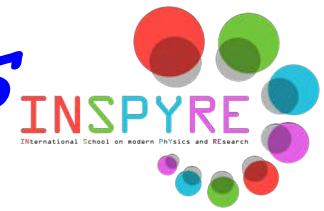
To the Editor — Since the first reports of novel pneumonia (COVID-19) in Wuhan, Hubei province, China^{1,2}, there has been considerable discussion on the origin of the causative virus, SARS-CoV-2³ (also referred to as HCoV-19)⁴. Infections with SARS-CoV-2 are now widespread, and as of 11 March 2020, 121,564 cases have been confirmed in more than 110 countries, with 4,373 deaths⁵.

SARS-CoV-2 is the seventh coronavirus known to infect humans; SARS-CoV, MERS-CoV and SARS-CoV-2 can cause severe disease, whereas HKU1, NL63, OC43 and 229E are associated with mild symptoms⁶. Here

Do not trust me, in Nature journal, in science but do not blindly believe in other news.

Only trust in your critical thinking maintaining a scientific approach.

Peer review and scientific journals



Do you know how the publication process works in science?

To publish an article to every international scientific journal, the paper follows precise steps based on “peer review”

Peer review is the evaluation of a work by people with similar competencies (peers).

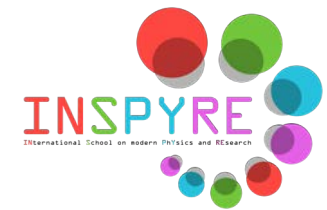
In science peer review is used to determine if a work is suitable to be published or not, to avoid false results and to ensure high standards.

Peer Review and Publication

This section explains the editorial processes at *Nature Medicine*, which can be outlined in the following steps:

1. The author submits a manuscript and it receives a tracking number.
2. An editor is assigned to the manuscript.
3. The editorial team decides whether to send the manuscript out to review. If the decision is not to send the manuscript for review, the editor contacts the author with the decision.
4. The editor assigns potential reviewers to the manuscript and the author is notified.
5. Reviewers agree to review the manuscript.
6. Reviewers submit their reports to the editor.
7. The editorial team discusses the reports and the editor makes the final decision. This process may involve further consultation with the reviewers and editor-mediated communications between the reviewers.
8. The editor contacts the author with the decision.
9. If the decision is negative, the author can choose to transfer their manuscript to another journal. If the manuscript was peer reviewed the referee comments are also transferred. Please see our [Manuscript Transfer FAQ](#) for more information about this service.

The authors of the 2 challengers



Now study the author (or authors) of the considered study.

Here in the box the authors of the article published in Nature

For the article on Washington Post the author is not written and, moreover, if you try to reach now the article you find:

Author information

Affiliations

Department of Immunology and Microbiology, The Scripps Research Institute, La Jolla, CA, USA

Kristian G. Andersen

Scripps Research Translational Institute, La Jolla, CA, USA

Kristian G. Andersen

Institute of Evolutionary Biology, University of Edinburgh, Edinburgh, UK

Andrew Rambaut

Center for Infection and Immunity, Mailman School of Public Health of Columbia University, New York, NY, USA

W. Ian Lipkin

Marie Bashir Institute for Infectious Diseases and Biosecurity, School of Life and Environmental Sciences and School of Medical Sciences, The University of Sydney, Sydney, Australia

Edward C. Holmes

The Washington Times

Reliable Reporting. The Right Opinion.

News - Policy - Commentary - Sports - Special Reports - Podcasts

TAKE A BREAK

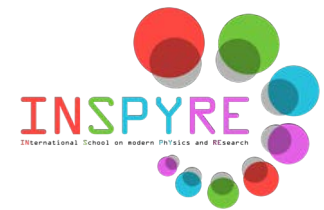
When sportscasters and pro athletes have too much

TRENDING:

This story is no longer available on the site

Take a look at some of the other content by going to our [home page](#).

The step back



And after some days the journal published an article to disprove its previous article!!!

Obviously, the previous article was not cited, no excuses are included but ... for better or worse, Internet does not forget.

