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IMPACT METRICS IN FLUX: WHAT DO WE TELL THEM NOW?

Agenda

1. The Basics
2. The Changes
3. The Future (or the Present)

1. The Basics

What we are doing now!



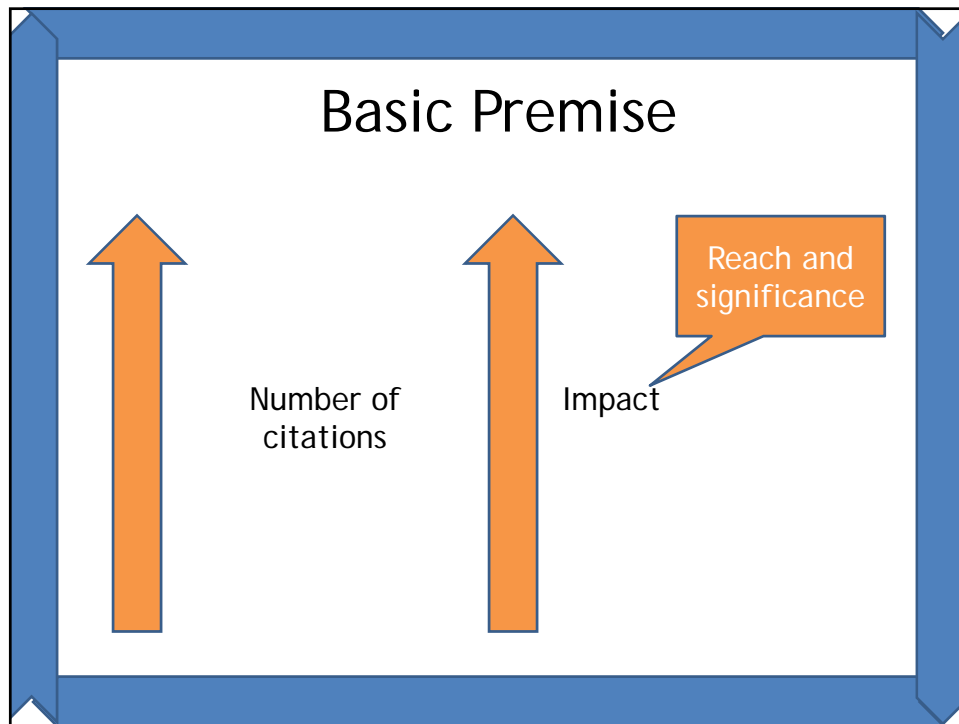
Impact Metrics are...

...calculations/algorithms that quantify the impact of research or scholarly activity.

Research impact defined

"Impact is usually demonstrated by pointing to a record of the active consultation, consideration, citation, discussion, referencing or use of a piece of research."

<http://blogs.lse.ac.uk/impactofsocialsciences/introduction/>



Three main providers

- Scopus
- Web of Science
- Google Scholar

ELSEVIER

THOMSON REUTERS
Published by Thomson Reuters

Google

Three Levels

- Journal Level
- Article Level
- Author Level

Journal Level Metrics

Web of Science	Impact Factor (2 & 5 year)	Cited half-life	Eigenfactor® Score	Article Influence® Score
Scopus	SCImago Journal Rank (SJR)	Source Normalized Impact per Paper (SNIP)		
Google Scholar	h5-index	h5-median		

Author Level Metrics

Web of Science	h-index	
Scopus	h-index	
Google Scholar	h-index	i10-index

h index is NOT perfect

	Paper 1	Paper 2	Paper 3	Paper 4	Paper 5
Author A	3 cites	6 cites	100 cites	4 cites	1 cite
Author B	3 cites	6 cites	100 cites		
Author C	400 cites	150 cites	3 cites	6 cites	

h index = 3

Article Level Metrics

Citation Counts - how often a particular journal article is being cited by other articles

Other possibilities:

- usage statistics (e.g., downloads and page views)
- number of blog or twitter references
- In 2009, Neylon and Wu suggested using calculations based on reference management software to measure how often people choose to bookmark a paper

Questions?

