

Presentation skills and strategies

How to make and deliver a compelling presentation

Paul Albert

Weill Cornell Medicine



Weill Cornell Medicine

Why did it take so long for antiseptic surgery to be accepted?

- **1865** - Joseph Lister realized that compound fractures (where the skin is broken) have a poor prognosis compared to simple fractures. Discovers and begins to promote antiseptic surgery.
- **Late 1880s/1890s** - Surgeons start to use sterile gowns and gloves.

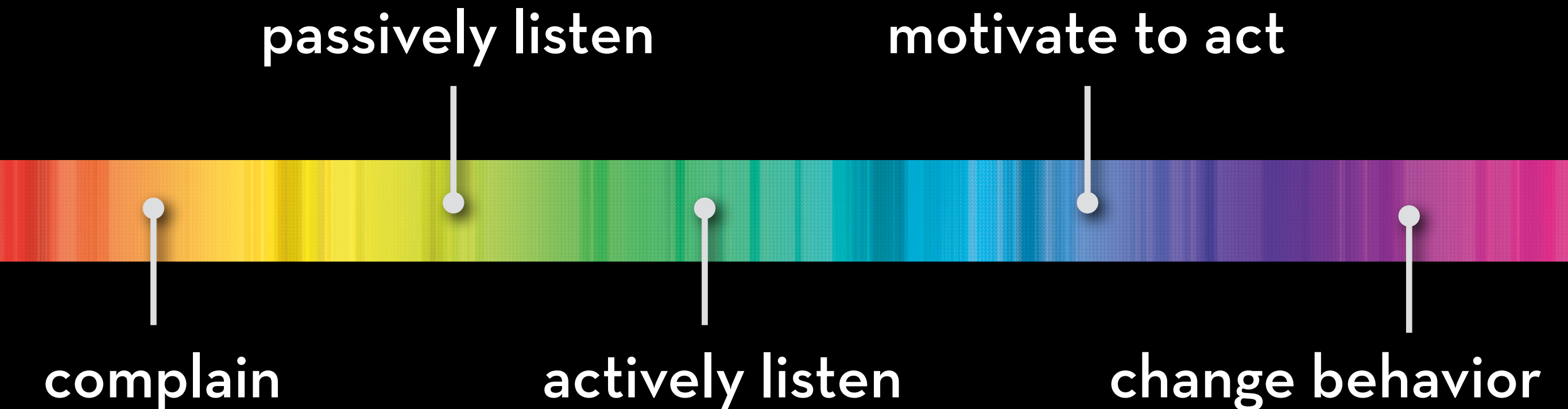


A contemporaneous account may offer some insight

“ Verily, I find Lister's cogitations on "antiseptic surgery" to be risible. I could scarcely read his presentation owing to its small text. Forsooth, this ragamuffin had scarcely practiced his PowerPoint and had to repeatedly refer to his notes.

Reginald G. Hidebound, 1874

The spectrum of possible audience reactions



Smart people give lackluster presentations all the time.