The Washington Post

Democracy Dies in Darkness

Experts debunk fringe theory linking China's coronavirus to weapons research

By Adam Taylor

Jan. 29, 2020 at 11:00 a.m. GMT+1

As China attempts to contain the spread of a new coronavirus that has left more than 100 people dead, rumors and disinformation have spread amid the scramble for answers.

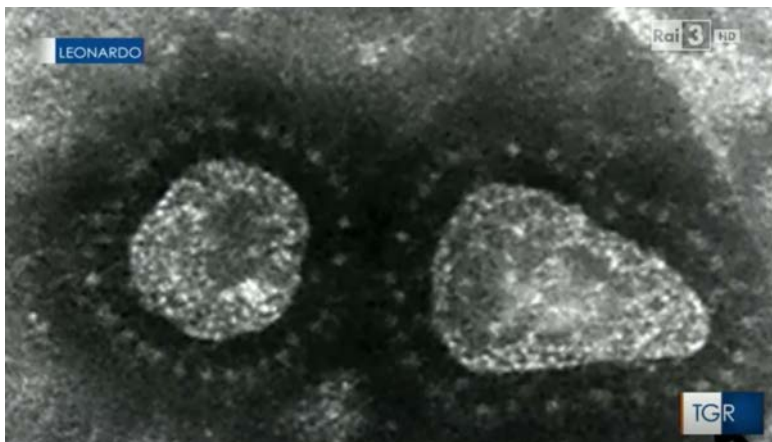
Some of the speculation has centered on a virology institute in Wuhan, the city where the outbreak began. One fringe theory holds that the disaster could be the accidental result of biological weapons research.

<https://www.nature.com/news/engineered-bat-virus-stirs-debate-over-risky-research-1.18787>

What about the virus cited by Leonardo in 2015?

The TV service started from an article published always in Nature Medicine

The scientific name of the virus was SHC014-CoV because this virus is based on SARS-CoV



nature International weekly journal of science

Home | News & Comment | Research | Careers & Jobs | Current Issue | Archive | Audio & Video | For

News & Comment > News > 2019 > May > Article

NATURE | NEWS

Engineered bat virus stirs debate over risky research

Lab-made coronavirus related to SARS can infect human cells.

Editors' note, March 2020: We are aware that this story is being used as the basis for unverified theories that the novel coronavirus causing COVID-19 was engineered. There is no evidence that this is true; scientists believe that an animal is the most likely source of the coronavirus.

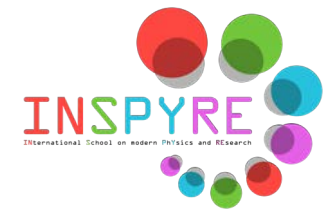
Declan Butler

12 November 2015

 [Rights & Permissions](#)

An experiment that created a hybrid version of a bat coronavirus — one related to the virus that causes SARS (severe acute respiratory syndrome) — has triggered renewed debate over whether engineering lab variants of viruses with possible pandemic potential is worth the risks.

SHC014 vs COVID-19



<https://www.tandfonline.com/doi/pdf/10.1080/22221751.2020.1733440?needAccess=true>

A final scientific proof was reported in a recent published article on “Emerging Microbes and infections”

The answer is in this paragraph:

Another claim in Chinese social media points to a Nature Medicine paper published in 2015 [7], which reports the construction of a chimeric CoV with a bat CoV S gene (SHC014) in the backbone of a SARS CoV that has adapted to infect mice (MA15) and is capable of infecting human cells [8]. However, this claim lacks any scientific basis and must be discounted because of significant divergence in the genetic sequence of this construct with the new SARS-CoV-2 (>5,000 nucleotides).