5 minutes



2. The Changes

The Environment



More digital scholarly publications

- open access
- for fee
- born digital
- reformatted digitally

Impact of Open Access

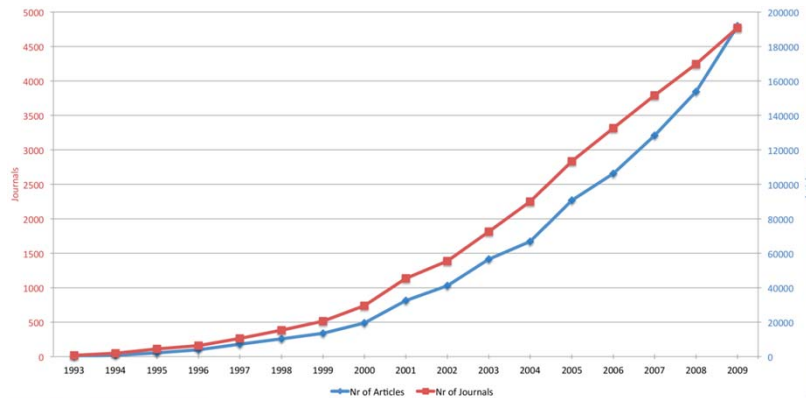
- Global, picking up speed
- All disciplines, all formats
- Different versions - preprints, postprints, final
- Multiple copies - archives, web sites
- New modes of publishing, peer evaluation and review

Open Access Books

1260 Academic peer-reviewed books
from **35** publishers

Directory of Open Access Books
Jan. 26, 2013

Open Access Articles, Journals



The development of open access publishing 1993–2009. M. Laakso, P. Welling, H. Bukvova, L. Nyman, B. Bjork, T. Hedlund. (2011) PLoS ONE 6(6): e20961. doi:10.1371/journal.pone.002096

Registry of Open Access Repositories (ROAR)

3,340 repositories

2012 growth: 730 repositories

(2 repositories / day)

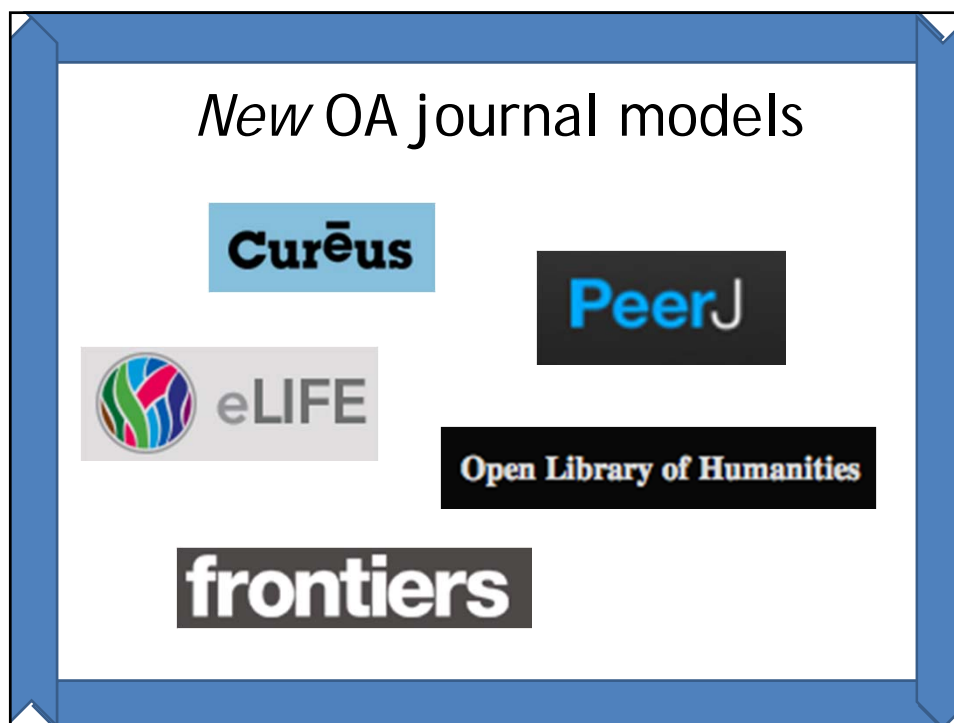
Bielefeld Academic Search Engine (BASE)

40,506,905 documents

2012 growth: 6,908,293 documents

(18,926 documents / day)

Imaginary Journal of Poetic Economics, Dec. 31, 2012



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Odette Harris M.D., M.P.H.

