

# Planning effective institutional outreach for 2018 – An altmetrics case study

**Webinar February 8, 2018**

Dr. Oliver Renn & Dr. Joachim Schnabl

ETH Zurich

Chemistry | Biology | Pharmacy Information Center &  
Science Communication D-CHAB

# Where we are

## ETH Zurich, Switzerland

- 19,800 students, including 4000 doctoral students from 120 countries
- 500 professors
- 355 spin-offs since 1996
- 21 Nobel Prize winners  
1 Fields Medal winner  
2 Pritzker Prize winners
- 16 Departments



# Who we are

**Oliver Renn, PhD**

Lecturer



**Joachim Schnabl, PhD**

Lecturer



# Where we work

## **Chemistry | Biology | Pharmacy Information Center (ICBP)**

The ICBP, a former library and still a library, acts as a scientific information skill center within a diverse teaching and research environment. Teaching is a major task.

The ICBP serves the Departments of Chemistry & Applied Biosciences (D-CHAB), Biology, Material Science.

## **Science Communication D-CHAB**

Scientific Communication aims to foster the translation and communication of D-CHAB's research output into the scientific community and the public.

# Why are we interested in altmetrics?



# Why are we interested in altmetrics?

## Analyze search results

Analyze search results

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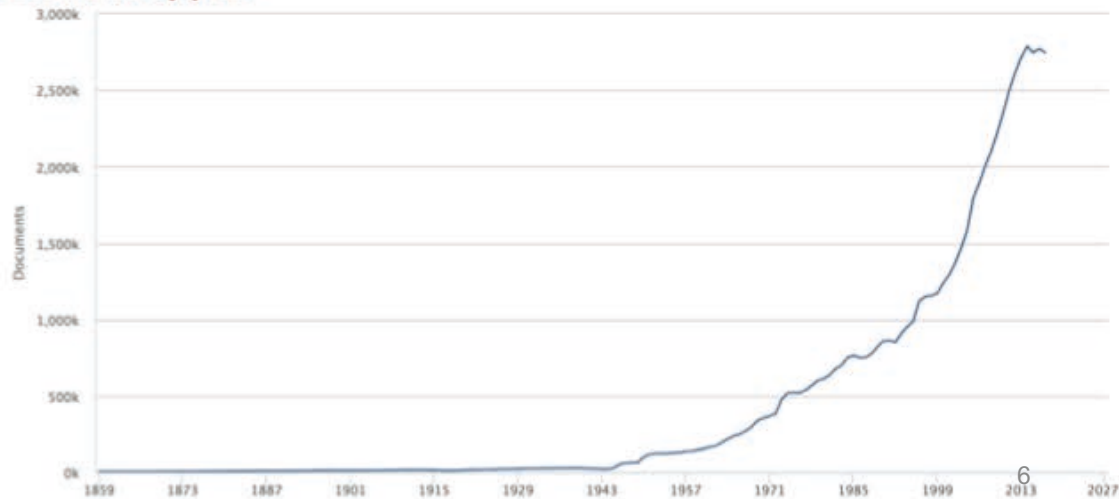
TITLE-ABS-KEY ( "the" OR "and" OR "of" OR "in" OR "on" ) [Back to your search results](#)

65174286 document results Choose date range to analyze: 1859 to 2017 [Analyze](#)

Year	Source	Author	Affiliation	Country/Territory	Document type	Subject area
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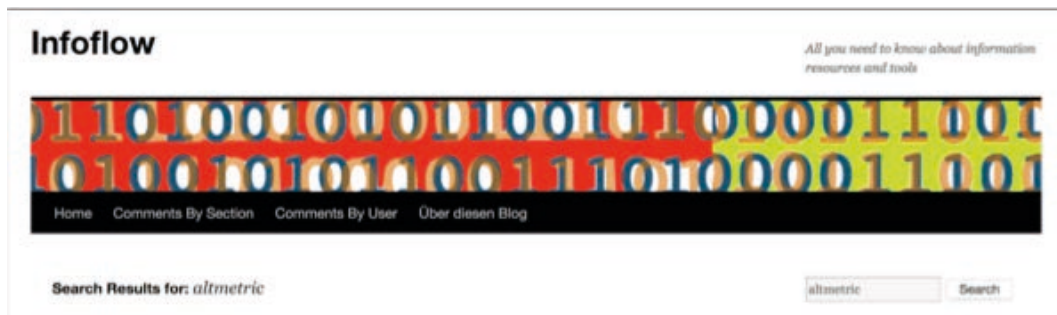
Year	Documents
2017	2745340
2016	2770675
2015	2744581
2014	2786838
2013	2714319
2012	2615609
2011	2500044
2010	2352205
2009	2219524
2008	2102914
2007	2004647
2006	1890420
2005	1795049
2004	1587040
2003	1469570

### Documents by year





# How we first heard about altmetrics



## Royal Society of Chemistry integrates new online metrics monitoring into its scientific journals

Posted on September 25, 2013 by Oliver Rerrin

The Royal Society of Chemistry has integrated a new system for monitoring article-level metrics into a selection of its scientific journals. The metrics are provided by London-based start-up Altmetric. This partnership between the Royal Society of Chemistry and Altmetric will ... [Continue reading →](#)