Emerging Microbes & Infections
2020, VOL. 9
<https://doi.org/10.1080/22221751.2020.1733440>

 **EMI**  Taylor & Francis
Taylor & Francis Group

COMMENTARY OPEN ACCESS Check for updates

No credible evidence supporting claims of the laboratory engineering of SARS-CoV-2

Shan-Lu Liu^{a,b,c,d}, Linda J. Saif^{d,e}, Susan R. Weiss^f and Lishan Su^g

^aCenter for Retrovirus Research, The Ohio State University, Columbus, OH, USA; ^bDepartment of Veterinary Biosciences, The Ohio State University, Columbus, OH, USA; ^cDepartment of Microbial Infection and Immunity, The Ohio State University, Columbus, OH, USA; ^dViruses and Emerging Pathogens Program, Infectious Diseases Institute, The Ohio State University, Columbus, OH, USA; ^eFood Animal Health Research Program, Ohio Agricultural Research and Development Center, CFAES, Department of Veterinary Preventive Medicine, The Ohio State University, Wooster, OH, USA; ^fDepartment of Microbiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA; ^gLineberger Comprehensive Cancer Center, Department of Microbiology and Immunology, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

ARTICLE HISTORY Received 13 February 2020; Accepted 13 February 2020

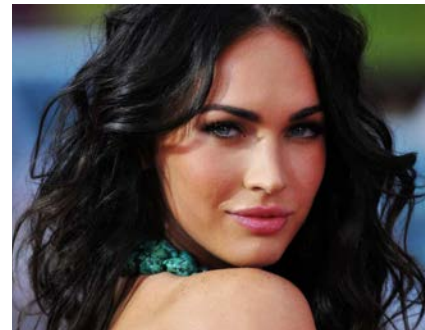
The emergence and outbreak of a newly discovered acute respiratory disease in Wuhan, China, has affected greater than 40,000 people, and killed more than 1,000 as of Feb. 10, 2020. A new human coronavirus, SARS-CoV-2, was quickly identified, and the associated disease is now referred to as coronavirus disease discovered in 2019 (COVID-19) (<https://globalbiodefense>.

host between bats and humans is needed to identify animal CoVs more closely related to human SARS-CoV-2. There is speculation that pangolins might carry CoVs closely related to SARS-CoV-2, but the data to substantiate this is not yet published (<https://www.nature.com/articles/d41586-020-00364-2>). Another claim in Chinese social media points to a

SHC014 vs COVID-19

What does it mean a difference of >5000 nucleotides?

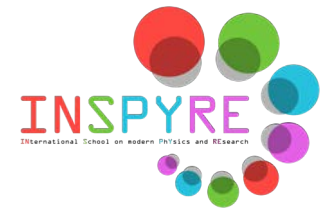
To simply understand this, it is possible that you confuse the elements of these two pairs?



If the answer is NO, it is impossible also to consider the two viruses equal.

If the answer is YES The problem is not only fake news

SHC014 vs COVID-19



<https://www.tandfonline.com/doi/pdf/10.1080/22221751.2020.1733440?needAccess=true>

A final scientific proof was reported in a recent published article on “Emerging Microbes and infections”

The answer is in this paragraph:

Another claim in Chinese social media points to a Nature Medicine paper published in 2015 [7], which reports the construction of a chimeric CoV with a bat CoV S gene (SHC014) in the backbone of a SARS CoV that has adapted to infect mice (MA15) and is capable of infecting human cells [8]. However, this claim lacks any scientific basis and must be discounted because of significant divergence in the genetic sequence of this construct with the new SARS-CoV-2 (>5,000 nucleotides).

Emerging Microbes & Infections
2020, VOL. 9
<https://doi.org/10.1080/22221751.2020.1733440>

COMMENTARY OPEN ACCESS Check for updates

No credible evidence supporting claims of the laboratory engineering of SARS-CoV-2

Shan-Lu Liu^{a,b,c,d}, Linda J. Saif^{d,e}, Susan R. Weiss^f and Lishan Su^g

^aCenter for Retrovirus Research, The Ohio State University, Columbus, OH, USA; ^bDepartment of Veterinary Biosciences, The Ohio State University, Columbus, OH, USA; ^cDepartment of Microbial Infection and Immunity, The Ohio State University, Columbus, OH, USA; ^dViruses and Emerging Pathogens Program, Infectious Diseases Institute, The Ohio State University, Columbus, OH, USA; ^eFood Animal Health Research Program, Ohio Agricultural Research and Development Center, CFAES, Department of Veterinary Preventive Medicine, The Ohio State University, Wooster, OH, USA; ^fDepartment of Microbiology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA; ^gLineberger Comprehensive Cancer Center, Department of Microbiology and Immunology, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

