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Title: The Impact of Altmetrics on library for biomedical research

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Knowledge, Research, Innovation

☐ San Matteo Hospital is an Italian public research institute of national prominence.

Our library is *the only* 'hospital library' and is the reference point for all physicians, researchers and nurse staff looking for a literature research.











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 The <u>problem of measuring</u> the scientific and social impact of research publications has been of extreme interest to scientists and scholars since the inception of modern science, but it has always been hard to answer..





# Bibliometrics



- Bibliometrics is the application of quantitative analysis and statistics to publications such as journal articles and their accompanying citation counts.
- The main tool of bibliometrics is citation analysis:
  - ✓ Applies to journals (impact factor)
  - ✓ individuals (h-index)
  - ✓ and articles (citation impact)



# New Tools



- The main scientific communication is conditioned by web-based tools, particularly by e-only journals.
- The development of tools even more Web 2.0 oriented has profoundly changed the scientific communication process

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Aggregators Folksonomy Wikis
Blogs Participation Six Degrees Usability Widgets
Recommendation Social SoftwareFoAF
Videocasting Podcasting Sharing Collaboration Perpetual Beta Simplicity AJAX
Audio IM Video Web 2.0 CSS Pay Per Click
UMTS Mobility Atom XHTML SVG Ruby on Rails VC Trust Affiliation
OpenAPIs RSS Semantic Web StandardsEco Economy
OpenID Remixability REST StandardizationThe Long Tail
DataDriven Accessibility
Modularity SOAP Microformats Syndication
```

http://en.wikipedia.org/wiki/File:Web\_2.0\_Map.svg

New tools emerge



# Altmetrics



<u>Altmetrics combines the traditional Bibliometrics tool with the use of the web</u>

In this context, many web tools are often referred as <u>'social media'</u> due to their role in supporting communication and building communities





## Altmetric.com



 Altmetric (http://www.altmetric.com) born as a London-based start-up founded by Euan Adie in 2011.



- The portal provides these main products:
- Explorer
- > Explorer for institution
- Bookmarklet
- Badge
- Individual users and librarians can use Altmetric.com with a free bookmarklet, while a commercial license is required in the case of publishers, funders and institutions

# Altmetric Track.. More than Social Media BINITA DE ANDRILLER LONGERIA DE SALID LONGERI

#### News outlets

1,300+ sites
Text mining
Global coverag

Reference managers

Mendeley etc Demographics

### Post-publication peer review

Publons Pubpeer

#### Other sources

Wikipedia Youtube Reddit F1000 Q&A

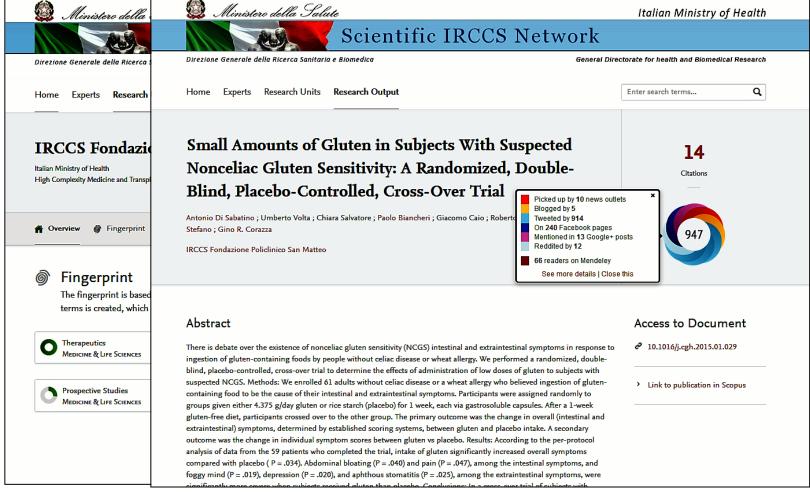
#### **Policy documents**

- NICE Evidence
- Intergovernmental Panel on Climate Change
- Many more...

