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Author Academy —getting your research published

The Institute of Information Technology of ANAS, Baku, Azerbaijan

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Senior Editor
Springer
22nd April 2013

Introduction

Today's presentation

- Academic publishing
- Before you start …
  - **Edanz Journal Selector**
    - **Your target journal in minutes not days**
- Avoiding rejection
- Manuscript structure
- Hints and tips

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Academic publishing

Adopt a winning strategy

Footballer		Researcher
Physical fitness	**Preparation**	Results
Team members	**Communication**	Manuscript
Rules of the game	**Understanding**	Submission process
Opposition	**Knowledge**	Published literature
Win games	**Tactics**	**Publication record**

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Academic publishing

Exchange ideas globally

Appl Phys A
DOI 10.1007/s00339-011-6736-y

Applied Physics A
Materials Science & Processing

INVITED PAPER

Optically tunable plasmonic color filters

Y.J. Liu · G.Y. Si · E.S.P. Leong · B. Wang · A.J. Danner · X.C. Yuan · J.H. Teng

Received: 11 July 2011 / Accepted: 8 December 2011
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Abstract We fabricated sub-wavelength patterned gold plasmonic nanostructures on a quartz substrate through the focused ion beam (FIB) technique. The perforated gold film demonstrated optical transmission peaks in the visible range, which therefore can be used as a plasmonic color filter. Furthermore, by integrating a layer of photoresponsive liquid crystals (LCs) with the gold nanostructure to form a hybrid system, we observed a red-shift of transmission peak wavelength. More importantly, the peak intensity can be further enhanced more than 10% in transmittance due to the refractive index match of the media on both sides

1 Introduction

Nowadays, color filters are a crucial component for various applications, such as digital cameras, complementary metal-oxide-semiconductor (CMOS) image sensors, liquid crystal displays, and light emitting diodes. Current research on color filtering is focused on developing smaller, faster, smarter, and lower-power designs. Plasmonic color filters are promising to meet these challenges due to the nature of surface plasmons (SPs). SPs are essentially charge density waves generated by the coupling of light to the collective

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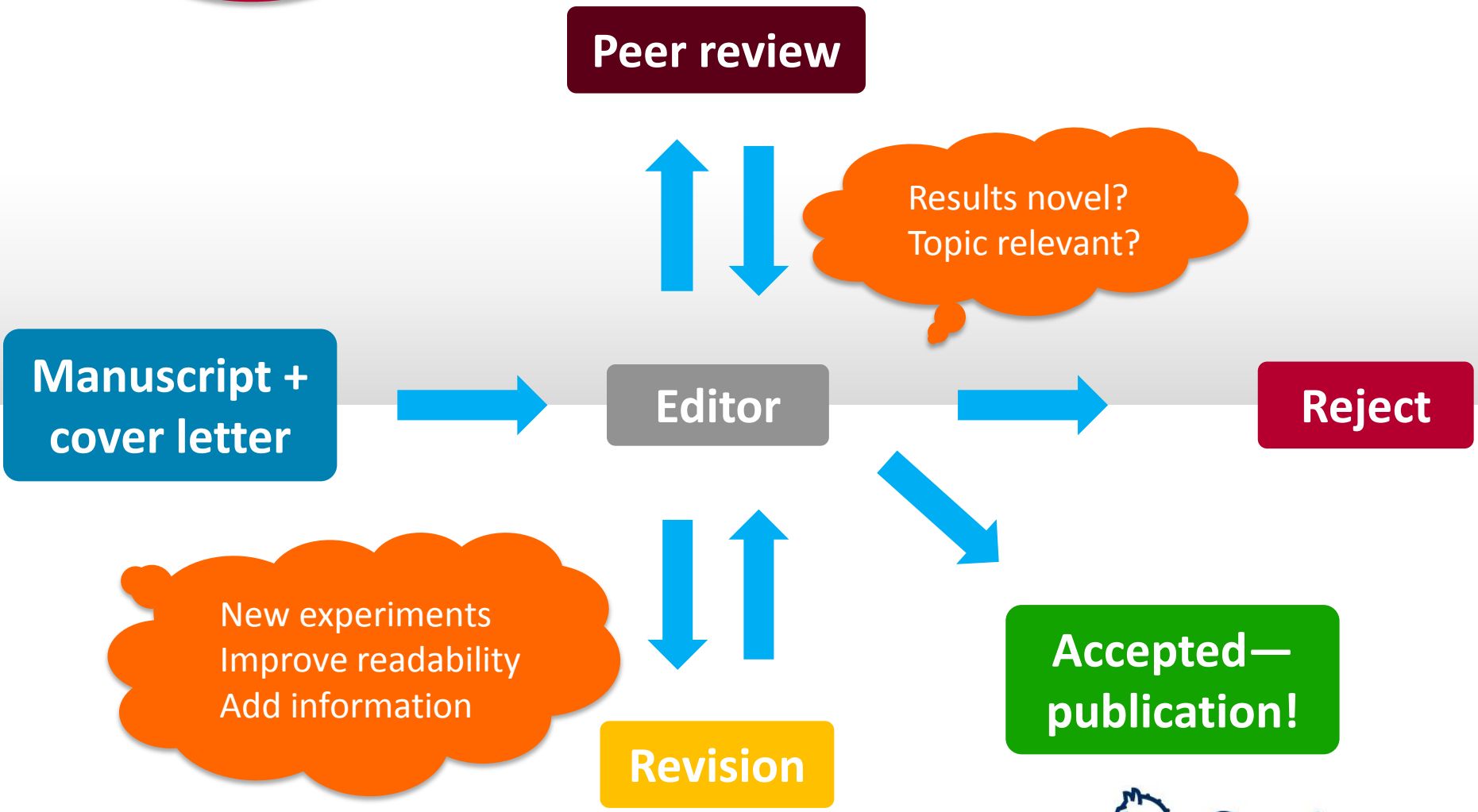
You ***must*** publish in English

- The international language of academics
- Other researchers ***want*** to hear from Azerbaijan researchers!
- Become an effective communicator
- Funding
- International reputation
- Career advancement

Academic publishing

The submission process



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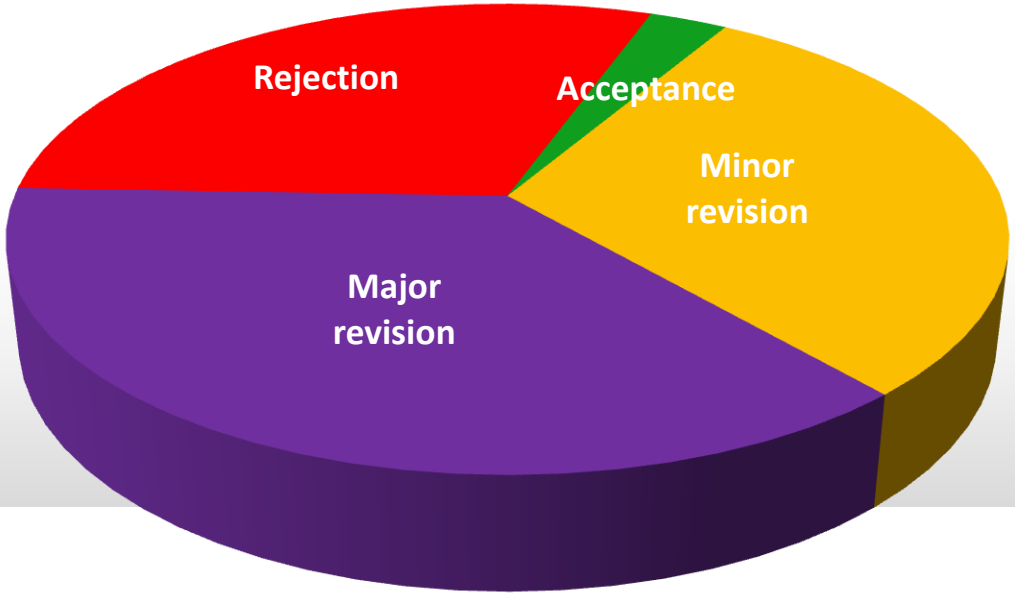
Publishing timeline

- 3–12 months …
- Depends on
  - Manuscript type
  - Availability of peer reviewers
  - Fast tracking
  - Number of revisions
    - How well you address reviewer comments

Academic publishing

Peer review improves your manuscript



- Few papers are accepted without revision
- Rejection and revision are integral
- Peer review should be a positive experience

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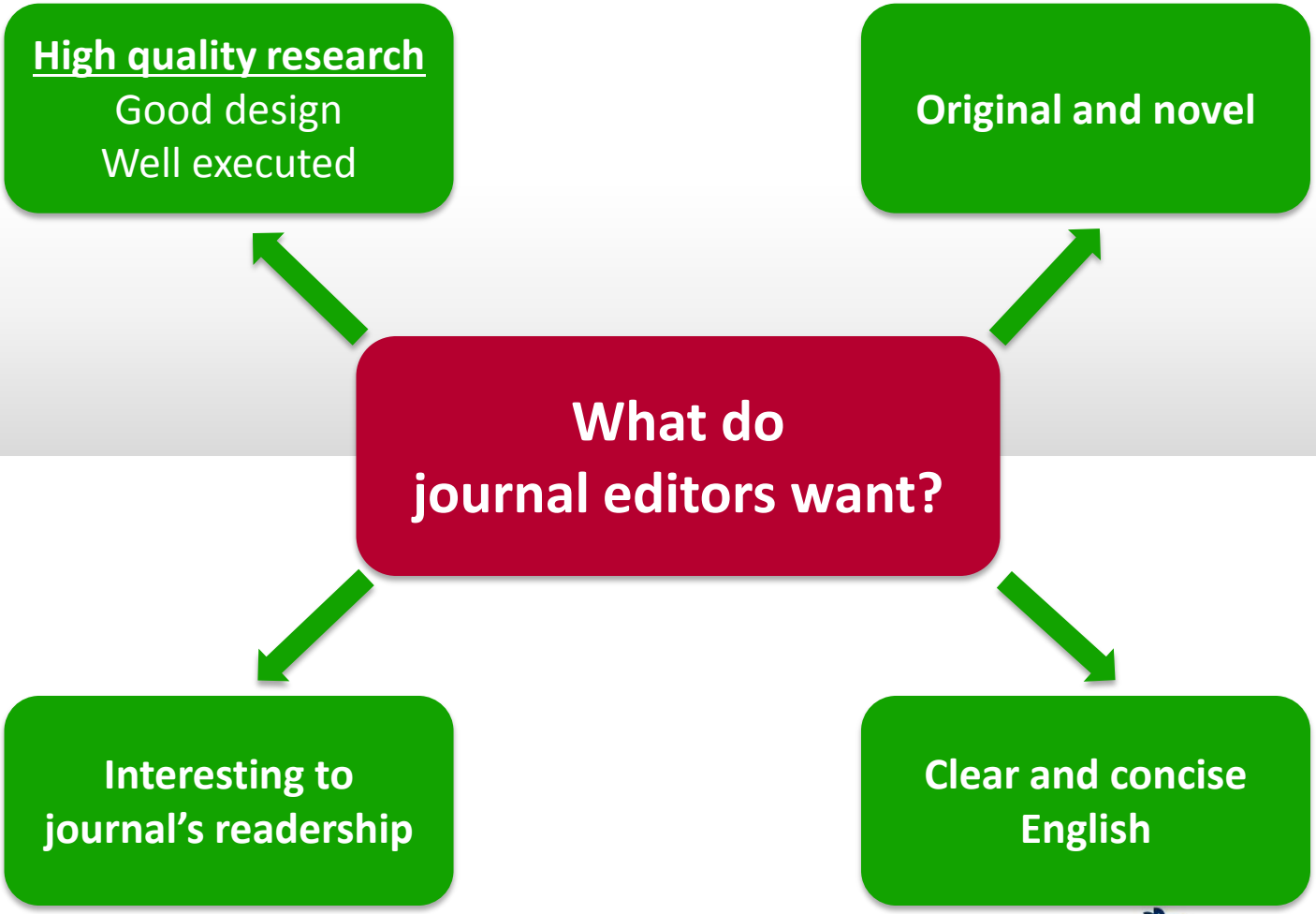
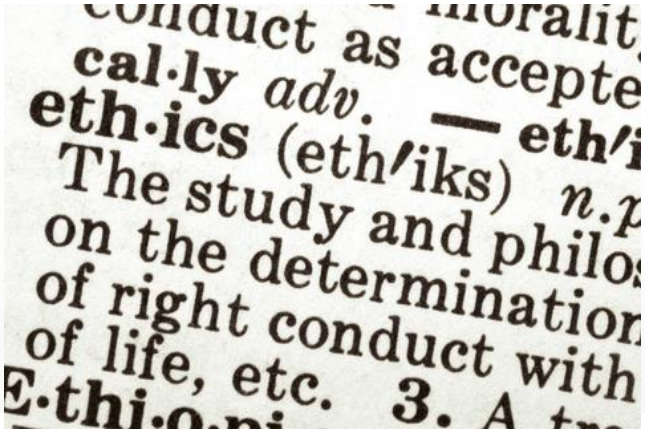
Ask yourself



Ethical considerations

- Animal use
- Human subjects
  - Consent forms
  - Anonymity



- Clinical trial registration
- Materials transfer agreements
- GMOs

Publication ethics

- Multiple submissions
- Plagiarism
- Author list
  - Who?
  - First author
  - Corresponding author
- Data fabrication and falsification
- Conflicts of interest
  - Financial
  - Personal
  - Intellectual

Before you start …

Things you ***need*** to consider

- Reading
- Journal selection
- Evaluate significance

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Before you start …

Reading improves your writing

How?