ARTICLE HISTORY Received 13 February 2020; Accepted 13 February 2020

The emergence and outbreak of a newly discovered acute respiratory disease in Wuhan, China, has affected greater than 40,000 people, and killed more than 1,000 as of Feb. 10, 2020. A new human coronavirus, SARS-CoV-2, was quickly identified, and the associated disease is now referred to as coronavirus disease discovered in 2019 (COVID-19) (<https://globalbiodefense>. Another claim in Chinese social media points to a host between bats and humans is needed to identify animal CoVs more closely related to human SARS-CoV-2. There is speculation that pangolins might carry CoVs closely related to SARS-CoV-2, but the data to substantiate this is not yet published (<https://www.nature.com/articles/d41586-020-00364-2>).

The question is “why create super viruses in laboratory”?

Pandemic: past, present and future

Study viruses is important to prevent new pandemics and try to have vaccines in advance to contrast them.

These studies are performed with the maximum level of security.

Some years ago, bodies of victims of Spanish flu were exhumed from Alaskan permafrost to study the effects of this virus that caused an important pandemic in 1918.

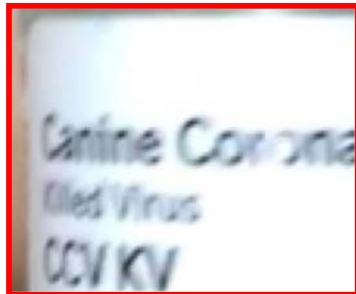
We analyzed these two news and you can decide if they are real or fake.

Now another very discussed stuff, the existence of a COVID vaccine.



Vaccines for Corona Viruses

Vaccine already exists for animals!!!!

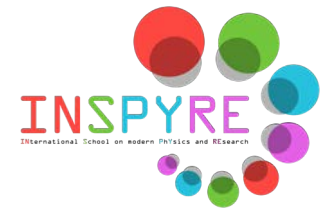


Why we do not use this vaccine on humans?

- Because the pharmaceutical companies don't want to sell the vaccine
- Because "someone" wants to reduce world population
- Because there is a conspiracy to make people poor

The mechanism is always the same, leverage on emotions, now fear.

CoV and COVID-19



First important definition to not believe to these hoaxes:

What is a CORONAVIRUS???

What is a coronavirus?

Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently discovered coronavirus causes coronavirus disease COVID-19.

CORONAVIRUS is a family of viruses with specific characteristics first discovered in 1960s

Definition from World Heath Organization (WHO)

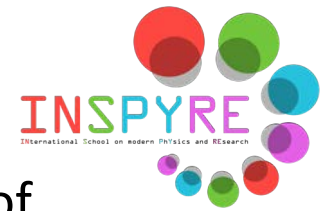
Hence, what is COVID-19 (always from WHO)?

What is COVID-19?

COVID-19 is the infectious disease caused by the most recently discovered coronavirus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019.

<https://www.who.int/news-room/q-a-detail/q-a-coronaviruses>

Vaccines by Pirbright



The vaccines reported in the posts are for animals and for other types of coronavirus, not SARS-CoV-2 aka COVID-19

The vaccines are produced by Pirbright Institute a company in UK specialized in the production of vaccines for animals.



Preventing and controlling viral diseases

Due to the popularity of the vaccines related hoax, the company published on its main webpage a link with a long explanation:

The Institute holds Patent no. 10130701 which covers the development of an attenuated (weakened) form of the coronavirus that could potentially be used as a vaccine to prevent respiratory diseases in birds and other animals. Many vaccines are made in this way, from flu to polio. We have not yet developed an IBV vaccine, but research is ongoing.