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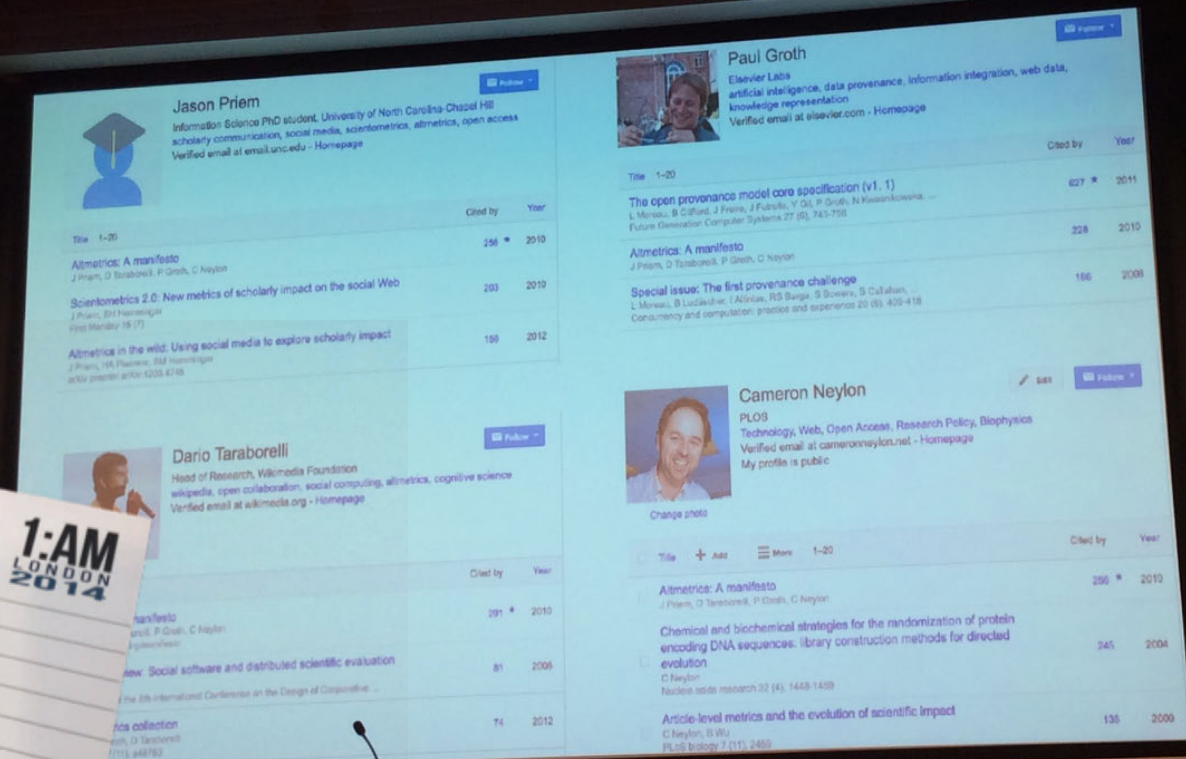
# How we first heard about altmetrics

Mid 2014, when Sara Rouhi and Ben McLeish started working for Altmetric.





# Attending the first Altmetrics conference in September 2014



Jason Priem	
Information Science PhD student, University of North Carolina-Chapel Hill scholarly communication, social media, scientometrics, altmetrics, open access Verified email at email.unc.edu - Homepage	
Title	1-20
Altmetrics: A manifesto	256 * 2010
Scientometrics 2.0: New metrics of scholarly impact on the social Web	203 2019
Altmetrics in the wild: Using social media to explore scholarly impact	159 2012

Paul Groth	
Elsevier Labs artificial intelligence, data provenance, information integration, web data, knowledge representation Verified email at elsevier.com - Homepage	
Title	1-20
The open provenance model core specification (v1.1)	627 * 2011
Altmetrics: A manifesto	228 2010
Special issue: The first provenance challenge	166 2009

Dario Taraborelli	
Head of Research, Wikimedia Foundation wikipedia, open collaboration, social computing, altmetrics, cognitive science Verified email at wikimedia.org - Homepage	
Title	1-20
Altmetrics: A manifesto	291 * 2010
Chemical and biochemical strategies for the randomization of protein encoding DNA sequences: library construction methods for directed evolution	81 2008
Article-level metrics and the evolution of scientific impact	74 2012

Cameron Neylon	
PLOS Technology, Web, Open Access, Research Policy, Biophysics Verified email at cameronneylon.net - Homepage My profile is public	
Title	1-20
Altmetrics: A manifesto	256 * 2010
Chemical and biochemical strategies for the randomization of protein encoding DNA sequences: library construction methods for directed evolution	245 2008
Article-level metrics and the evolution of scientific impact	135 2009

# Why we are interested in altmetrics

## **altmetrics: a manifesto**

NO ONE CAN READ EVERYTHING. We rely on filters to make sense of the scholarly literature, but the narrow, traditional filters are being swamped. However, the growth of new, online scholarly tools allows us to make new filters; these altmetrics reflect the broad, rapid impact of scholarship in this burgeoning ecosystem. We call for more tools and research based on altmetrics.

