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**XUG**  
eXtyles User Group Meeting



# Industry Updates & Meeting Wrap-up

**Bruce Rosenblum**

*VP Content and Workflow Solutions*

# Agenda

- Industry updates
- COVID's impact
- When Research Gets Personal

# Google Scholar Parsed Cafeteria Lunch Menus

➤ <https://twitter.com/AlexanderRKlotz/status/1252389218514427909>

## [PDF] Lunch Menu

..., CS Salad, P Pack, B Noodles, C Fajitas, R **Beans**... - 2017 - rayusd.org

Thursday, February 2, 2017 Junior-Senior High School – HS Basketball @ Duncan HS – 4:00/5:30/7:00 pm Junior-Senior High School – High School Spring Sports Participant Paperwork Due Friday, February 3, 2017 Junior-Senior High School – HS Basketball @ NFL Yet Prep ...

☆ 77 All 29 versions 88

**Minor Leaguer** @Minor\_Leaguer · Apr 21

Replying to @AlexanderRKlotz and @wearyhobo

Do you think all these co-authors are family?

## Lunch Menu

M Sticks, BC Wings, LG Salad, LC Salad, LC Salad... - kitziesofspringmills.com

Kitzie's Sampler - Our Kitzie's fries topped with bacon, and cheese; 2 fried mozzarella cheese sticks and 2 chicken tenders - \$8.99 Kitzie's Crab Fries – a generous portion of crispy fries baked topped with lump crabmeat crispy bacon ... Mozzarella Sticks fried mozzarella cheese sticks ...

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# eXtyles Reference Processing

- Ongoing improvements
  - Added preprint and database parsing/linking
- Repository Database
  - 59 preprint servers
  - 13 database servers
- eXtyles Journal Database: > 53,000 titles
  - Manual curation of additions
  - Checked at PubMed, ISSN and other sources

# Reference “Type” Challenges

- Hannah, Nicholas, Kiss, Andrew E., Heerdegen, Aidan, Ward, Marshall L., Fiedler, Russell, Hogg, Andy McC., ... Holmes, Ryan M. (2019, April 12). The ACCESS-OM2 global ocean - sea ice coupled model (Version 1.0). Zenodo. <http://doi.org/10.5281/zenodo.2653246> ← Software
- Baldrige, Abigail, Meyer, Jacob, Weaver, Charlotte, & Cruz, Daniel. (2020, April 6). COVID-19 Personal Protective Equipment by Patient Flow. Zenodo. <http://doi.org/10.5281/zenodo.3743216> ← Figure
- Havemann, Johanna. (2019). Open Science Online Training package for African scientists. Zenodo. <http://doi.org/10.5281/zenodo.3540835> ← Conf paper
- Reichmann, Stefan, Ross-Hellauer, Tony, Hindle, Samantha, McDowell, Gary, Lin, Jennifer, Penfold, Naomi, & Polka, Jessica. (2019). Editorial policies of many highly-cited journals are hidden or unclear (Version 3). Zenodo. <http://doi.org/10.5281/zenodo.3237242> ← Poster
- Mboa Nkoudou, Thomas Hervé. (2017, March 24). Benefits and the hidden face of the maker movement: Thoughts on its appropriation in African context. Zenodo. <http://doi.org/10.5281/zenodo.438077> ← Working paper
- Banda, Juan M., Tekumalla, Ramya, Wang, Guanyu, Yu, Jingyuan, Liu, Tuo, Ding, Yuning, ... Chowell, Gerardo. (2020). A large-scale COVID-19 Twitter chatter dataset for open scientific research - an international collaboration (Version 31) [Data set]. Zenodo. <http://doi.org/10.5281/zenodo.4079387>

# JATS4R

- NISO Project, November 2018
- Ongoing work at <https://jats4r.org>
- Excellent recommendations, especially for new structures
- Consulted by Inera for
  - Data availability statements
  - Preprint and data citation markup