Papers: 1

Reviews: 0

Reviewer Rating: N/A

300 Pasteur Dr R281 MC 5327
Stanford, CA 94305
United States

Paper View

A survey of the Polytrauma out-patient population: Technological capabilities and potential for Telerehabilitation

Published: January 23, 2013

SIQ
4.8
Score paper

Authors:
Odette Harris
Kerry-Ann Stewart
Joyce Chung
Max Gray

Keywords:
Neurosurgery
Traumatic Brain Injury
Telemedicine
Telerehabilitation
Polytrauma

Views: 37

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Abstract

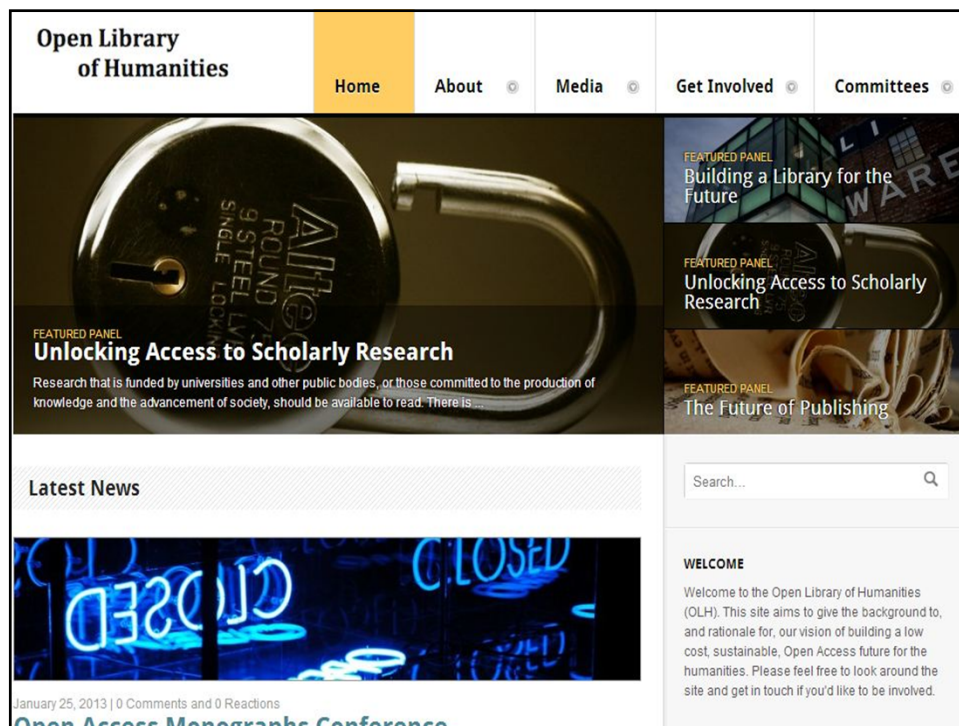
Background: Rapid technological advances in personal communication devices have provided new opportunities for their use to provide care, education and support to patients and families in remote locations via telerehabilitation applications. Studies indicate that individuals with brain injury are interested in utilizing internet telerehabilitation services. However, there is minimal data regarding whether these patients have access to the necessary telecommunication devices. As new communication technologies develop, we need a clear understanding of the acceptance of those technologies by the intended service population. Our unique access to the TBI out-patient population allows this study to fill the knowledge gap by exploring the availability of advanced telecommunication devices within that cohort.

Methods: A prospective cohort of 70 Polytrauma out-patient clinic patients with a history of traumatic brain injury was surveyed via telephone. Respondents were living in the community at the time the survey was conducted. The survey was administered in a structured telephone interview format and analyzed qualitatively.

Results: In this cohort, 94% reported ownership and daily use of cell phone, 41% had a Smartphone, 97% reported at least weekly use of a computer, and 81% indicated at least once daily internet use on either a computer or a Smartphone. Cost and lack of necessity were endorsed as barriers to ownership and use of these devices.

Conclusions: These results suggest that a significant proportion of individuals with documented TBI have access to advanced and evolving communication technologies that can potentially be utilized for telerehabilitation.

[feedback & support](#)



open formats & collections for scholarly content

- Blogs, Tweets, nanopubs
- DH projects, lab books
- Games, simulations, visualizations
- Collections – SSRN, arXiv, Philica, repositories
- Data and software – Dryad, Github, Figshare

citation management systems

- Mendeley
- Zotero
- CiteULike

author identification systems

- ORCID
- Names Project (JISC)
- Author Claim/RePEc Author Service
- arXiv Author ID

New metrics - Altmetrics

“Altmetrics is the study and use of non-traditional scholarly impact measures that are based on activity in web-based environments.”

