




# preLights

Preprint highlights, selected by  
the biological community



*Jacky G.Goetz, "Prelighter"*  
Leader of the Tumor Biomechanics Lab  
June 18th, 2018 ITMO BCDE

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 @GoetzJacky






*CRCN INSERM (2013), INSERM U1109, Strasbourg*  
Leader of the Tumor Biomechanics Lab  
Expertise in Biomechanics, Imaging and tumor metastasis  
User/reader of #preprints  
PreLighter since Feb. 2018  
Member of a CNRS evaluation committee

**3 hats :**  
**Principal Investigator**  
**“commentor”**  
**Evaluator**

# Tumor Biomechanics Lab and the recent use of #preprints


Preprint

Publication

New Results Previous 

## Hemodynamic forces can be accurately measured in vivo with optical tweezers


Posted September 7, 2017.

Sebastien Harlepp, Fabrice Thalmann, Gautier Follain,  Jacky G. Goetz  
doi: <https://doi.org/10.1101/150367>  
Now published in *Molecular Biology of the Cell* doi: 10.1091/mbc.E17-06-0382

[Download PDF](#) [Share](#)  
[Email](#) [Citation Tools](#)  
[Supplementary material](#)


2017

2017

New Results Previous 

## An Arf6- And Caveolae-Dependent Pathway Links Hemidesmosome Remodeling And Mechanoresponse


Posted April 10, 2017.

 Naël Osmani, Julien Pontabry, Jordi Comelles, Nina Fekonja, Jacky G Goetz, Daniel Riveline, Elisabeth Georges-Labouesse, Michel Labouesse  
doi: <https://doi.org/10.1101/126151>  
Now published in *Molecular Biology of the Cell* doi: 10.1091/mbc.E17-06-0356

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[Supplementary material](#)

2017

2017

New Results Previous 

## Hemodynamic forces tune the arrest, adhesion and extravasation of circulating tumor cells


Posted January 10, 2018.

Gautier Follain, Naël Osmani, Sofia Azevedo, Guillaume Allio, Luc Mercier, Matthia Karreman, Gergely Solecki, Maria Jesus Garcia-Leon, Olivier Lefebvre, Nina Fekonja, Claudia Hille, Vincent Chabannes, Guillaume Dolle, Thibaut Metivet, Francois Der Hovsepian, Christophe Prudhomme, Bernhard Ruthensteiner, Angelique Pichot, Nicodeme Paul, Raphael Carapito, Siamak Bahram, Andre Kemmling, Susanne Siemonsen, Tanja Schneider, Jens Fiehler, Markus Glatzel, Frank Winkler, Yannick Schwab, Klaus Pantel, Sebastien Harlepp, Jacky G. Goetz  
doi: <https://doi.org/10.1101/183046>  
Now published in *Developmental Cell* doi: 10.1016/j.devcel.2018.02.015

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[Email](#) [Citation Tools](#)  
[Supplementary material](#)  
[Tweet](#) [Like 0](#) [G+](#)


2017

2018

New Results Previous 

## Laminin $\alpha 1$ orchestrates VEGFA functions in the ecosystem of colorectal carcinoma

Posted January 10, 2017.

E. Mammadova-Bach, T. Rupp, C. Spenle, I. Jivkov, P. P. Shankaranarayanan, A. Klein, L. Pisarsky, A. Mechine-Neuville, G. Creml, M. Keding, O. De Wever, N. Ambartsumian, S. Robine, E. Pincresch, D. Guenot,  Jacky G. Goetz, P. Simon-Assmann, G. Orend, Olivier Lefebvre  
doi: <https://doi.org/10.1101/099465>  
This article is a preprint and has not been peer-reviewed [what does this mean?].  
Accepted, to be published in *Biology of the Cell*

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2017

In press

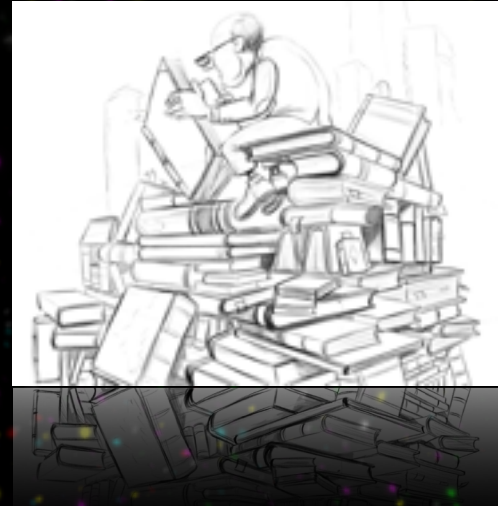
Other papers engaged in the classical publication/review process : cultural change is a slow process

# The advantages of posting #preprints



## From the author point of view :

- visibility of achieved work
- opportunity to rapidly share
- easy/straight-forward submission
- easy submission to partner journals
- opportunity to revise work
- publish negative results
- automatic tracking of publi. preprints
- share if published in non-open access
- discussion (social networks)



## From the reader point of view :

- easy access to others' work
- Daily alerts
- Subject areas : straight forward
- Non-biased internal discussion (J.clubs)
- tracking when published
- exchange/discussion (social networks)



# The advantages of posting #preprints



Twitter, a perfect way for lively transmission of scientific results

New Results


### Hemodynamic forces tune the arrest, adhesion and extravasation of circulating tumor cells

Gautier Follain, Nael Ozmani, Sofia Azevedo, Guillaume Allo, Luc Mercier, Matthia Karreman, Gergely Solecki, Maria Jesus Garcia-Leon, Olivier Lefebvre, Nina Fekonja, Claudia Hille, Vincent Chabannes, Guillaume Dolle, Thibaut Metivet, Francois Der Hovsepian, Christophe Prudhomme, Bernhard Ruthensteiner, Angelique Pichot, Nicodeme Paul, Raphael Carapito, Siamak Bahram, Andre Kemmling, Susanne Siemonsen, Tanja Schneider, Jens Fiehler, Markus Glatzel, Frank Winkler, Yannick Schwab, Klaus Pantel, Sebastian Harlepp, Jacky G. Goetz  
doi: <https://doi.org/10.1101/183046>  
Now published in *Developmental Cell* doi: [10.1016/j.devcel.2018.02.015](https://doi.org/10.1016/j.devcel.2018.02.015)


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#### Tweets referencing this article:

 **Malandrino Andrea** @ma\_a\_d  
RT @biorxivpreprint: Hemodynamic forces tune the arrest, adhesion and extravasation of circulating tumor cells <https://t.co/NEfa8RZtBK> #bi...