# Why we are interested in altmetrics

We wanted researchers to easily see who is attracted by their research.



? About this Attention Score

In the top 5% of all research outputs scored by Altmetric

MORE...

Mentioned by

- 1 news outlet
- 2 blogs
- 5 tweeters
- 1 Facebook page
- 1 Google+ user

Readers on

- 200 Mendeley
- 1 CiteULike

# **Why we adopted the Altmetric Explorer for Institutions and API**

## Department of Chemistry and Applied Biosciences

[News & Events](#) [The Department](#) [Research](#) [Studies](#) [Doctoral Studies](#) [Continuing Education](#) [Outreach](#)
[ETH Zurich](#) > [D-CHAB](#)[Faculty](#)[Institutes & Laboratories](#)[Scientific Facilities & Services](#)[Publications](#)

## Publications

Here you can search for publications of the D-CHAB starting from 2009 until today. The data is fetched from [Scopus](#) via the [API](#) and updated on a daily basis. Data from [Altmetric](#) can be displayed where available. For questions or help please contact [Joachim Schnabl](#).

Title

Author

Research Group

Year

Results per page

[Search](#)[Hide Altmetric data](#) [i](#)

4 publications found

**Efficient Blue Electroluminescence Using Quantum-Confined Two-Dimensional Perovskites**  
 Kumar S., Jagielski J., Yakunin S., Rice P., Chiu Y., Wang M., Nedelcu G., Kim Y., Lin S., Santos E., Kovalenko M., Shih C.  
*ACS Nano*, 10, 10, 9720-9729, 2016-10-25 [DOI](#)



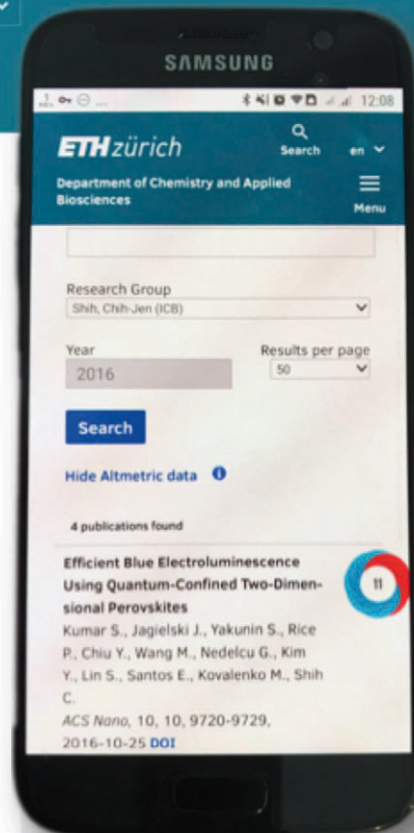
**Multiscale Analysis for Field-Effect Penetration through Two-Dimensional Materials**  
 Tian T., Rice P., Santos E., Shih C.  
*Nano Letters*, 16, 8, 5044-5052, 2016-08-10 [DOI](#)



**Layered and scrolled nanocomposites with aligned semi-infinite graphene inclusions at the platelet limit**  
 Liu P., Jin Z., Katsukis G., Drahushuk L., Shimizu S., Shih C., Wetzel E., Taggart-Scarff J., Qing B., Van Vleet K., Li R., Wardle B., Strano M.  
*Science*, 353, 6297, 364-367, 2016-07-22 [DOI](#)



**Engineering two-dimensional materials surface chemistry**  
 Shih C.  
*Chimia*, 70, 11, 800-804, 2016-01-01 [DOI](#)


[www.chab.ethz.ch/publications](http://www.chab.ethz.ch/publications)

# How we have used the Altmetric Explorer for Institutions



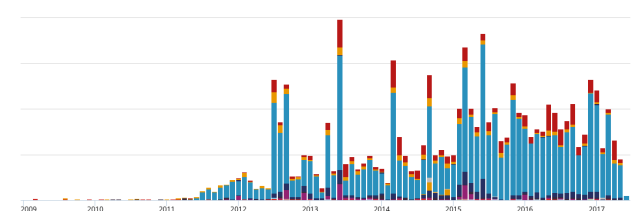
# Annual Science Communication Report 2016

## DCHAB

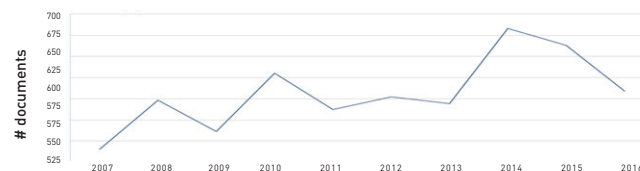
## Metrics in the last decade

Development of altmetric mentions of DCHAB publications over time

ALL TYPES	NEWS	BLOGS	POLICY	TWITTER	PEER REVIEW	WEBO	FACEBOOK
9,547	1,084	475	17	6,902	18	35	527
WIKIPEDIA	GOOGLE+	LINKEDIN	REDDIT	PIKOO	Q&A	VIDEO	
133	220	1	22	98	4	11	



Publication output over the last 10 years (data source: www.scopus.com)



### Contact

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www.chab.ethz.ch/outreach



For links to all publications, scan this QR code to get a digital version of this document. Or go to [goo.gl/1cwn](https://goo.gl/1cwn) (misterlink11) In the electronic version of this document, all titles are linked to the original source. The Altmetric badges are linked to the Altmetric page, and the citation numbers are linked to Scopus where all documents citing the article are listed.