#### Social media and blogs

Twitter, Facebook, Google+, Sina Weibo Public posts only 8,000+ Blogs

## Pure with Altmetric Donut



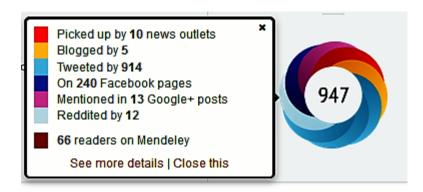


### Altmetric Donut



 The color and the number inside the donut changes for on each papers.

 The colors reflect the mix of sources on which the article was cited. For example, blue means it has been tweeted.





# Donut Details

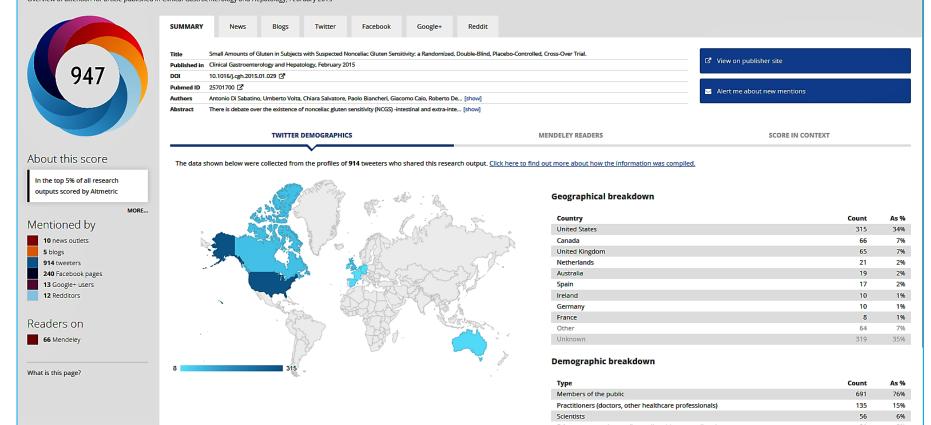




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Small Amounts of Gluten in Subjects with Suspected Nonceliac Gluten Sensitivity: a Randomized, Double-Blind, Placebo-Controlled, Cross-Over Trial.

Overview of attention for article published in Clinical Gastroenterology and Hepatology, February 2015

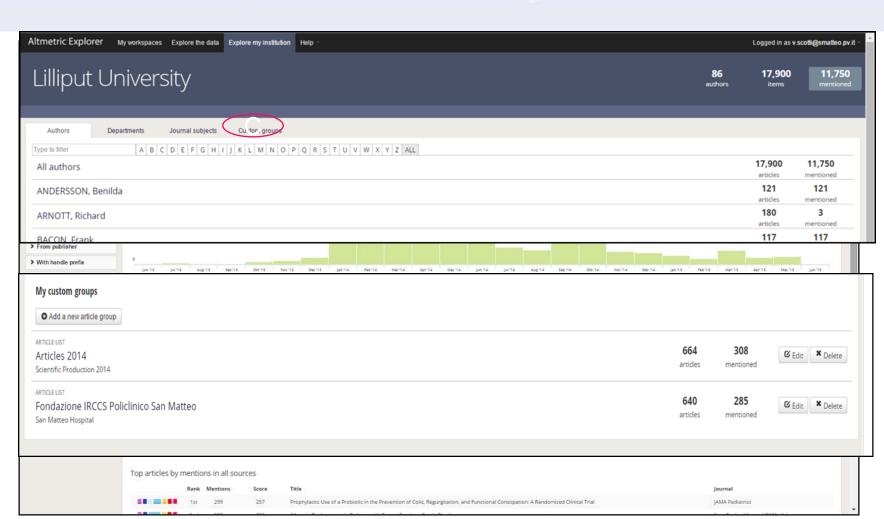




