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Design of scientific Posters

Schedule

- What are Posters?
- Design Basics
- Fonts and Text
- Images
- Introduction into Adobe Illustrator
- Opportunity to Test and Ask

Determining functional linkages between virulent genes of *Porphyromonas gingivalis*

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Introduction

Periodontal diseases such as gingivitis and periodontitis are as a result of pathogenic colonizing bacteria in the periodontium. The early stage (gingivitis) can result in swollen red gums, while the later stage (periodontitis) can result in both loss, bone decay, and excessive bleeding.



Porphyromonas gingivalis is a Gram-negative anaerobic pathogen implicated in the disease. The sequencing of its genome allows for genomic analysis of the virulent genes. A previous study grouped known virulent genes into the following categories: adhesion, antibiotic resistance, evasion, invasion, peptide acquisition, and stress.

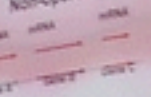


Though analysis was performed on all categories, there was a focus on invasion. Invasion allows for the penetration of host tissue by the pathogen. It involves the transport of specific proteins to the pathogen surfaces which will function in destruction of host tissue.

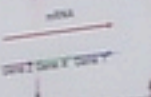
Objectives

- Analyze *P. gingivalis* (PG) genome for functional relationships between virulence genes classified by Nelson et al.
- Create gene networks to determine the most highly linked genes
- Compare genes not previously classified as virulence genes by Nelson et al.

Non-operon Genes



Operon Genes



Category	# of Genes in Category	Total # Linked Genes	Ave. # Linkage/ Gene	Linked Virulent Genes	Ave. # Linkage/ Gene
Adhesion	13	2	5.2±4.3	5	14.6±11.4
Antibiotic	5	77	10.9±6.9	61	14.9±8.6
Evasion	67	390	12.5±11.1	9	21.1±8.3
Invasion	10	160	2.8±1.1	1	4
Iron	1	5	8.7±5.2	33	10.8±7.6
Peptides	41	286	6.0±4.1	16	9.9±8.6
Stress	16	123			



Fig 2. Invasion gene network

Discussion

- There are many more virulent functioning genes than originally thought
- The invasion network involves the linkage of many of the original known virulent genes

References

- Nelson K.E., Fleischmann R.D., Delboy R.T., Paulsen I.T., Fouts D.E., Eisen J.A., Daugherty S.C., Dodson R.J., Durkin A.S., Gwinn M. et al. (2003) Complete genome sequence of the oral pathogenic bacterium *Porphyromonas gingivalis* strain W83. *J. Bacteriol.* 185, 5591-5601
- Jerga S.C., Collado-Vides J. and Moreno-Hagelsieb G. (2005) Nebulon: a system for the inference of functional relationships of gene products from the rearrangement of predicted operons. *Nucleic Acids Res* 33, 2521-20

Acknowledgements

Dr. Gabriel Moreno-Hagelsieb
 WLU Biology
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Logo



Your Ingenious Teaser Right Here to Woo Them Down to the Body

The name of the author 28pt regular

Titel

Conclusions first: 44 pt bold

Always put the most important part - your conclusions - first! Place your conclusions in the upper left hand corner of your poster. Prepare your material from the reader's perspective. What was done, by who and your conclusion has to be understood within a couple of second's reading! Use active voice when writing the text. textsize: 34 pt regular

Introduction

Posters are primarily visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to the minimum.

Your aim

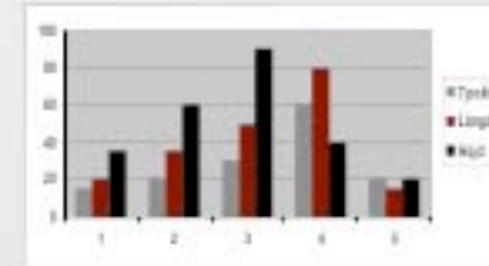
Your poster is an advertisement for your research and as such it needs to be eye-catching and straight to the point. You only have seconds, or at best a few minutes to attract the attention of the visitor to a poster session. Keep your message short and clear

Your message

Keep your message clear and your text concise. Decide what is relevant for this poster and try to get your message across to your target group.

Layout, photos and print

Contact [Mediahyran](#) at University Library for help with layout and image enhancement. For printouts and professional photographers contact [Björnmakarna](#). For more information: www.bjormakarna.kih.ki.se



Always write a descriptive caption 28pt regular

Tips:

The best font for text blocks that are as short as they should be on a poster is a Sans Serif typeface family. Therefore, use sans serif fonts such as Arial or ~~Mundo~~ sans rather than serif fonts like Times or Courier. AVOID CAPITAL LETTERS IN TEXTS THAT ARE LONGER THAN ONE LINE, SINCE THEY ARE MORE DIFFICULT TO READ.

