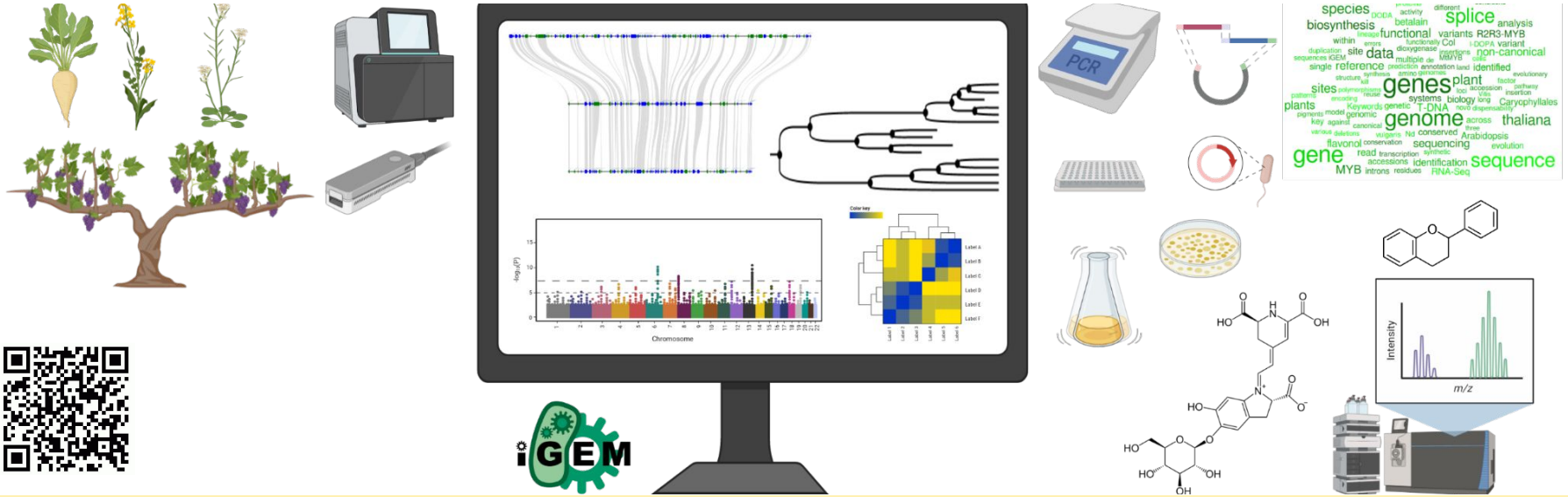
Technische Universität Braunschweig



Data submission and publications

Prof. Dr. Boas Pucker (Plant Biotechnology and Bioinformatics)

Availability of slides

- All materials are freely available (CC BY) - after the lectures:
  - StudIP: **GE32/MM12**
  - GitHub: https://github.com/bpucker/teaching

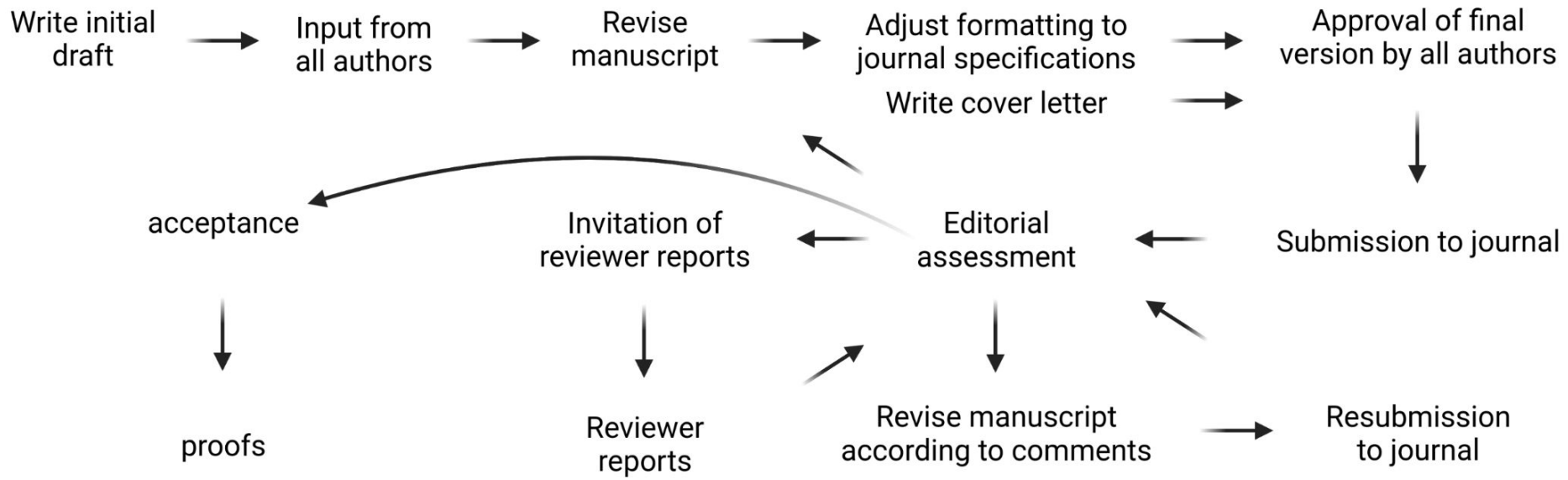
- Questions: Feel free to ask at any time