Table of Contents: Altmetrics Collection
Altmetrics Collection (2012) PLOS Collections:
<http://www.ploscollections.org/altmetrics>

Players

- PLoS One Article Level Metrics (ALM)
- ImpactStory (nonprofit)
- Altmetric

- PlumX beta
- ScienceCard
- ReaderMeter

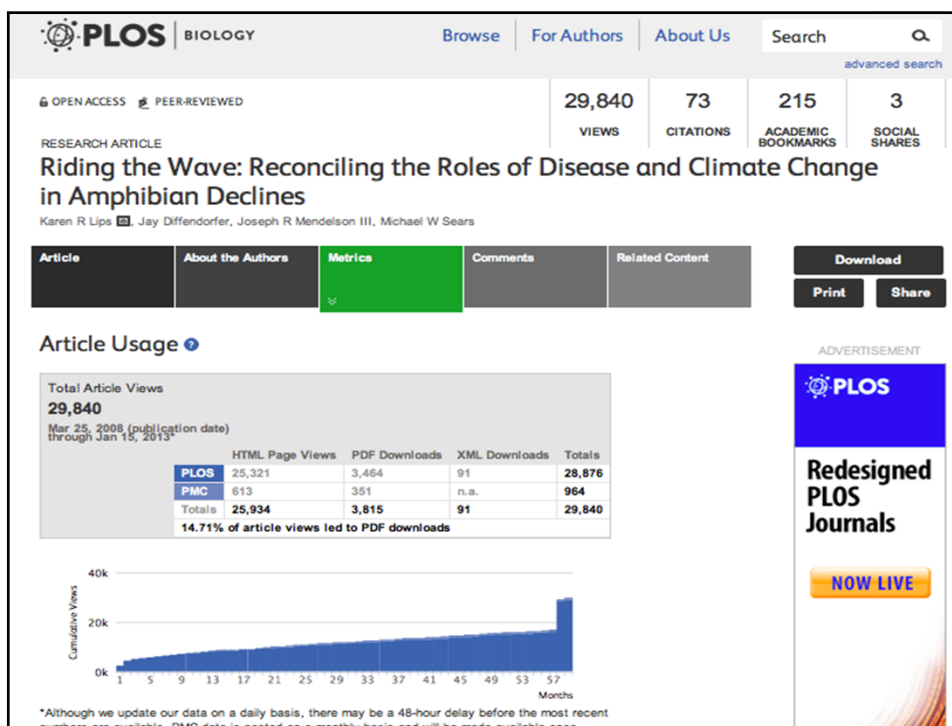
How do they work?

- Emphasis is at the article level not journal level
- Use APIs to gather data for public and proprietary services
- Data/metrics updates quickly - days not months
- Some are open