The coronavirus first identified in Wuhan, China, earlier this year is a new coronavirus, the seventh coronavirus identified that is able to infect humans. Six other coronaviruses are capable of infecting humans and these can cause diseases which range from mild to severe, and include the common cold, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). The exact origin of the new virus is unknown but initial confirmation shared by China and the World Health Organization (WHO) indicates that this new virus is genetically similar to a SARS-like coronavirus found in bats. The source of the outbreak has yet to be confirmed and investigations are ongoing.

<https://www.pirbright.ac.uk/news/2020/01/pirbright's-livestock-coronavirus-research---your-questions-answered>

Solutions against CoV

The difference between Coronavirus and COVID-19 is extremely useful to debunk a large number of fake news in this period.

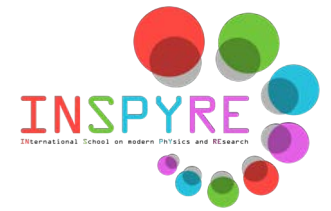
Just another example, a viral post on social networks shows an alcoholic sanitizer gel with expiration date 2009 active on Coronavirus.

Fake news affirm: “This is a proof COVID-19 is not a new virus, we already knew it, the pandemic is designed, etc. “

Obviously, we are always speaking about a previous well known Coronavirus.



Masks for COVID-19



Let me open a parenthesis about Personal Protective Equipment (PPE)

It is quite uncommon see people with mask everywhere in these days.

What World Health Organization says?

Should I wear a mask to protect myself?

Only wear a mask if you are ill with COVID-19 symptoms (especially coughing) or looking after someone who may have COVID-19. Disposable face mask can only be used once. If you are not ill or looking after someone who is ill then you are wasting a mask. There is a world-wide shortage of masks, so WHO urges people to use masks wisely.

WHO advises rational use of medical masks to avoid unnecessary wastage of precious resources and mis-use of masks ([see Advice on the use of masks](#)).

The most effective ways to protect yourself and others against COVID-19 are to frequently clean your hands, cover your cough with the bend of elbow or tissue and maintain a distance of at least 1 meter (3 feet) from people who are coughing or sneezing. See [basic protective measures against the new coronavirus](#) for more information.

Masks for COVID-19

There is a worldwide shortage of masks and people use home-made solutions:



Baking paper



Women's bra



Plastic bottle



???



Grapefruit



Women's pad



Orange

Garlic against COVID-19

Obviously a large number of fake news about COVID-19 are related on how to prevent or fight the virus (all became viral in past days)

Boiled garlic water:



- “old Chinese doctor”
- Many patients



Review

Garlic: a review of potential therapeutic effects

Leyla Bayan¹, Peir Hossain Koulivand¹, Ali Gorji^{1, 2*}

¹Shefa Neuroscience Research Centre, Tehran, I. R. Iran

²Institut für Physiologie I, Klinik und Poliklinik für Neurochirurgie, Department of Neurology, Epilepsy Research Center, Westfälische Wilhelms-Universität Münster, Germany

Article history:

Received: Aug 11, 2013

Received in revised form:

Aug 30, 2013

Accepted: Sep 5, 2013

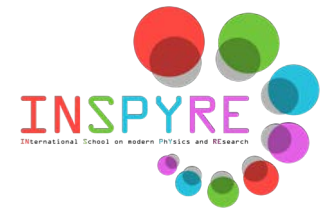
Vol. 4, No. 1, Jan-Feb 2014, 1-

Abstract

Throughout history, many different cultures have recognized the potential use of garlic for prevention and treatment of different diseases. Recent studies support the effects of garlic and its extracts in a wide range of applications. These studies raised the possibility of

Garlic really has light antiviral properties but no correlation with COVID-19

Marijuana against COVID-19



Obviously a large number of fake news about COVID-19 are related on how to prevent or fight the virus (all became viral in past days)

Marijuana:



Pharmaceuticals **2010**, 3, 1873-1886; doi:10.3390/ph3061873

OPEN ACCESS

pharmaceuticals

ISSN 1424-8247

www.mdpi.com/journal/pharmaceuticals

Review

Cannabinoids and Viral Infections

Carol Shoshkes Reiss

Department of Biology, Center for Neural Science, NYU Cancer Institute and Department of Microbiology, New York University, 100 Washington Square East, New York, NY, 10003, USA; E-Mail: carol.reiss@nyu.edu; Tel.: +1-212-998-8269; Fax: +1-212-995-4015