# JATS

- JATS 1.2 is current standard
- JATS 1.3d1 (draft) is available
  - <https://jats.nlm.nih.gov/publishing/tag-library/1.3d1/chapter/version-1.3d1-chg.html>
- JATS 1.3d2 likely in Q4, and balloted JATS 1.3 in 2021
- JATS Index
  - [https://jats.nlm.nih.gov/tools/element-list/nlm\\_jats/index.html](https://jats.nlm.nih.gov/tools/element-list/nlm_jats/index.html)

# BITS

- BITS 2.0: Stable since 2018
- BITS 2.1
  - Active development during 2020
  - Likely release Q1/Q2 2021
  - Moves faster because standards process not required
- BITS Index: <https://jats.nlm.nih.gov/tools/element-list/bits/index.html>

# STS

- NISO STS 1.0
- NISO Continuous Maintenance (like JATS)
  - Minor improvements from JATS 1.2 & 1.3d1/2
  - Other open requests to Standing Committee
  - TBX requests
  - Request for “requirements” markup
- Look for draft update mid-2021
  - More requests since last XUG
  - STS 1.1d1 may not include “requirements” markup

# JATS/BITS/STS Future

- JATS Compatibility Meta Model
  - <https://www.ncbi.nlm.nih.gov/books/NBK425547/>
  - <https://www.ncbi.nlm.nih.gov/books/NBK425698/>
- Goals
  - Thoughtful alignment
  - Thoughtful growth
  - Thoughtful third party customization
- Active interaction between the 3 groups
  - E.g. Updated list attributes, processing-meta

# Unicode 12.0

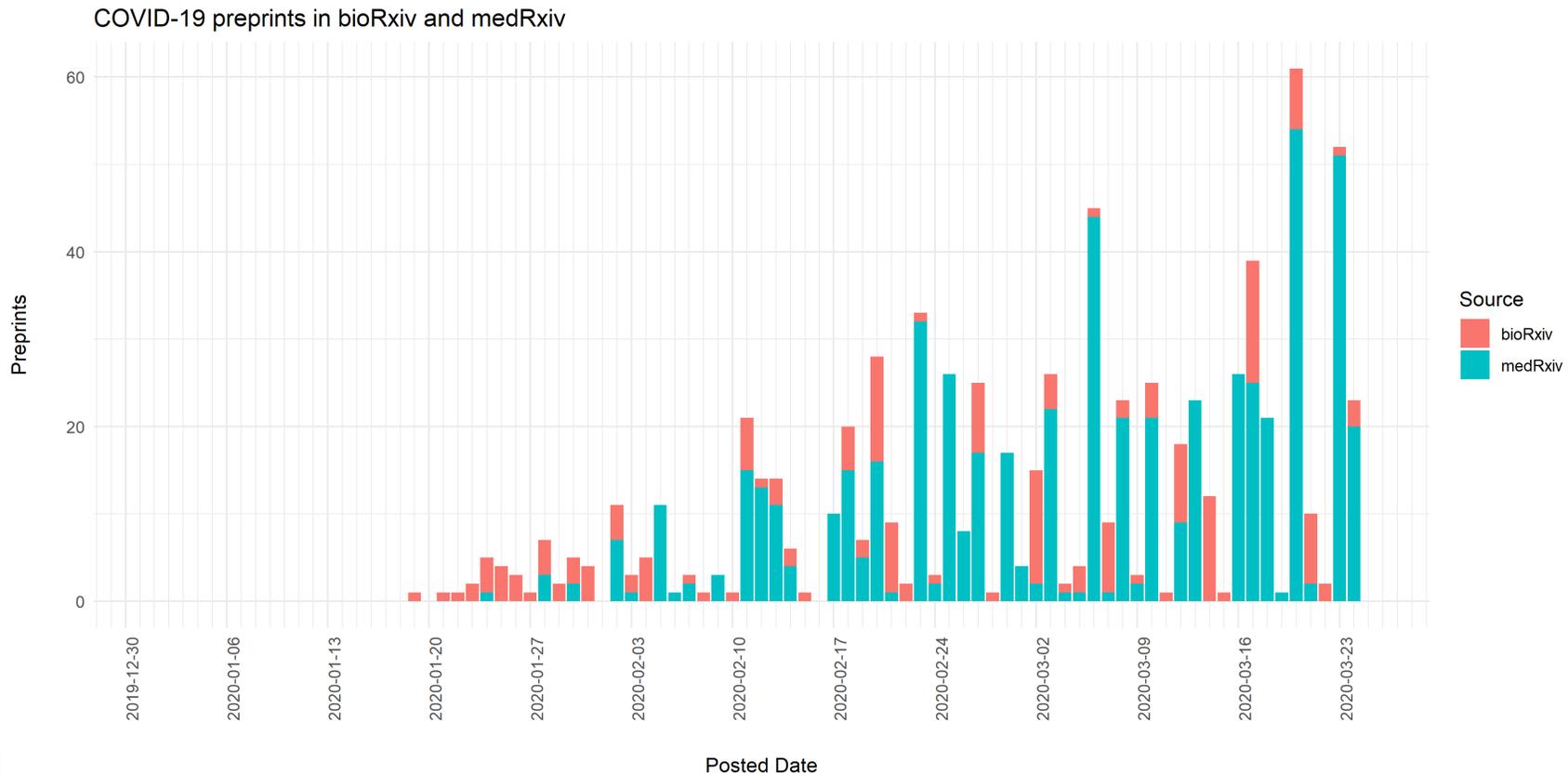
- Released March 10, 2020
  - 5930 new characters (including 55 emoji)
  - 143,859 total characters
  - Four new scripts
  - Source: <https://www.unicode.org/versions/Unicode13.0.0/>
- Mask emoji 🧑  
  - *Face with Medical Mask* was approved as part of [Unicode 6.0](#) in 2010 and added to [Emoji 1.0](#) in 2015
  - Displayed with closed eyes on most platforms. WhatsApp shows this emoji with neutral eyes, and Apple's forthcoming [iOS 14.2 will show this with smiling eyes](#)
  - Source: <https://emojipedia.org/face-with-medical-mask/>