PLOS Article Level Metrics

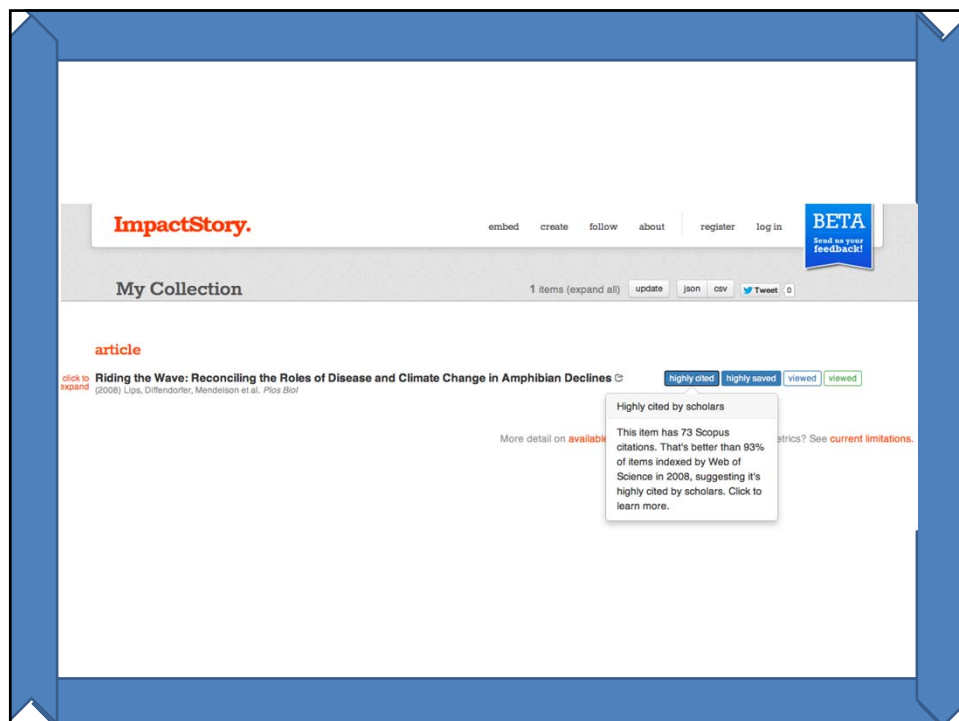
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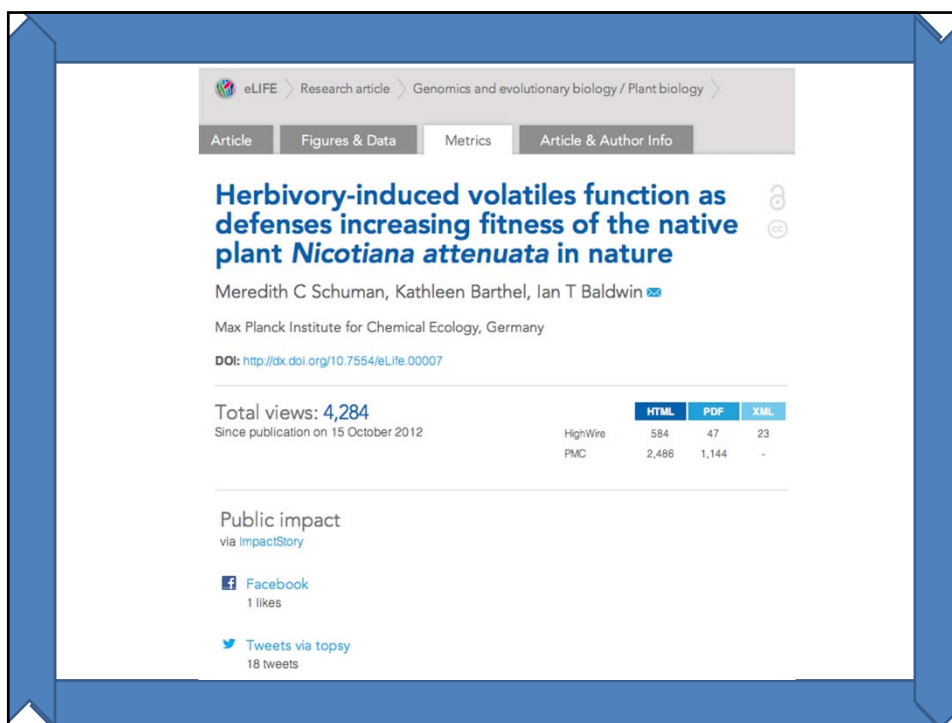
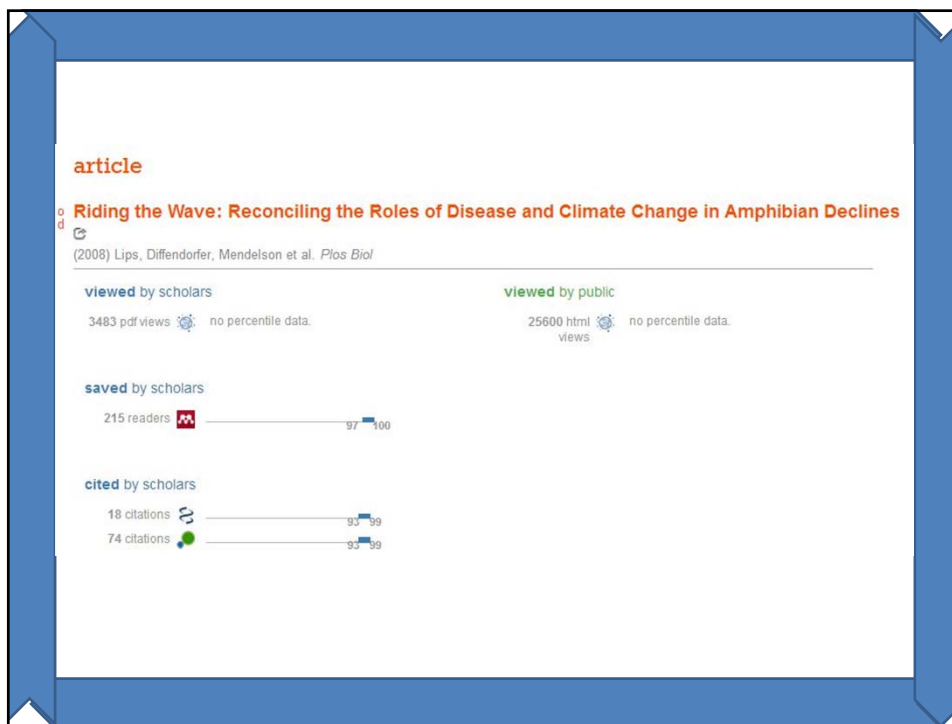
- Usage
- Citations
- PLOS - notes, comments and rankings
- Blogs & Media
- Social Networks