What to do

Structure & style

Journal quality

Argument structure

Get new ideas

What *not* to do

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Before you start …

Make time to read

Read often

- At least …
  - 20–30 min each day
  - 60 min, once a week
- Discuss with colleagues
  - Journal club

Before you start …

How to read an article

- Start to finish?
- Section by section?
- Efficiency
- Where is the relevant information?

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Before you start …

Strategies for reading

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Before you start …

Strategies for reading

Title and Abstract first

Before you start …

Strategies for reading

Title and Abstract first

Self-assess knowledge of topic

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Before you start …

Strategies for reading

Title and Abstract first

Self-assess knowledge of topic

Have you read similar papers?

Familiar with the terminology?

Do you understand the relevance of the hypothesis?

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Before you start …

Strategies for reading

Title and Abstract first

Self-assess knowledge of topic

Last paragraph of Introduction for aims

Before you start …

Strategies for reading

Title and Abstract first

Self-assess knowledge of topic

Last paragraph of Introduction for aims

Figures & Tables, then Results

Before you start …

Strategies for reading

Title and Abstract first

Self-assess knowledge of topic

Last paragraph of Introduction for aims

Figures & Tables, then Results

Discussion for interpretation

Before you start …

Strategies for reading

Title and Abstract first

Self-assess knowledge of topic

Last paragraph of Introduction for aims

Figures & Tables, then Results

Discussion for interpretation

Refer to Introduction and Methods if necessary

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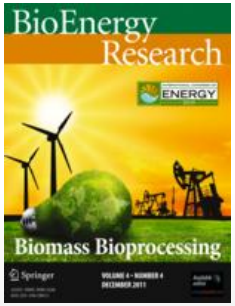
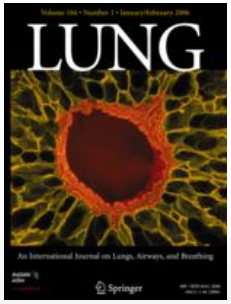
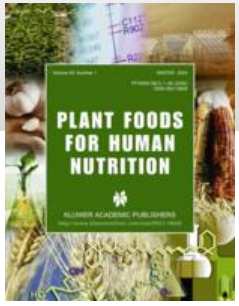
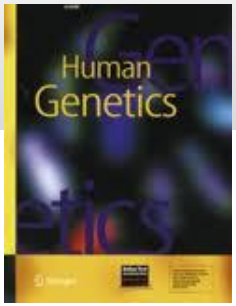
Before you start …

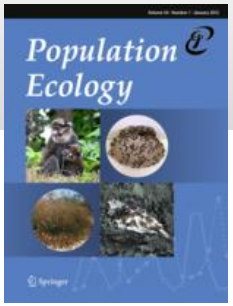
Journal selection

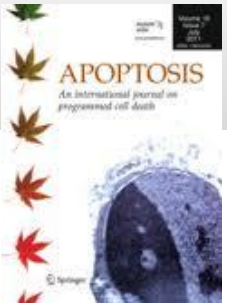


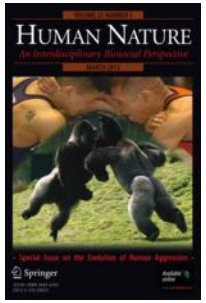


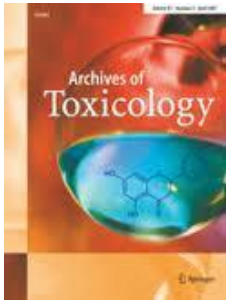


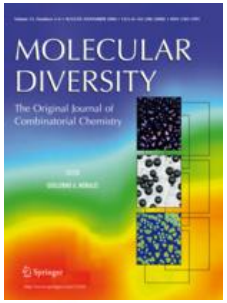












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Before you start …

Factors to consider

What is your publication goal?

- Aims & scope
- Prestige
- Impact factor
- Target audience
- Open access
- Publishing frequency
- Indexing status
- Publication type

Which factor is most important to you?

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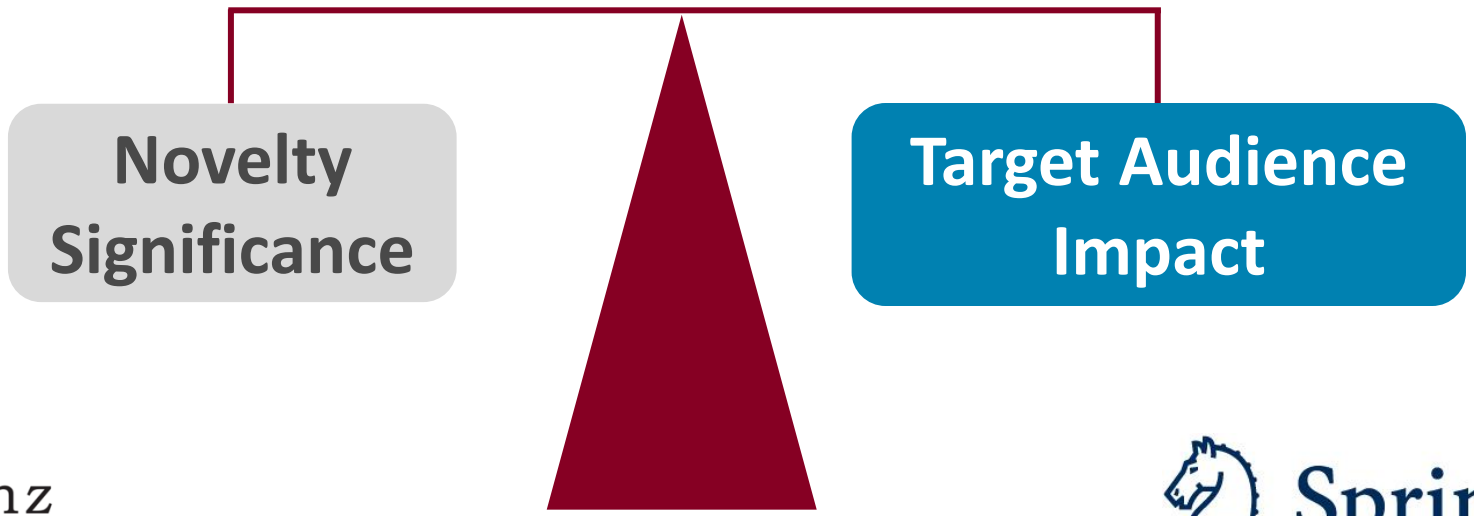
Before you start …

Choosing a target journal

- Journal selection ***must*** be based on an honest evaluation of ***your*** manuscript



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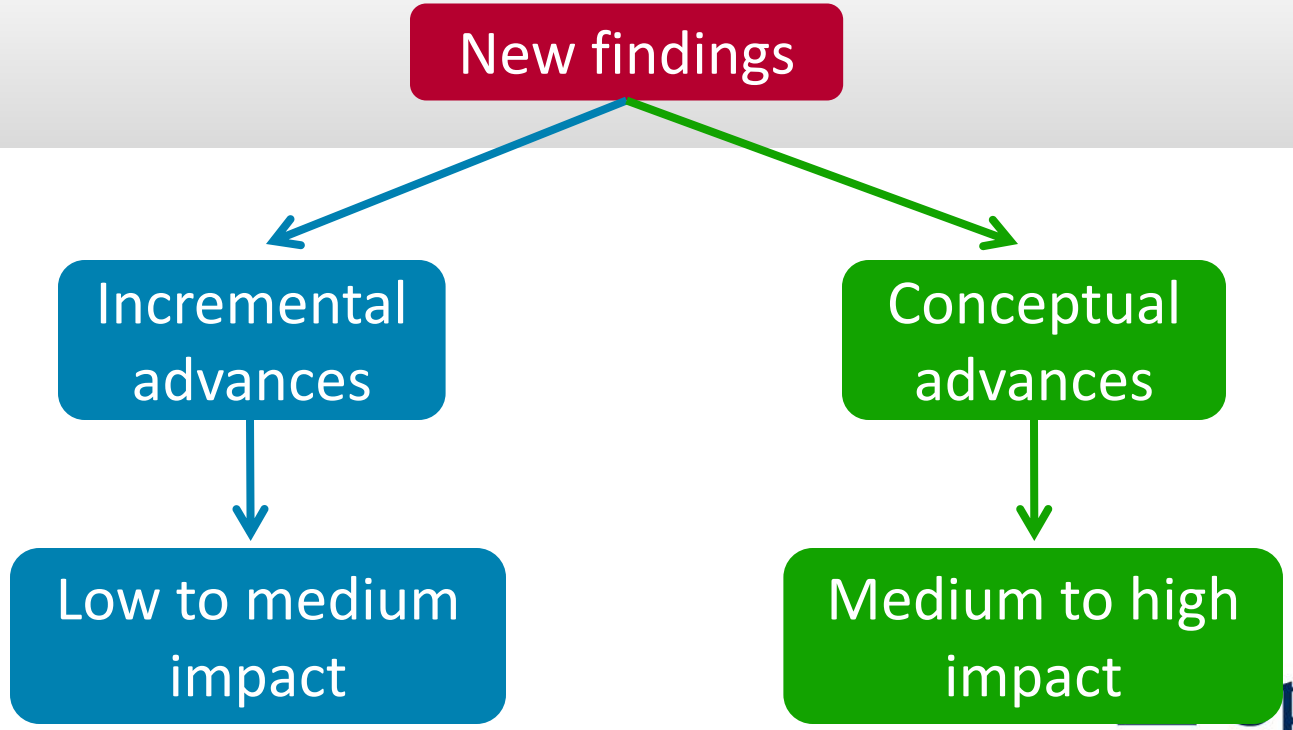
Timing

- Choose your target journal:
  - *After* you have decided you have enough results for a publication
  - *After* a decision has been made on how high to aim—high, medium or low impact
  - *Before* writing the Title, Abstract, Introduction or Discussion sections

Before you start …

Evaluating significance: novelty

- How new are my results compared with those already published?



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Before you start …

Evaluating significance: relevance

- How relevant is my work?

Applications for a specific field?

Applications across many fields?

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Before you start …

Evaluating significance: relevance

- Are your findings specific to a ***geographical region*** or ***ethnic population***?

Regional?

Global?