### Our Trail JUNTA DE ANDALUCIA Knowledge, Research, Innovation ...







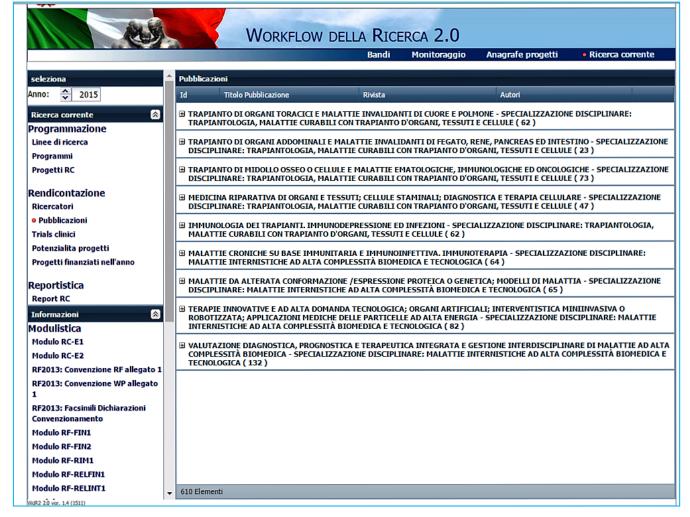


## Workflow 2.0



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Central database at the Ministry of Health call

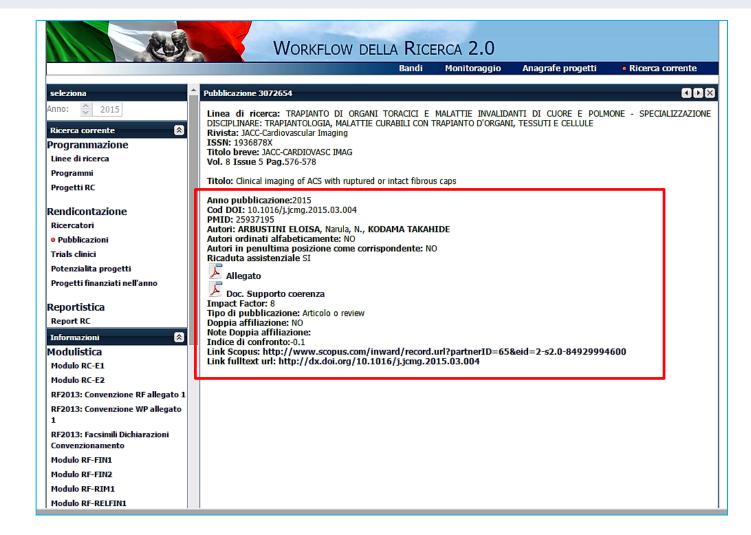




# Workflow 2.0



Article Record

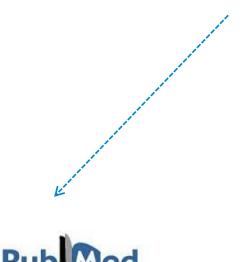