# Journal Metrics 2016

## Most cited articles published in 2016

**Molcas 8: New capabilities for multiconfigurational quantum chemical calculations across the periodic table**

Aquilante F., Autschbach J., Carlson R., Chibotaru L., [...], Reiher M., [...], Ungur L., Valentini A., Vancioille S., Veryazov V., Vysotskiy V., Weingart O., Zapata F., Lindh R. *Journal of Computational Chemistry*, **2016**, 5, 37, 5061541 Citations: 112

**Highly Dynamic Ligand Binding and Light Absorption Coefficient of Cesium Lead Bromide Perovskite Nanocrystals**

De Roo J., Ibáñez M., Geiregat P., Nedelcu G., Walravens W., Maes J., Martins J., Van Driessche I., Kovalenko M., Hens Z. *ACS Nano*, **2016**, 2, 10, 207102081 Citations: 57

**Surface Organometallic and Coordination Chemistry toward Single-Site Heterogeneous Catalysts: Strategies, Methods, Structures, and Activities**

Copřet C., Comas-Forgas A., Conley M.P., Estes D.P., Fedorov A., Mouglet V., Nagae H., Núñez-Zarur F., Zhizhko P.A. *Chemical Reviews*, **2016**, 2, 116, 3230421 Citations: 49

**PolarSolventFree colloidal synthesis of highly luminescent alkylammonium lead halide perovskite nanocrystals**

O. Vybornyi, S. Yakunin, M. V. Kovalenko, M. I. Bodnarchuk, G. Nedelcu, M. Humer, G. De Luca, M. Fiebig, W. Heiss, M. V. Kovalenko, [...], O. M. Bakr *Nanoscale*, **2016**, 8, 62786283. Citations: 37

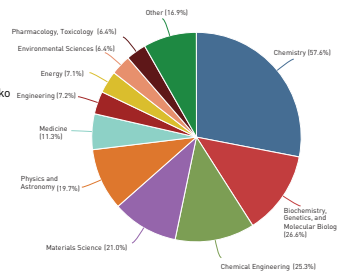
**Counting on natural products for drug design**

Rodrigues T., Reker D., Schneider P., Schneider G. *Nature Chemistry*, **2016**, 8, 54301541. Citations: 36

## Most popular journals in 2016

1. *Angewandte Chemie International Edition* (37)\*
2. *Chemistry A Europe an Journal* (18)
3. *Organic Letters* (15)
4. *Chemical Communications* (14)
5. *Journal Of The Electrochemical Society* (14)

## Subject Areas of Publications in 2016



Data source: [www.scopus.com](http://www.scopus.com)

\*Number of publications in parentheses

# Altmetrics 2016

## Articles published in 2016 with mentions in:

News Outlets Twitter Wikipedia Facebook YouTube

### Highest attention in 2016



**How to name new chemical elements (IUPAC Recommendations 2016)**

W. H. Koppenol, J. Corish, J. Garc   Mart  ez, J. Meija, and J. Reedijk, *Pure Appl. Chem.* **2016**, 88, DOI 10.1515/pac-2015-0802.

### Highest attention of all time



**GFAJ-1 Is an Arsenate-Resistant, Phosphate-Dependent Organism**

T. J. Erb, P. Kiefer, B. Hattendorf, D. G  nther, and J. A. Vorholt *Science*, **2012**, 337, 4676470.

### Most colorful donut in 2016



**Dark Photocatalysis: Storage of Solar Energy in Carbon Nitride for Time-Delayed Hydrogen Generation**

V. W. Lau, D. Klose, [...], M. D   Pign  , E. Reisner, G. Jeschke, and B. V. Lotsch *Angew. Chemie*, **2017**, 56, 510514.

## 2016 Selected Articles Recommended in F1000 Prime

**Emergence of a catalytic tetrad during evolution of a highly active artificial aldolase**  
R. Obexer, A. Godina, X. Garrahou, P. R. E. Mittl, D. Baker, A. D. Griffiths, and D. Hilvert, *Nat. Chem.* **2016**, 9, 50.

**From Complex Natural Products to Simple Synthetic Mimetics by Computational De Novo Design**  
L. Friedrich, T. Rodrigues, C. S. Neuhaus, P. Schneider, and G. Schneider, *Angew. Chemie*, **2016**, 55, 23, 50 67896792.

**NMR-Based Determination of the 3D Structure of the Ligand-Protein Interaction Site without Protein Resonance Assignment**  
J. Orts, M. A. W  ltz, M. Marsh, L. Vera, A. D. Gossert, P. G  ntert, and R. Riek, *J. Am. Chem. Soc.*, **2016**, 138, 439364400.