Received: 21 May 2010; in revised form: 28 May 2010 / Accepted: 9 June 2010 /

Published: 9 June 2010

Also for marijuana there is studies indicating its antiviral effect but nothing related to COVID-19

Suggestion: “scientists are shocked”, 100% probability is a fake news

Other solutions you can find on internet are:

- Cocaine
 - Sesame oil
 - Coconut oil
 - Algae compress
 - Vitamin C
 - Rinsing nose with saline water
 - Drink hot water
 - Inhaling hot air from an hair drier
- (YouTube video with 600.000 visualizations)



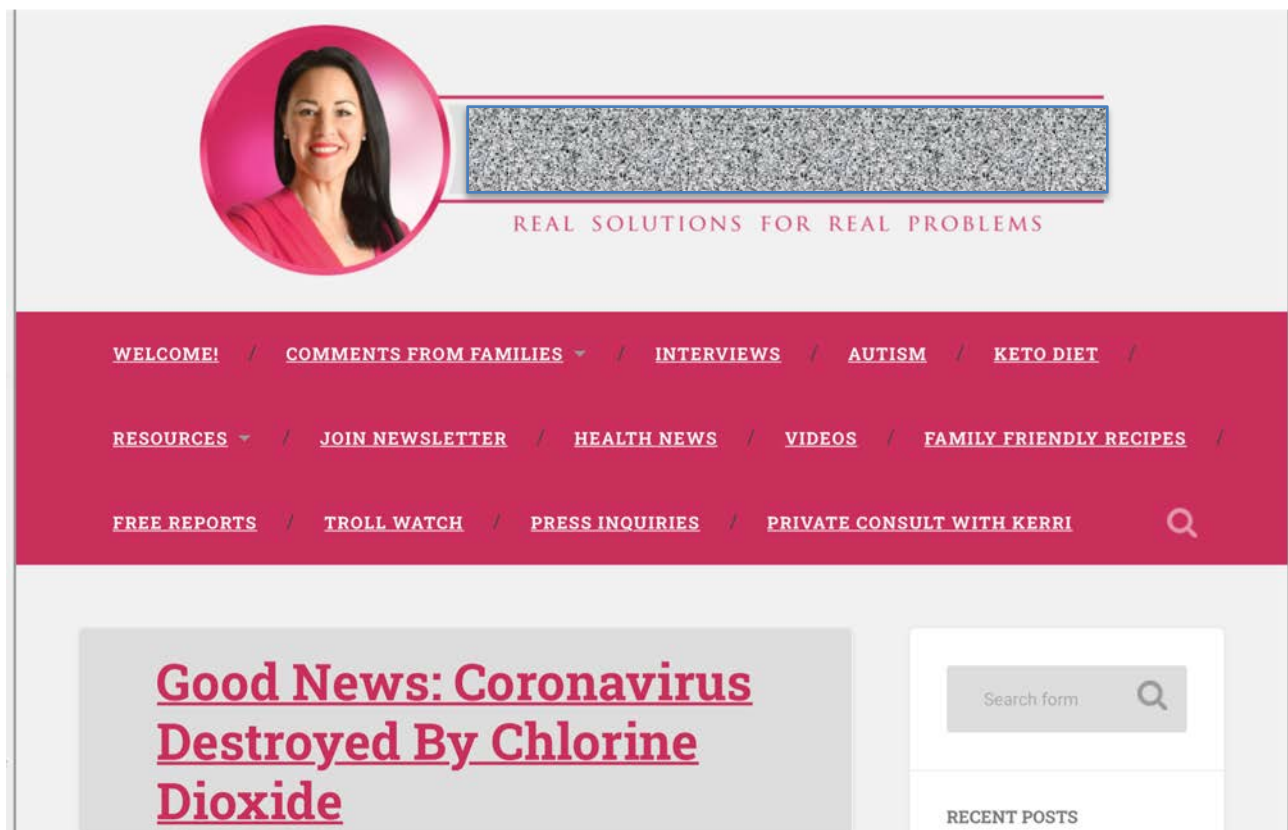
All these “solutions” had been shared million of times in different social networks.