01 Sep 2017

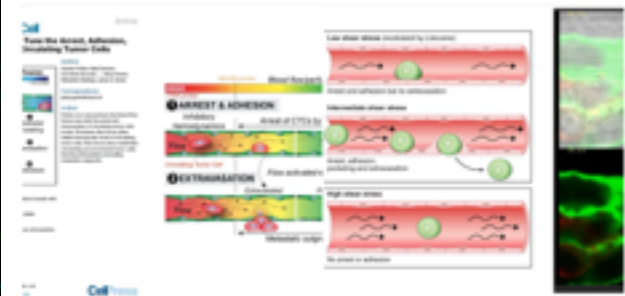
 **W de Watusi** @vermelloverd  
3 days before finishing my PhD dissertation...about mechanosensitive channels in BrMet -gotta include this in the discussion 🤔 <https://t.co/jEHvaNB5nQ>

01 Sep 2017

 **Eric Topol** @EricTopol Abonné

1st in vivo direct visualization: the importance of blood flow velocity for spread of circulating tumor cells  
[cell.com/developmental-...](https://cell.com/developmental-...)  
[cell.com/developmental-...](https://cell.com/developmental-...) @Dev\_Cell @CellPressNews #cancer @GoetzJacky

Traduire in Tweet

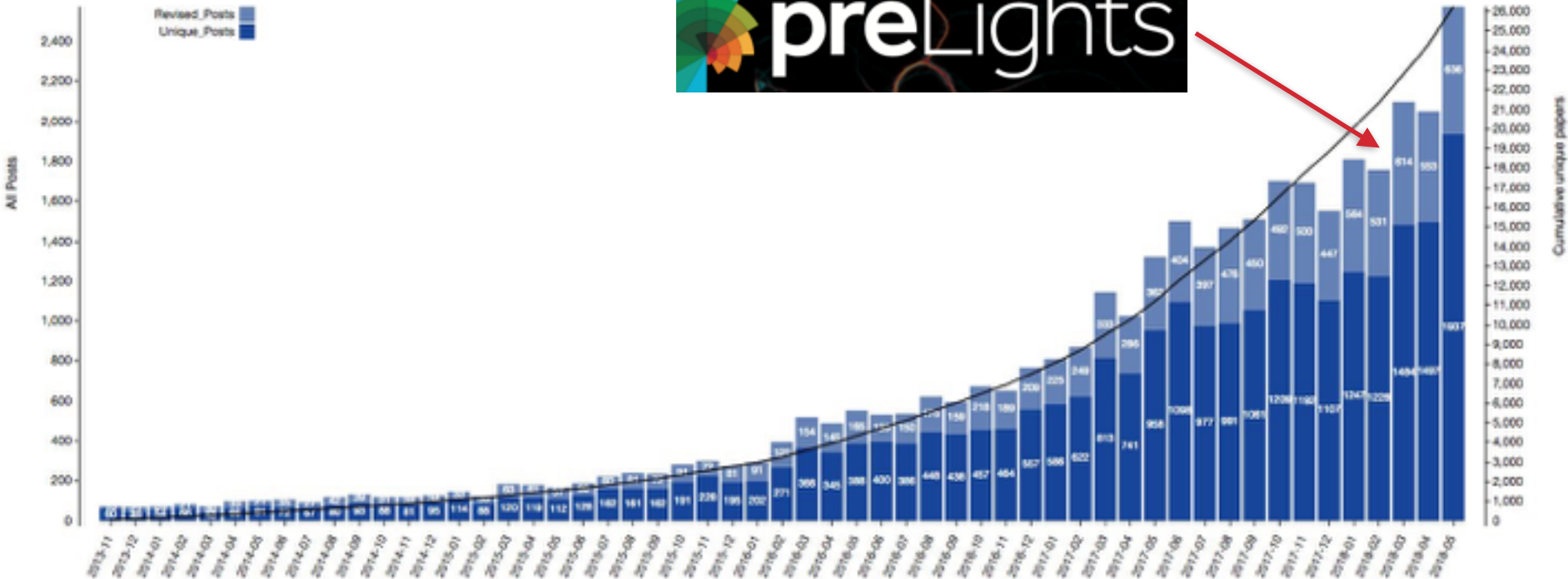


10:49 - 9 avr. 2018


20 Retweets 45 J'aime

1 20 45

# Why the research community might want a preprint highlighting service ?



Nov.2013  $\xrightarrow{\text{\#preprints(BiorXiv)/month}}$  May 2018



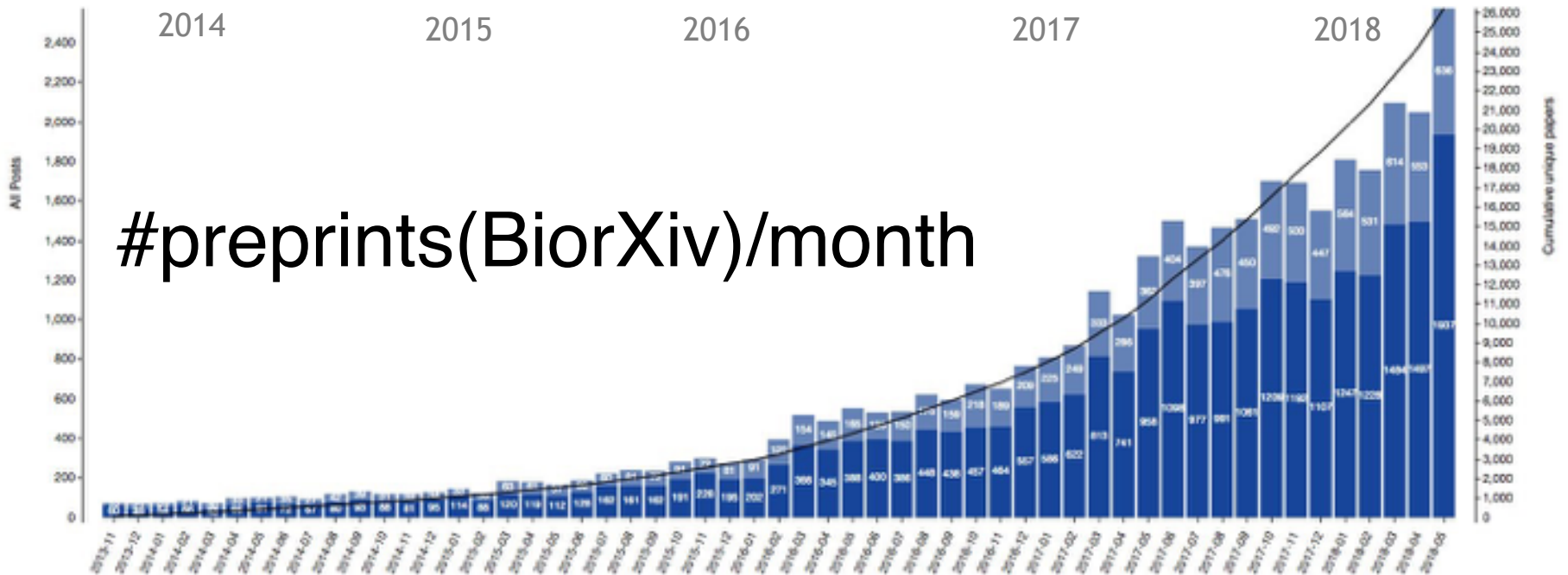
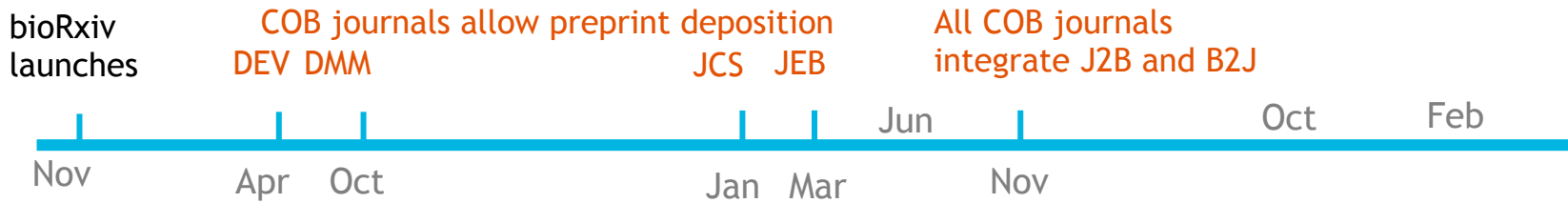
# Why the research community might want a preprint highlighting service ?

- Preprints are new to life sciences with only 1-2% papers being posted as preprints currently – but this is growing rapidly.
- As the number of preprints grows, it will become increasingly difficult for readers to find and filter relevant / interesting preprints.
- Readers are NOT currently commenting on the preprint servers.