# January 2020: Start of a New (Publishing) Era

- Email from WHO to Inera (January 28):  
“In response to the novel coronavirus outbreak, we have been asked to set up a "Zika Open"-like page for the nCoV pre-prints. In light of your recommendations following on from the Zika outbreak (and how we handled pre-prints then), how would you suggest that we take this forward?”
- Bruce in XUG 2020 prep notes:  
“WHO response to Corona virus compared with Zika response 4 years earlier (idea noted on 1/28/20 – we have no idea where this one will land)”

# COVID-19 preprints in bioRxiv and medRxiv

Data is from Crossref



Source: <https://twitter.com/nicholasmfraser/status/1242788228840722432>

# Inera Responds to Preprint Surge

- January 29: WHO COVID preprint Crossref deposit developed and delivered in 2 days  
[https://www.who.int/bulletin/online\\_first/COVID-19/en/](https://www.who.int/bulletin/online_first/COVID-19/en/)
- Q2 2020: eXtyles/Edifix preprint reference parsing and Crossref linking
- September 13: Scholarly Kitchen Guest Post – What’s Wrong with Preprint Citations?  
<https://scholarlykitchen.sspnet.org/2020/09/18/guest-post-whats-wrong-with-preprint-citations/>

## PREPRINT SURGE

The major preprint servers have posted thousands of studies related to the coronavirus since the outbreak began.



©nature

Preprints containing the words COVID-19 or SARS-CoV-2. Data as of 7 May.