# How do we collect data?



### **Affiliation Research**



A service of the National Library of Medicine and the National Institutes of Health







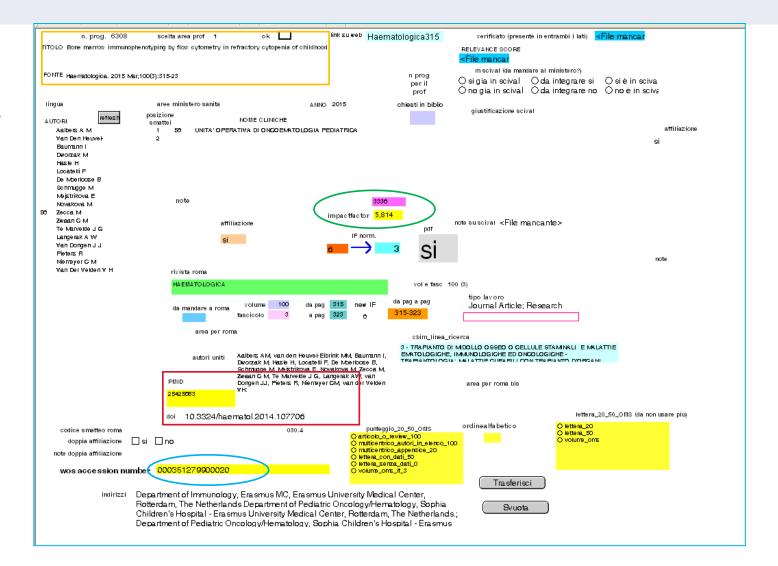


## Central Database



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Record in our Database (by FileMarker 6)



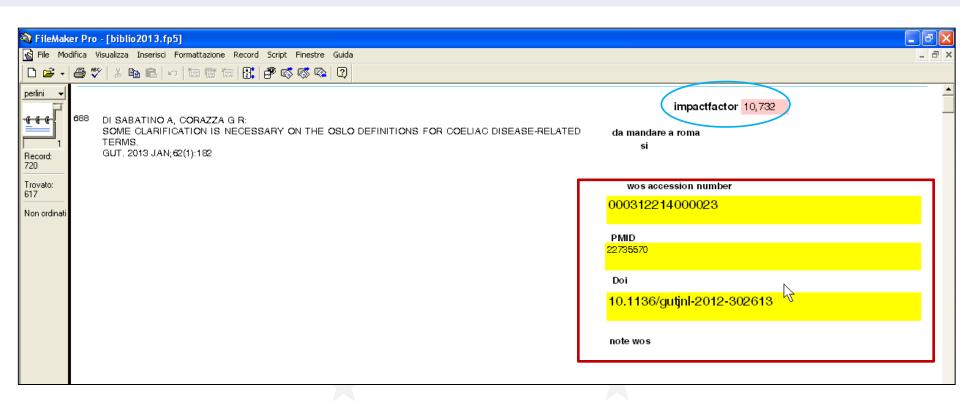






# IF, Dol, PMID and WoS







# New...Scopus!





impactfactor 7,735 4661 DUENNWALD T, GATTERER H, GROOP PH, BURTSCHER M, BERNARDI L: EFFECTS OF A SINGLE BOUT OF INTERVAL HYPOXIA ON CARDIORESPIRATORY CONTROL AND da mandare a roma BLOOD GLUCOSE IN PATIENTS WITH TYPE 2 DIABETES. DIABETES CARE, 2013 AUG;36(8):2183-9 wos accession number 000327252600028 PMID Doi 10.2337/dc12-2113 note wos 2-s2.0-84886006496 https://www.scopus.com/record/display.uri?eid=2-s2.0-84886006496&origin=resultslist&sor scopus\_url (www.scopus.com) t=plf-f&src=s&st1=Effects+of+a+single+bout+of+interval+bypoxia+on+cardiorespiratory+c scival\_url (www.experts.scical.com)



# Scopus EID from Scival



eid 2013 da scival.xlsx - Microsoft Excel				
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3 The Oslo definitions for co 84871135111	Gut., 2013;62(1):43-52. 2013 Jonas F. Ludvigsson; Daniel 2-s2.0-84871135111			
4 Retinoic acid and arsenic t 84880287051	New England Journal of Me 2013 F. Lo-Coco; G. Avvisati; M. V 2-s2.0-84880287051		287051	
5 Effect of platelet inhibition 84875779761	New England Journal of Me 2013 Deepak L. Bhatt; Gregg W. St 2-s2.0-84875779761			
	New England Journal of Me 20:			
7 EFSUMB guidelines and rec 84876116484	Ultraschall in der Medizin., 20:	13	J. Bamber; D. Cosgrove; C.F. 2-s2.0-84876	116484
8 Tivantinib for second-line t 84871721240	The Lancet Oncology., 2013 20:		Armando Santoro; Lorenza 2-s2.0-84871	
9 HRS/EHRA/APHRS Expert Co 84889856570	Heart Rhythm., 2013;10(12) 20:		Silvia G. Priori; Arthur A. W 2-s2.0-84889	856570
10 Clinical and biological imp 84888219405	Blood., 2013;122(22):3616-20:	13	Elli Papaemmanuil; Moritz 2-s2.0-84888	219405