- Save readers time – find and select preprints for them – plus add comment that's interesting to read.
- Community service (with no revenue stream).



# Prelights : an early initiative from the **Company of Biologists (CoB)**

*The CoB has considered preprint-friendly policies from early-on*





# Prelights : an early initiative from the **Company of Biologists**

*June 2016 : The Node starts 'This month in preprints'*

*Oct 2017: The COB decides on preLights*

*Feb 2018: Launch of preLights*

bioRxiv  
launches

DEV DMM

JCS JEB

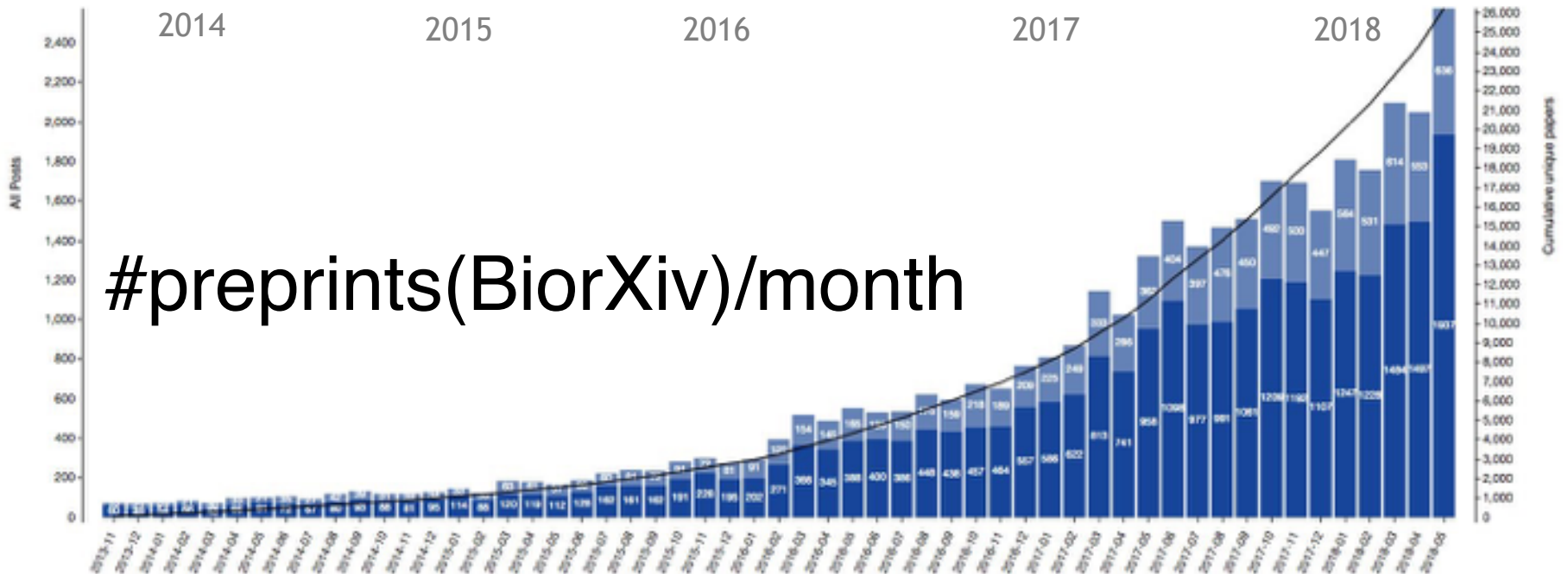
All COB journals  
integrate J2B and B2J



The Node starts  
'This month in  
preprints'

The COB  
decides on  
preLights

Launch of  
preLights



# Monthly list of preprints the most viewed content on The Node

## May in preprints

Posted by [the Node](#) on June 1st, 2018

Welcome to our monthly brawl for preprints in developmental biology (plus those hopefully relevant for developmental biologists).

May featured the usual catch of fascinating and beautiful work across the spectrum in the field, from Hox in mice and beetles, doublesex in beetles and bees, and three spinal cord regeneration preprints (including one using lampreys!). Our most prolific preprinter was Didier Stainier with four – a productive month for the Bad Nauheim-based biologist.