KT

or

QI

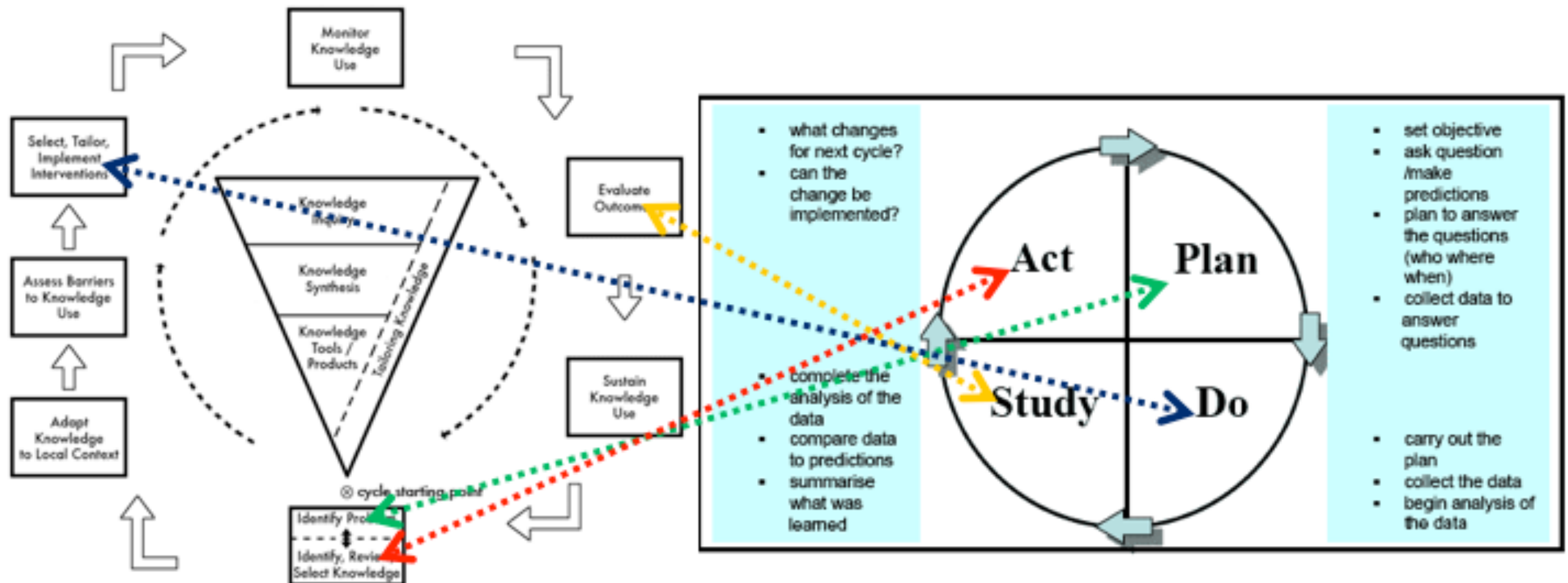
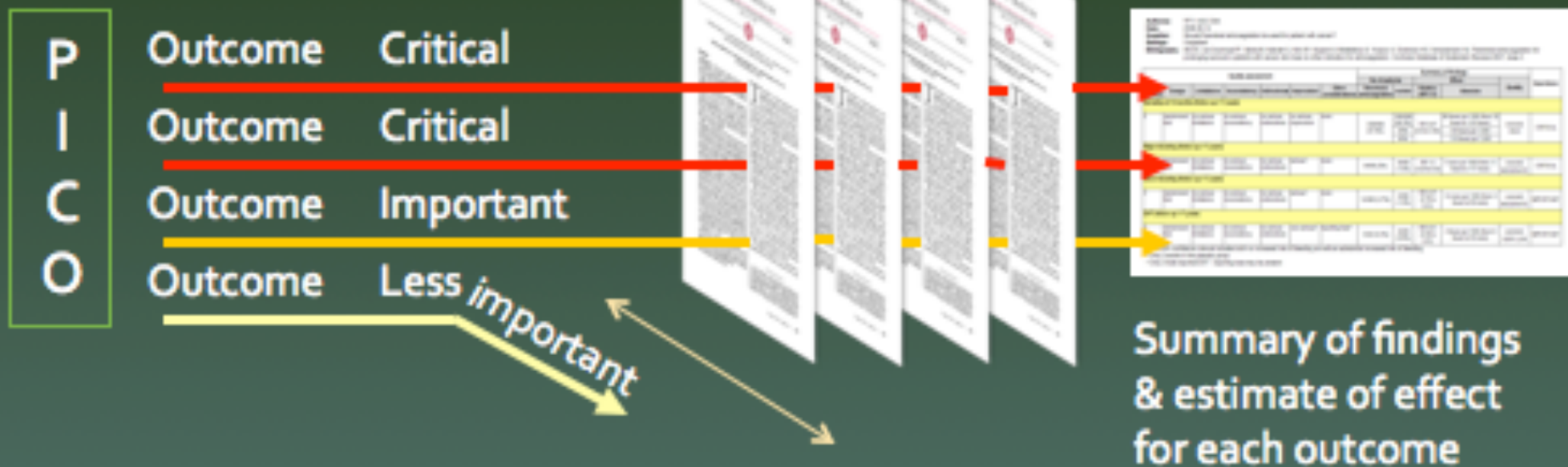


Exhibit A

Formulate question
Select outcomes
Rate importance
Outcomes across studies
Create evidence profile with GRADEpro
Rate quality of evidence for each outcome