ImpactStory

- tracks 'impact' of articles, data sets, blog posts, posters, etc.
- uses online identifiers to identify authors and publications
- aggregates use data from public and scholarly services
- Researchers created collections, article/webpage embedded metrics





Altmetric.com

- Servers monitor social media sites, newspapers and magazines
- Article level metric; quantitative and qualitative measure of attention
- Products
 - Explorer embeds in databases or journals
 - Bookmarklet free to embed in browsers

Current Opinion in Endocrinology, Diabetes and Obesity
Volume 20, Issue 1, February 2013, Pages 14-21

5-Hydroxytryptamine (serotonin) in the gastrointestinal tract (Review)

Gershon, M.D.  

Department of Pathology and Cell Biology, Columbia University, College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032, United States

[View references \(89\)](#)

Abstract

PURPOSE OF REVIEW: Although the gut contains most of the body's 5-hydroxytryptamine (5-HT), many of its most important functions have recently been discovered. This review summarizes and directs attention to this new burst of knowledge. **RECENT FINDINGS:** Enteroendocrine cells have classically been regarded as pressure sensors, which secrete 5-HT to initiate peristaltic reflexes; nevertheless, recent data obtained from studies of mice that selectively lack 5-HT either in enterochromaffin cells (deletion of tryptophan hydroxylase 1 knockout; TPH1KO) or neurons (TPH2KO) imply that neuronal 5-HT is more important for constitutive gastrointestinal transit than that of enteroendocrine cells. The enteric nervous system of TPH2KO mice, however, also lacks a full complement of neurons; therefore, it is not clear whether slow transit in TPH2KO animals is due to their neuronal deficiency or absence of serotonergic neurotransmission. Neuronal 5-HT promotes the growth/maintenance of the mucosa as well as neurogenesis. Enteroendocrine cell derived 5-HT is an essential component of the gastrointestinal inflammatory response; thus, deletion of the serotonin transporter increases, whereas TPH1KO decreases the severity of intestinal inflammation. Enteroendocrine cell derived 5-HT, moreover, is also a hormone, which inhibits osteoblast proliferation and promotes hepatic regeneration. **SUMMARY:** New studies show that enteric 5-HT is a polyfunctional signalling molecule, acting both in developing and mature animals as a **neurotransmitter** paracrine factor, endocrine hormone and growth factor. © 2013 Wolters Kluwer Health | Lippincott Williams & Wilkins.

Author keywords

enteric nervous system; enteric neurogenesis; gastrointestinal motility; intestinal inflammation; osteoblast proliferation

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Li, Z., Chalazontis, A., Huang, Y.-Y.
Essential roles of enteric neuronal serotonin in gastrointestinal motility and the development/survival of enteric dopaminergic neurons
 (2011) *Journal of Neuroscience*

Gershon, M.D., Tack, J.
The Serotonin Signaling System: From Basic Understanding To Drug Development for Functional GI Disorders
 (2007) *Gastroenterology*

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Altmetric for Scopus

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Author Info
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Front. Immun., 05 March 2012 | doi: 10.3389/fimmu.2012.00019

Post-Aire maturation of thymic medullary epithelial cells involves selective expression of keratinocyte-specific autoantigens

Xiaoping Wang¹, Kisand¹, Hamish

- 1 Molecular Pathology, Tartu, Estonia
- 2 Department of Molecular Biology, Adelaide, SA, Australia
- 3 The School of Medicine, Australia
- 4 The School of Medicine, Australia

The autoimmune response to specific antigens (T_H17 (mTECs) has been v central tolerance. R

Altmetric tracks the buzz around scholarly articles and datasets online. This page gives you high level statistics for the article below and shows a subset of the activity collected. You can find out more here.