The preprints were hosted on [bioRxiv](#), [Peer J](#), and [arXiv](#). Use these links to get to the section you want:

### Developmental biology

- | [Patterning & signalling](#)
- | [Morphogenesis & mechanics](#)
- | [Genes & genomes](#)
- | [Stem cells, regeneration & disease modelling](#)

### Evo-devo & evo

### Cell biology

### Modelling

### Tools & resources

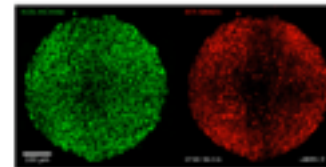
- | [Imaging etc.](#)
- | [Genome tools](#)

### Research practice & education

Why not...

### Developmental biology

#### | Patterning & signalling



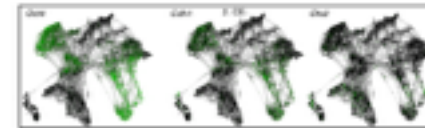
Smad3 expression in mouse embryonic stem cells from Wang, et al. preprint

#### WNT signalling memory is required for ACTV1N to function as a morphogen in human gastruloids

Anna Yoney, Fred Ebic, Albert Ruzo, Jakob J. Hertzog, Iain Hartlyn, Shu Li, Christoph Kind, Thomas Carroll, Eric D. Siggia, Ali H. Brivanlou

#### Molecular mechanism of symmetry breaking in a 3D model of a human embryo

Hijo Simunovic, Jakob J. Hertzog, Fred Ebic, Anna Yoney, Albert Ruzo, Iain Hartlyn, Gert Croft, Ali H. Brivanlou, Eric D. Siggia



Cardiac cell marker gene expression patterns in E10.5 mouse embryos

#### Emergence of a node-like population within an *in vitro*-derived Neural Mesodermal Progenitors (NMP) population

Shivani Ekl, Penelope Hayward, Wajid Jawad, Alfonso Martinez Arias

#### An EpiKlf4<sup>+</sup> Stem Cell-derived multipotent progenitor population for axial extension

Shivani Ekl, Penelope Hayward, Peter Balle-Johnson, Benjamin Stevenson, Alfonso Martinez Arias

#### Extracellular Vesicle-delivered Bone Morphogenetic Proteins: A novel paracrine mechanism during embryonic development

Thomas Drahling, Jana Helgason, Lorry Jaergensen, Hugo Albert Kalka, David Hassel

[What can CoB as a publisher do to further support preprints?](#)

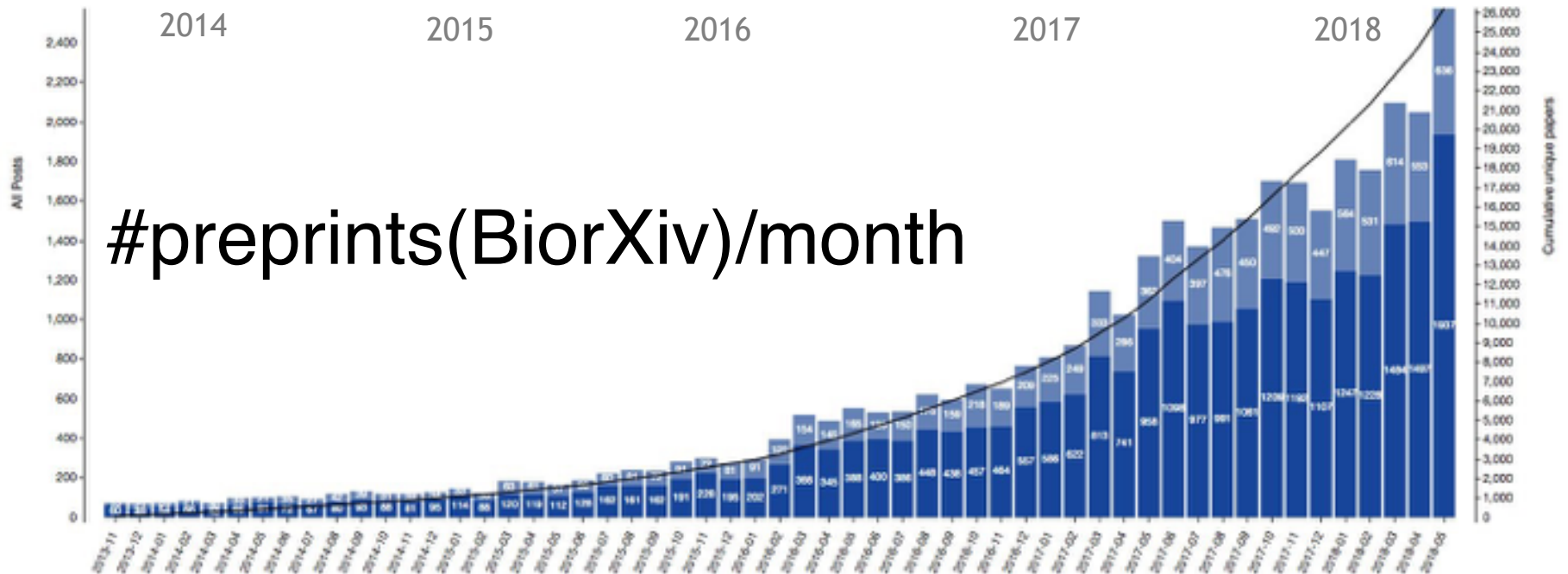
# Prelights : an early initiative from the **Company of Biologists**

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bioRxiv  
launches




# Developing preLights (October 2017 - February 2018)

- All journals of CoB involved in development of the idea
- Focus group - discussion with PhD students, postdocs (Cambridge) who have published preprints or have been commenting/sharing preprints on Twitter
- Designers and IT team developed website, with input from CoB team
- Editors/board members from CoB journals : recruitment of preLighters



- Contacted by Manuel BREUER (editor @ Journal of Cell Science)
- Participate to a new service aimed at highlighting interesting preprints to the broader community
- The idea : new resource is to help researchers navigate the growing number of preprints and find those most likely to be of interest to them.
- Format : public discussion of preprints, among the community and with the authors.