“All are not useful”, “some are comic” but there is a last solution that can be even dangerous and is shared to increase a multi level marketing mechanism.

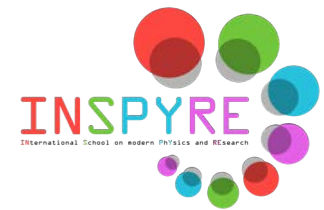
MMS a legal poison

Miracle Mineral Solution, MMS, is obtained mixing sodium chlorite with citrus juice (activator). The reaction produce chlorine dioxide (an industrial bleach).

Various individuals publicize MMS as a cure for various diseases (COVID is only the last):



MMS a legal poison

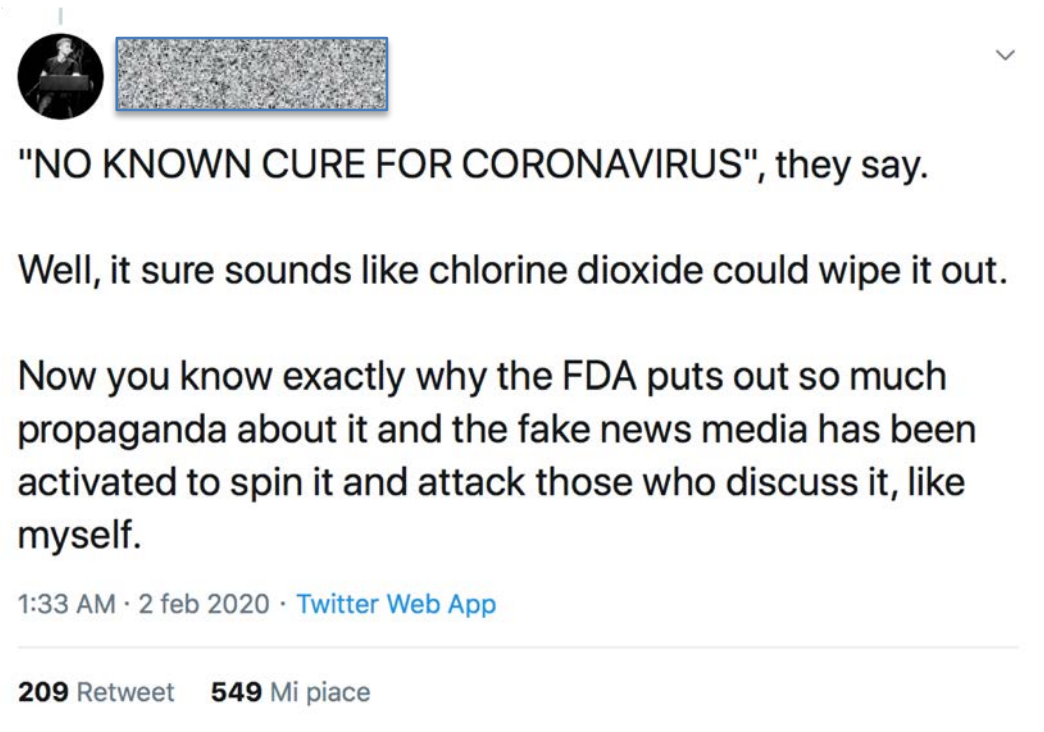


In these websites MMS was previously used to “cure autism” or as supplement in Keto diet.

MMS is also promoted on social networks by users with a large number of followers (the one in the picture, 120.000 followers on Twitter).

FDA, Aug. 12, 2019: Drinking any of these chlorine dioxide products can cause nausea, vomiting, diarrhea, and symptoms of severe dehydration. Some product labels claim that vomiting and diarrhea are common after ingesting the product. They even maintain that such reactions are evidence that the product is working. That claim is false.