## 2016 Selected Articles Mentioned in News Outlets

**CNN News:** "Pesticide chemical detected in dolphins" mentioned the article **Comparative assessment of the environmental hazards of and exposure to perfluoroalkyl phosphonic and phosphonic acids (PFPA and PFPIAs): Current knowledge, gaps, challenges and research needs**  
Z. Wang, I. T. Cousins, U. Berger, K. Hungerb  hler, and M. Scheringer, *Environ. Int.* **2016**, 89, 2356247.

**EurekAlert!** "Alzheimer fibrils at atomic resolution" mentioned the article **Atomic Resolution structure of a disease-Relevant A  (1042) amyloid fibril**  
M. A. W  ltz, F. Ravotti, [...], J. S. Wall, A. B  ckmann, P. G  ntert, B. H. Meier, and R. Riek, *Proc. Natl. Acad. Sci.* **2016**, 113, E4976E4984.

**Popular Science:** "We Could Be Making Many Household Products From Wood, Not Oil" mentioned the article **Sustainability Assessment of Succinic Acid Production Technologies from Biomass using Metabolic Engineering**, M. Morales, M. Ataman, S. Badr, S. Linster, I. Kourilimpis, [...], K. Hungerb  hler, J. Ma, P. Wei, P. Ouyang, R. Murphy, R. Templer, T. Tschaplinski, *Energy Environ. Sci.* **2016**, 9, 27942805.

## 2016 Selected Articles Mentioned in Wikipedia

**The clonazepam metabolite N-methyl clonazepam is an   2 preferring benzodiazepine with an improved therapeutic window for antihyperalgesia**  
W. T. Ralvenius, M. A. Ac  lia, D. Benke, A. Matthey, Y. Daali, U. Rudolph, J. Desmeules, H. U. Z  lhofer, and M. Besson *Neuropharmacology*, **2016**, 109, 3668375. [wikipedia.org/wiki/Clonazepam](http://wikipedia.org/wiki/Clonazepam)

**Concerted hydrogen-bond breaking by quantum tunneling in the water hexamer prism**  
J. O. Richardson, C. P  rez, S. Lobsiger, A. A. Reid, B. Temelso, G. C. Shields, Z. Kisiel, D. J. Wales, B. H. Pate, and S. C. Alchorre *Science*, **2016**, 351. [wikipedia.org/wiki/Properties\\_of\\_water](http://wikipedia.org/wiki/Properties_of_water)

**Application of the Prunus spp. Cyanide Seed Defense System onto Wheat: Reduced Insect Feeding and Field Growth Tests**  
C. A. Mora, J. G. H  tter, G. Adler, A. H  nd, H. Anders, K. Yu, and W. J. Stark *J. Agric. Food Chem.* **2016**, 64, 350163507. [wikipedia.org/wiki/Amygdalin](http://wikipedia.org/wiki/Amygdalin)

For an overview of all altmetrics from the D  CHAB, you can access [www.altmetric.com/explorer](http://www.altmetric.com/explorer) within the ETHZ network. For alerts and reports you can create a login using your ethz e-mail address.

Results analysis

Analyzing results for all research outputs from Department of Chemistry and Applied Biosciences sorted by Altmetric Attention Score

SUMMARY HIGHLIGHTS DEMOGRAPHICS MENTIONS JOURNALS AND COLLECTIONS

EXPORT THIS TAB

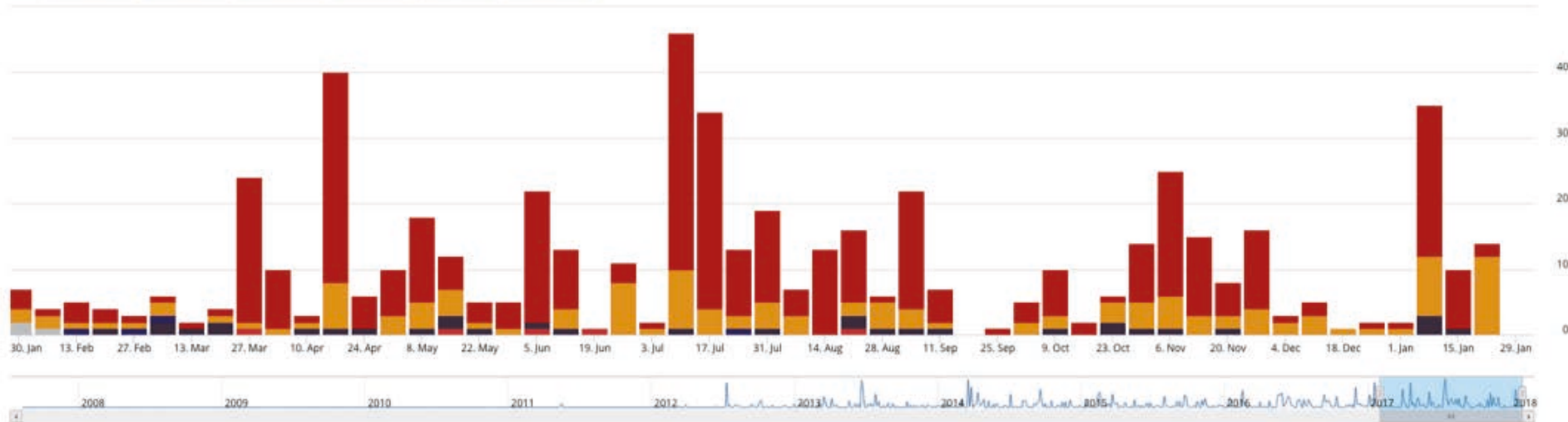
SAVE SEARCH

Showing mentions over time for 6,078 research outputs in your search query.