- Feedback, comments, or questions: b.pucker[a]tu-braunschweig.de

Motivation

You have exciting findings that you would like to share with the scientific community or the whole world!

How to publish a paper - publication process



Authorship

- COPE: specifies criteria for authors (https://publicationethics.org/)
- Substantial contribution to
  - (1) data generation / analysis and
  - (2) data interpretation, and
  - (3) manuscript writing
- Order of authors indicates contribution to study:
  - First is best
  - Last is supervision of work + correspondence

- Example 1:
  - Head of an institute does not qualify (ghost authorship)
- Example 2:
  - Technician/undergrad contributing without scientific input does not qualify
- Example 3:
  - Student developing novel method, generating useful data, and contributing to the manuscript does qualify

Cover letter

- State title of the submission
- State article type (and special issue)
- Summarize the content of the submission
- Convince the editor of relevance
- State that the work has not been published (include link to preprint)
- Indicate previous interactions with journal

Technische Universität Braunschweig

Institute for Plant Biology
Technische Universität Braunschweig

Plants
Editorial Office

Prof. Dr. Boas Pucker
Mendelssohnstr. 4
38106 Braunschweig
Germany

09. March 2022

Biochemistry and molecular basis of intracellular flavonoid transport in plants

Dear Editor, dear editorial team,

I am submitting the manuscript 'Biochemistry and molecular basis of intracellular flavonoid transport' by Boas Pucker and Dirk Selmar for publication in Plants as a review article in the Special Issue 'Evolution of Specialized Metabolism in Plants'.

Different subclasses of flavonoids play numerous important roles in plants. Examples are the coloration of flowers by anthocyanins, the pigmentation of seeds by proanthocyanins, and the protection against the consequences of UV radiation by flavonols. While the biosynthesis pathway is well understood due to investigations in many different plant species, the knowledge about the intracellular transport of flavonoids is sparse. In our review, we summarize the current state of knowledge and point out some questions for future studies.

We hope that you will find our manuscript suitable for publication and hereby confirm that it has not been submitted for publication elsewhere. However, there is a preprint available on Preprints.org (https://www.preprints.org/manuscript/202203.0124/v1) that already received some attention.

I have been in contact with [redacted] about this submission. She confirmed that no publication fees should be charged for the publication, because of my support of the journal as a guest editor.

Sincerely (on behalf of both authors),

[redacted]

Value of citations

- Currency of science: ‘Publish or perish’
- Important for scientific career: job applications, grant applications
- Quantity vs. quality
- Application often require 3, 5, or 10 ‘most important’ publications

What is the h-index?