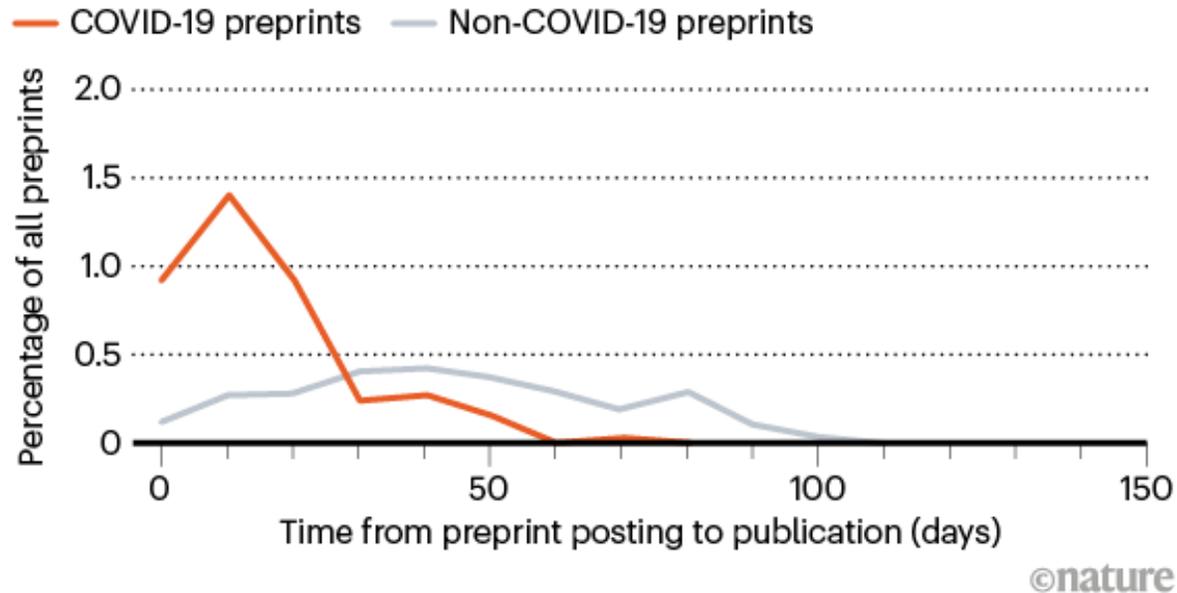
Source: Nature 581, 130-131 (2020); doi: 10.1038/d41586-020-01394-6

Note: As of 10/18/2020, 9686 Articles (7609 medRxiv, 2077 bioRxiv)

# Will the pandemic permanently alter scientific publishing?

## COVID PREPRINTS TAKE PRIORITY

Preprints about COVID-19 went on to be published in peer-reviewed journals around 26 days faster than did non-COVID-19 preprints, one study has found.



Source: Nature 582, 167–168 (2020); doi: 10.1038/d41586-020-01520-4

# The impact

- Information sharing/dissemination at warp speed
- Virtually all COVID literature was made freely available
- Reasonable community policing
  - “[Uncanny similarity of unique inserts in the 2019-nCoV spike protein to HIV-1 gp120 and Gag](#),” bioRxiv preprint published January 31, 2020 and withdrawn February 2, 2020
  - See more at <https://retractionwatch.com/retracted-coronavirus-covid-19-papers/>
- Preprints and accelerated peer review and publication likely helped save lives!

# The Value of Peer Review

## One Researcher's Perspective

“The pre-print topic is an interesting one... There are several challenges with that and, **while I am all in favor of rapid dissemination and transparency, I have to say I also see the possible risks associated with it.**

I also highly value the value of scientific debate among peers for the purposes of fine tuning documents so that the final paper is top notch. Admittedly, this takes a lot of time and effort

I also agree that the peer review process is not flawless either.

Interesting how **every model can have unintended consequences and in the end it's a balance between competing goals.** On my end, I hope I can provide extremely rigorous, scientifically sound, and accurate, yet approachable data in a timely manner (though this does not always mean in real time).”