WHAT'S IN THIS TAB?



ZOOM 1 week 1 month 3 months 6 months 1 year All time



Add source



ALL POLICY DOCUMENTS



Show mentions between

2017-01-01

and

2017-01-31

RESET

Showing 5 mentions (from 4 individual posts) of research outputs from the results of your search query.

WHAT'S IN THIS TAB?

2017-01-12

3:33 PM UTC

**Chronic stress in mice remodels lymph vasculature to promote tumour cell dissemination**

Policy document published by Australian Policy Online

**Interaction of tumor cells and lymphatic vessels in cancer progression**

Article in Oncogene, December 2011

2017-01-05

12:00 AM UTC

**Using 21st Century Science to Improve Risk-Related Evaluations**

Policy document published by National Academies Press

**Good modeling practice guidelines for applying multimedia models in chemical assessments.**

Article in Integrated Environmental Assessment &amp; Management, October 2012

2017-01-01

12:00 AM UTC

**Use and Potential Impacts of AFFF Containing PFASs at Airports**

Policy document published by National Academies Press

**Atmospheric fate of poly- and perfluorinated alkyl substances (PFASs): I. Day-night patterns of air concentrations in summer in Zurich, Switzerland**

Article in Environmental Pollution, October 2012

**Atmospheric fate of poly- and perfluorinated alkyl substances (PFASs): II. Emission source strength in summer in Zurich, Switzerland.**

Article in Environmental Pollution, October 2012

## Altmetric Details Page

Comprehensive probabilistic modelling of environmental emissions of engineered nanomaterials



### ? About this Attention Score

Above-average Attention Score  
compared to outputs of the same  
age (63rd percentile)

MORE...

### Mentioned by

1 policy source

### Citations

#### SUMMARY

Policy documents

Scopus



So far, Altmetric has seen **1** policy document that references this research output.



### Support for 3rd regulatory review on nanomaterials - EU Law and Publications

Cited by The Publications Office of the European Union on 25 Nov 2016

The Publications Office of the European Union (Publications Office), based in Luxembourg, is an interinstitutional office whose task is to publish the publications of the institutions of the European Union.

76

## About this Attention Score

In the top 5% of all research outputs scored by Altmetric

MORE...

## Mentioned by

8 news outlets  
2 blogs  
9 tweeters

## Readers on

12 Mendeley

## Tools

Open in a new tab

## SUMMARY

## News

## Blogs

## Twitter

## Misc.



So far, Altmetric has seen 10 news stories from 8 outlets.



## Controlling Cannabinoid Receptors with Light

Optics & Photonics News, 17 Jan 2018

Research News Sarah Michaud Predicted binding poses for active cis-azo-THC-3, shown as sticks with magenta carbon atoms (A)...



## Light controls variants of active ingredient in cannabis - Futurity

Futurity, 16 Jan 2018

Chemists have synthesized several variants of THC, the active ingredient in cannabis.

## Intoxicatingly light-sensitive

Long Room, 15 Jan 2018

Two photosensitive THC derivatives and how they are embedded in the cannabinoid receptor 1.



## Kontrollierte Strukturänderung: Lichtempfindliche THC-Moleküle synthetisiert

LaborPraxis, 12 Jan 2018

ETH-Chemiker synthetisierten verschiedene Varianten des Cannabis-Wirkstoffs THC (Tetrahydrocannabinol), deren Struktur sich mit...



## Intoxicatingly light-sensitive

Phys.org, 11 Jan 2018

Home Chemistry Biochemistry January 11, 2018 January 11, 2018 by Peter Rüegg, ETH Zurich  
ETH chemists have synthesised several...

## Light-sensitive THC: Intoxicatingly light-sensitive

Long Room, 10 Jan 2018

THC works by binding to the corresponding cannabinoid-1 (CB1) receptors, which are located in the cell membrane and are present...



## Cannabinoidsystem und lichtempfindliches THC - LABO ONLINE

LABO Online, 10 Jan 2018

10.01.2018, 17:06 CannabinoidsystemBerauschend lichtempfindlich ETH-Chemiker synthetisierten verschiedene Varianten des Cannabis...



## Intoxicatingly light sensitive

EurekAlert!, 10 Jan 2018

When many people hear the abbreviation THC (tetrahydrocannabinol), they immediately think of smoking marijuana and intoxication.



## Intoxicatingly light-sensitive

ETH Zurich News, 09 Jan 2018

When many people hear the abbreviation THC (tetrahydrocannabinol), they immediately think of smoking marijuana and intoxication.