h-index

Position		Citations	
1	Genome-wide identification and characterisation of R2R3-MYB genes in sugar beet (Beta vulgaris) R Stracke, D Holtgräwe, J Schneider, B Pucker, T Rosleff Sörensen, ... BMC Plant Biology 14 (1), 1-17	77	2014
2	The evolution of betalain biosynthesis in Caryophyllales A Timoneda, T Feng, H Sheehan, N Walker-Hale, B Pucker, ... New Phytologist 224 (1), 71-85	56	2019
3	The negative regulator SMAX1 controls mycorrhizal symbiosis and strigolactone biosynthesis in rice J Choi, T Lee, J Cho, EK Servante, B Pucker, W Summers, S Bowden, ... Nature communications 11 (1), 1-13	44	2020
4	A *De Novo* Genome Sequence Assembly of the *Arabidopsis thaliana* Accession Niederzenz-1 Displays Presence/Absence Variation and Strong Synteny B Pucker, D Holtgräwe, T Rosleff Sörensen, R Stracke, P Viehöver, ... PLoS One 11 (10), e0164321	34	2016
5	Evolution of L-DOPA 4,5-dioxygenase activity allows for recurrent specialisation to betalain pigmentation in Caryophyllales H Sheehan, T Feng, N Walker-Hale, S Lopez-Nieves, B Pucker, R Guo, ... New Phytologist 227 (3), 914-929	29	2020
6	A chromosome-level sequence assembly reveals the structure of the *Arabidopsis thaliana* Nd-1 genome and its gene set B Pucker, D Holtgräwe, KB Stadermann, K Frey, B Huettel, R Reinhardt, ... PloS one 14 (5), e0216233	29	2019
7	Genome-wide analyses supported by RNA-Seq reveal non-canonical splice sites in plant genomes B Pucker, SF Brockington BMC genomics 19 (1), 1-13	24	2018
8	High contiguity de novo genome sequence assembly of trifoliate yam (Dioscorea dumetorum) using long read sequencing C Siadjeu, B Pucker, P Viehöver, DC Albach, B Weisshaar Genes 11 (3), 274	23	2020
9	High quality de novo transcriptome assembly of Croton tiglium M Haak, S Vinke, W Keller, J Droste, C Rückert, J Kalinowski, B Pucker Frontiers in molecular biosciences 5, 62	23	2018
10	Auxotrophy to Xeno-DNA: an exploration of combinatorial mechanisms for a high-fidelity biosafety system for synthetic biology applications CM Whitford, S Dymek, D Kerkhoff, C März, O Schmidt, M Edich, J Droste, ... Journal of Biological Engineering 12 (1), 1-28	18	2018
11	Consideration of non-canonical splice sites improves gene prediction on the Arabidopsis thaliana Niederzenz-1 genome sequence B Pucker, D Holtgräwe, B Weisshaar BMC Research Notes 10 (1), 1-6	17	2017
12	Automatic identification of players in the flavonoid biosynthesis with application on the biomedicinal plant Croton tiglium B Pucker, F Reiher, HM Schilbert Plants 9 (9), 1103	16	2020
13	Comparison of read mapping and variant calling tools for the analysis of plant NGS data HM Schilbert, A Rempel, B Pucker Plants 9 (4), 439	15	2020
14	The *R2R3-MYB* gene family in banana *(Musa acuminata)*: Genome-wide identification, classification and expression patterns B Pucker, A Pandey, B Weisshaar, R Stracke PloS one 15 (10), e0239275	14	2020
15	Animal, fungi, and plant genome sequences harbor different non-canonical splice sites K Frey, B Pucker Cells 9 (2), 458	14 *	2020
16	The land plant-specific MIXTA-MYB lineage is implicated in the early evolution of the plant cuticle and the colonization of land B Xu, L Taylor, B Pucker, T Feng, BJ Glover, SF Brockington New Phytologist 229 (4), 2324-2338	11	2021
17	Integrating molecular biology and bioinformatics education B Pucker, HM Schilbert, SF Schumacher Journal of integrative bioinformatics 16 (3)	11	2019
18	The reuse of public datasets in the life sciences: potential risks and rewards K Sielemann, A Hafner, B Pucker PeerJ 8, e9954	9	2020

h=14

What is the i10-index?

