

The hope and the despair of science and TDM

@chartgerink
(twitter and github)

The hope

Decreased mortality of the
patients significantly,
 $F(1, 39) = 2.43, p < .05.$



Decreased mortality of the patients significantly,

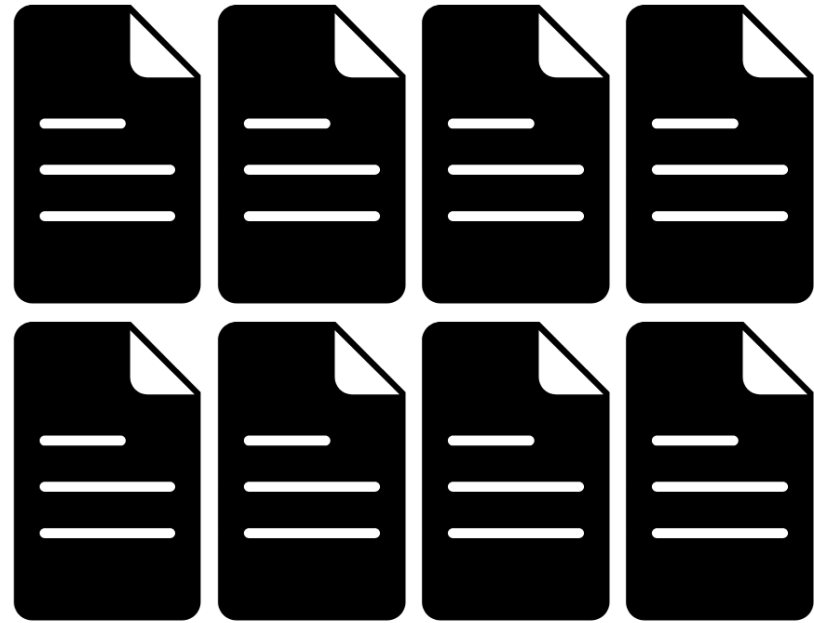
$$F(1, 39) = 2.43, p < .05.$$

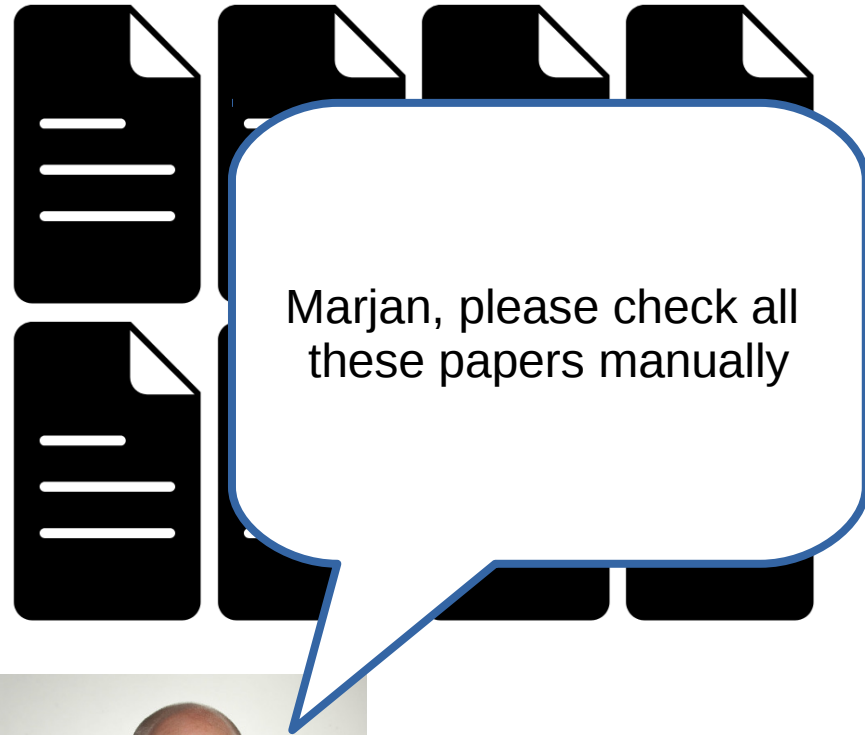


Decreased mortality of the patients significantly,

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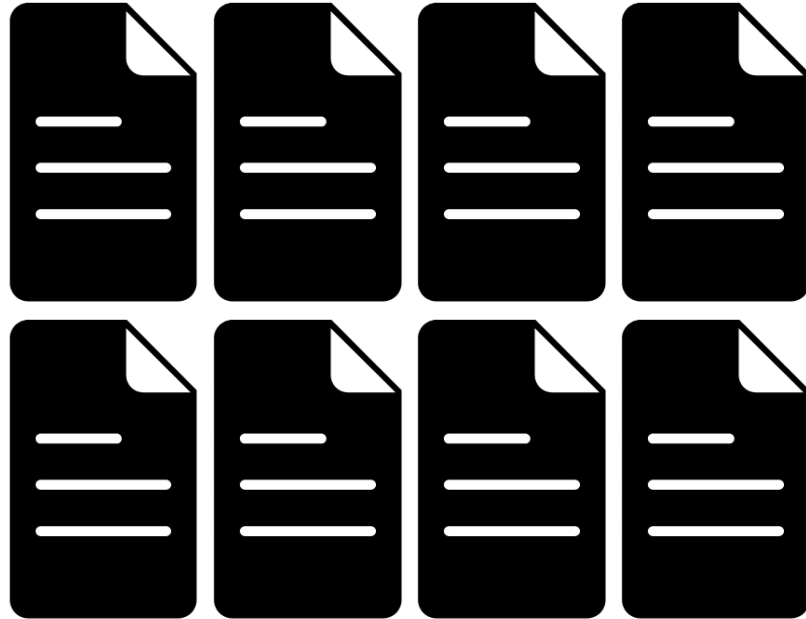