“Yes !”  Regular check of preprints  
Selection with Ph.D. students & post-docs  
Format : one preprint - one journal club - one PreLight

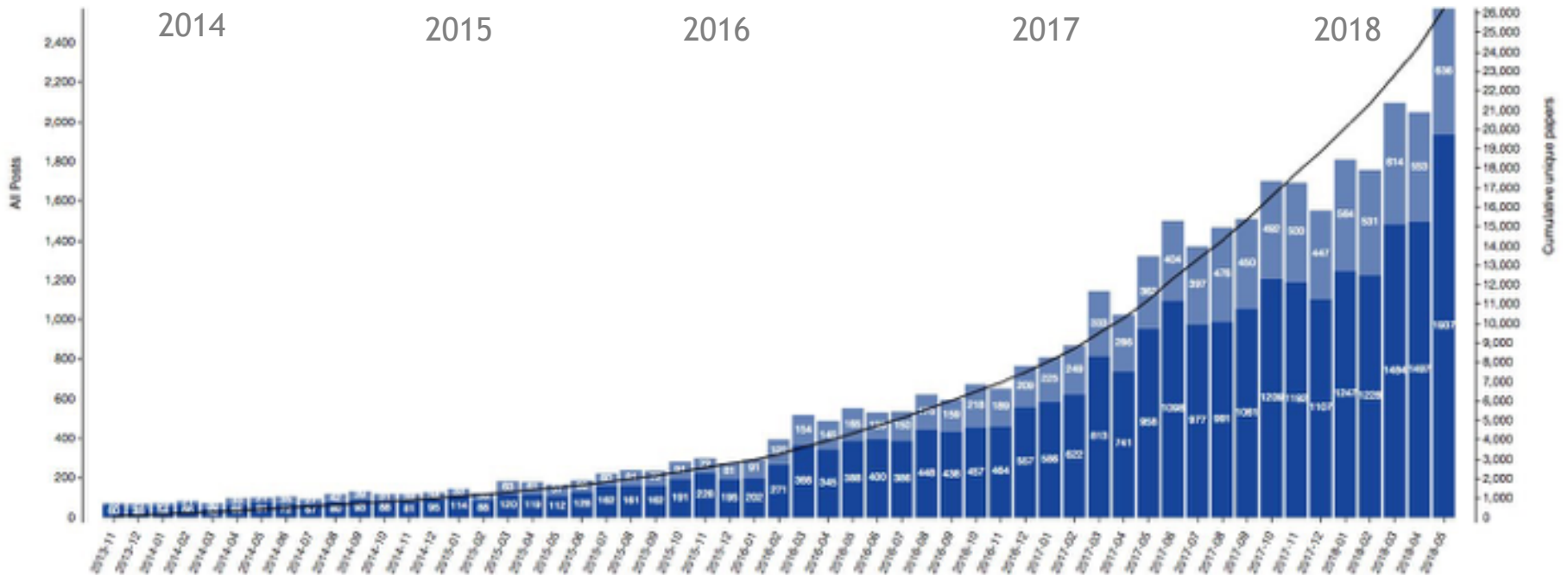
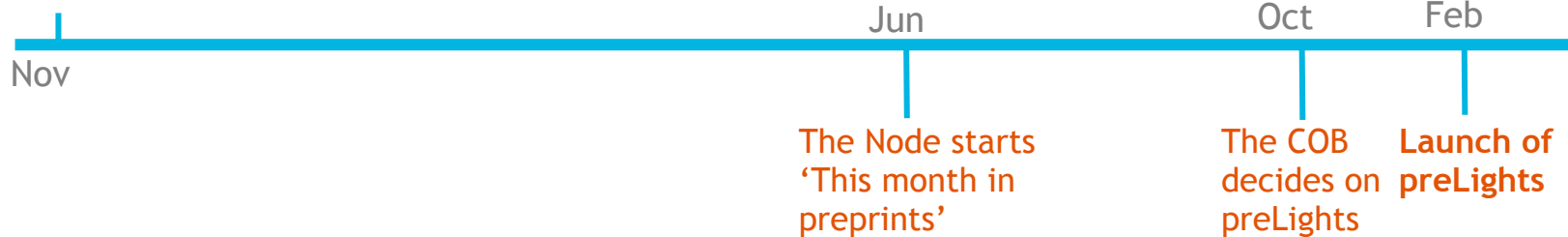
# Prelights : an early initiative from the **Company of Biologists**

*June 2016 : The Node starts 'This month in preprints'*

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bioRxiv  
launches



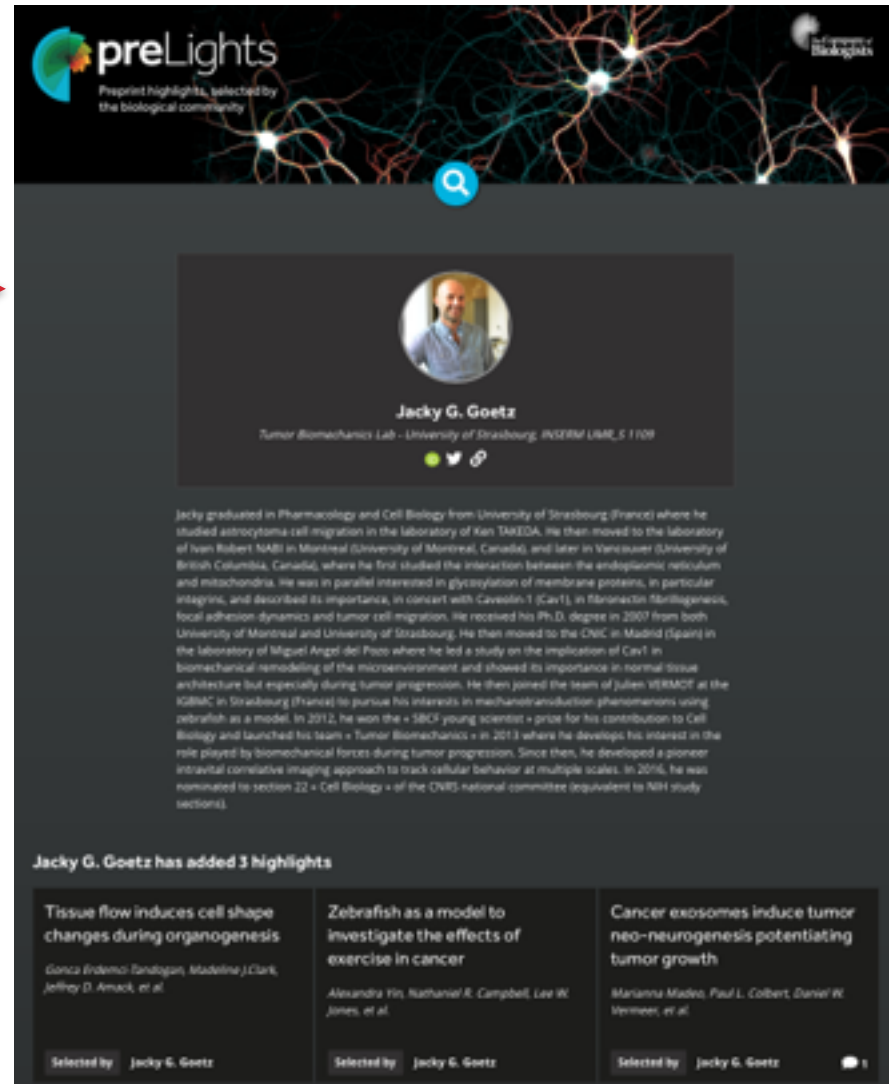
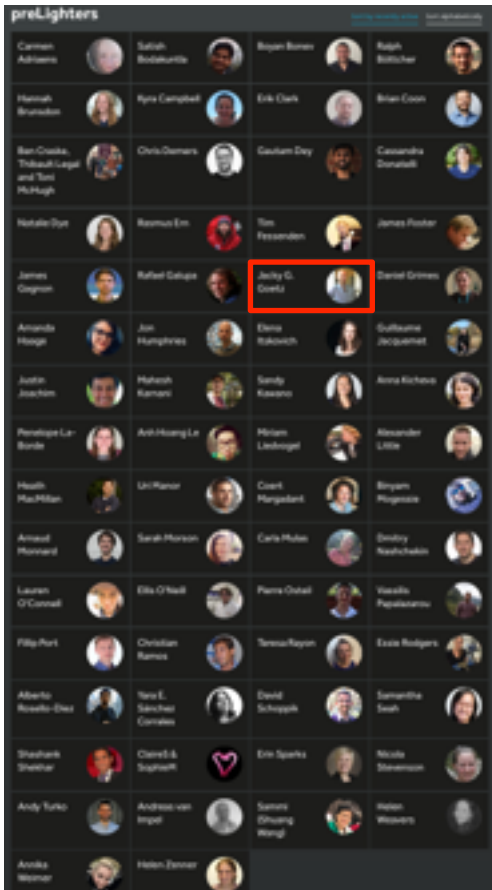