i10-index

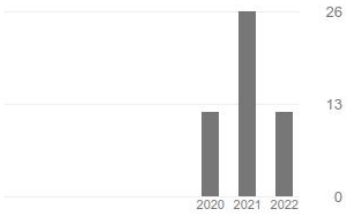
Position		Citations	
1	Genome-wide identification and characterisation of R2R3-MYB genes in sugar beet (Beta vulgaris) R Stracke, D Holtgräwe, J Schneider, B Pucker, T Rosleff Sörensen, ... BMC Plant Biology 14 (1), 1-17	77	2014
2	The evolution of betalain biosynthesis in Caryophyllales A Timoneda, T Feng, H Sheehan, N Walker-Hale, B Pucker, ... New Phytologist 224 (1), 71-85	56	2019
3	The negative regulator SMAX1 controls mycorrhizal symbiosis and strigolactone biosynthesis in rice J Choi, T Lee, J Cho, EK Servante, B Pucker, W Summers, S Bowden, ... Nature communications 11 (1), 1-13	44	2020
4	A *De Novo* Genome Sequence Assembly of the *Arabidopsis thaliana* Accession Niederzenz-1 Displays Presence/Absence Variation and Strong Synteny B Pucker, D Holtgräwe, T Rosleff Sörensen, R Stracke, P Viehöver, ... PLoS One 11 (10), e0164321	34	2016
5	Evolution of L-DOPA 4,5-dioxygenase activity allows for recurrent specialisation to betalain pigmentation in Caryophyllales H Sheehan, T Feng, N Walker-Hale, S Lopez-Nieves, B Pucker, R Guo, ... New Phytologist 227 (3), 914-929	29	2020
6	A chromosome-level sequence assembly reveals the structure of the *Arabidopsis thaliana* Nd-1 genome and its gene set B Pucker, D Holtgräwe, KB Stadermann, K Frey, B Huettel, R Reinhardt, ... PloS one 14 (5), e0216233	29	2019
7	Genome-wide analyses supported by RNA-Seq reveal non-canonical splice sites in plant genomes B Pucker, SF Brockington BMC genomics 19 (1), 1-13	24	2018
8	High contiguity de novo genome sequence assembly of trifoliate yam (Dioscorea dumetorum) using long read sequencing C Sadjeu, B Pucker, P Viehöver, DC Albach, B Weisshaar Genes 11 (3), 274	23	2020
9	High quality de novo transcriptome assembly of Croton tiglium M Haak, S Vinke, W Keller, J Droste, C Rückert, J Kalinowski, B Pucker Frontiers in molecular biosciences 5, 62	23	2018
10	Auxotrophy to Xeno-DNA: an exploration of combinatorial mechanisms for a high-fidelity biosafety system for synthetic biology applications CM Whitford, S Dymek, D Kerkhoff, C März, O Schmidt, M Edich, J Droste, ... Journal of Biological Engineering 12 (1), 1-28	18	2018
11	Consideration of non-canonical splice sites improves gene prediction on the Arabidopsis thaliana Niederzenz-1 genome sequence B Pucker, D Holtgräwe, B Weisshaar BMC Research Notes 10 (1), 1-6	17	2017
12	Automatic identification of players in the flavonoid biosynthesis with application on the biomedicinal plant Croton tiglium B Pucker, F Reiher, HM Schilbert Plants 9 (9), 1103	16	2020
13	Comparison of read mapping and variant calling tools for the analysis of plant NGS data HM Schilbert, A Rempel, B Pucker Plants 9 (4), 439	15	2020
14	The *R2R3-MYB* gene family in banana *(Musa acuminata)*: Genome-wide identification, classification and expression patterns B Pucker, A Pandey, B Weisshaar, R Stracke PloS one 15 (10), e0239275	14	2020
15	Animal, fungi, and plant genome sequences harbor different non-canonical splice sites K Frey, B Pucker Cells 9 (2), 456	14 *	2020
16	The land plant-specific MIXTA-MYB lineage is implicated in the early evolution of the plant cuticle and the colonization of land B Xu, L Taylor, B Pucker, T Feng, BJ Glover, SF Brockington New Phytologist 229 (4), 2324-2338	11	2021
17	Integrating molecular biology and bioinformatics education B Pucker, HM Schilbert, SF Schumacher Journal of integrative bioinformatics 16 (3)	11	2019
18	The reuse of public datasets in the life sciences: potential risks and rewards K Sielemann, A Hafner, B Pucker PeerJ 8, e9954	9	2020

Citations are career stage and field-dependent

Doctoral student

Zitiert von

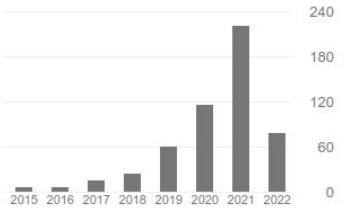
	Alle	Seit 2017
Zitate	53	53
h-index	4	4
i10-index	3	3



Young PI

Cited by

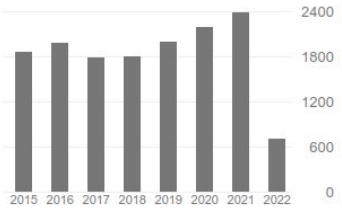
	All	Since 2017
Citations	544	524
h-index	14	14
i10-index	17	17



Highly cited PI

Cited by VIEW ALL

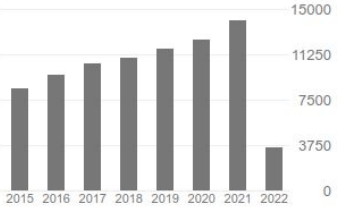
	All	Since 2017
Citations	27595	10899
h-index	70	42
i10-index	131	97