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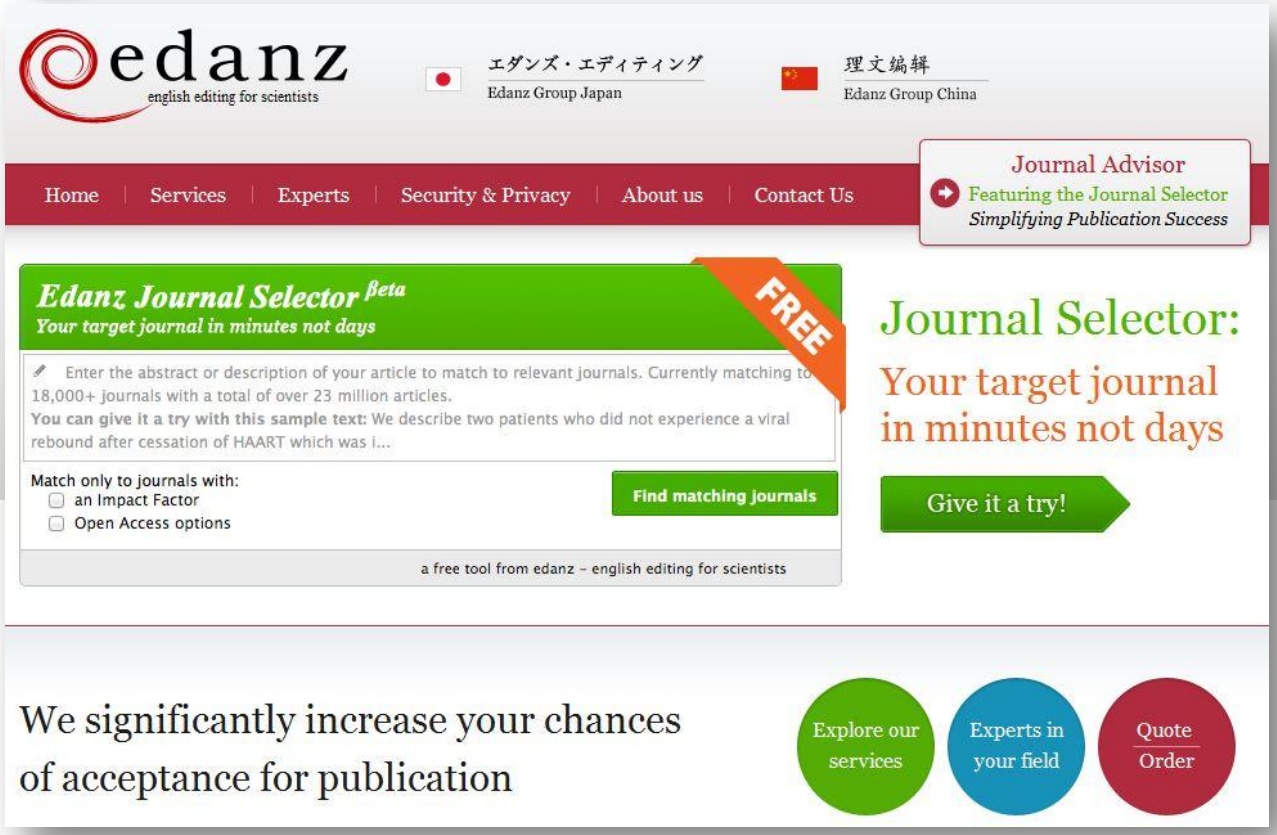
Before you start …

Evaluating significance: appeal

- Is my work in an area of ‘popular appeal’?
- Examples:
  - OLEDs
  - Cloud computing
  - Food irradiation
  - Medical devices
  - Higgs boson
  - Green aviation
  - Stem cells
  - Global warming

Before you start …

Edanz Journal Selector



Springer Journal Selector - link

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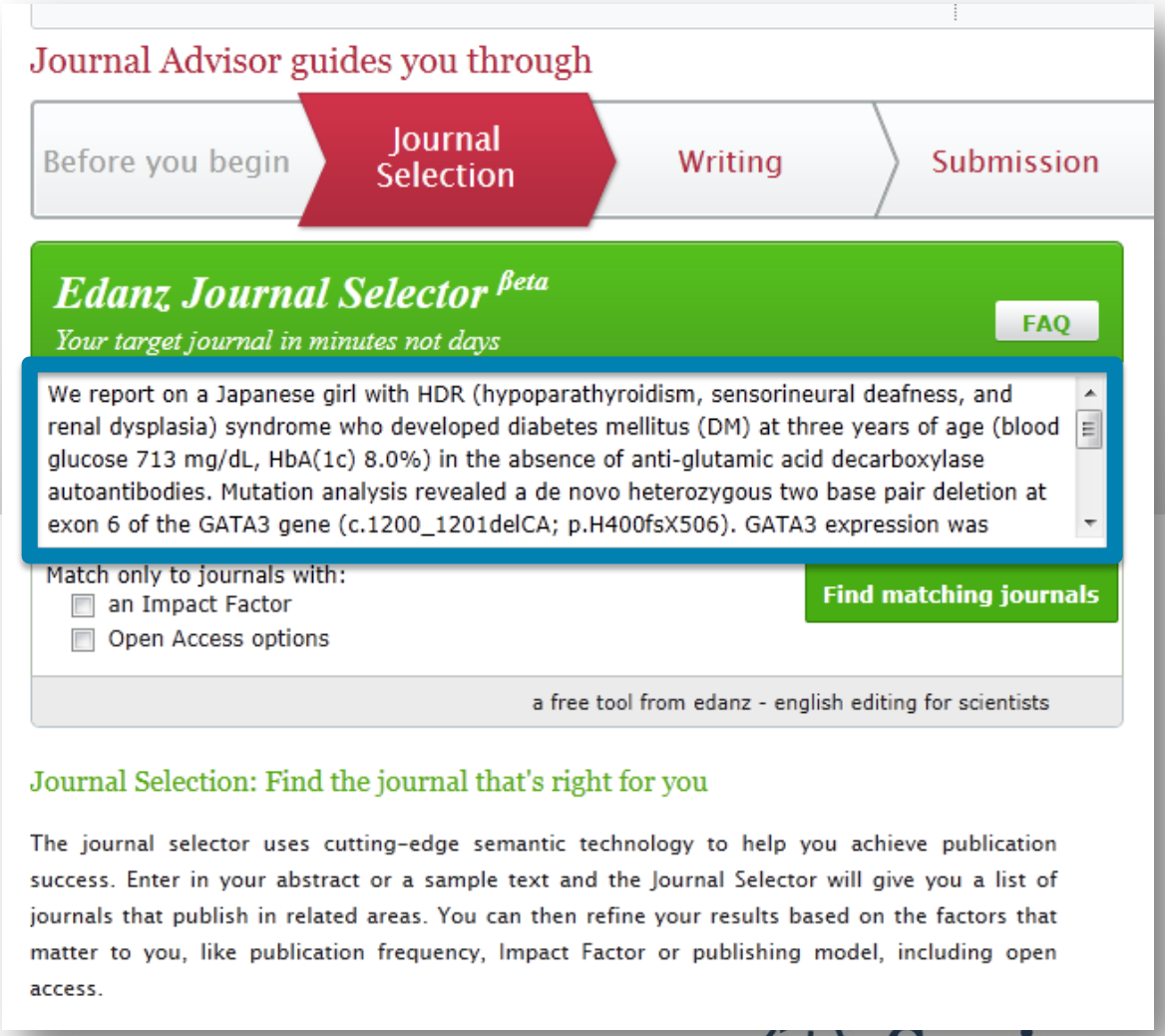
Before you start …

How to use

Insert your proposed abstract



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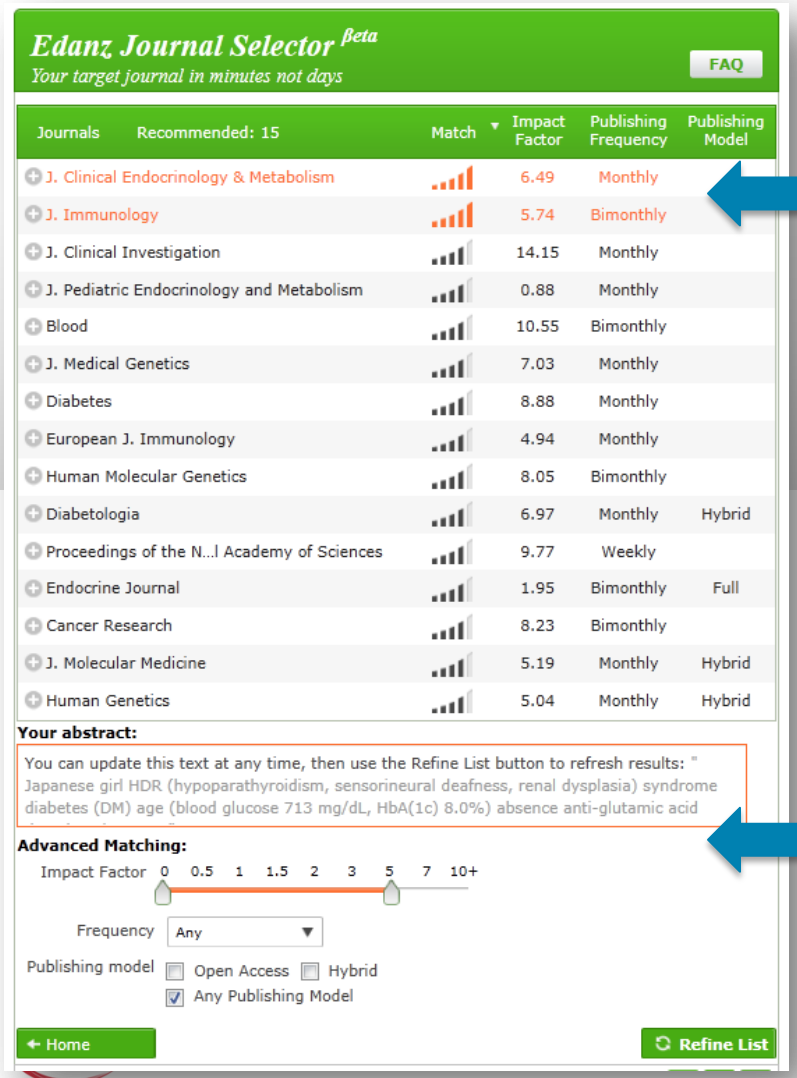
Before you start …

Refine your results



Recommended journals

Advanced Matching

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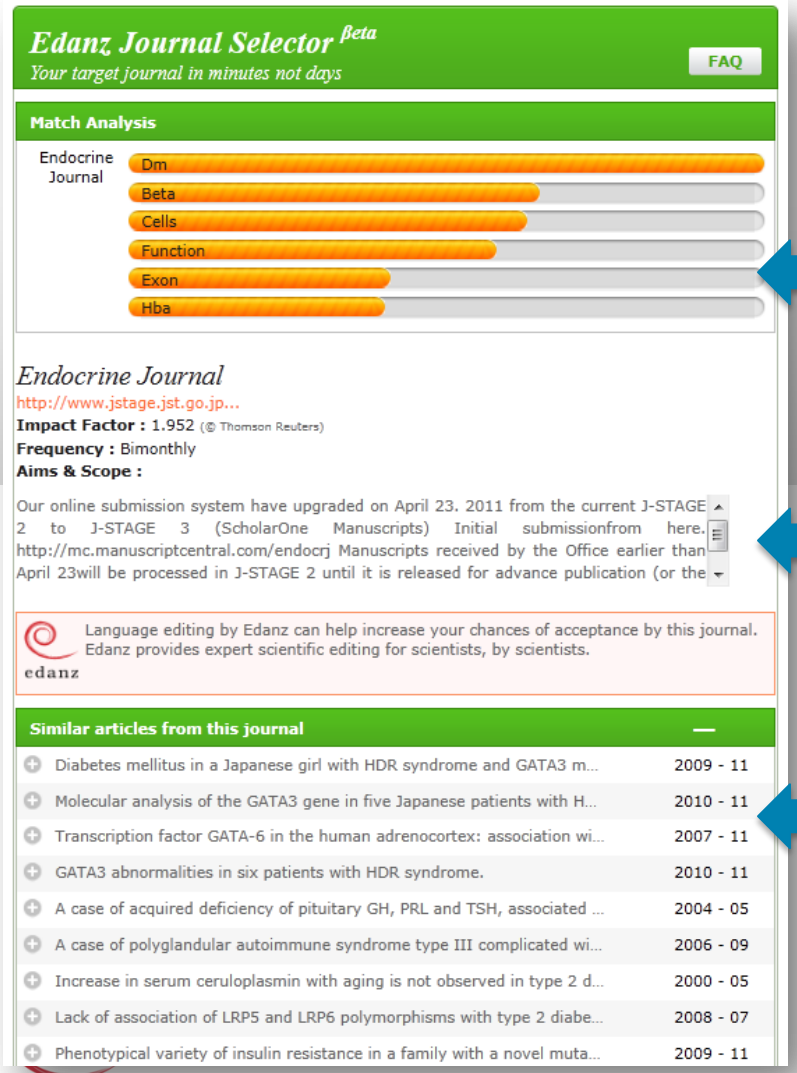
Before you start …