## Berauschend lichtempfindlich

ETH Zurich News, 09 Jan 2018

Viele denken beim Kürzel THC (Tetrahydrocannabinol) in erster Linie an Marihuana, ans Kiffen und an den Rausch.



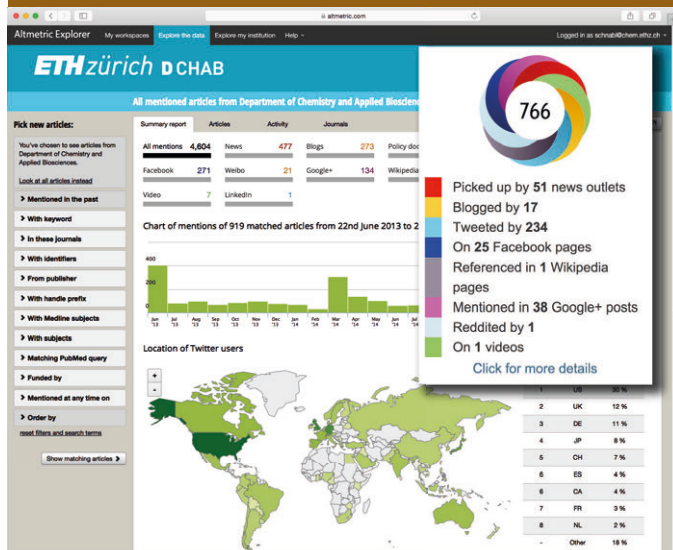
# How we have promoted altmetrics tools



# No. 40

## Coffee Lecture

Altmetric



### Tool

### Science

Product Name	Altmetric
URL	<a href="http://www.altmetric.com">http://www.altmetric.com</a>
Access	free resp. licensed for D-CHAB, ETH Zurich
Launch Date	2012
Presenter	Dr. Joachim Schnabl

### What it is

Altmetric is a web service that collects the mentions of scholarly articles in the web and in social media and is thus an additional indicator to traditional metrics.

### Altmetric Badges

The colorful Altmetric "donuts" are embeddable badges for your article pages that let you showcase impact in a beautiful way. Scopus and many publishers are showing these badges.

### Bookmarklet

Add the free bookmarklet to your web browser and show the Altmetric Badge on any website with an identifier (DOI, Pubmed ID, etc.) with one click.

### Altmetric Explorer

The Altmetric Explorer (license required) helps you monitor the online attention paid to scholarly articles in a quick way. Custom reports can be easily created, data exported, and your media efforts can be tracked.

# Infazine S·1

Special Issue 1 | December 12, 2016

## Metrics in Research For better or worse?

Editors:

Jožica Dolenc

Philippe Hünenberger

Oliver Renn

Infazine is published by the  
Chemistry | Biology | Pharmacy Information Center, ETH Zurich

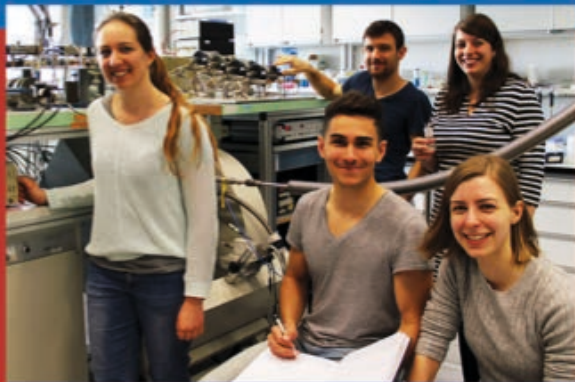
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- 11 The grip of bibliometrics – A student perspective  
Matthias Tintz, ETH Zürich
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Wendelin J. Stark, ETH Zürich
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Charlie Rapple, Kudos
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Carl Philipp Rosenau, ETH Zürich
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Lawrence Rajendran, University Zurich, and ScienceMatters

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## Tag der offenen Laboratorien TOL 2018

Spannende Vorträge und eine fulminante  
Experimentalshow

Einblicke in die Forschung der  
Chemie und Pharmazie

Freitag, 23. März 2018, 9.00–17.00 Uhr  
Campus Höggerberg, HCI-Gebäude



### Home

### Impressionen

### Ausstellung

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Übersichtsplan

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Shows und

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Kurzvorlesungen

Science Café

## Was Daten über Wissenschaftler verraten

Dr. Joachim Schnabl, ETH Zürich

Daten können heute in kaum vorstellbarer Weise genutzt werden und sind zur neuen Währung der Gesellschaft geworden. Mit jeder erfolgreichen Veröffentlichung ihrer Ergebnisse generieren jedoch auch Forscher Daten über ihre wissenschaftliche Produktivität. Der Vortrag vermittelt einen kritischen Überblick über Möglichkeiten und Versuche, wissenschaftliche Quantität, Qualität und letztlich alle Forscher zu analysieren und zu bewerten. Heute werden Forschungsergebnisse nicht mehr nur durch die Publikation in einer Zeitschrift verbreitet, sondern auf vielen anderen Wegen. So tauchen Forschungsergebnisse in Zeitungsartikeln, Blogs, in sozialen Medien oder Forschungsnetzwerken etc. auf. Diese Verbreitungswege können online verfolgt und gemessen werden. Aus diesen Daten lassen sich Werte (Scores) ermitteln und Ranglisten erstellen. Diese Werte basieren aber primär auf Zahlen und werden nicht durch subjektive Beurteilungen erstellt. Solche Bewertungen können auf vielfältige Art genutzt – ja auch missbraucht werden.