Pioneer and geneious

Cited by VIEW ALL

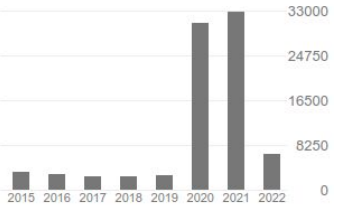
	All	Since 2017
Citations	144131	63748
h-index	185	125
i10-index	586	510



Researcher with ‘hot topic’

Cited by VIEW ALL

	All	Since 2017
Citations	102020	79258
h-index	127	100
i10-index	448	393

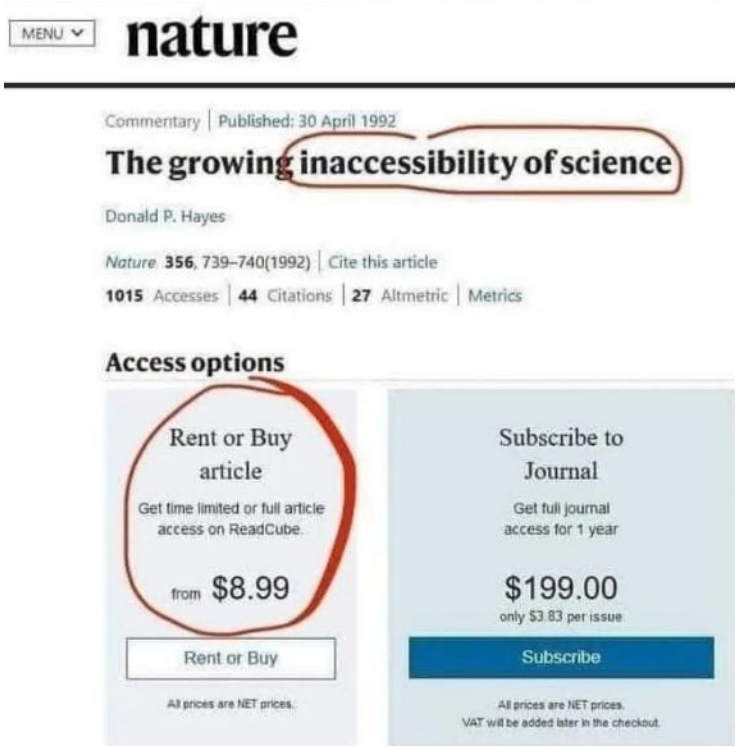


Journal impact factor (IF)

- Journals like to present a journal impact factor (JIF or IF)
  2-year-impact factor and 5-year impact factor
- IF = Average number of citations that each publication receives
- Number of citations per publication is extremely heterogeneous i.e. not an accurate reflection of article quality; publication-based metrics are more accurate
- Top journals: Nature, Science, Cell (30-50) (exciting story, ‘broad interest’)
- Good journals: New Phytologist, Genome Biology, Nucleic Acid Research … (>8) (novel findings)
- Solid journals: 3-8 (technically solid)

Journal types

- Subscription: articles are paywalled
  - Readers have to pay for access
- Hybrid:
  - Authors can pay to get article open
  - Readers have to pay for most articles
- Open Access:
  - Articles are freely accessible
  - Author pay publication fees



http://people.soc.cornell.edu/dph1/lexical-analysis/schoolbooks/Papers/HayesGrowingInaccessibility1992.pdf

(Molecular) Plant Science Journals

- Nature/Science
- Nature Genetics / Nature Plants / Nature Communication
- New Phytologist
- Journal of Experimental Botany

- BMC Genome Biology / Genomics / Plant Biology / Plant Methods
- PLOS ONE / Genetics / Biology / Bioinformatics
- MDPI Plants / Genes / Agriculture / International Journal of Molecular Sciences
- Frontiers in Plant Sciences / Genetics / Molecular Sciences
- PeerJ
- Molecular Biology and Evolution, Genome Biology and Evolution
- Nucleic Acid Research
- Bioinformatics
- GigaScience
- The Plant Journal / Plant Cell

- …

Data set publications

- Publications describing data sets without any novel insights
- Dedicated journals were established years ago, but many other are now happy to take everything ‘scientifically solid’
- Classic journals:
  - BMC Research Notes
  - Genome Announcements in many journals

Preprints

- bioRxiv: https://www.biorxiv.org/ (Cold Spring Harbor Laboratory)
  - Recommended for original research
  - Does not accept reviews

- Preprints.org: https://www.preprints.org/ (operated by MDPI)
  - Best place for reviews
  - Suggested by MDPI journals

- ResearchSquare: https://www.researchsquare.com/ (supported by Springer Nature)
  - Should be avoided; suggested by Springer Nature journals