Make a decision



Semantic matching terms

IF, Aims & Scope, Frequency

Similar published articles

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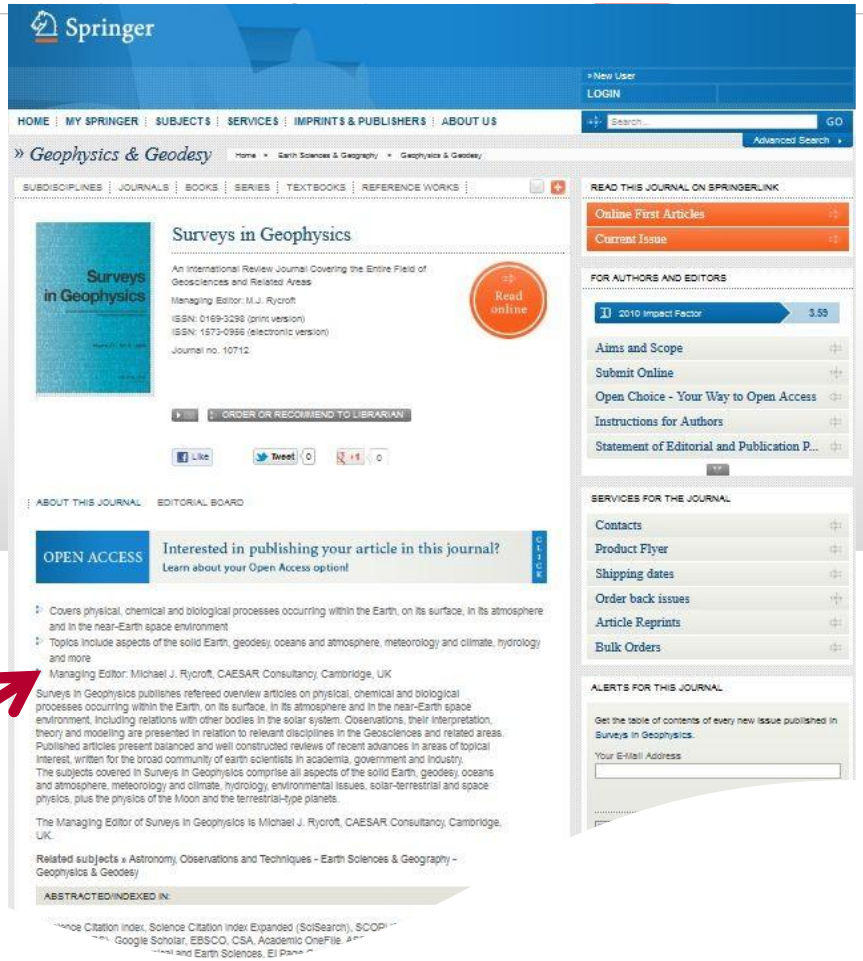
Before you start …

Visit journal websites



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Avoiding rejection

Reasons for rejection: the content

Incomplete data

Inappropriate methodology

Weak research motive

Poor analysis

Inaccurate conclusions

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Avoiding rejection

Reasons for rejection: the manuscript

Journal requirements not met

Lack of detail

Publication ethics ignored

Poor grammar and style

Inappropriate data presentation

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Reasons for rejection: other

Inappropriate journal selected

Unlucky timing

You ***need*** to tell a story

Beginning → Middle → End

- ***Must*** be easy to read ***and*** easy to understand

Manuscript structure

IMRaD

- **I**ntroduction — *Assertion*
- **M**ethods
- **R**esults — *Evidence*
- **a**nd
- **D**iscussion — *Affirmation*

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Manuscript structure

The 'write' order

- For maximum clarity and consistency:

Methods
Results

During your research

Introduction
Discussion

After selecting target journal

Title
Abstract

Write **last**

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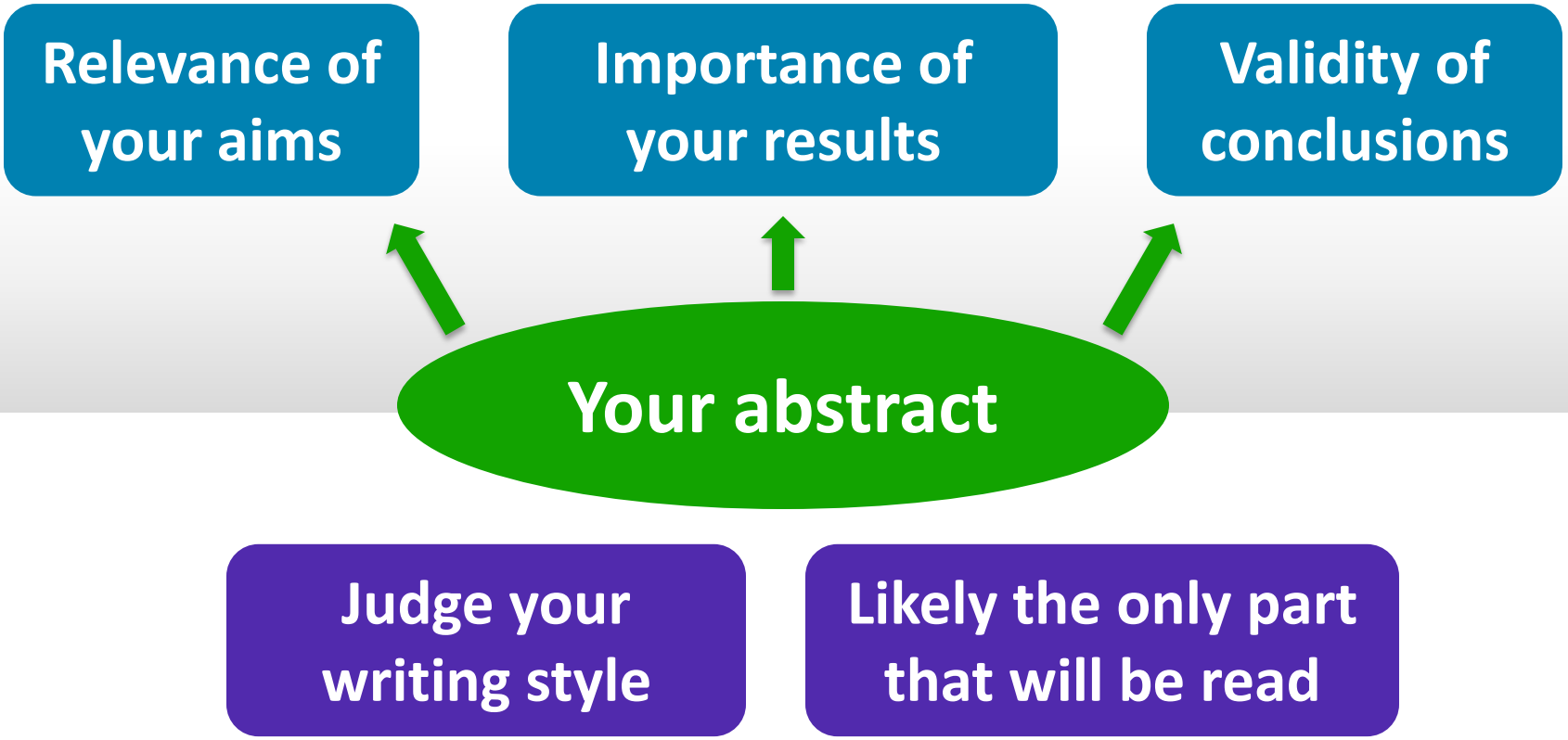
Who's hungry?

First impressions can make a difference

Manuscript structure

First impressions count



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Manuscript structure

Abstract

- Concise
  - Aim for less than 250 words
- Problem(s) addressed (10%)
- Objectives/hypotheses (20%)
- Techniques (10%)
- Most ***important*** results (40%)
- Concluding statement (20%)

Manuscript structure

General rules for Abstracts

References

Abbreviations

Do not include …

Jargon/slang

Non-essential numbers & statistics

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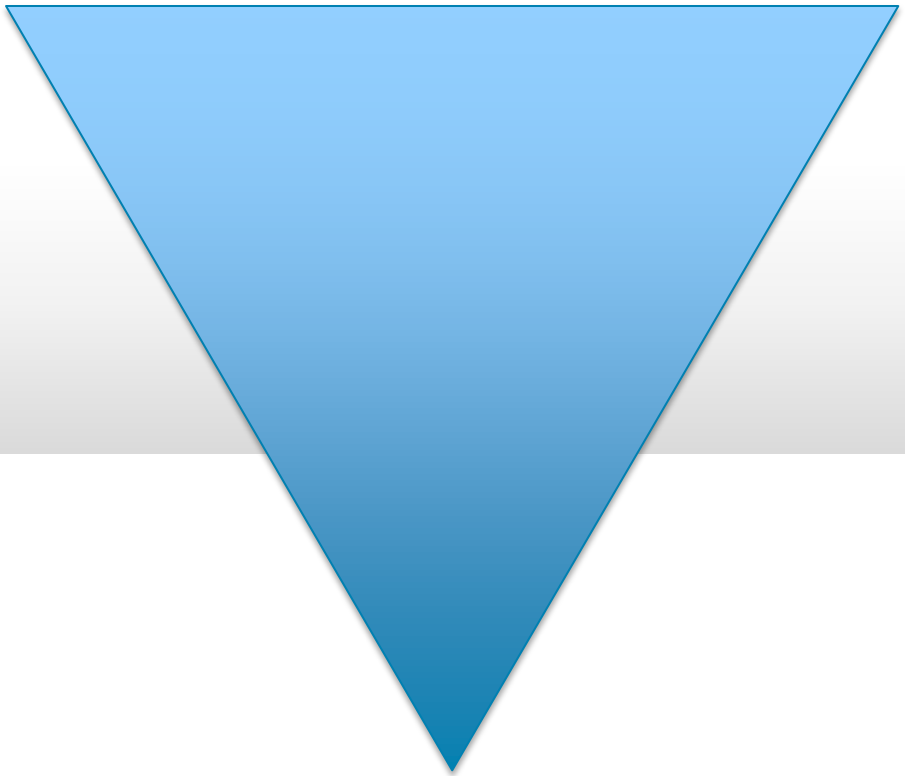
Introduction

What problem was studied?

The answer to this question should be in your Introduction

Beginning → Middle → End

Provide context



Objectives

General

Specific

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Manuscript structure

Introduction *Beginning*

- Sufficient background information
- Comprehensive literature review ✗
- Cite previous publications ✓
  - Review articles
  - Original articles
- What is the ***problem***?

Introduction *Middle*

- ***Rationale***
  - The reason(s) for doing this work?
  - Why is it important the ***problem*** is addressed?
- Explain how you addressed the problem
- ***Do not*** state results from your work ✗
- General statement regarding methods

Introduction *End*

- ***Clearly*** and ***explicitly*** state specific aims of your study

Methods

- Subheadings
- Order should be logical
- New methods ***must*** be described in sufficient detail that they can be reproduced
- Established methods can be referenced
  - Save yourself time *and* effort

Results

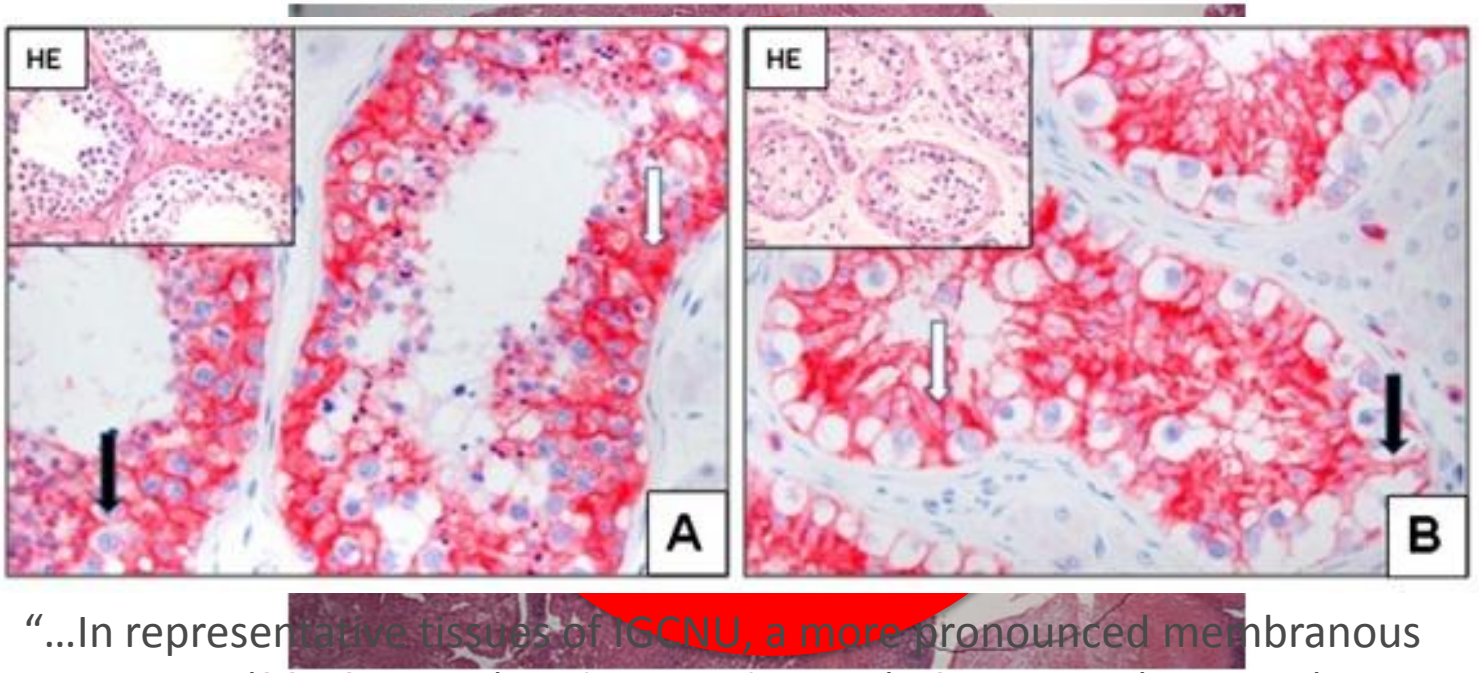
- ***Past tense*** to describe your results
- ***Do not*** explain the results ✗
- ***Avoid*** duplicating data among figures, tables and text ✗

Display items

- Present data ***quickly*** and ***efficiently***
- Keep it simple — use separate panels
  - Related data in panels
- Label ***all*** parts of figures
- Legends must be able to ‘stand alone’

Figures

- In imaging, clear figures are crucial!