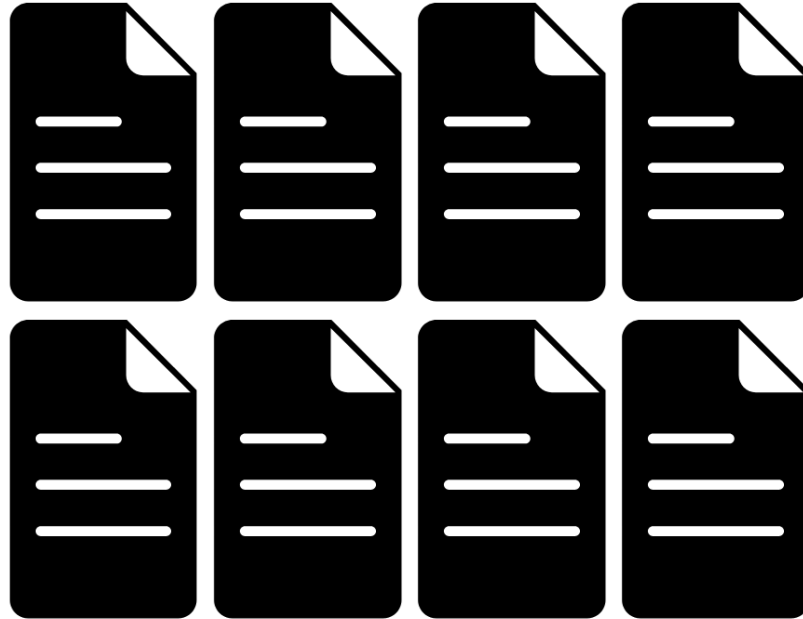




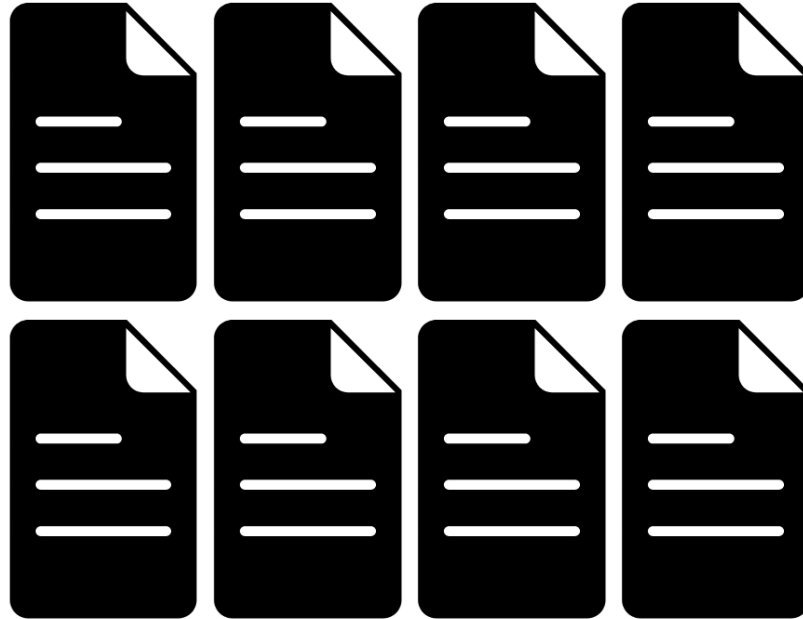
~2010



2012



2012



Not to worry! Computers can do it!



2013



2013



It takes only 10 seconds
for 100 papers!



2013



Now we just need more papers!



2013



2014



Chris, download tens of thousand papers, manually



2014



Chris, download tens of thousand papers, manually



2014

2015

The despair

UK has an exception since 2014

[F129A Copies for text and data analysis for non-commercial research

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 - (a) the copy is made in order that a person who has lawful access to the work may carry out a computational analysis of anything recorded in the work for the sole purpose of research for a non-commercial purpose, and
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UK has an exception since 2014

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Problem solved for researchers?



Return of the hope

(the conditional)
Return of the hope

TDM not only has
research potential

TDM can open up the
market for information consumption

TDM can open up the
market for information consumption

building on freely available data
massive market value

Wide exception for TDM allows EU
to become hub of innovation and
economic growth

Businesses could break down
publishing market by giving
publishers the revenue they know is
going away due to Open access

TDM no problem in Open Access

Gives us a glimpse into the future



OPEN KNOWLEDGE MAPS

A visual interface to the world's scientific knowledge



BETA

VISUALIZE A RESEARCH TOPIC

Choose a library:

- ☐ PubMed (biomedicine) ⓘ
- ☒ BASE (all disciplines) ⓘ

european commission|

GO

Options



OPEN KNOWLEDGE MAPS

A visual interface to the world's scientific knowledge

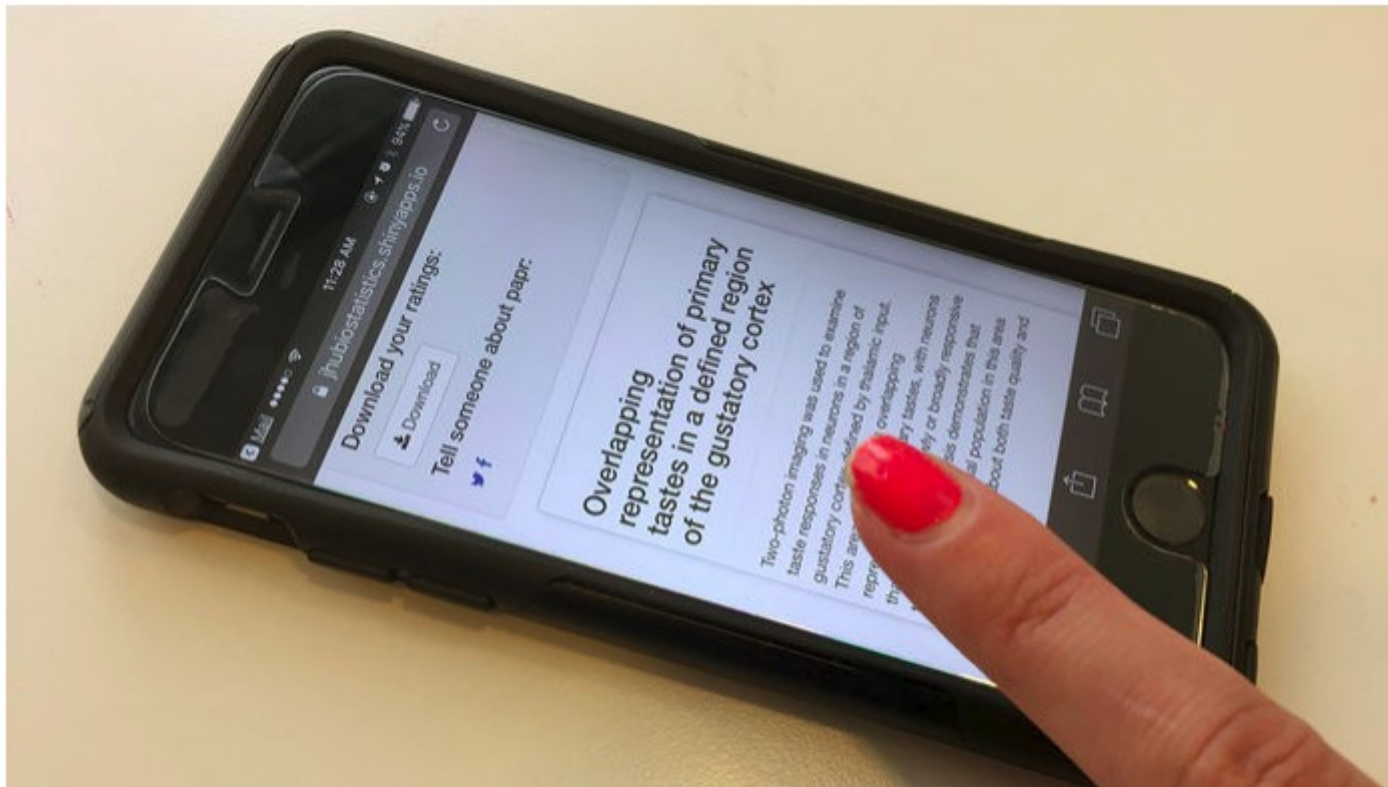
YOUR VISUALIZATION IS BEING CREATED!



Please be patient, this takes around 20 seconds.







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Science/AAAS

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By **Dalmeet Singh Chawla** | Jun. 15, 2017, 5:00 PM

Swipe abstract to rate the paper



Exciting and Probable



Exciting and
Questionable



Boring and Probable



Boring and
Questionable

Rate papers & level up:



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Inference of cell-cell interactions from population density characteristics and cell trajectories on static and growing domains

A key feature of cell migration is how cell movement is affected by cell-cell interactions. Furthermore, many cell migratory processes such as neural crest stem cell migration [1, 2] occur on growing domains or in the presence of a chemoattractant. Therefore, it is important to study interactions between migrating cells in the context of domain growth and directed motility. Here we compare discrete and continuum models describing the spatial and temporal evolution of a cell population for different types of cell-cell interactions on static and growing domains. We suggest that cell-cell interactions can be inferred from population density characteristics in the presence of motility bias, and these population density characteristics for different cell-cell interactions are conserved on both static and growing domains. We also study the expected displacement of a tagged cell, and show that different types of cell-cell interactions can give rise to cell trajectories with different characteristics. These characteristics are conserved in the presence of domain growth, however, they are diminished in the presence of motility bias. Our results are relevant for researchers who study the existence and role of cell-cell interactions in biological systems, so far as we suggest that different types of cell-cell interactions could be identified from cell density and trajectory data.

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