Reviewers

- Reviewers are picked based on qualifications and availability
- Qualifications = previous publications on a similar topic
- Lower quality journals have trouble finding reviewers (unqualified reviewers accepted)

- Review activity is documented via ORCID or Publons
- Some journals list reviewers and editors on publications (e.g. Frontiers)

- Getting review invitations is challenging for young scientists
- International visibility is important
- MDPI allows researchers to apply as reviewer for submissions
- Alternative reviewers can be suggested when rejecting an invitation

Review structure

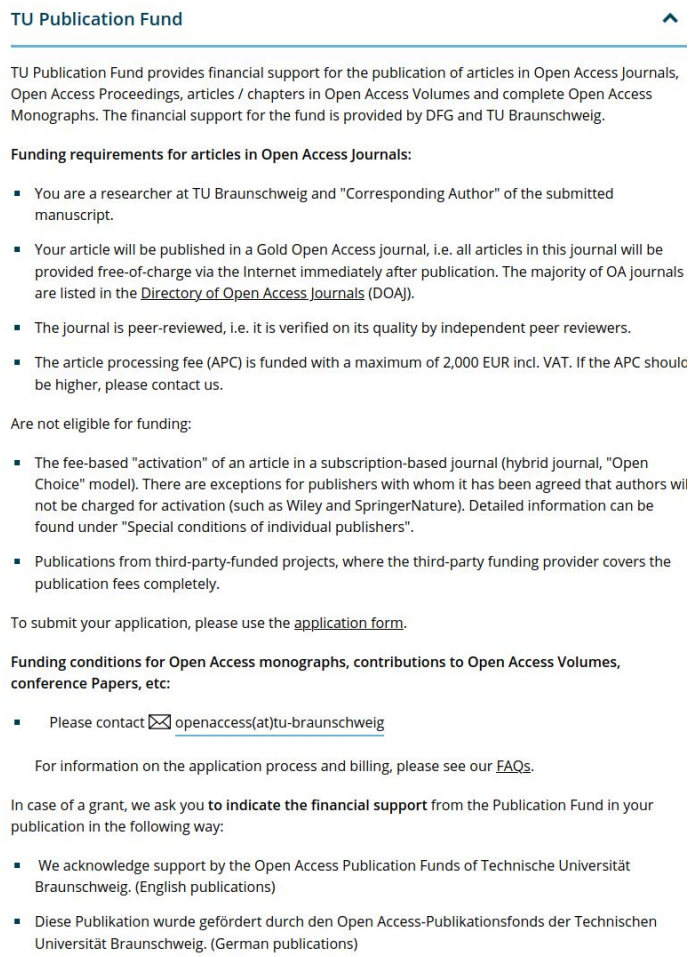
- Summary of the submitted manuscript
- Evaluation of novelty and overall quality
- Major issues
  - Constructive comments about invalid methods
  - List missing controls
  - Point out cases of overstated conclusions
  - …
- Minor issues (include line numbers)
  - Typos
  - Language issues

Rebuttal letter

- Authors write response to editorial decision
- Response to individual reviewer comments
- Authors' response should include references to the revised manuscript with line numbers
- Good rebuttal letter keeps reviewers from reading the manuscript again

Article Processing Charges

- DEAL: funding for all scholars at German research institutes for Springer Nature journals (except NatureComms + ScientificReports)
- OpenAccess Publication Funds of TU Braunschweig (only supports <2k € fees)
- Statement required: ‘We acknowledge support by the Open Access Publication Funds of Technische Universität Braunschweig. ’
- Funding for publications through DFG and other third party funded projects



TU Publication Fund

TU Publication Fund provides financial support for the publication of articles in Open Access Journals, Open Access Proceedings, articles / chapters in Open Access Volumes and complete Open Access Monographs. The financial support for the fund is provided by DFG and TU Braunschweig.

Funding requirements for articles in Open Access Journals:

- You are a researcher at TU Braunschweig and "Corresponding Author" of the submitted manuscript.
- Your article will be published in a Gold Open Access journal, i.e. all articles in this journal will be provided free-of-charge via the Internet immediately after publication. The majority of OA journals are listed in the Directory of Open Access Journals (DOAJ).
- The journal is peer-reviewed, i.e. it is verified on its quality by independent peer reviewers.
- The article processing fee (APC) is funded with a maximum of 2,000 EUR incl. VAT. If the APC should be higher, please contact us.