Moreover, in general, the more concentrated the product, the more severe the reactions. The FDA has received reports of consumers who have suffered from severe vomiting, severe diarrhea, life-threatening low blood pressure caused by dehydration, and acute liver failure after drinking these products. If you have had a negative reaction to any of them, consult a health care professional as soon as possible.



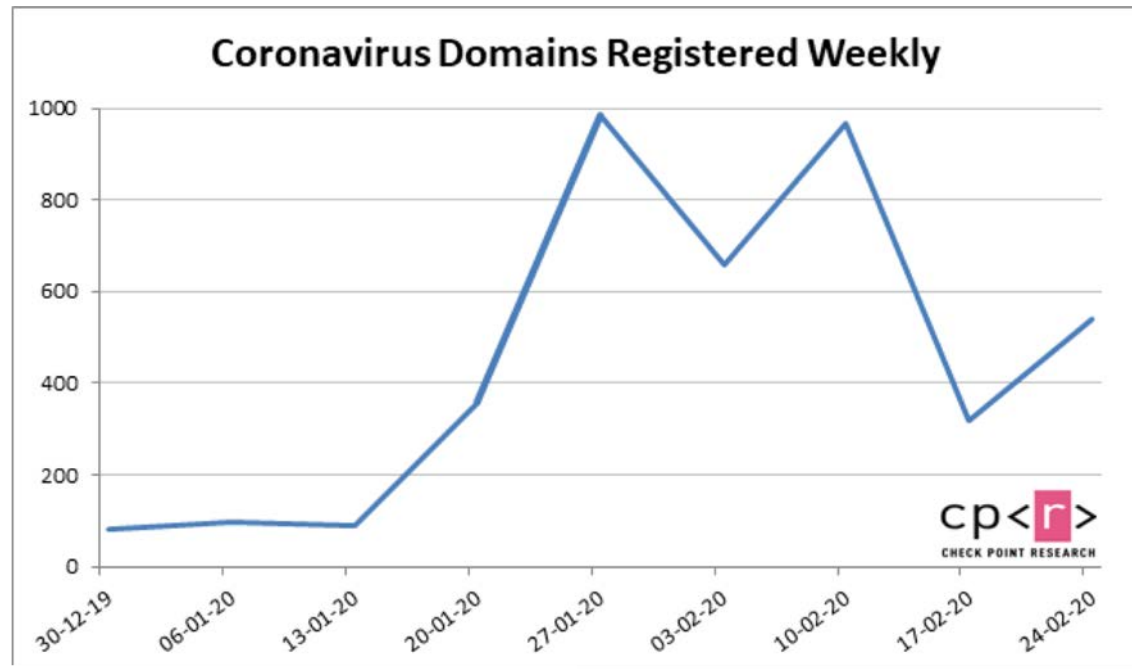
This is what the US Food and Drugs Administration (FDA) reports on drinking MMS.

Despite this, MMS is still on sell and its legend is very active

The COVID-19 business

Moreover, unfortunately, a large number of post, emails, WhatsApp, etc. also contains viruses and malwares sent to grab our personal information, bank details or to infect our computers

A large number of coronavirus related domains were registered everyday and a large percentage is for spam/scam activities, to sell not useful/not safety personal protective equipment or to sell them with crazy price.



ITEM NUMBER: 30118835
YOUR PRICE: £239.95 (£287.94 INC VAT)
STOCK INFO: IN STOCK
YOUR TOTAL: £239.95 (£287.94 INC VAT)

QUANTITY:

1

ADD TO CART

There is only one conclusion when discussing about fake news:

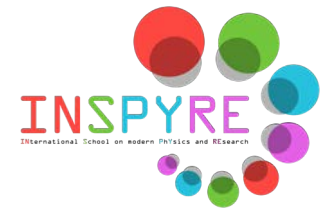
Do not trust anyone

I have always maintained a scientific point of view analyzing references, sources and looking for additional information.

Do not trust a priori science, newspapers, television but also, please, do not trust a priori every websites, social networks, messages from someone.

Always use a critical approach.

Questions time



Did I wake you?

Questions?



Comments?

Are you sleeping?