RCT start high, obs. data start low



High
Moderate
Low
Very low

- Grade down**
1. Risk of bias
 2. Inconsistency
 3. Indirectness
 4. Imprecision
 5. Publication bias
- Grade up**
1. Large effect
 2. Dose response
 3. Confounders

Systematic review



Guideline development

Formulate recommendations:

- For or against (direction)
- Strong or weak (strength)

By considering:



- ☐ Quality of evidence
- ☐ Balance benefits/harms
- ☐ Values and preferences

Revise if necessary by considering:

- ☐ Resource use (cost)

Rate
overall quality of evidence
across outcomes based on
lowest quality
of *critical* outcomes

Exhibit B

Define the agenda

Agenda

- The Thesis (aka Central Idea)
- Connecting with your audience
- Speaking style – know your content, don't read from your slides
- Slide structure
- Visual considerations – big fonts, ample contrast, minimalism...
- Reinforce your key points
- Now you try!

**Identifying and
embracing your thesis**

Proc Natl Acad Sci U S A. 2004 Dec 28;101(52):18099-104. Epub 2004 Dec 16.

TBX21: a functional variant predicts improvement in asthma with the use of inhaled corticosteroids.

Tantisira KG¹, Hwang ES, Raby BA, Silverman ES, Lake SL, Richter BG, Peng SL, Drazen JM, Glimcher LH, Weiss ST.

+ Author information

Abstract

TBX21 encodes for the transcription factor T-bet (T-box expressed in T cells), which influences naive T lymphocyte development and has been implicated in asthma pathogenesis. Specifically, the T-bet knockout mouse spontaneously develops airway hyperresponsiveness and other changes consistent with asthma. Because airway responsiveness is moderated by the use of inhaled corticosteroids in asthma, it is conceivable that genetic variation in TBX21 may alter asthma phenotypes in a treatment-specific fashion. Here we demonstrate that the nonsynonymous variation in TBX21 coding for replacement of histidine 33 with glutamine is associated with significant improvement in the PC(20) (a measure of airway responsiveness) of asthmatic children in a large clinical trial spanning 4 years. We note that this increase occurs only in the children randomized to inhaled corticosteroids and that it dramatically enhances the overall improvement in PC(20) associated with inhaled corticosteroid usage. The average PC(20) at trial end for subjects on inhaled corticosteroids possessing a variant allele was in the normal range for nonasthmatics. In cellular models, we show that the **TBX21 variant increases T helper 1 and decreases T helper 2 cytokine expression comparably with wild type**. TBX21 may thus be an important determinant pharmacogenetic response to the therapy of asthma with inhaled corticosteroids.

PMID: 15604153 PMCID: [PMC539815](#) DOI: [10.1073/pnas.0408532102](#)

[PubMed - indexed for MEDLINE] **Free PMC Article**



Full text links



Save items

★ Add to Favorites ▾

Similar articles

Pharmacogenetic study of the effect of the NK2R G231E G8 [J Clin Pharmacol]