# Launch of preLights - 20<sup>th</sup> February, 2018

- 85 preLighters were initially recruited : ranging from senior PhD students to junior PIs
- PreLights went live with 23 posts
- A community manager (Mate Palfy) joined from 1<sup>st</sup> of May
- preLights currently has an open call to recruit new preLighters



# preLights team



Increase number of PIs ?  
→ Discussion/impact  
Increase recruitment in France ?

# PreLights, a platform for commenting and highlighting preprints Connecting BiorXiv to Twitter, to PreLights

New Results Previous

## Zebrafish as a model to investigate the effects of exercise in cancer

Alexandra Yin, Nathaniel R. Campbell, Lee W. Jones, Richard M. White  
doi: <https://doi.org/10.1101/279232>

This article is a preprint and has not been peer-reviewed [what does this mean?]

Posted March 9, 2018

Download PDF  
Email  
Supplementary material



bioRxiv introduced a feed for 'preprint discussion sites' so preLights posts now appear on preprint pages (alongside blogs and Tweets).

Preprint discussion sites covering this article:

preLights preLights, 12 Mar 2018 Review by Jacky G. Goetz



## Zebrafish as a model to investigate the effects of exercise in cancer

Alexandra Yin, Nathaniel R. Campbell, Lee W. Jones, Richard M. White

Preprint posted on March 09, 2018 <https://www.biorxiv.org/content/early/2018/03/09/279232>

Another string to the bow: Zebrafish can be used to investigate the effect of exercise endurance on melanoma progression

Selected by [Jacky G. Goetz](#)

Categories: [bioengineering](#), [cancer biology](#), [physiology](#)

Selected by Jacky G. Goetz (@GoetzJacky) and Gauthier Follain (@Follain\_Ga, PhD student in Jacky's group)

This preprint from the group of Richard M. White (MSCT) provides an elegant and original proof of principle for the use of zebrafish (*D. rerio*) as a relevant model to study the impact of exercise on cancer progression. They first established a flow chamber system, with tunable parameters, that allows to subject embryos and adults to a reproducible paradigm of endurance exercise. They then grafted a previously established zebrafish melanoma cell line and investigated tumor growth in adults and larvae that were forced to exercise in swimming tunnels for two consecutive weeks. Doing so, they show that exercise significantly decreases cancer progression in larvae, but not in adults.

igger picture



Discussion

preLights @preLights · 12 mars

This highlight was written by [#preLighter](#) [@GoetzJacky](#) & PhD student [@Follain\\_Ga](#) about Richard White & colleagues' preprint

Traduire le Tweet

**Zebrafish as a model to investigate the effects of e...**

Emerging data indicates that exercise may regulate cancer pathogenesis, but the mechanisms underpinning how it regulates the tumor as well as surrounding mic...

bioRxiv.org

preLights a retweet

Christian Mosimann @chmosimann · 12 mars

[@preLights](#) feature on the [@biorxivpreprint](#) by [@whitefishlab](#) and team using a pioneering setup with [#zebrafish](#) to study benefits/influences of exercise in cancer progression:

[preLights](#) @preLights

Another string to the bow: Zebrafish can be used to investigate the effect of exercise endurance on melanoma progression [prelights.biologists.com/highlights/zeb](https://prelights.biologists.com/highlights/zeb) ...

Afficher cette discussion





# What do preLights posts look like?

- Many on the community team wanted structure, but PreLights team also want to stay flexible and hear their voice (keep it personal).
- *Preprint title and authors (plus posted date etc)*  
Engaging tweetable summary  
*Selected by: name and pic of preLighter, plus associate*  
Background; Key findings; What I like about this preprint; Open questions
- We're encouraging the preLighters to contact the original preprint authors and ~25% provide comments for the preLights site.
- Anyone can comment or ask a question, but we anticipate low engagement (as on the preprint servers themselves).