"…In representative tissues of IGCNU, a more pronounced membranous expression (***black arrow***) and a cytoplasmic (***white arrow***) is seen (***B***; x200)…

"AHLE demonstrating distorted brachial artery and classical small vessel proliferation"

Bremmer et al. (2012). BMC Clinical Pathology

Kukreja et al. (2010). BMJ Case Reports.

Figures - Tips

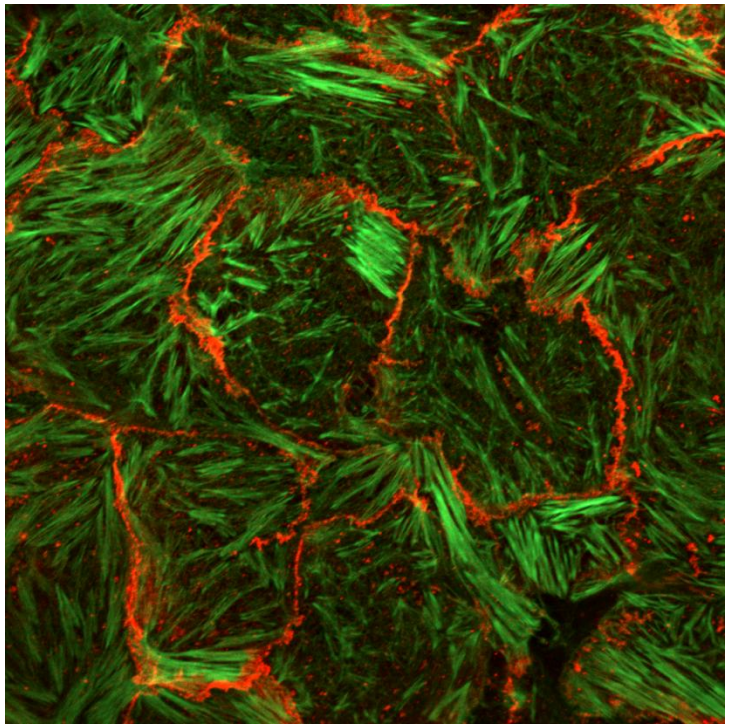
- In imaging, clear figures are crucial!
- Compressed vs. Uncompressed
- 8-bit vs. 16-bit
- 72 ppi vs. 300 ppi
- RGB vs. CMYK

Figures
Uncompressed *vs.* Compressed

- ***Uncompressed*** images are your raw images
- ***Compressed*** images
  - ***Lossless:*** all image information is preserved – larger files
  - ***Lossy:*** selectively discards information – smaller files
- Cannot distinguish differences by eye
- But you will ***lose information*** if you compress
- Can always keep a compressed copy available

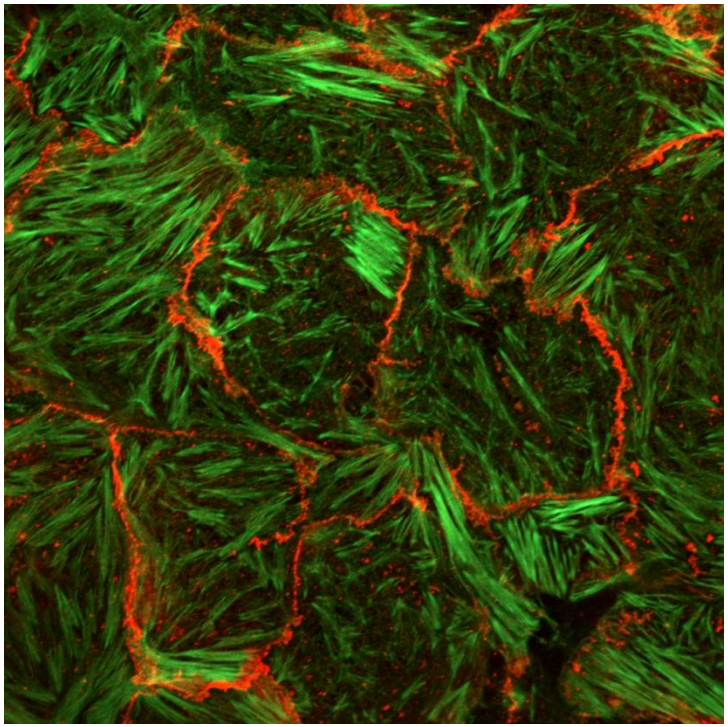
Figures
TIFF *vs.* JPG

TIFF



3.3 MB

JPG



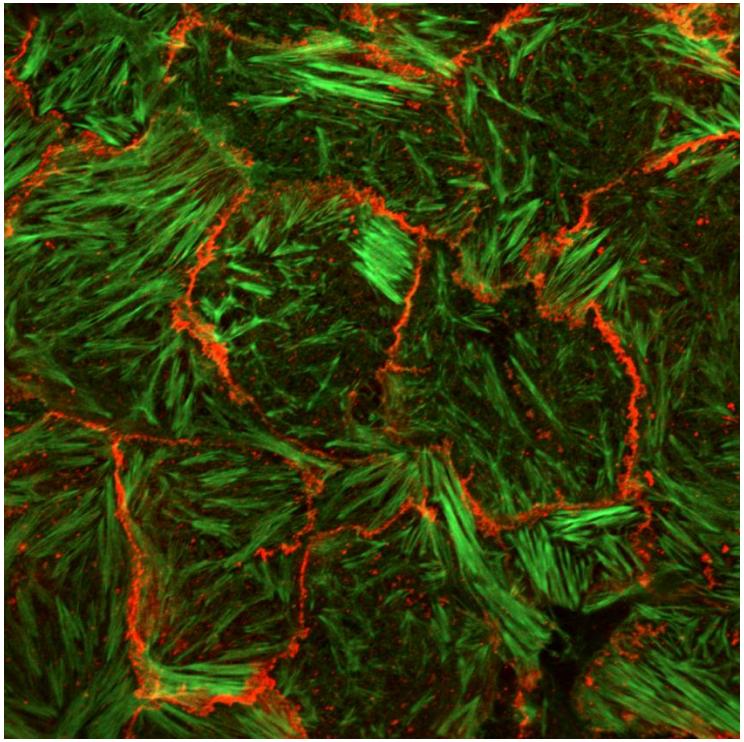
1.8 MB

Figures
16-bit *vs.* 8-bit

- Human ***eye*** can see about 10 million colors
- "***Bit***" is about how many colors there are
- What is 8-bit? 2^8 shades of grey/color (256)
- **8-bit RGB**
  - 256 red x 256 green x 256 blue = 16.7 million colors
- 16-bit? 2^{16} = 65,536 shades/color
- ***16-bit RGB***
  - 281 trillion colors!

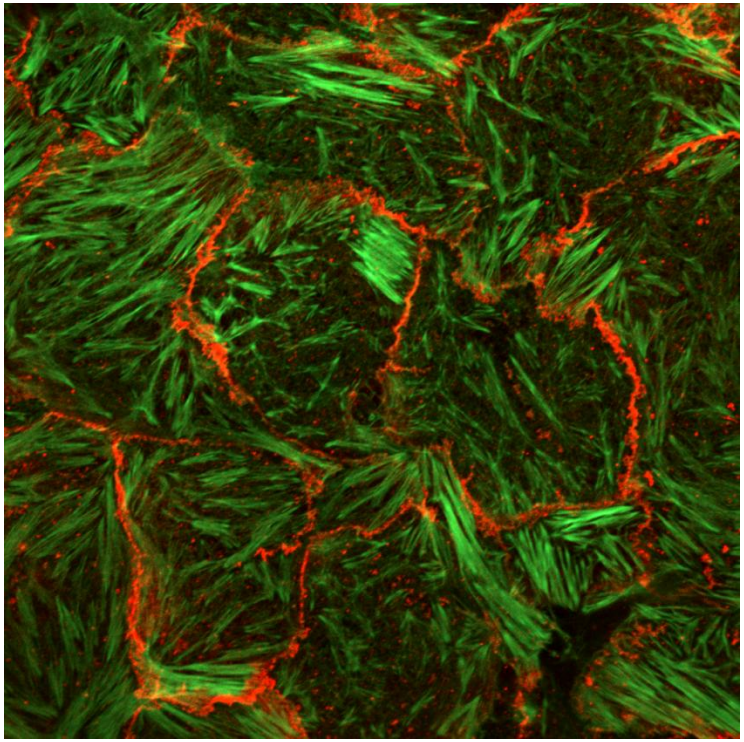
Figures
16-bit *vs.* 8-bit

16-bit



6.5 MB

8-bit



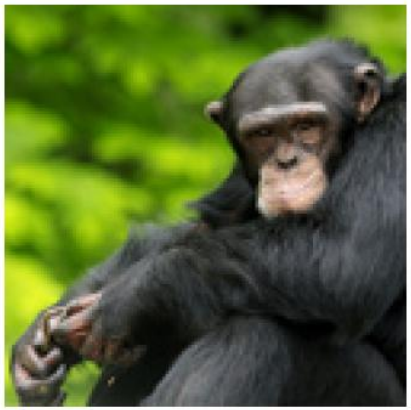
3.3 MB

Figures
16-bit *vs.* 8-bit

- So ***why*** use 16-bit?
- Just because you cannot see it, does not mean it is not there
- Important in quantitative image analysis
- Flexibility in image adjustments
- Only uncompressed images can be saved in 16-bit

Figures - Tips

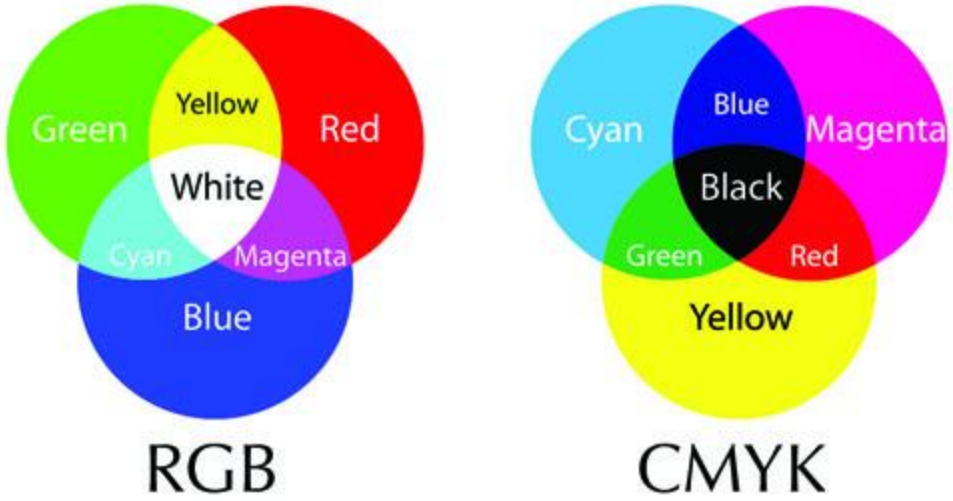
- **ppi:** pixels per inch
- For online/monitor use, 72 ppi is fine
- For ***printing***, need at least 300 ppi
- Most journals require that final figures are at least 300 ppi for printing purposes