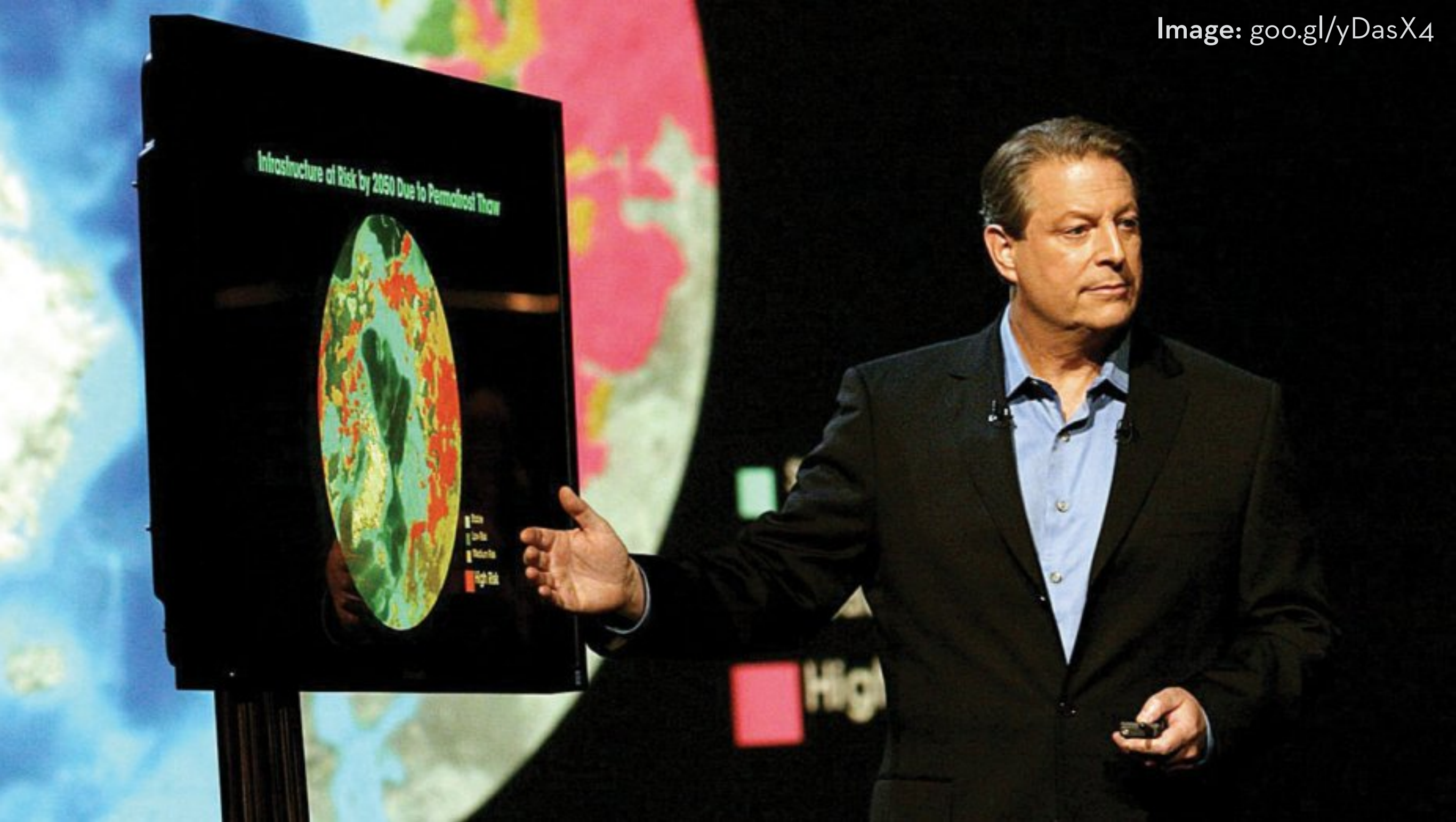
Genetic variation of TBX21 gene and the risk of asthma and its [J Hum Genet]

Genome-wide association identifies a gene as [Am J Respir Crit Care Med]

Review Combination of inhaled corticosteroids and long-acting beta2 agonists [Cochrane Database Syst Rev]

Review Addition of inhaled long-acting beta2 agonists to inhaled corticosteroids [Cochrane Database Syst Rev]

In clinical and biomedical research, an abstract's final or penultimate sentence often represents the thesis



Presentation: Al Gore, *An Inconvenient Truth*, c. 2006

Thesis: “In the absence of immediate action, climate change will have catastrophic effects.”



Presentation: Steve Jobs, *iPhone* product launch, c. 2007

Thesis: “My phone is better than your phone.”

The most important work happens before making a single slide

1. Identify a topic
2. Gather raw information
3. Interpret what you've collected
4. Draft the thesis
5. Draft an outline based on the thesis
6. Revise and edit
-
7. Produce slides, returning back to and tweaking outline as necessary



100%

Normal text

Arial

11

More



1. Thesis: We can solve administrators' longstanding needs by offering tools that allow for disintermediated reporting.

1. Introduction

- a. Purpose: This is a talk about failure, specifically why we fail when it comes to faculty reporting, and how we intend to turn it around.
- b. Scope: relevant to faculty data reporting infrastructure, to putting up a VIVO