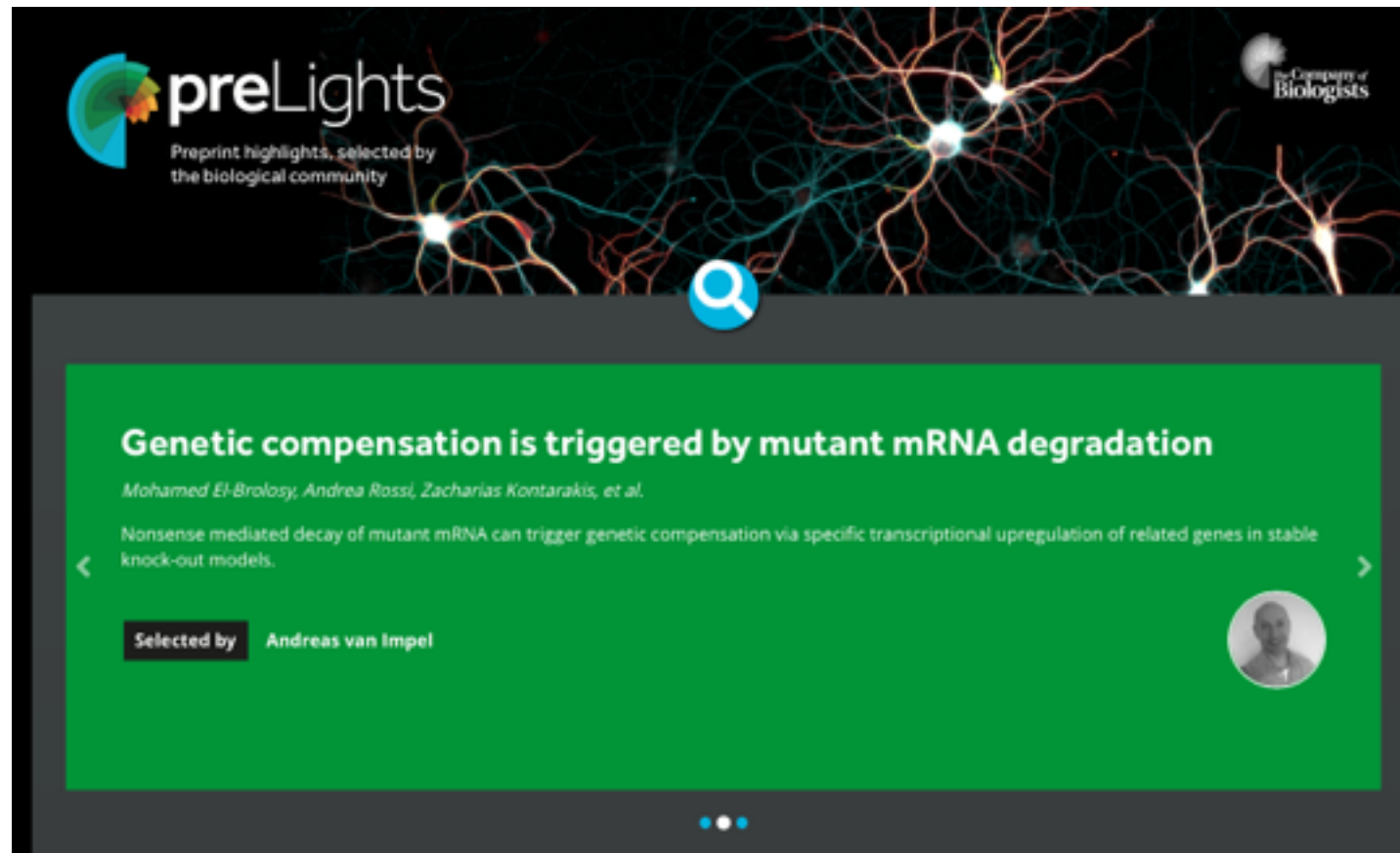


# Browsing and searching the site

- It's easy to browse or search the site.
- You can browse the most recent posts; or browse by subject category (these match bioRxiv).
- If you log in, you can set preferences to view preLights for your own areas of interest.
- Sign up for content alerts (again can set subject preferences).
- We also have a team area to promote the selectors - biogs and pics.



# preLights : website & posts



**preLights**  
Preprint highlights, selected by  
the biological community

The Company of  
Biologists

Genetic compensation is triggered by mutant mRNA degradation

*Mohamed El-Brolosy, Andrea Rossi, Zacharias Kontarakis, et al.*

Nonsense mediated decay of mutant mRNA can trigger genetic compensation via specific transcriptional upregulation of related genes in stable knock-out models.

Selected by **Andreas van Impel**

The Company of  
Biologists



# preLights : website & posts

**Recent highlights**      [Recent highlights](#)   [My interests](#)   [Categories](#)

<p><b>Stopping Transformed Growth with Cytoskeletal Proteins: Turning a Devil into an Angel</b></p> <p><i>Bo Yang, Haguy Wolfenson, Naotaka Nakazawa, et al.</i></p> <p><b>Selected by</b> Jon Humphries</p>	<p><b>Feedback control of neurogenesis by tissue packing</b></p> <p><i>Tom W. Hiscock, Joel B. Miesfeld, Kishore R. Mosaliganti, et al.</i></p> <p><b>Selected by</b> Sarah Morson</p>	<p><b>Tunable molecular tension sensors reveal extension-based control of vinculin loading</b></p> <p><i>Andrew S LaCroix, Andrew D Lynch, Matthew E Berginski, et al.</i></p> <p><b>Selected by</b> Amanda Haage     1</p>
<p><b>Persistent cell motility requires transcriptional feedback of cytoskeletal – focal adhesion equilibrium by YAP/TAZ</b></p> <p><i>Devon E Mason, James H Dawahare, Trung Dung Nguyen, et al.</i></p> <p><b>Selected by</b> Carla Mulas     1</p>	<p><b>Dynamin-2 facilitates Atg9 recycling from nascent autophagosomes</b></p> <p><i>Alejandro Martorell Riera, Cinta Iriondo Martinez, Samuel Itskanov, et al.</i></p> <p><b>Selected by</b> Justin Joachim</p>	<p><b>Focal adhesion kinase regulates early steps of myofibrillogenesis in cardiomyocytes</b></p> <p><i>Nilay Taneja, Abigail C Neiningner, Matthew R Bersi, et al.</i></p> <p><b>Selected by</b> Vassilis Papalazarou</p>



# Author commenting and general commenting

## Authors' response

Yoshi Tomoyasu and Courtney Clark-Hachtel shared about *Two sets of wing homologs in the crustacean, Parhyale hawaiiensis*

Yoshi on the significance of the findings:

*"The two studies complement each other, and together I believe that they tell an intriguing story about how complex novel structures evolve, which will no doubt significantly influence the future direction of the debates on the origin of insect wings, as well as on the evolution of morphological novelty in general."*

Courtney's "behind the paper" story:

*"One of my favorite moments from this project was the first time that I observed a 'wingless crustacean'. When I saw that both dorsal body wall and proximal leg tissues were affected by wing gene knock-out in Parhyale and realized that this seemed to support what we had been seeing in wingless segments of insects, I got so excited. As scientists, we live for these eureka moments that can be few and far between in our work, and this moment was definitely a defining eureka moment for this project."*

## 1 comment

Rafael Galupa

2 weeks

Thanks Erik! A great example of how a specific GRN has been exploited throughout evolution... And probably a good model to keep deepening our understanding of the mechanisms behind that. I wonder how easy it is to manipulate this crustacean?