Are not eligible for funding:

- The fee-based "activation" of an article in a subscription-based journal (hybrid journal, "Open Choice" model). There are exceptions for publishers with whom it has been agreed that authors will not be charged for activation (such as Wiley and SpringerNature). Detailed information can be found under "Special conditions of individual publishers".
- Publications from third-party-funded projects, where the third-party funding provider covers the publication fees completely.

To submit your application, please use the application form.

Funding conditions for Open Access monographs, contributions to Open Access Volumes, conference Papers, etc:

- Please contact ✉ openaccess(at)tu-braunschweig

For information on the application process and billing, please see our FAQs.

In case of a grant, we ask you **to indicate the financial support** from the Publication Fund in your publication in the following way:

- We acknowledge support by the Open Access Publication Funds of Technische Universität Braunschweig. (English publications)
- Diese Publikation wurde gefördert durch den Open Access-Publikationsfonds der Technischen Universität Braunschweig. (German publications)

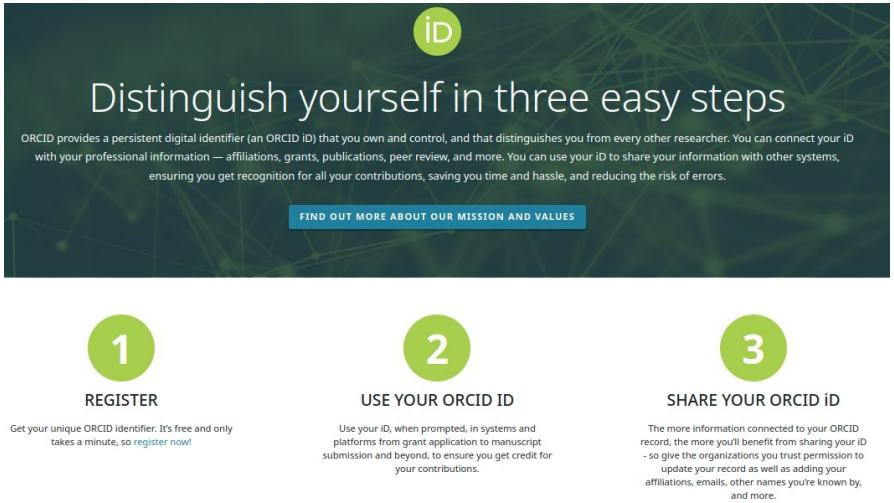
https://www.tu-braunschweig.de/en/ub/publishing-open-access/open-access-publishing

Do you remember licences?

- CC0
- CC BY
- CC BY-SA
- CC BY-NC
- CC BY-ND
- CC BY-NC-SA
- CC BY-NC-ND-SA

ORCID

- ORCID = Open Researcher and Contributor ID
- Unique identifier for researchers (should be included in publications)
- ORCID can be used as SSO on many websites



https://orcid.org/

Data availability

- Open access journals require freely available data sets
- Established data repositories need to be used
  - Dryad
  - Zenodo
- Scripts have to be shared through suitable repositories
  - Github (codeberg)
  - Bitbucket

Flawed papers

- Typos e.g. comma misplaced
- Honest mistakes in analyses
- Scientifically wrong conclusions
- Fraud e.g. fabricated data sets or manipulated images

Retracted article
See the retraction notice

› BMC Plant Biol. 2020 Jul 31;20(1):361. doi: 10.1186/s12870-020-02566-2.

Contribution of anthocyanin pathways to fruit flesh coloration in pitayas

Ruiyi Fan [1], Qingming Sun [1], Jiwu Zeng [1], Xinxin Zhang [2]

Affiliations + expand

PMID: 32736527 PMCID: PMC7394676 DOI: 10.1186/s12870-020-02566-2

Free PMC article

Retraction in

Retraction Note: Contribution of anthocyanin pathways to fruit flesh coloration in pitayas.

Fan R, Sun Q, Zeng J, Zhang X.

BMC Plant Biol. 2021 May 20;21(1):225. doi: 10.1186/s12870-021-03005-6.