2. Weill Cornell has failed to provide effective reporting to administrators.

- a. We have largely failed. Why?
 - i. Not a monolithic system.
 - ii. Shadow systems perform the same function. Lots of duplication, not only in our person identifiers but also in our processes
 - 1. HR vs. WOOFA - show onboarding workflow.
 - 2. Describe how duplicate CWIDs are created for Epic users.
 - iii. Lack of agreement on basic terms. (There are three definitions for faculty.)
 - iv. Our existing systems are designed to solve one problem at a time. The HR system wants to know tenure? Here have a PDF.
 - v. Reporting is fundamentally a skunkworks endeavor. (Dept. of Med. has gone so far as to build their own Faculty Affairs system)
- b. What do we lack? I would categorize into three big buckets:
 - i. principles - what is fundamentally important to us?
 - ii. processes - confront institutional inertia around processes
 - iii. technology

3. Consumers desired outcomes

- a. On demand: I can generate a report whenever I
- b. Caveat free: I know the assumptions behind the
- c. Well documented: If I don't know them, I can look
- d. Consistent: The report is consistent.
- e. Tools for interaction: I can interact with the data, faceting or filtering.
- f. If I had to say one word, it would be disintermediation - reduction in the

One idea begets the next, and each idea serves the thesis.

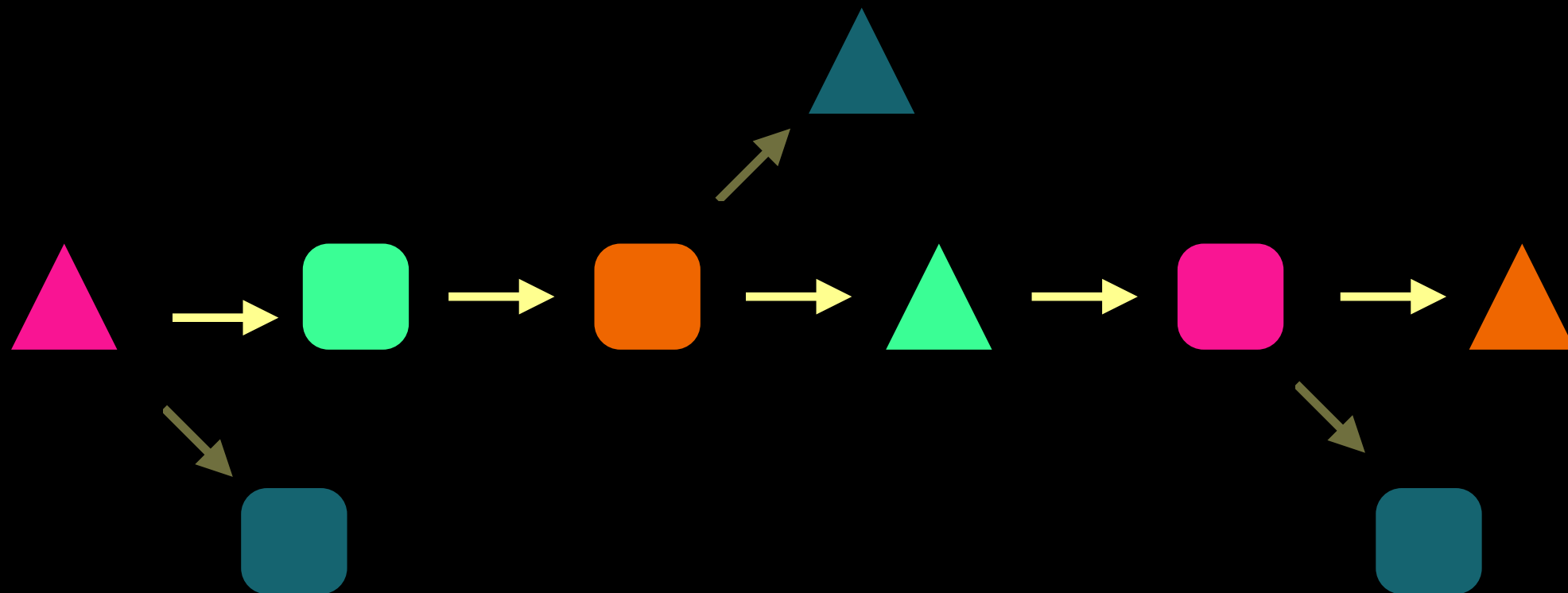
In writing, you must kill your darlings.

William Faulkner

*Live count of slides excised
from this presentation*

31

Strong narratives are well-edited



Good and bad reasons for including something



- It serves the single idea.