# When Research Gets Personal

- I was diagnosed with ALS in August 2017
- Neurologist warning: “Be careful what you read on the Internet”
- I naively thought that meant non-peer reviewed information

# September 2017

- Alternative practitioner recommends “Deanna Protocol”
- Ari C, Poff AM, Held HE, et al. Metabolic therapy with Deanna Protocol supplementation delays disease progression and extends survival in amyotrophic lateral sclerosis (ALS) mouse model. *PLoS One*. 2014;9(7):e103526. Published 2014 Jul 25. doi:10.1371/journal.pone.0103526

# From the Paper... Methods

“Fourteen B6SJL-Tg (SOD1-G93A) mutant transgenic mice (stock #002726) were purchased from the Jackson Laboratory (Bar Harbor, ME) at 60 days of age to test the palatability of the diets (SD n= 2; SD+DP, KD, KD+DP n= 4/group)”

# From the Paper... Data Supplement 1

## Clinical Data from PALS:

## Testimonials of 26 ALS patients who report having success from using the Deanna protocol:

### **Anthony Topazi – President Mississippi Power**

I had great trouble breathing and my neurologist measured my breathing to have a force vital capacity that was down to 84% of normal. She suggested I have a diaphragm stimulator installed in my chest. Instead, I went on the Deanna Protocol, started exercising my lungs and two months later my breathing capacity improved to 94% of normal. Now that doesn't happen for ALS patients. Muscles don't get stronger.

### **Deanna Tedone-Gage**

My father experimented with a number of supplements until we realized that taking three particular supplements (coconut oil, A-AKG and GABA) were reversing my disease. My coordination, speech, walking, and breathing improved. My twitching and tremors also lessened dramatically. Friends and family members noted my improvement and began to spread the word to others who had loved ones with ALS.

### **MJBUK**

My answer is YES, I believe the Deanna Protocol has helped me and I am better than I would have been if I had not been on it.

# Analysis

- Patient's question
  - Why are patient testimonials part of a mouse study?
- Informed neurologist's view
  - ALS Untangled No. 20: The Deanna Protocol
    - Amyotrophic Lateral Sclerosis and Frontotemporal (T&F)
    - <https://doi.org/10.3109/21678421.2013.788405>
  - Conclusions: “Thus, at this time, ALSUntangled does not recommend the Deanna Protocol to patients with ALS”

# October 2020 – Research Advocacy Training

- NEALS Clinical Research Learning Institute
- Session 4: “How to Read a Research Paper”
- Martinez HR, Gonzalez-Garza MT, Moreno-Cuevas JE, Caro E, Gutierrez-Jimenez E, Segura JJ. Stem-cell transplantation into the frontal motor cortex in amyotrophic lateral sclerosis patients. *Cytotherapy*. 2009;11(1):26-34. doi:10.1080/14653240802644651

# From the Paper...

- “To assess both safety and efficacy, we have performed an uncontrolled, open-label non-randomized clinical trial using autologous CD133<sup>+</sup> stem-cell transplantation into the frontal motor cortex of confirmed ALS patients”
- “Exclusion criteria were:... tracheostomy or gastrostomy”
- “In the group receiving transplanted cells... [o]ne patient died 10 days after surgery because of myocardial infarction”
- “The autologous transplantation of CD133<sup>+</sup> stem cells into the frontal motor cortex is a safe and well-tolerated procedure in ALS patients. Stem-cell transplantation in the motor cortex delays ALS progression and improves quality of life”

# Analysis

- Patient's questions
  - What is the value of an “open-label non-randomized clinical trial”?
  - Control group included patients excluded from treatment. Apples to oranges?
  - Why was the myocardial infarction not reported as an “Adverse Event”?
- Informed neurologist's view
  - ALSUntangled Update 3: Investigating stem cell transplants at the Hospital San Jose Tecnologico de Monterrey Amyotrophic Lateral Sclerosis and Frontotemporal (T&F)
    - <https://doi.org/10.3109/17482960903511872>
  - Conclusions: “[A]t the present time, there are insufficient safety or efficacy data to support stem cell transplants at the Hospital San Jose Tecnologico de Monterrey”

# AI Analysis

## ➤ Scite.ai

- “Smart Citations allow users to see how a scientific paper has been cited by providing the context of the citation and a classification describing whether it provides supporting or disputing evidence for the cited claim”