173

## About this Attention Score

In the top 5% of all research outputs scored by Altmetric

MORE...

## Mentioned by

- 19 news outlets
- 3 blogs
- 13 tweeters
- 1 Facebook page
- 1 Wikipedia page

## Citations

- 23 Scopus

## Readers on

- 69 Mendeley

## Tools

- Open in a new tab

## SUMMARY

News

Blogs

Twitter

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Wikipedia

Misc.

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<http://fisicafascinante.blogspot.ch>, 26 Nov 2015

**Di adiós al litio: el futuro de las baterías pasa por el hierro, el azufre, el sodio y el magnesio - Autonocion.com**

<http://www.autonocion.com/>, 18 Nov 2015

Pese a que el futuro a corto y medio plazo es la hibridación e incluso el hidrógeno, numerosos fabricantes no se resisten a...

**L'oro degli sciocchi migliora le batterie sodio/magnesio**

<http://www.innovabili.it>, 17 Nov 2015

**Super umweltfreundlich: Die "Katzengold-Batterie"**

<https://www.materialsgate.de>, 16 Nov 2015

**Neuer Akku-Typ vorgestellt: Kostengünstige Katzengold-Batterie**

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<http://www.blick.ch>, 13 Nov 2015

Weil Ökostrom oft dann anfällt, wenn er nicht gebraucht wird, sind heute preisgünstige Energiespeicher gefragt denn je. Die...

**fool's gold battery - EMPA**

<http://www.empa.ch/>, 12 Nov 2015

Electrochemistry to satisfy mass demand Nov 12, 2015 | RAINER KLOSE High-performance lithium ion batteries face a major problem...

**New low-cost battery could help store renewable energy**

<http://www.acs.org>, 04 Nov 2015

"Efficient and Inexpensive Sodium–Magnesium Hybrid Battery" Chemistry of Materials Wind and solar energy projects are growing...





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### Neuer Akku-Typ vorgestellt

## Kostengünstige Katzensgold-Batterie

Forscher der Empa und der ETH stellen eine Alternative zum Lithiumionen-Akku vor, die als Zwischenspeicher im Stromnetz dienen könnte.

von Angelika Jacobs 13.11.2015, 11:39 Uhr

f t k in e

Im Volksmund ist Pyrit, ein kristallines Eisendisulfid, auch als Katzensgold bekannt.  
(Bild: JJ Harrison/commons.wikimedia.org)

Weltweit suchen Forscher nach einer Alternative zur Lithiumionen-Batterie, zum Beispiel als Zwischenspeicher für Ökostrom. Dafür eignen sich Lithiumionen-Batterien weniger, da Lithium als Rohstoff knapp und die Batterien daher recht teuer und zudem anfällig sind. Forscher der Empa und

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odio/magnesio

stige Katzensgold-Batterie

zum Lithiumionen-Akku vor, die als Zwischenspeicher

RAINER KLOSE High-performance lithium ion



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## Energieforschung

# «Katzengold-Batterie» als umweltfreundlicher Massenspeicher

DÜBENDORF - ZH - Schweizer Forscher haben eine preisgünstige, umweltfreundliche Alternative zu Lithium-Ionen-Akkus entdeckt, die «Katzengold-Batterie». Damit liessen sich ihrer Ansicht nach riesige Speicherakkus zum Beispiel für Gebäude bauen.

0 SHARES

FEHLER MELDEN

Weil Ökostrom oft dann anfällt, wenn er nicht gebraucht wird, sind heute preisgünstige Energiespeicher gefragt. Die bekannten Lithium-Ionen-Akkus eignen sich aber nicht als Zwischenspeicher im grossen Stil. Sie sind zu teuer, anfällig, und das wertvolle Lithium wird irgendwann knapp.

Forscher um Maksym Kovalenko von der Materialprüfungsanstalt Empa ist nun gelungen, was das Institut als «so etwas wie die Quadratur des Kreises» umschreibt: Sie entwickelten einen Akku, der aus billigen, massenhaft verfügbaren Zutaten besteht. Dazu kombinierten sie Natrium, Magnesium und

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# Outlook

- Continue educating new students on research metrics
- Continuing Professional Education of research metrics
- More personalized reports for researchers
- ETH Zurich has signed DORA, the *San Francisco* Declaration of Research Assessment



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# Outlook

- Helping researchers to raise awareness and to explain their taxpayer-funded research to the public – partnering with Kudos

## A blueprint for an ideal corporate information centre

Oliver Renn, Michael Archer, Carmen Burkhardt, Jeannette Ginestet, Henning P. Nielsen, Joanna Woodward

Nature Reviews Drug Discovery, May 2012, Nature Publishing Group

DOI: 10.1038/nrd2973-c1

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# Q&A Session