- It's interesting.
- It's somewhat related.
- The source material mentions it.
- Already created the slide. I may as well.



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**Subdivide your outline
into individual ideas.
These are your slides.**

**What does
“one idea per slide”
look like?**

Humans are controlled by a metagenome



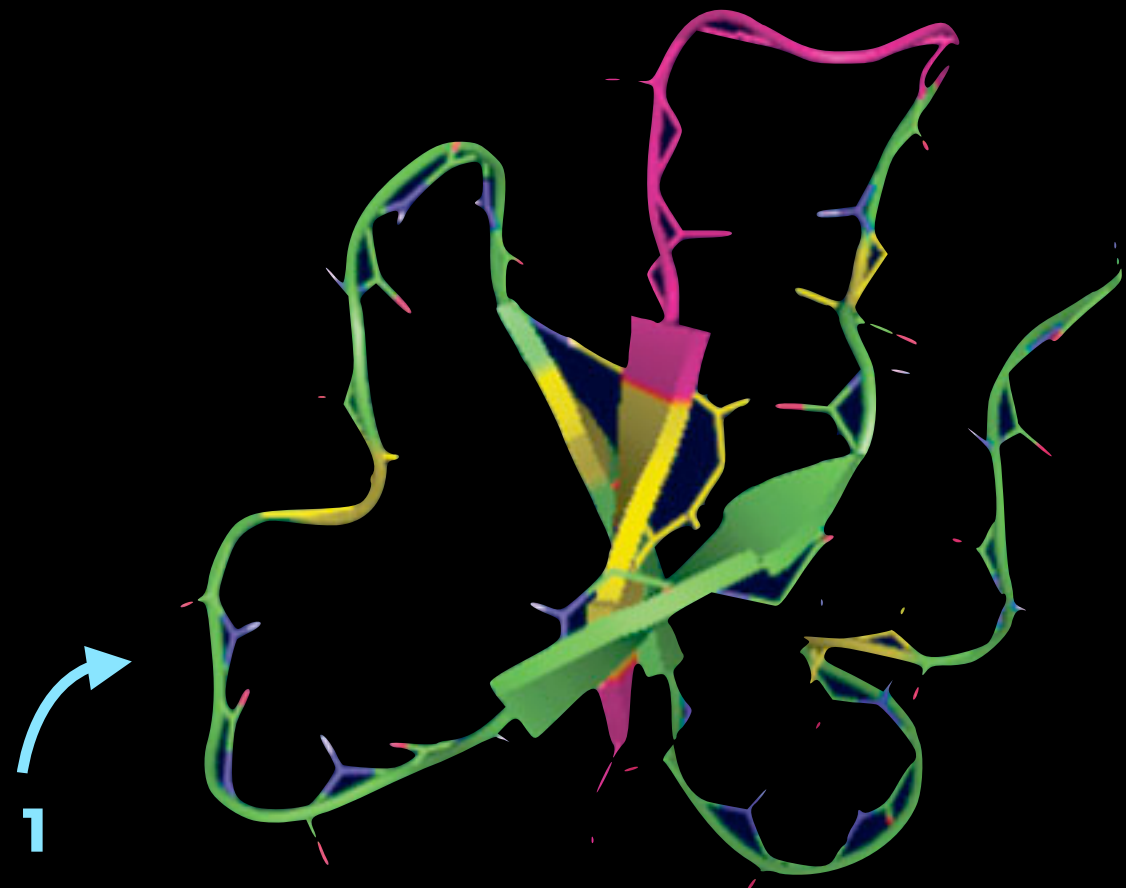
The diagram features a large yellow circle on the left and a smaller pink circle on the right. The yellow circle is labeled 'Human Microbiome' and 'Millions of genes'. The pink circle is labeled 'Human Genome' and '20,500 genes'. The circles are positioned such that the pink circle is partially overlapping the right edge of the yellow circle, visually representing the vast difference in genetic material between the two.