<p>Classification ⓘ</p> <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> supporting <span>✔</span> 0</li><li><input checked="" type="checkbox"/> mentioning <span>🕒</span> 68</li><li><input checked="" type="checkbox"/> disputing <span>?</span> 0</li></ul>	<p>5. <span>🕒</span> mentioning <span>📄</span> Confidence: 99%</p> <p>“...This procedure and its costs (a minimum of \$18,000 plus travel per patient) are detailed on the web (2). Unlike most clinics currently offering stem cell transplants outside of a trial, this group has published its initial experience in a scientific journal (3). Here we analyze this publication, and detail our own patients' experiences with this option....”</p> <p><a href="#">ALSUntangled Update 3: Investigating stem cell transplants at the Hospital San Jose Tecnologico de Monterrey</a> The Alsuntangled Group 2010 <i>Amyotrophic Lateral Sclerosis</i> Section: THE ALSUNTANGLED GROUP</p>
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- Overlooked second cite: “There are a number of shortcomings of the manuscript [3]”, perhaps due to inconsistent editorial style

# COVID Research Scrutiny

“COVID-19 [is] currently the subject of intense and broadly distributed research—research that is therefore subject to robust critique. That... preprints have been withdrawn is the result of a system operating effectively, which unfortunately **is not always the case in less publicly prominent research areas**”

*Sylvia Izzo Hunter*

*Inera, an Atypon Company*

<https://scholarlykitchen.sspnet.org/2020/09/18/guest-post-whats-wrong-with-preprint-citations/>

# Some Exciting ALS Publications

- Petrou P, Gothelf Y, Argon Y, et al. Clinical Effects of Mesenchymal Stem Cells in Patients With Amyotrophic Lateral Sclerosis: Results of Phase 1/2 and 3 Trials. *JAMA Neurol*. 2019;16(12):1337-1344. doi:10.1001/jamaneurol.2019.16945
- Paganoni S, Macklin EA, et al. Effect of Taurursodiol for Amyotrophic Lateral Sclerosis: A Randomized Clinical Trial. *JAMA*. 2020;383(10):919-930. doi:10.1001/jama.2020.11694
- Paganoni S, Hendrix S, et al. Long-Term Survival of Patients With Amyotrophic Lateral Sclerosis Treated With Taurursodiol in ALS. *Muscle Nerve*. 2020;63(5):e27091. doi:10.1002/mus.27091



Clinical Effects of Mesenchymal Stem Cells in Patients With Amyotrophic Lateral Sclerosis: Results of Phase 1/2 and 3 Trials. *JAMA Neurol*. 2019;16(12):1337-1344.

Effect of Taurursodiol for Amyotrophic Lateral Sclerosis: A Randomized Clinical Trial. *JAMA*. 2020;383(10):919-930. doi:10.1001/jama.2020.11694

Long-Term Survival of Patients With Amyotrophic Lateral Sclerosis Treated With Taurursodiol in ALS. *Muscle Nerve*. 2020;63(5):e27091. doi:10.1002/mus.27091

# COVID and OA

“If Open Access is critical to help defeat COVID-19, why not use the same logic to address all the other challenges we face”

*Robert Kiley*

*Head of Open Research, Wellcome Trust*

<https://blogs.lse.ac.uk/impactofsocialsciences/2020/10/06/39677/>

# A Few thoughts on Peer Review

- Good peer review takes time and thought
- Everyone dislikes how long peer review takes
- Radical idea 1: Portable peer review comments  
<https://scholarlykitchen.sspnet.org/2018/07/25/guest-post-manuscript-exchange-meca-can-academic-publishing-world-cant/>
- Radical idea 2: Parallel/Community Peer Review  
<https://scholarlykitchen.sspnet.org/2020/10/15/parallel-peer-review-at-cell-press-an-interview-with-deborah-sweet/>
- Radical idea 3: Patient peer review  
<https://www.bmj.com/about-bmj/resources-reviewers/guidance-patient-reviewers>

# Some Questions to Ponder

- How can we improve the speed of peer review without compromising quality?
- How can we provide better post publication in-context updates?
- How can we improve access to *all* of those who need it while covering the costs of the publication process?
- How do we balance “competing goals” to provide open, trustworthy, and timely research?

Thank You!

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