Post-Aire maturation of thymic medullary epithelial cells involves selective expression of keratinocyte-specific autoantigens.

Twitter Demographics

So far Altmetric has seen 2 tweets from 2 accounts.

UK PubMed Central @UKPubMedCentral Wellcome Trust: The Frontiers Publishing Paradigm: Frontiers in Immunology http://t.co/myG0Cz96 7 Jun 12

Kendall A. Smith @KendallASmith Frontiers | The Frontiers Publishing Paradigm | Frontiers in T Cell Biology http://t.co/0THzY0X 1 Mar 12

Mentioned by 2 tweeters

Readers on 1 Mendeley 0 CiteULike 0 Connotea

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RESEARCH ARTICLE

Riding the Wave: Reconciling the Roles of Disease and Climate in Amphibian Declines

Karen R Lips, Jay Diffendorfer, Joseph R Mendelson III, Michael W Sears

29,840 VIEWS 73 CITATIONS

8

Tweeted by 2
Reddited by 1
Blogged by 1

209 readers on Mendeley
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Abstract

We review the evidence for the role of climate change in triggering disease outbreaks of chytridiomycosis, an emerging infectious disease of amphibians. Both climatic anomalies and disease-related extirpations are recent phenomena, and effects of both are especially noticeable at high elevations in tropical areas, making it difficult to determine whether they are correlated, sequential, or synergistic. We compiled records of amphibian declines from 1950 to 2000 and found that the majority of declines occurred after 1980, with a significant increase in the number of declines per year after 1990. We found that the majority of declines occurred in the tropics, with a significant increase in the number of declines per year after 1990. We found that the majority of declines occurred in the tropics, with a significant increase in the number of declines per year after 1990.

Comments

LIPS ET AL. 2008 REPLY: WAVELIKE EPIDEMICS IN VENEZUELA?
Posted by plosbiology

Forgetting Habitat Loss in Amphibian Extinctions – Missing the Forest for the Disease
Posted by plosbiology

Amphibian declines and issues of inference: response to Parnesan and Singer
Posted by plosbiology

ADVERTISEMENT

How do you see these things
playing out in your institution
and with individual researchers?

10 minutes



3. The Future (or the Present)



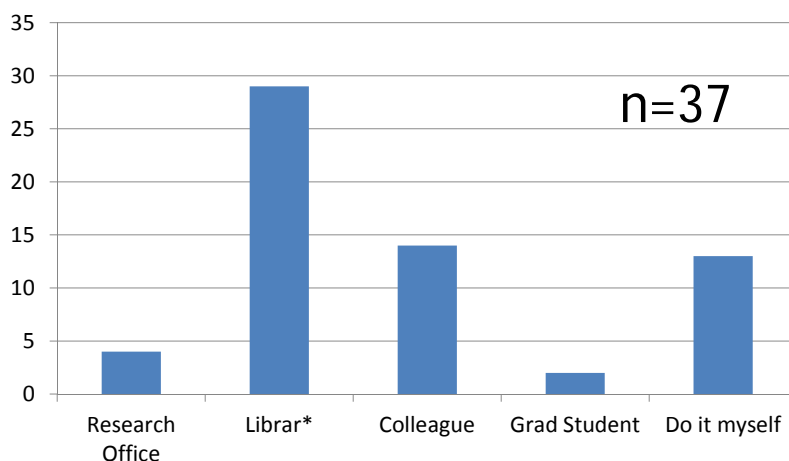
UTM - current

- Faculty and grad students
- Workshops and consultations

UTM - future

- In flux
- “Research Impact Metrics: Use and Understanding by Post-Tenure Faculty”
 - >gathering data to help inform decision-making

What on campus resource would you turn to for assistance with impact metrics?



Explorer access – free for individual librarians, paid site licenses for researchers



If you're a librarian at an academic institution we'd love for you to sign up for a free librarian account for the [Altmetric Explorer](#), our analysis and discovery tool. Poke around, check out the data, set up some reports, use it to help patrons... and keep it for as long as you like.

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<http://altmetric.com/blog/altmetrics-in-academic-libraries-and-institutional-repositories/>

What are you currently doing or
thinking/planning on doing to
help your faculty?

15 minutes