	Ultraschall in der Medizin., 20:	13	D. Cosgrove; F. Piscaglia; J. 2-s2.0-84878	241671
12 Pretreatment with prasugre 84883710340	New England Journal of Me 20:	13	Gilles Montalescot; Leonar 2-s2.0-84883	710340
	Leukemia., 2013;27(9):1861 20:		A.M. Vannucchi; T.L. Lasho; 2-s2.0-84883	742034
14 Cardiovascular events and 84871746842	New England Journal of Me 20:	13	Roberto Marchioli; Guido F 2-s2.0-84871	.746842
15 Current state of knowledge 84883746417	European Heart Journal., 2020:	13	Alida L. P. Caforio; Sabine P 2-s2.0-84883	746417
16 Three-year efficacy, safety, 84891303523	Blood., 2013;122(25):4047-20:	13	Francisco Cervantes; Alessa 2-s2.0-84891	.303523
17 Diagnosis and treatment of 84888240132	Blood., 2013;122(17):2943-20:	13	Luca Malcovati; Eva Hellstr 2-s2.0-84888	240132
18 Effect of long-detection inte 84877289895	JAMA - Journal of the Ameri 20:	13	Maurizio Gasparini; Alessa 2-s2.0-84877	289895
	Nature Genetics., 2013;45(920:		Connie R. Bezzina; Julien Ba 2-s2.0-84883	461171
	Blood., 2013;121(11):2051-20:		Lian Xu; Zachary R Hunter; (2-s2.0-84877	343691
	American Journal of Cardio 20:		Eliano Pio Navarese; Anton 2-s2.0-84875	850647
	JAMA - Journal of the Ameri 20:		John L. Berk; Ole B. Suhr; La 2-s2.0-84890	954073
	Journal of the American Co 20:		Jean-Luc Vachiv©ry; Yocha 2-s2.0-84890	771619
	Journal of the American Co 20:		Werner Seeger; Yochai Adir 2-s2.0-84890	783241
25 Survival and prognosis am 84883742082	Leukemia., 2013;27(9):1874 20:		A. Tefferi; E. Rumi; G. Finazz 2-s2.0-84883	742082
26 The Coexistence of Asthma 84877605913	PLoS ONE., 2013;8(5). 20:		Roberto de Marco; Giancar 2-s2.0-84877	605913
	Circulation., 2013;127(9):1(20:		Lia Crotti; Christopher N. Jo 2-s2.0-84874	664698
	Journal of clinical oncolog 20:		Evangelos Terpos; Gareth N 2-s2.0-84883	021288
	Circulation., 2013;128(5):5(20:		Diana Bonderman; Stefano 2-s2.0-84881	.102246
	Europace : European pacing 20:	13	Silvia G Priori; Arthur A Wi 2-s2.0-84891	.708821