72 dpi

300 dpi

Figures - Tips



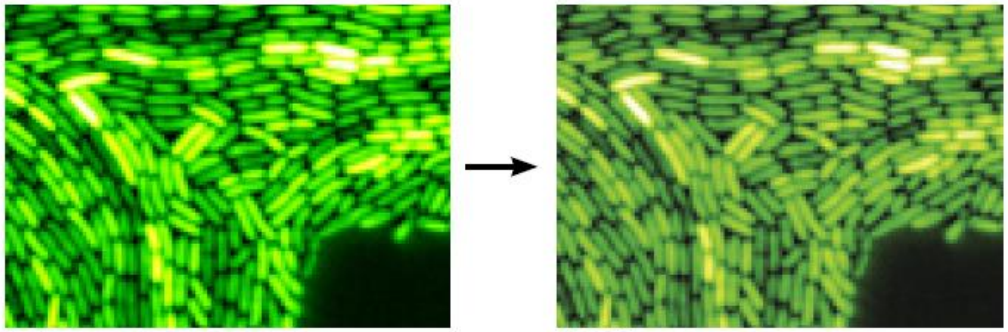
- Primary colors of light
- Used in TVs and monit
- Most microscopes take

- Colors used in printing
- Most journals require CMYK images
- RGB → CMYK can be unclear
- Check to make sure your image looks good in CMYK (Photoshop Ctrl+Y for CMYK preview mode)

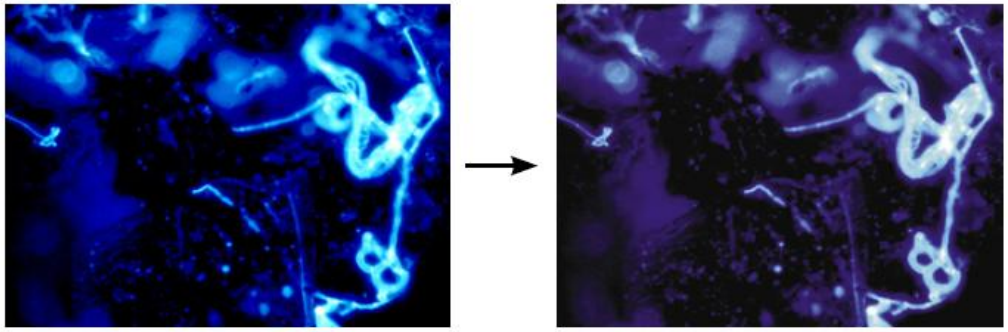
Figures - Tips

Colours

- Full colour artwork should be provided in CMYK format; please ensure that you are happy with the conversion before submission of final artwork
- The examples below show the shift in colour between RGB and the equivalent colour shown in CMYK — subtle details are often lost during the conversion



RGB CMYK



RGB CMYK

Discussion

What do your findings mean?

The answer to this question should be in your Discussion

Beginning → Middle → End

Manuscript structure

Discussion *Beginning*

- ***Avoid*** just restating results ✗
- Answer the research question(s) posed
- ***Emphasize*** the major finding(s) first
- ***State*** your major conclusion
  - Based on results presented

Manuscript structure

Discussion *Middle*

- Interpret your results
  - Compare with other studies
    - Same or different?
- Explain unexpected results
- Describe limitations
  - How could the study be improved?

Manuscript structure

Discussion *End*

- Restate major conclusion(s)
  - *In summary …* **or** *In conclusion …*
- Possible applications and implications
- Suggest future work

"Clinical and research priorities include furthering our understanding of the pathogenesis of *M. pneumoniae*-associated CNS disease, development of more reliable serologic assays, and defining the role of quantitative PCR in distinguishing acute infection from asymptomatic carriage and prolonged post-infection shedding"

Bitun & Richardson *Curr Infect Dis Rep* 2010, **12**:282–290

Consider your reader

- Clear communication
- Language
- Cover letters
- Responding to reviewers

Hints and tips

Reader expectations

- Information is easier to understand when placed where most readers expect to find it
- Good writers are aware of these expectations

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Hints and tips

Your reader should …

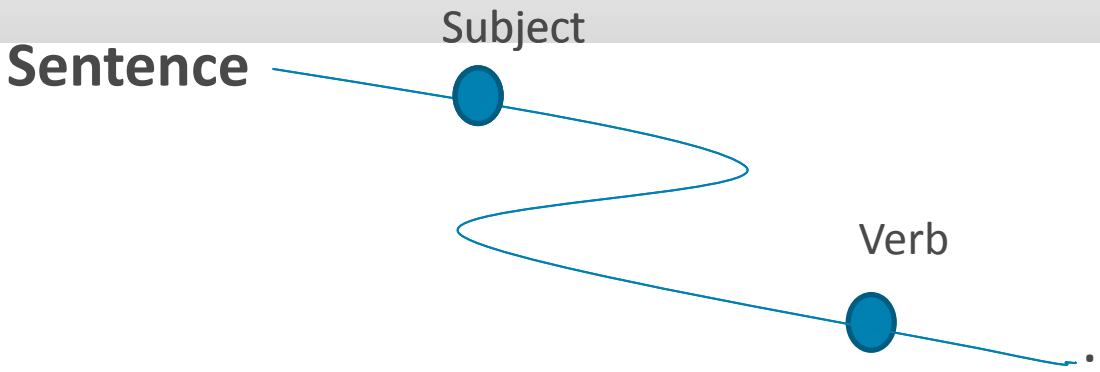
Only have to read once

Not have to read slowly

Understand your logic immediately

1. Verb placement

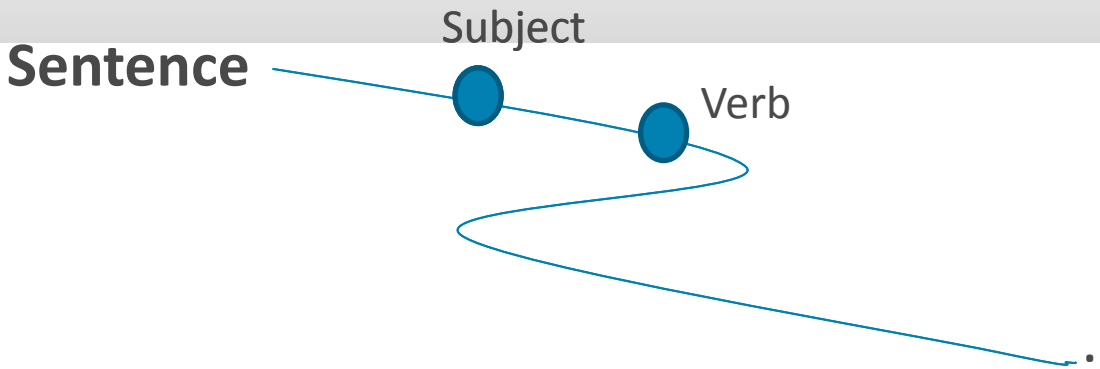
- Readers expect verbs to closely follow subjects



Subject and verb far apart = poor readability

Help your reader

- Readers ***want*** verbs to closely follow subjects



Hints and tips

Avoid reader confusion

- Readers become confused if subject and verb are separated by too much content

The smallest of the URF's (URFA6L), a 207-nucleotide (nt) reading frame overlapping out of phase the [NH_2]-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene, **has been identified** as the animal equivalent of the recently discovered yeast H-ATPase subunit 8 gene.

Hints and tips

Avoid reader confusion

The smallest of the URF's is URFA6L, a 207-nucleotide (nt) reading frame overlapping out of phase the [NH_2]-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene, **has been identified** as the animal equivalent of the recently discovered yeast H-ATPase subunit 8 gene.

The smallest of the URF's (URFA6L) **has been identified** as the animal equivalent of the recently discovered yeast H-ATPase subunit 8 gene; URFA6L is a 207-nucleotide (nt) reading frame overlapping out of phase the [NH_2]-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene.

We **identified the smallest** of the URF's (URFA6L) as the animal equivalent of the recently discovered yeast H-ATPase subunit 8 gene. URFA6L is a …

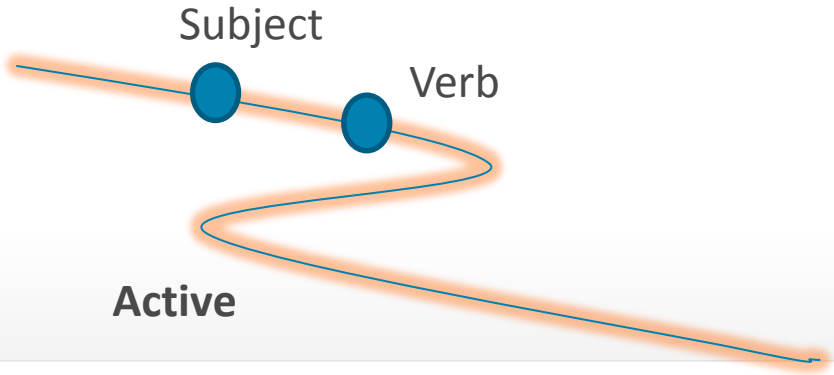
Which voice?

- Active or passive?

  - Blood samples were collected from 256 patients.
  - ***We collected blood from 256 patients.***

Hints and tips

2. Active voice



- Sentences written in the active voice are:

simple

direct

clear

easy to read

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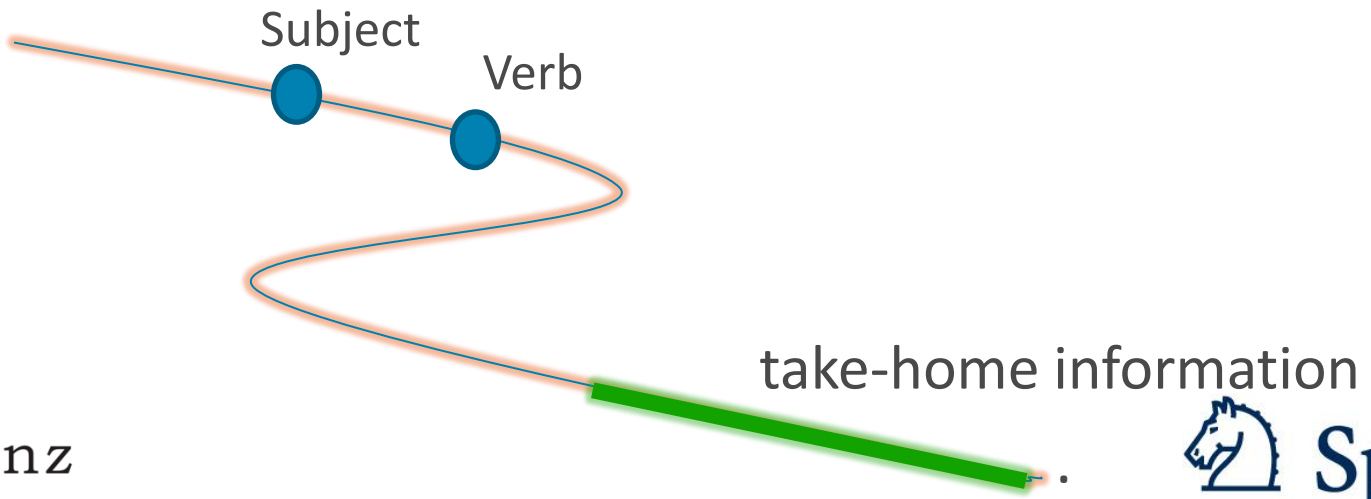
3. Stress position

- Readers focus on information at **the end of a sentence**.



Hints and tips

Stress position

The dog sat when her mistress **offered a treat**.

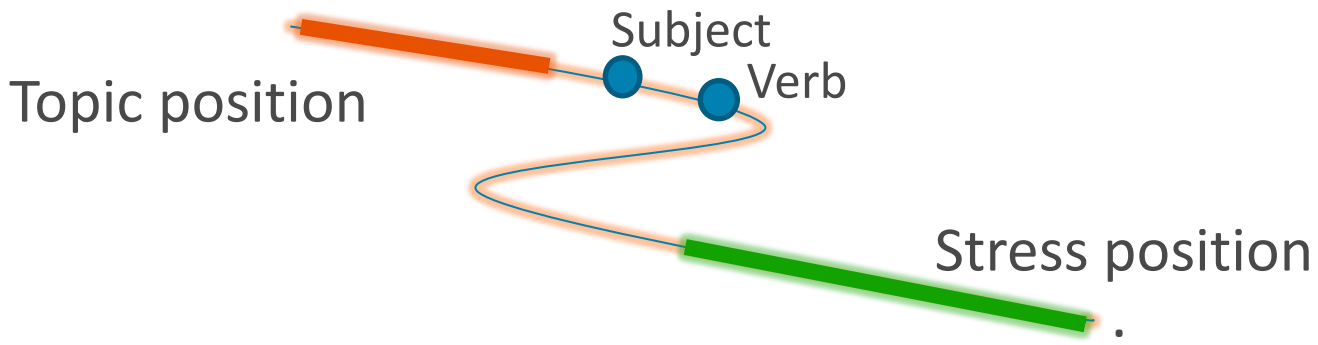
The dog sat when a treat was offered by **her mistress**.