Reply



0

Report

Permalink



# Trending and Tweeting

## Trending

Marionette: E. coli containing 12 highly-optimized small molecule sensors

*Adam J. Meyer, Thomas H. Segall-Shapiro, Christopher A Voigt*

Selected by **Ellis O'Neill**

3

Insect wings and body wall evolved from ancient leg segments

*Heather S Bruce, Nipam H Patel*

AND

Two sets of wing homologs in the crustacean, *Parhyale hawaiiensis*

*Courtney M Clark-Hachtel, Yoshinori Tomoyasu*

Selected by **Erik Clark**

2

Cancer exosomes induce tumor neo-neurogenesis potentiating tumor growth

*Marianna Madeo, Paul L. Colbert, Daniel W. Vermeer, et al.*

## Tweets

Tweets by [@preLights](#)

preLights Retweeted



Amanda Haage  
[@mandy\\_ridd](#)

Look what made it to Canada! Thanks [@preLights!](#) Just in time for working up my third preLight ~ coming soon





# Early reaction to preLights

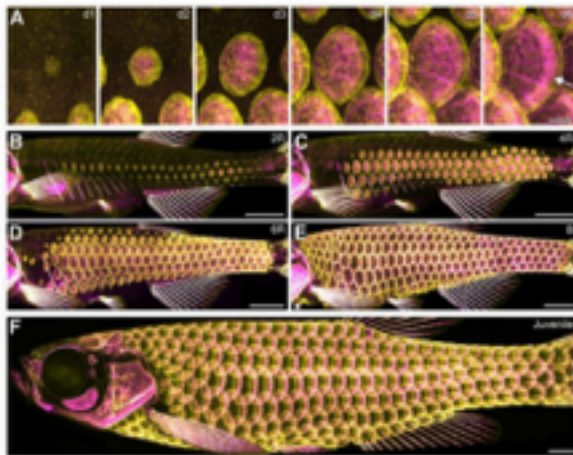
- Before launch already 500 followers on Twitter : now 1473
- We expect Twitter will continue to generate most traffic to the site.
  - “Wonderful! This is a game changer”
  - “It looks fantastic!”
  - “I do like the ‘Author’s Response’ section”
  - “great initiative”
  - “Showing how preprints allow for the evolution of the scientific publishing model”
- 16,618 page views in first month, now at ~ 250 views per day, mostly exploring content / team - we’re encouraging people to sign up for content alerts.
- Certainly gaining attention : 100th PreLight today !

# Promoting preLighters via our Twitter feed and 'Meet the preLighters' interviews

preLights @preLights

Analysis of zebrafish scale development suggests a common ancient origin of the molecular machinery controlling the basic patterning of skin appendages in vertebrates.

[prelights.biologists.com/highlights/wntβ-catenin-regulates-ancient-signaling-network-zebrafish-scale-development/](http://prelights.biologists.com/highlights/wntβ-catenin-regulates-ancient-signaling-network-zebrafish-scale-development/)



8:04 am - 26 Apr 2018

15 Retweets 73 Likes



2 35 73

prelights @preLights - Apr 26

This highlight is the second from [#preLighter](#) Andreas van Impel and written about Andrew Aman, Alexis Fulbright and David Parichy's preprint here:

preLights @preLights - Apr 23  
Meet the preLighters!

In the first of a series of interviews, our soon-to-start Community Manager [@mate\\_palfy](#) met [@NatalieADye](#) in the [@mpicbg](#) to talk [#preprints](#), [#preLights](#) and [#peerreview](#)  
[prelights.biologists.com/news/meet-prel...](http://prelights.biologists.com/news/meet-prel...)



20 32

© 2017. Published by The Company of Biologists Ltd. *Journal of Cell Science* (2017), 130, 2097–2102. doi:10.1242/jcs.20074

**CELL SCIENTISTS TO WATCH**

**Cell scientist to watch – Jacky Goetz**

Jacky Goetz graduated in pharmacology and cell biology from the University of Strasbourg in France and moved to Canada to the University of Montreal and then to the University of British Columbia, to work on the interaction between the cytoskeleton and microtubules, as well as the organization of membrane proteins. In 2007, he received his PhD from both the University of Montreal and the University of Strasbourg. For his postdoc, Jacky moved to the Spanish national centre for cardiovascular research (CNIC) in Madrid and the laboratory of Miguel Angel del Pozo to study the tumour microenvironment. Subsequently, Jacky joined the laboratory of Julien Yarnick at the Institute of Genetics and Molecular and Cellular Biology (IGMC) in Strasbourg to pursue his interests in mechanotransduction. In 2012, he won the French Society for Cell Biology (SBCF) Young Scientist Award and, in 2015, he started his own research group – ‘Tumour Biomechanics’ – in Strasbourg to work on intravital imaging methods and biomechanical forces during tumour progression.

**What inspired you to become a scientist?**  
I don't think I ever 'wanted' to become a scientist, unlike others. My first writings and I grew up in the countryside in very remote surroundings – my dad was a soil scientist and my mom raised the three of us. Science was never a topic, I only cared about football. But things changed when my biology teacher showed us the 3D structure of proteins. I was

Fig. 1. Jacky Goetz





# What next for preLights

- Mate Palfy joined 1st May as the preLights Community Manager.
- Encourage author commenting. Encourage commenting by all.
- Feature team of selectors through interviews.
- Extend coverage for the whole biological sciences (not just areas of CoB journals)
- Improve functionality - ask the community to give us feedback.
- Positioning as an evolving project... lots more to do.



## Meet some of the team





# preLights

Preprint highlights, selected by  
the biological community



*Jacky G.Goetz,*  
*Leader of the Tumor Biomechanics Lab*  
*"Prelighter"*  
*June 18th, 2018*  
*ITMO BCDE,*

Contact:



[www.goetzlab.com](http://www.goetzlab.com)



[jacky.goetz@inserm.fr](mailto:jacky.goetz@inserm.fr)



[@GoetzJacky](https://twitter.com/GoetzJacky)



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