	Journal of Clinical Oncolog 20:		Massimo Federico; Stefano 2-s2.0-84876	578455
	Annals of the Rheumatic Di 20:		Nienke Ter Haar; Helen Lack 2-s2.0-84875	963811
33 Impact of genetics on the c 84880078317	Journal of the American Co 20:	13	Peter J. Schwartz; Michael J 2-s2.0-84880	078317



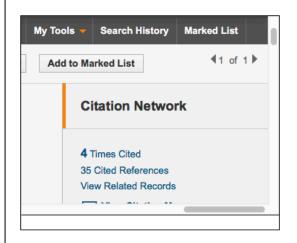
### ALL Metrics JUNTA DE ANDALUCIA Knowledge, Research, Innovation ... Energy



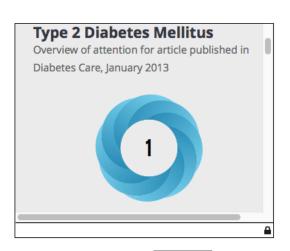
DUENNWALD T, GATTERER H, GROOP PH, BURTSCHER M, BERNARDI L: EFFECTS OF A SINGLE BOUT OF INTERVAL HYPOXIA ON CARDIORESPIRATORY CONTROL AND BLOOD GLUCOSE IN PATIENTS WITH TYPE 2 DIABETES. DIABETES CARE. 2013 AUG;36(8):2183-9

impactfactor

7,735



CitazioneCalcolata 4



My Scopus Cited by 4 documents Microvascular oxygen partial pressure during hyperbaric oxygen in diabetic rat skeletal muscle Yamakoshi, K., Yagishita, K., Tsuchimochi, H. (2016) American Journal of Physiology - Regulatory Scopus\_CitazioneCalcolata Score 4

Altmetrics\_CitazioneCalcolata Score



# ALL Metrics





#### Article

DUENNWALD T, GATTERER H, GROOP PH, BURTSCHER M, BERNARDI L: EFFECTS OF A SINGLE BOUT OF INTERVAL HYPOXIA ON CARDIORESPIRATORY CONTROL AND BLOOD GLUCOSE IN PATIENTS WITH TYPE 2 DIABETES. DIABETES CARE. 2013 AUG;36(8):2183-9

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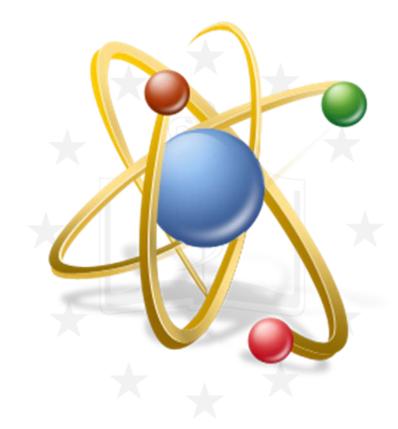




# Almetric Correlation



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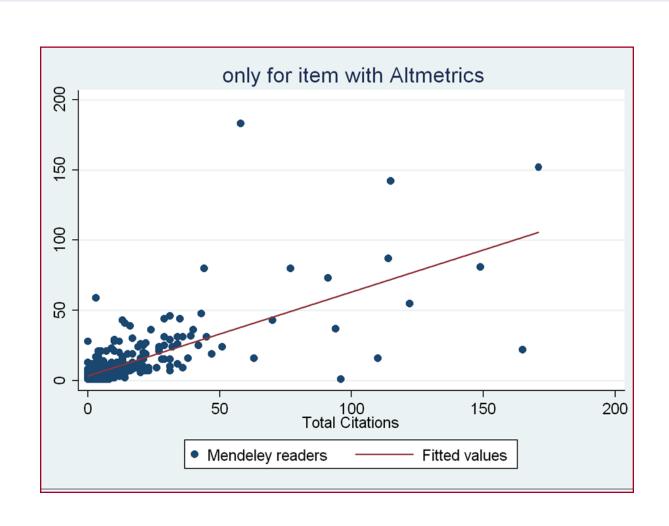


# Statistical Analysis



- We <u>collected</u> the scientific production of the years **2013 -2014** of our hospital;
- We retrivied <u>citations</u> for each publication through Web Of Science (citation received for each articles);
- Through the PMID and the DoI of each publication, we obtained each one's score on <u>Almetrics.com</u> (thanks to our *trial*);
- We found out that 593 of the 1305 article obtained an Altmetrics Score!