When the mistress offered her a treat, **the dog sat**.

- Readers, without thinking, concentrate on **the end of a sentence**.

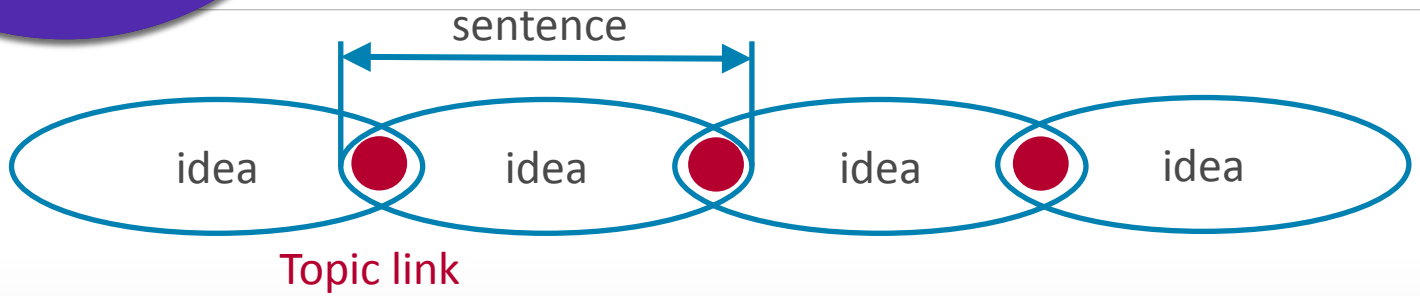
4. Topic position

- Readers expect a sentence/phrase to be a story about whoever shows up first



Hints and tips

Topic position



- Linkage and context

The family went into the courtyard to see the new puppy. **The dog** sat when her owner offered a treat. **Everyone** was so excited they broke into applause. **However, as the courtyard** was situated right next to my bedroom, the sound woke me from my sleep.

Hints and tips

5. Short sentences

Reading once…

4% of readers can understand a 27-word sentence

75% of readers can understand a 17-word sentence

Pinner and Pinner (1998) *Communication Skills*

Goals to aim for:

One idea per sentence

Maximum 25 words per sentence

Less than four 30-word sentences in the manuscript

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Hints and tips

Simple is best

- Simple language ***is*** best
- Makes ***your*** work more relevant
- Minimizes confusion—maximizes understanding
- More people will understand your work
  - More citations!

Hints and tips

Before you submit …

- Register online
- Cover letter
  - Potential referees
  - Potential editors
- Conflicts of interests
- Format and resolution of graphics files
- Copyright and payment forms

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Hints and tips

Cover letters

Significance
Relevance

→

Why your work is important

First impression for journal editors

Level of English

Recommend reviewers?

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Hints and tips

The purpose of cover letters

- Introduces manuscript to journal editor
- Acts as a guide for the editor
- ‘Sells’ your work
- Speeds up the publication process

Hints and tips

Bad example

Not personal

Dear Editor-in-Chief,

No information about the manuscript

I am sending you our manuscript entitled "Techniques to detect circoviruses in Australian bird species" by Raye *et al*. We would like to have the manuscript considered for publication in *Virology Methods Online*.

Please let me know of your decision at your earliest convenience.

Sincerely yours,

Too short

Warren Raye, PhD

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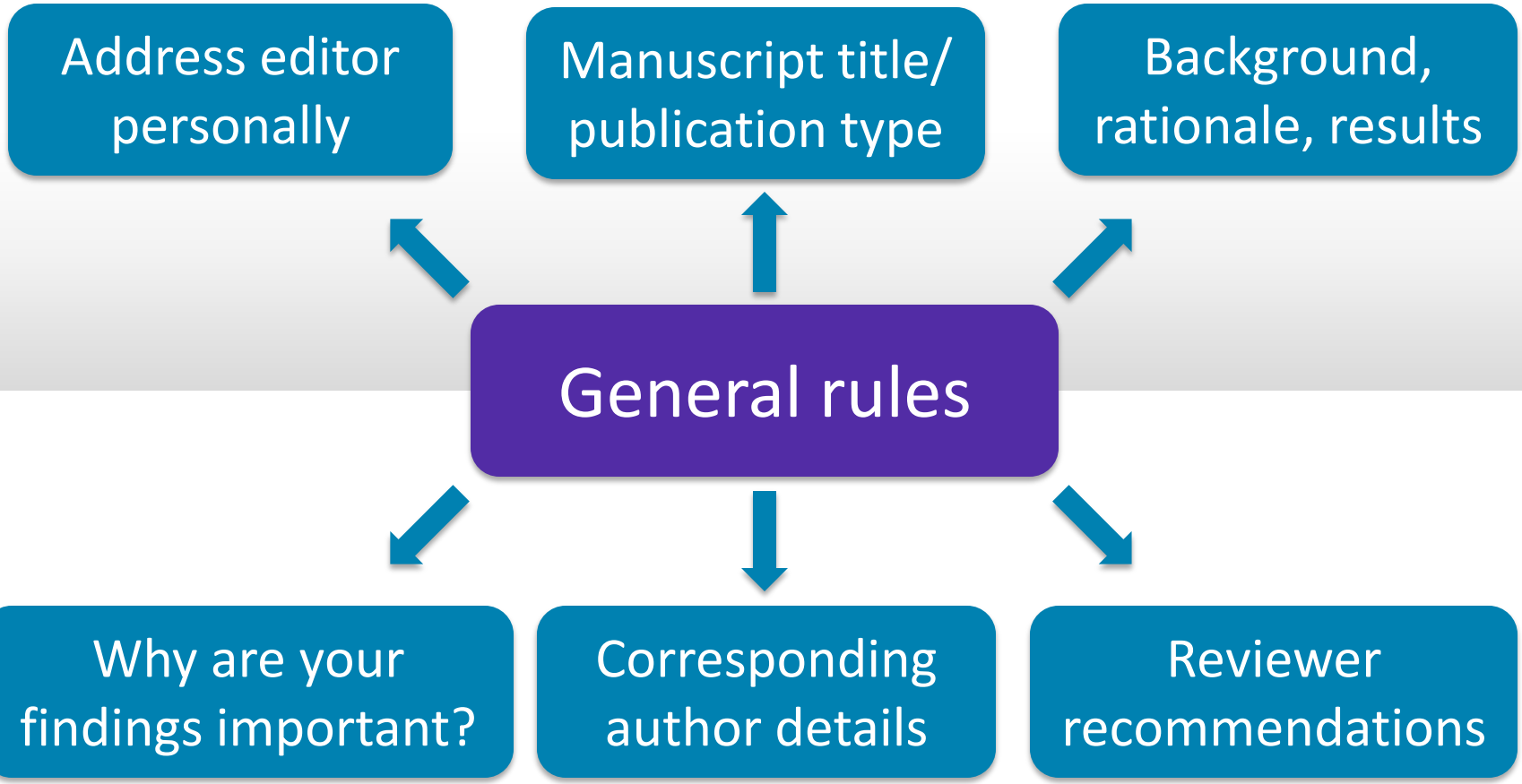
Hints and tips

Cover letters



"Must-have" statements

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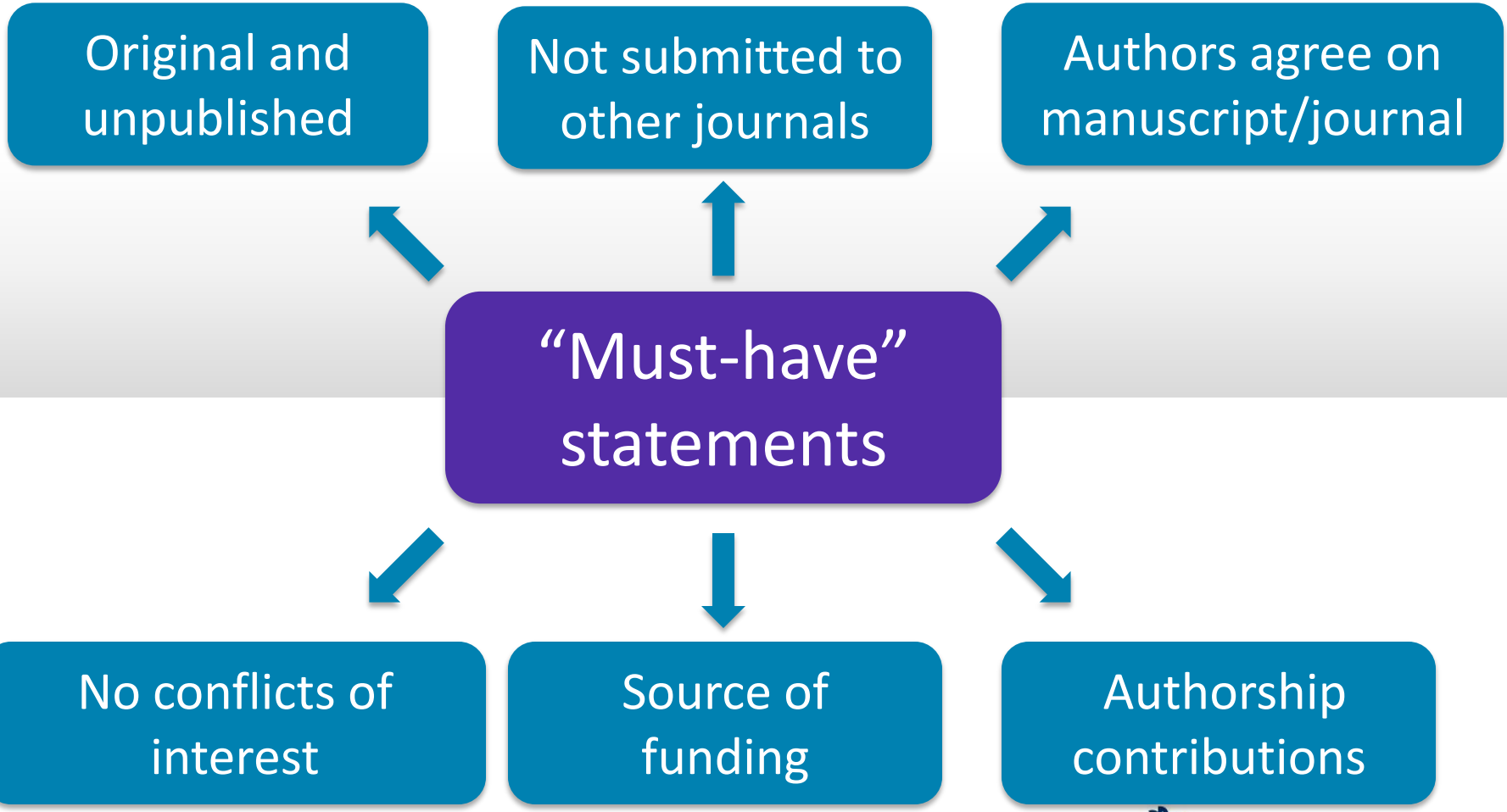
Hints and tips

Always include



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Hints and tips

A good cover letter

Dear Dr Graeber,

Please find enclosed our manuscript entitled “Amyloid-like inclusions in the brains of Huntington’s disease patients”, by McGowan et al., which we would like to submit for publication as a Research Paper in *Neurogenetics*.

Recent immunohistochemical studies have revealed the presence of neuronal inclusions containing an N-terminal portion of the mutant huntingtin protein and ubiquitin in the brain tissues of Huntington’s disease (HD) patients; however, the role of these inclusions in the disease process has remained unclear. One suspected disease-causing mechanism in Huntington’s disease and other polyglutamine disorders is the potential for the mutant protein to undergo a conformational change to a more stable anti-parallel β-sheet structure…

Give the background to the research

To confirm if the immunohistochemically observed huntingtin- and ubiquitin-containing inclusions display amyloid features, we performed Congo red staining and both polarizing and confocal microscopy on post-mortem human brain tissues obtained from five HD patients, two AD patients, and two normal controls. Congo red staining revealed a small number of amyloid-like inclusions showing green birefringence by polarized microscopy, in a variety of cortical regions…. ….detected inclusions observed in parallel sections, suggesting that only a relatively small proportion of inclusions in HD adopt an amyloid-like structure.

What was done and what was found

We believe our findings will be of particular interest to the readership of *Neurogenetics,* which includes researchers and clinicians studying the genetic and molecular mechanisms underlying neurodegenerative diseases. Therefore, we feel that your journal provides the most suitable platform for the dissemination of our work to the research community.

Interest to journal’s readers

Please address all correspondence to….