Human Microbiome
Millions of genes

Human Genome
20,500 genes

Chronic microbes alter expression of the body's metabolites

human beta-defensin 1
(hBD-1)



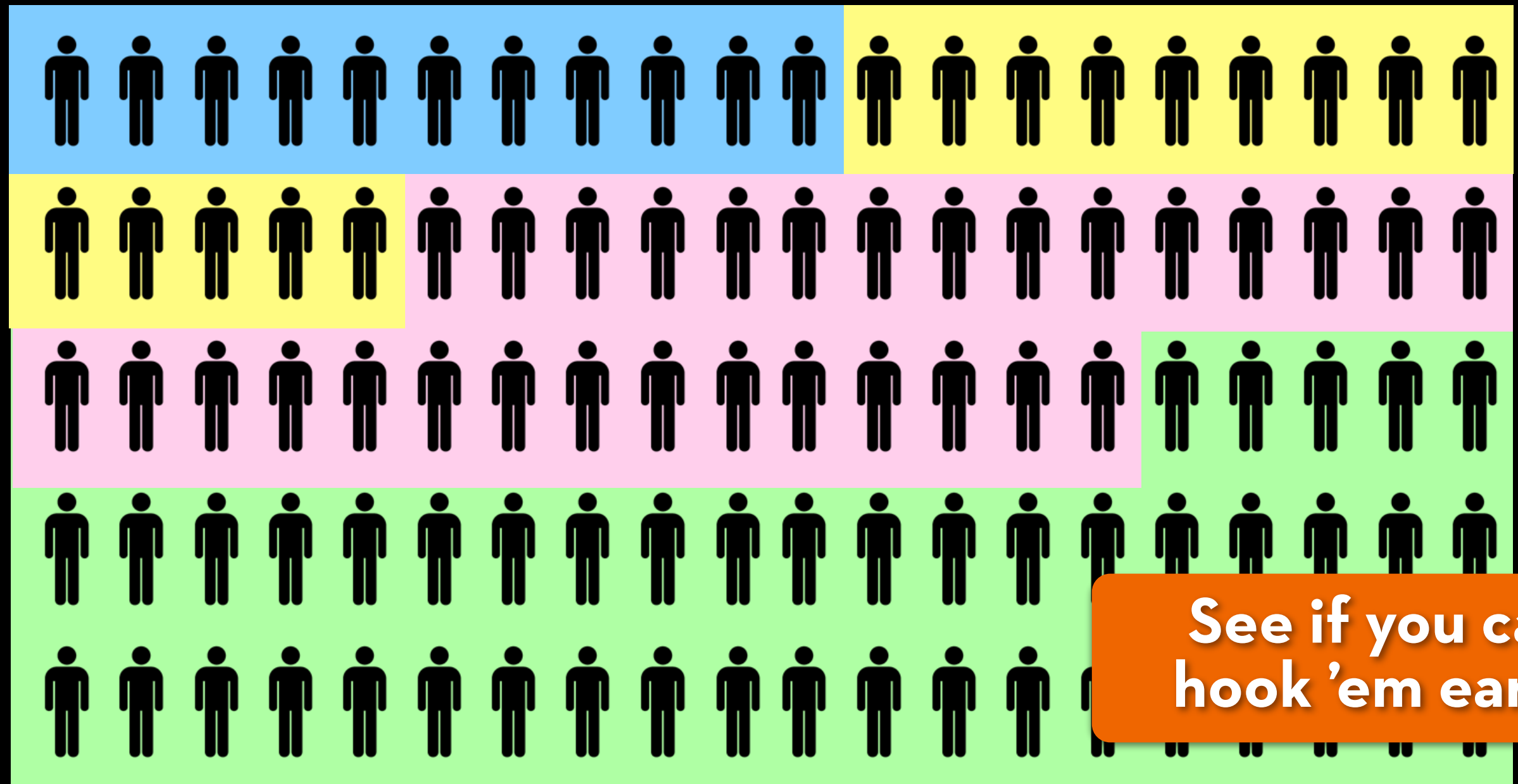
PMID: 21248835

Engaging your audience

The implicit covenant between presenter and audience

If you engage with me, I will be
present.