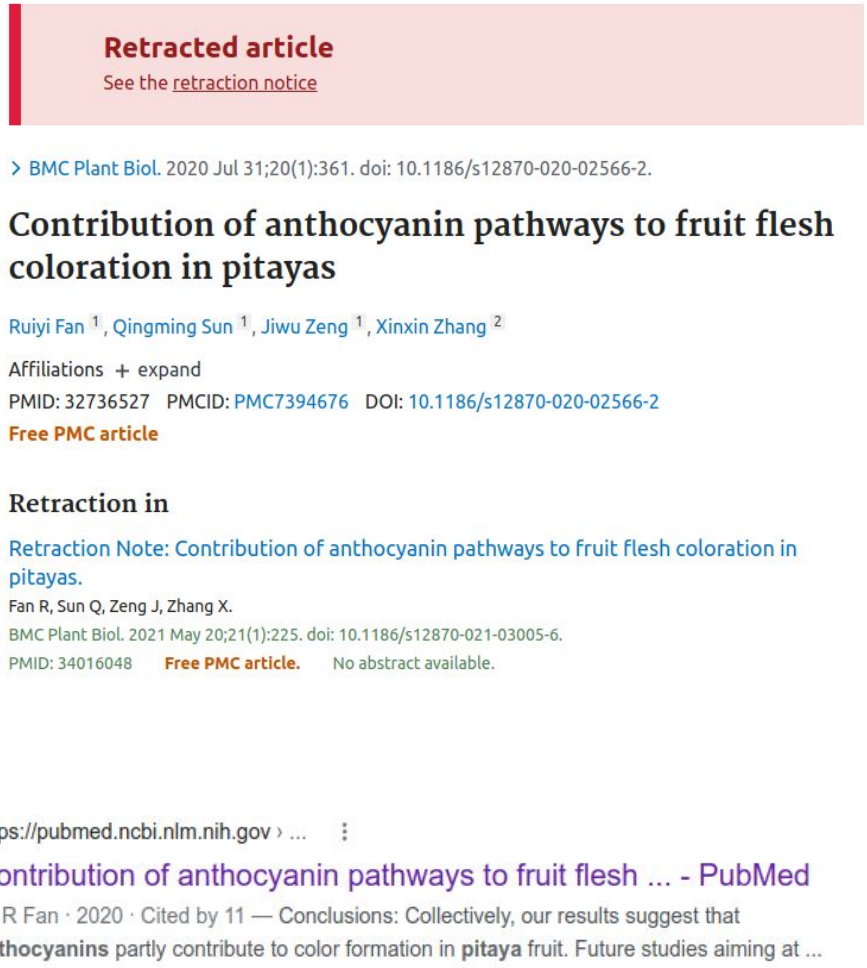
PMID: 34016048 **Free PMC article.** No abstract available.

Correction

- Minor mistakes in articles can be solved by publishing a correction
- Mistakes must not affect any of the major conclusions of the article
- Examples: typos in numbers or mislabeled figures

Retraction

- Retraction is the removal of an article from the body of (valid) literature
- Retraction is done if a correction is not possible
- Retracted articles should not be cited (tools like Zotero can warn you)
- Errors can be propagated through the literature



Retracted article
See the retraction notice

› BMC Plant Biol. 2020 Jul 31;20(1):361. doi: 10.1186/s12870-020-02566-2.

Contribution of anthocyanin pathways to fruit flesh coloration in pitayas

Ruiyi Fan [1], Qingming Sun [1], Jiwu Zeng [1], Xinxin Zhang [2]

Affiliations + expand

PMID: 32736527 PMCID: PMC7394676 DOI: 10.1186/s12870-020-02566-2

Free PMC article

Retraction in

Retraction Note: Contribution of anthocyanin pathways to fruit flesh coloration in pitayas.

Fan R, Sun Q, Zeng J, Zhang X.

BMC Plant Biol. 2021 May 20;21(1):225. doi: 10.1186/s12870-021-03005-6.

PMID: 34016048 **Free PMC article.** No abstract available.

https://pubmed.ncbi.nlm.nih.gov › ...

Contribution of anthocyanin pathways to fruit flesh ... - PubMed

by R Fan · 2020 · Cited by 11 — Conclusions: Collectively, our results suggest that **anthocyanins** partly contribute to color formation in **pitaya** fruit. Future studies aiming at ...

Are journals still relevant?

- Original function of journals is to share research with the community
- Research can be shared via preprints and through social media
- Article impact is measure by Altmetrics (alternative metrics):
  - Twitter
  - Blogs & news outlets
  - Reddit
  - CitationTools

Time for questions!

Questions

1. What are the important steps of the scientific publication process?
2. What are the important elements of a cover letter?
3. What are the important elements of a review report?
4. What is the h-index?
5. What is the i10-index?
6. What is the Journal Impact Factor (IF)?
7. What types of publishing models exist?
8. What are important plant science journals?
9. What is DOI?
10. What is ORCID?
11. Where can you deposit your data sets?
12. Where can you deposit your bioinformatic scripts?
13. How to deal with bad papers?