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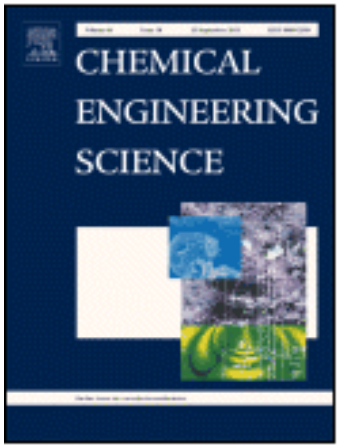
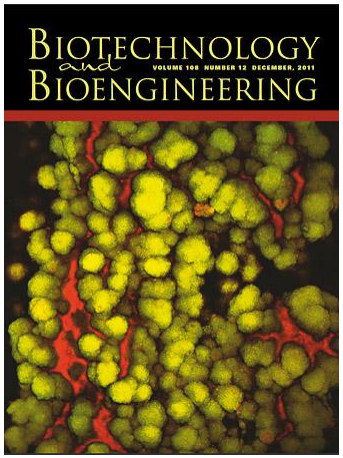
Hints and tips

Recommending reviewers



"When submitting a paper authors are requested to suggest 6 international referees…"

"The following items are also required as part of the manuscript submission process:…The names, addresses, phone numbers, and e-mail addresses of four or five potential independent reviewers…"



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Hints and tips

Where do I find reviewers?

- From your reading and references
- Networking
- Aim for younger and mid-level researchers
- Editors have the final decision on reviewer choice

Hints and tips

Reviewers

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Hints and tips

Point-by-point

Polite & professional

Respond to every comment

Revision

Easy to see changes

- Refer to line and page numbers
- Use a different color font
- Highlight the text

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Hints and tips

Revision

- Conduct additional experiments and analyses as suggested
  - If this is impossible, you ***must*** explain ***why***
- You ***can*** disagree with reviewers, but provide evidence
  - Cite ***published*** work
- Comply with deadlines
  - Extensions ***are*** granted

Hints and tips

Point-by-point response

Dear Dr. _____: **[address editor by name]**

Thank you for your consideration of our manuscript entitled _____ **[insert manuscript title]**. We have reviewed the comments of the reviewers and have thoroughly revised the manuscript. We found the comments helpful, and believe our revised manuscript represents a significant improvement over our initial submission.

In response to the reviewers' suggestions we have **[summarize the key changes here]**

Hints and tips

Agreement

Reviewer Comment: *In your analysis of the data you have chosen to use a somewhat obscure fitting function (regression). In my opinion, a simple Gaussian function would have sufficed. Moreover, the results would be more instructive and easier to compare to previous results.*

Response: **We agree with the reviewer's assessment of the analysis.** Our tailored function makes it impossible to fully interpret the data in terms of the prevailing theories. In addition, in its current form it would be difficult to tell that this measurement constitutes a significant improvement over previously reported values. **We have redone the analysis using a Gaussian fitting function.**

Hints and tips

Disagreement

Reviewer Comment: *In your analysis of the data you have chosen to use a somewhat obscure fitting function (regression). In my opinion, a simple Gaussian function would have sufficed. Moreover, the results would be more instructive and easier to compare to previous results.*

Response: **We agree with the reviewer that a simple Gaussian fit would facilitate comparison with the results of other studies.** However, our tailored function allows for the analysis of the data in terms of the Smith model [Smith et al, 1998]. **We have added two sentences to the paper (page 3 paragraph 2) to explain the use of this function and Smith's model.**

Hints and tips

Hidden questions

"The authors hypothesized to look for the pharmacokinetics of the insulin using this 4 mm needle; ***however they didn't do bioequivalence analyses for glucose pharmacodynamics.*** That is one of my concerns about this methodology."

Hints and tips

Understanding reviewer comments

"The English needs to be improved"

"Your writing is difficult to understand"

- **Grammar** & **spelling** ✗
- Long, complex sentences and paragraphs
- Gaps in the logic
- Poor manuscript organization
- Too much information

Hints and tips

Free online resources

- Edanz

edanzediting.com

- Springer Exemplar

springerexemplar.com/

- Google Scholar

scholar.google.com/

- Purdue Online Writing Lab

owl.english.purdue.edu/owl/

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Hints and tips

Springer Author Academy

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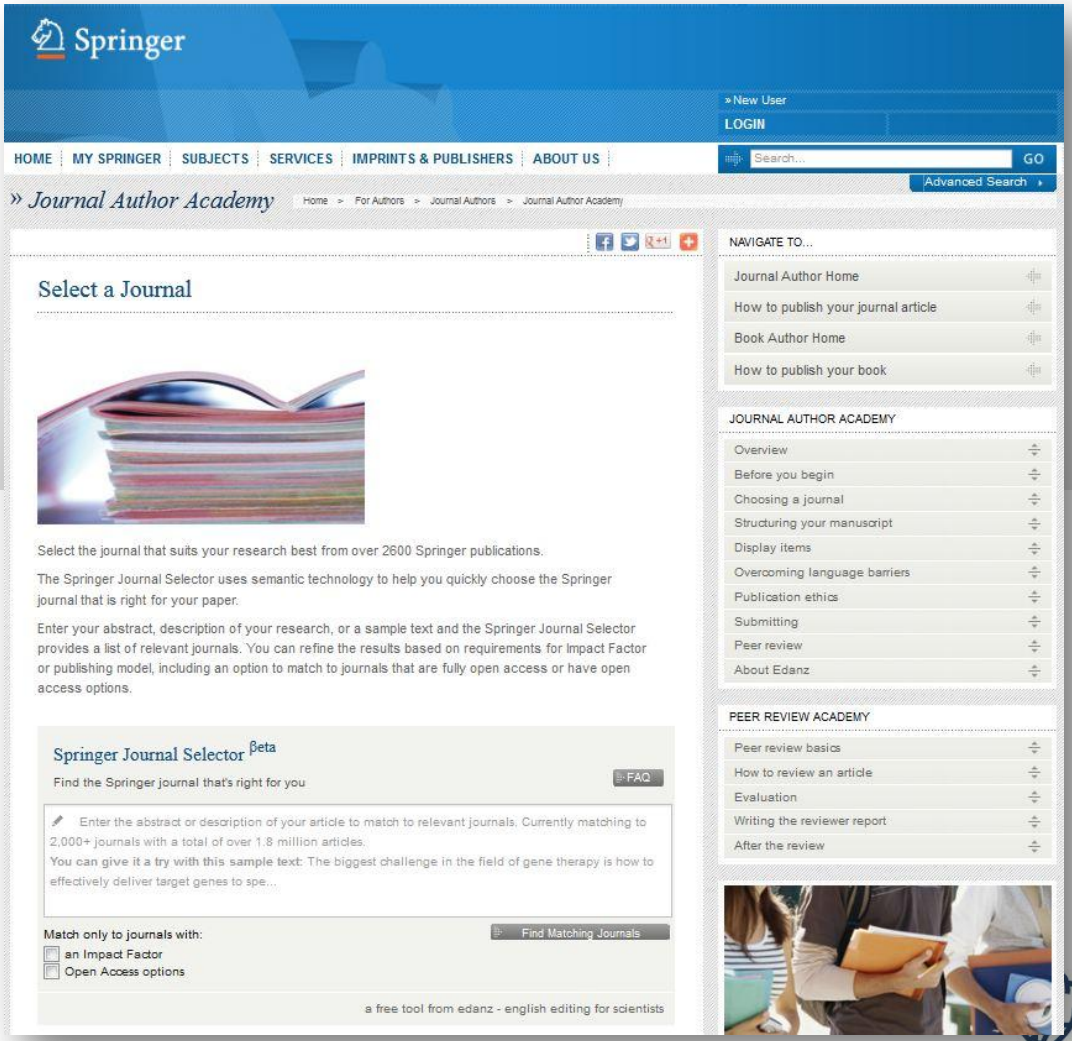
Hints and tips

Free online resources



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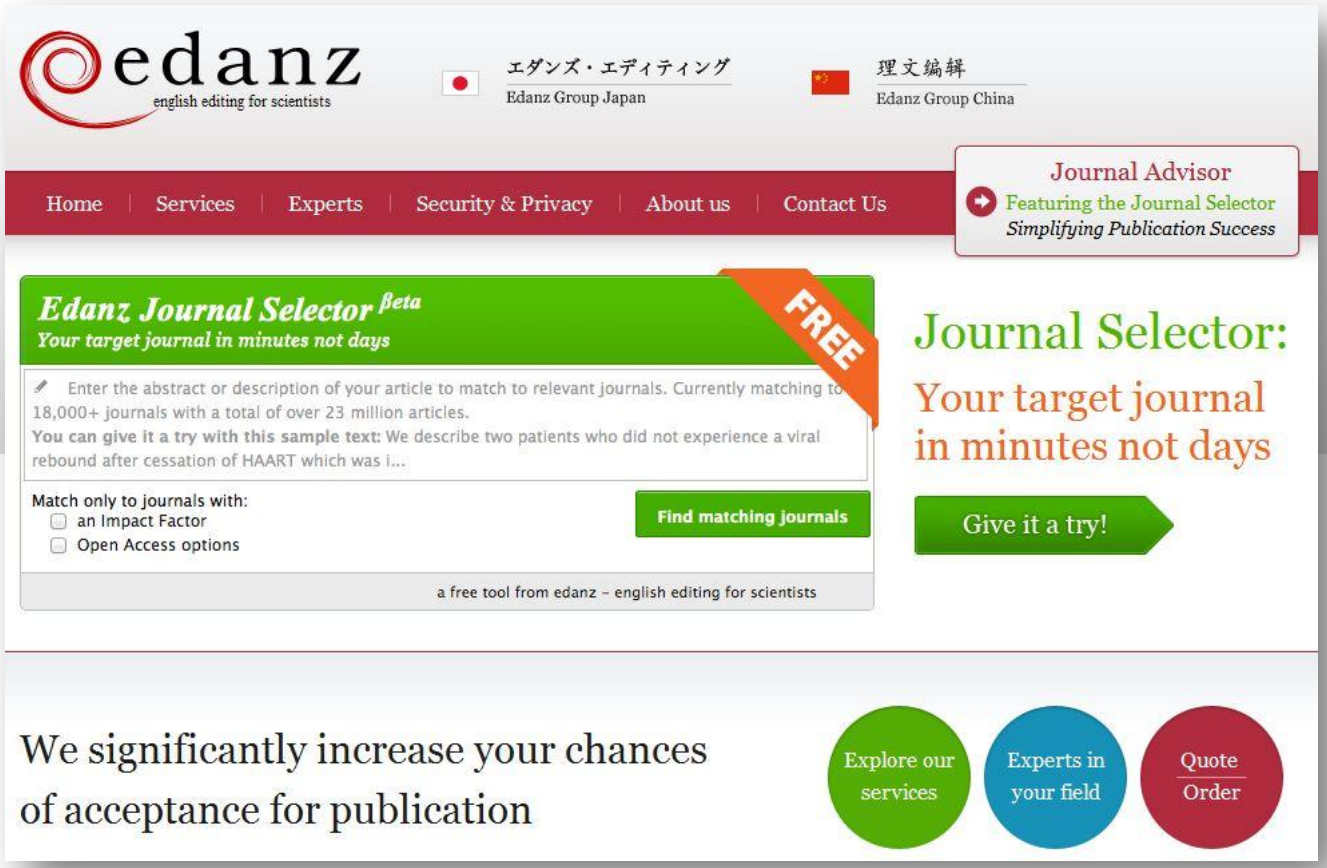
Hints and tips

Edanz Journal Selector



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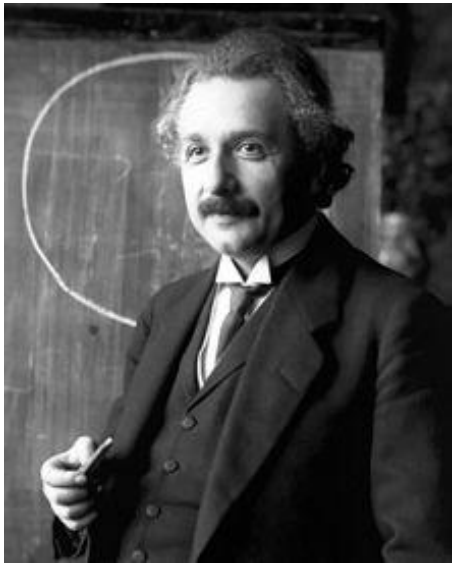
Hints and tips

Help your readers understand

"If you can't explain something simply, you don't understand it well."

– Albert Einstein



- Write to express ***not*** impress
- Consider your audience – their native language may not be English

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Thank you

Good luck!

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