Reviews in Computational Biology

4. Structuring & Outlining

James Smith
January, 2013
Structuring & Outlining

• Ideas/general concepts
• Navigates/signposts the narrative
• Not detail but a schema....
Review

Review topic and the key questions or the key objectives of the review

Grey - Sections of the narrative of the review
Green - Key points of importance - must stand out
Structuring & Outlining

• Does the reader notice?
• Does it keep the interest?
• Does it convey the arguments?
Review

An example structure/outline

Introduction

Key idea 1

Discussion

Key idea 2

Conclusion

Key idea 3

Key idea 4

Review topic and the key questions or the key objectives of the review

Key idea 1.1

Key idea 4.1

Focus of this review

?
Exercise 1

- “Reconstructing a Structure”
- 4 teams of “Technical Editors”
  - 1. Groups paragraphs in sections and subsections with headings - Draw a schema of the structure
  - 2. Provide 2 alternative structures that might work - Draw a schema of the structure

Group A Cannot change, Group B can change
Discussion

• What are the shortcomings?
For your own reviews

• 1) Introductory paragraph or sentence(s)
• 2) 3 Sections (ideas) for your manuscript
• 3) Conclusion paragraph or sentence(s)
Reviews with clear structure & outline

• The Annual Reviews Series
• Structure is presented as a Table of Contents
Orthologs, Paralogs, and Evolutionary Genomics

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Abstract
Orthologs and paralogs are two fundamentally different types of homologous genes that evolved, respectively, by vertical descent from a single ancestral gene and by duplication. Orthology and paralogy are key concepts of evolutionary genomics. A clear distinction between orthologs and paralogs is critical for the construction of a robust evolutionary classification of genes and reliable functional annotation of newly sequenced genomes. Genome comparisons show that orthologous relationships with genes from taxonomically distant species can be established for the majority of the genes from each sequenced genome. This review examines in depth the definitions and subtypes of orthologs and paralogs, outlines the principal methodological approaches employed for identification of orthology and paralogy, and considers evolutionary and functional implications of these concepts.

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| BIOCHEMISTRY | ASTRONOMY AND ASTROPHYSICS | CLINICAL PSYCHOLOGY |
| BIOMEDICAL ENGINEERING | BIOMEDICAL ENGINEERING | ECONOMICS |
| BIOPHYSICS | BIOPHYSICS | ENVIRONMENT AND RESOURCES |
| CELL AND DEVELOPMENTAL BIOLOGY | CHEMICAL AND BIOMOLECULAR ENGINEERING | FINANCIAL ECONOMICS |
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| PHYSIOLOGY | PLANT BIOLOGY | PUBLIC HEALTH |
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| PUBLIC HEALTH | PSYCHOLOGY | PSYCHOLOGY |

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Next week - Editing

- Introduction, middle, conclusion
- Identifies (in)appropriate text
- Improves clarity