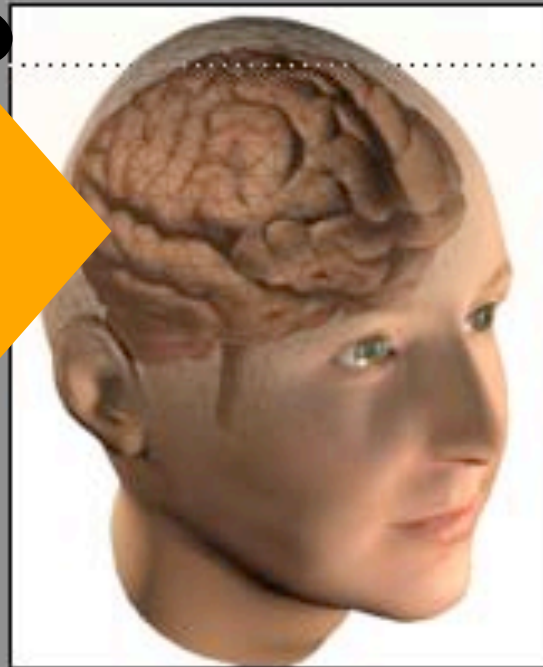
Handouts

If you succeed in getting the reader's attention, provide her/him with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.

It is always nice to put in a picture and write some few short notes of what's going on in the future. Put handouts, business cards, nearby - on a table or in an envelope hung with the poster.



Images



Use pictures or illustrations image caption 28pt regular

Text

Contact

You

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Posters shall communicate.

- The results are presented while you are standing next to the poster.
- Poster need to be easy to understand but also be a basis for discussion.
- AIDA: **A**ttraction, **I**nterest, **D**esire, **A**ction
- „Less is more.“
- Whom is the audience?

General questions regarding the design

- **proportions right?**
 - important things are pronounced?
- **layout logical?**
 - does the composition make sense?
 - is it clear why things are where they are?
- Is the **order** in which one should read the poster transparent?
- **consistency:**
 - is the overall impression coherent?
 - does one part stick out unpleasantly?

Fonts

h

with serifs

h

sans serif (german: Groteske)

sans serif thin

sans serif italic

sans serif bold

Basic Rules for the Usage of Fonts

- never more than 3 fonts on one poster
- sans serifs are best for titles.
- fonts with serifs are more easy to read: use them for running text.
- accentuations are best in **bold** oder *italic*.
- 250 words in a row are a good limit.
- do not let the font get too small
 - titles should be readable from 3 m distance (minimum 80 –100 pt)
 - other text needs to be readable from 1 m by 3 people simultaneously (40 –50 pt).
 - if the text doesn't fit: shorten it instead of making it smaller.

Composing text

Justified text is much more prone to uneven space between words, especially in scientific context, when long words like endoplasmatic reticulum or 5-Aminosalicylic acid.

Left justification is much more easy to read and even if words become long (endoplasmatic reticulum or 5-Aminosalicylic acid) the spacing is robust.

the ideal line length is a maximum of 70 characters

the ideal line spacing is font size plus 20%

color color color color color color

for Fonts

black font on white (or bright) back
is by far the easiest to read and least
distracting combination.

therefore: text always black, only
titles may be in color.

for areas

- more than 3 colors easily get too loud and flashy.
- red, orange and some greens and also
complementary colors are very aggressive.
They should be used only when really needed.
- the back must not distract from the text. Use
background colors and images with caution.

Images and Schematics

The more images, the better.

Data should be presented as graphs or models – nobody wants to look at tables on a conference.

Try to reach a resolution of 100 Pixel/cm (or 250 Pixel/Inch).

Images have to be self-explanatory and there must be a caption.

at ZDV Uni Mainz:

- you can print posters up to Din A0 Oversize (88,2 x 124,5 cm) at ZDV (DTP-Studio) for only (18€)
- <http://www.zdv.uni-mainz.de/posterauftrag.php>

Sources:

- <http://www.ag-jlc.de/images/stories/JLC/Dokumente/posterworkshopsept2007handout.pdf>
- <http://www.asanger.de/asig/Postererstellung.pdf>
- http://www.diz.ethz.ch/docs/powerful_posters
- http://www.staff.uni-mainz.de/pommeren/Vortraege/Gutes_Poster.pdf