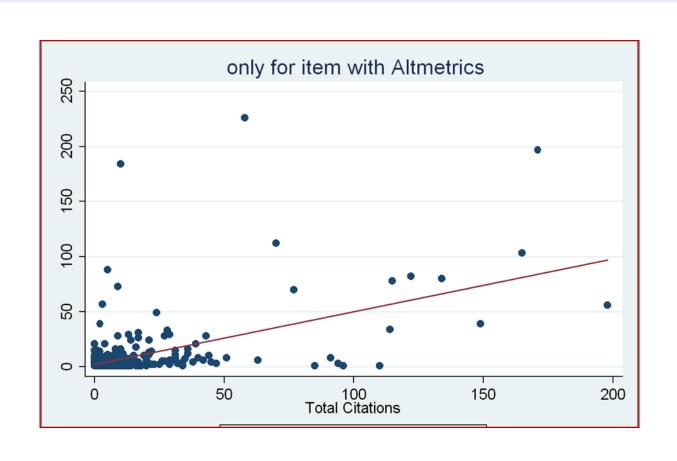
## Citations and Mendeley Readers





# Twitter and Citations

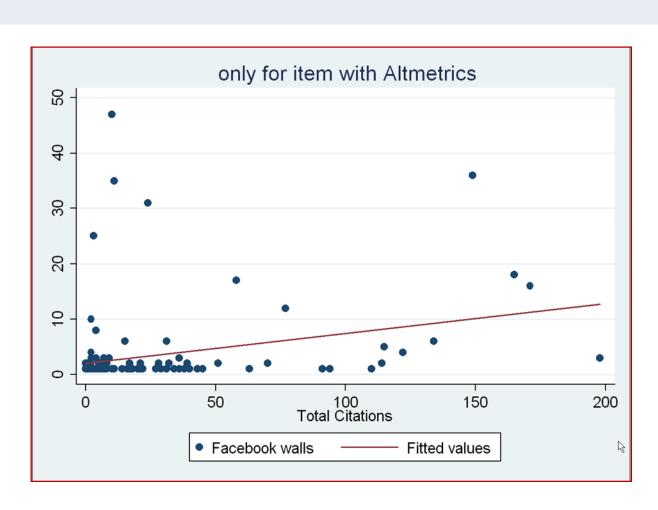






### **Facebook and Citations**







# From our study:



- Good correlations are observed, and a high percentage of papers have their own Altmetric score;
- Altmetrics could act as reliable tools in evaluating both researchers and departements;
- In our institution, a *high score* was obtained by many items, both within the <u>research community</u> (e.g. Mendeley readers) and the <u>general public</u> (Twitter, Facebook).



# Conclusion



- Altmetrics is useful and may well be considered <u>reliable</u>.
- It can represent an interesting and relevant **complement** to citations
- Together with traditional metrics, they can be a useful tool in guiding decision makers when funding public research.
- Nevertheless, further investigations are still needed to explore and understand what they measure and how can they be used in research evaluation.
- Librarians could play an active role.



## Future Porposes...



- <u>extending</u> the analysis to our scientific production for the next years.
- measure the broad impact of our researchers in the academic community and on the society in a different way from what has traditionally been done.
- <u>explore</u> the possibility of <u>combining</u> the Altmetrics to traditional indicators as a possible parameter to assess the impact of scientific works
- Last but not least we would like to <u>study</u> how and if <u>libraries</u> could use these new indicators in their daily work







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## Thank you for your attention!

Questions?



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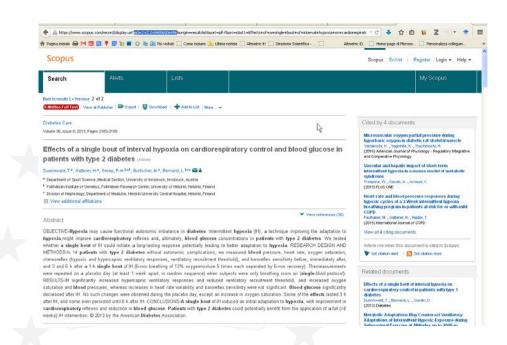










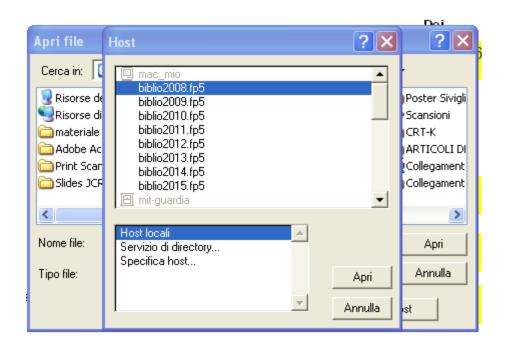








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