DELIVERING AN EFFECTIVE JOURNAL CLUB PRESENTATION

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WHAT IS THE POINT OF JOURNAL CLUB?

• Keep up with scientific literature

• Learn how to critically review scientific papers

• Identify areas of collaboration with fellow Journal Clubbers

• Share knowledge and ideas with scientists both in and out of your field of research

• Learn how to present your ideas and participate in scientific debate
TALK OUTLINE:

How to fulfill the two “jobs” of the Journal Club presenter

1. Selecting the paper(s) to present

2. Presenting the paper to the Journal Club audience

Presentation basics

Audience responsibilities
JOB 1: SELECTING A PAPER TO PRESENT

- Select three scientific journal articles suitable for presentation and forward the pdfs to Dr Amali Samarasinghe.
- Dr Samarasinghe will help guide your choice of article
Choose “good” papers -

- Peer reviewed
- Explores and advances knowledge about an important area
- Approaches the problem using innovative methods and multiple techniques
- Mechanistic, not purely descriptive
- No reviews! Original research only
- Do not choose an article that has lots of obvious flaws, purely for the fact that it will be easy to criticize
- Implications for multiple fields
JOB 1: SELECTING A PAPER TO PRESENT

- Where to find Journal Club articles:
  - From your own reading of the literature, PubMed
  - Colleagues, professors, friends
  - Conference abstract books
  - Science Perspectives, Nature News and Views, Journal’s social media
  - Reliable journals - high impact factor journals, niche journals for your field
JOB 2: PRESENTING THE PAPER TO JOURNAL CLUB AUDIENCE

- Your job is to tell the story of the paper
  - It is critical you understand the paper you are presenting
  - Be prepared!
JOBT 2: PRESENTING THE PAPER TO JOURNAL CLUB AUDIENCE

- Information to include:
  - Title, authors and affiliations
  - Outline the story – give sufficient background
  - Explicitly state the aims/major questions of the paper
  - Explain the results, including the methods used
  - State the conclusions of the study and put the results into context of the larger field
  - Comment on the validity of the methods, results and the conclusions
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OUTLINE THE STORY - GIVE SUFFICIENT BACKGROUND

- How did you come across this article?
- What information does the audience need to understand this study?
- Why is the study important?
- Remember that not everyone is from your field of research
- Avoid jargon
- Be guided by the information in the Introduction
SIMPLE IS BETTER!

• Redraw if necessary

Figure reference: http://docs.abcam.com/pdf/rabmab/insulin-pathway.pdf. Accessed 1/7/2017
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EXPLICITLY STATE THE AIMS/MAJOR QUESTIONS OF THE PAPER

- Fairly self-explanatory
- Usually found in the Introduction of the paper
- Helps to draw back in audience members who may have drifted off
- Gives you a “measuring stick” to assess if the study achieves its stated aims
- It is fine to state findings right at the start of your presentation
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PRESENTING FIGURES

- Online articles - download directly into Powerpoint.
  For PDF files - Adobe Pro
- When resizing figures – do not stretch
- Slide Title = finding of the figure
- All figures should fill screen and be readable from the back of the room
- Multi-part or complicated figures
  Split up on different slides
  Use animation to “build” complicated slides
PRESENTING FIGURES

- Always describe the assay or experiment fully
- You do not have to present EVERY figure or table
- For complex studies, simplify results with basic illustration
PRESENTING TABLES

- Make sure the tables are legible
  Consider re-typing

- For very large data tables, re-type only the important information

- Simplify where possible
  Round off numbers
  Use colors to show relative increases or decreases
METHODS

- Give a brief outline of techniques where necessary
- Remember your audience has a diverse scientific background
- Do not forget statistical analysis
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  - Explain the results, including the methods used
  - **State the conclusions of the study and put the results into context of the larger field**
  - Comment on the validity of the methods, results and the conclusions
STATE THE CONCLUSIONS OF THE STUDY AND PUT THE RESULTS INTO CONTEXT OF THE LARGER FIELD

– Which conclusions are directly drawn directly from the analysis of the results? Which are more speculative?

– Do all conclusions drawn make sense based on the results?

– Has this article supported the accepted thinking on this topic or has it refuted it?

– How has this article furthered thinking in the field?

Adapted from: http://evolution.berkeley.edu/evolibrary/teach/journal/journaltips.php. Accessed 1/7/2017
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CRITIQUE

• Give the authors credit for elegant experiments

  • Before being highly critical, consider the limitations we all work under

  • part of critical analysis is understanding and appreciating good experimental design

Adapted from: http://umanitoba.ca/faculties/health_sciences/medicine/units/immunology/Journal%20Club%20Requirements%20and%20Instructions.html Accessed 1/7/2017
CRITIQUE

Peer-review generally does a pretty good job of weeding out “bad science” – however they still exist!

Look for

- Sensationalist headlines
- Misinterpreted results
- Conflicts of interest
- Correlation conflated with causation
- Speculative language
- Sample size too small
- Inappropriate statistical analysis
- Unrepresentative samples
- No control or inappropriate control
- No blind testing
- “Cherry-picked” results
- Unreplicated results
- Has the paper been cited?

Adapted from:
CRITIQUE

• Are there any major outliers in the data? Are all of the results obtained consistent with the hypothesis being tested?

• What evidence would make the authors' case stronger?

• What evidence would argue against the authors?

• Can you make a case against the authors' interpretation of their results?

Adapted from: http://evolution.berkeley.edu/evolibrary/teach/journal/journaltips.php. Accessed 1/7/2017
QUESTIONS AND DISCUSSION

- Questions from the audience will be directed to the presenter at first – be prepared to field questions

- You are not expected to know everything about the paper
PRESENTATION BASICS

- arrive to the location at least 15 minutes early to get set up on the computer

- Have your presentation on a flash drive

- A laser pointer will be provided
  - Practice your presentation out loud
  - Speak in a loud clear voice, do not rush through your slides
  - speaker evaluation sheet as guide
PRESENTATION BASICS

- Keep slides uncluttered with logos and fancy background
- Make sure your text contrasts with the slide background – eg black text on a white background
- Text should be at least 26 pt and san serif
- Bolding, color and spacing can be used for emphasis
AUDIENCE MEMBERS: READ THE PAPER!!

- You are expected to participate in the Journal Club discussion

- As you read the paper, ask the same questions that the presenter might

- Please be prepared to exchange ideas in Journal Club
QUESTIONS?