The leading cause of death of firefighters is not work-related



**See if you can
hook 'em early**

- Trauma
- Burn/asphyxiation
- Other
- Cardiovascular death

Source: FEMA

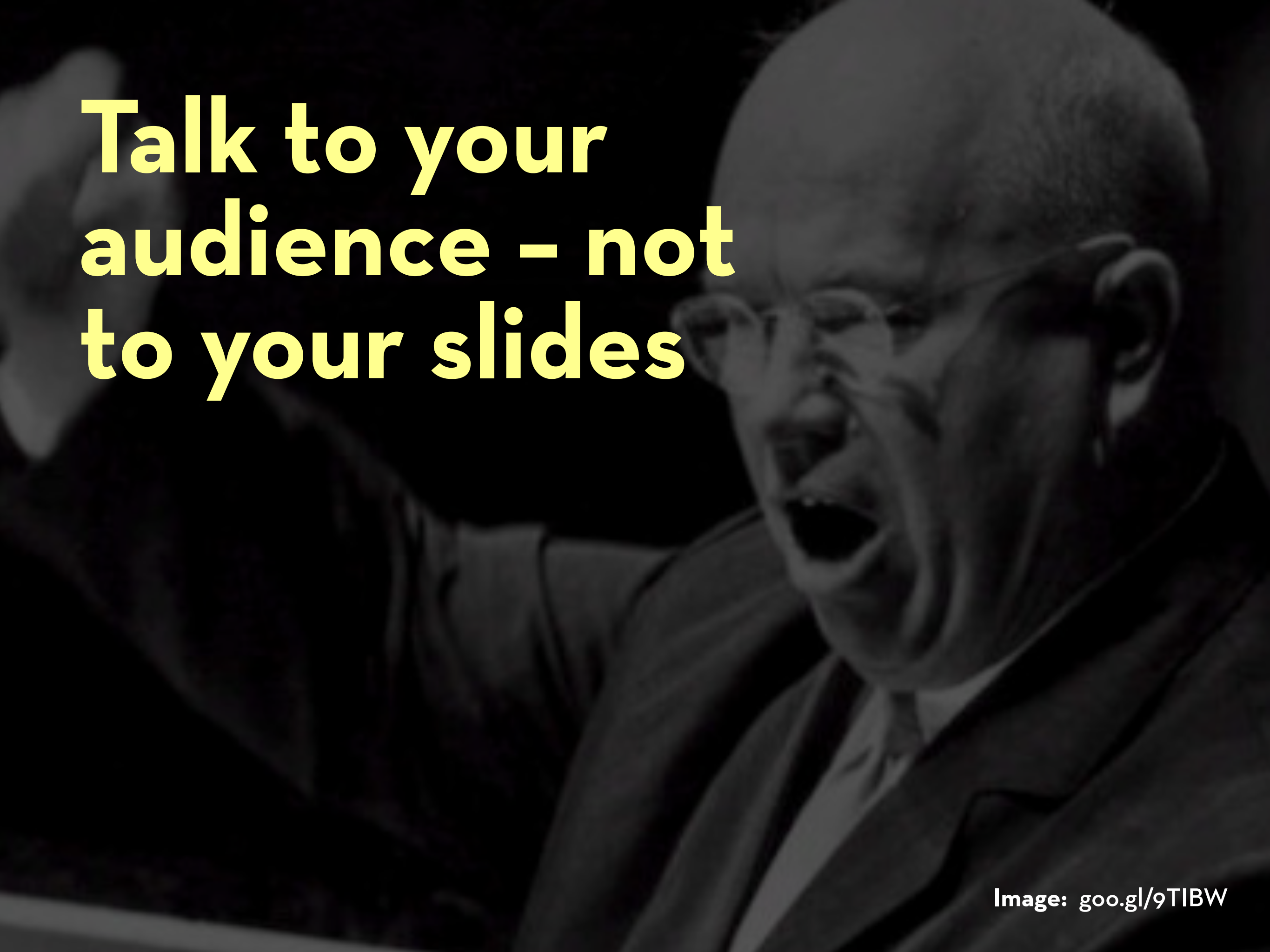
According to learning theory, knowledge is constructed. What is the existing structure you must build upon?



Who is your audience?

- **Education, training, and knowledge base** – Where are they starting from? Which acronyms or concepts require explanation?
- **Reasons for attending** – To learn something new? To make money? To evaluate you? Because they were compelled?
- **Receptivity** – What are their biases?

**Speak such that people
listen**

A dark, grayscale background image of Barack Obama speaking into a microphone, with his mouth open and hand near his face.

**Talk to your
audience – not
to your slides**

Your slides should:

- illustrate key information
- reinforce messages
- serve as a prompt

Your slides should NOT:

- serve as a script

**Use strong
eye contact**



Skip the fillers

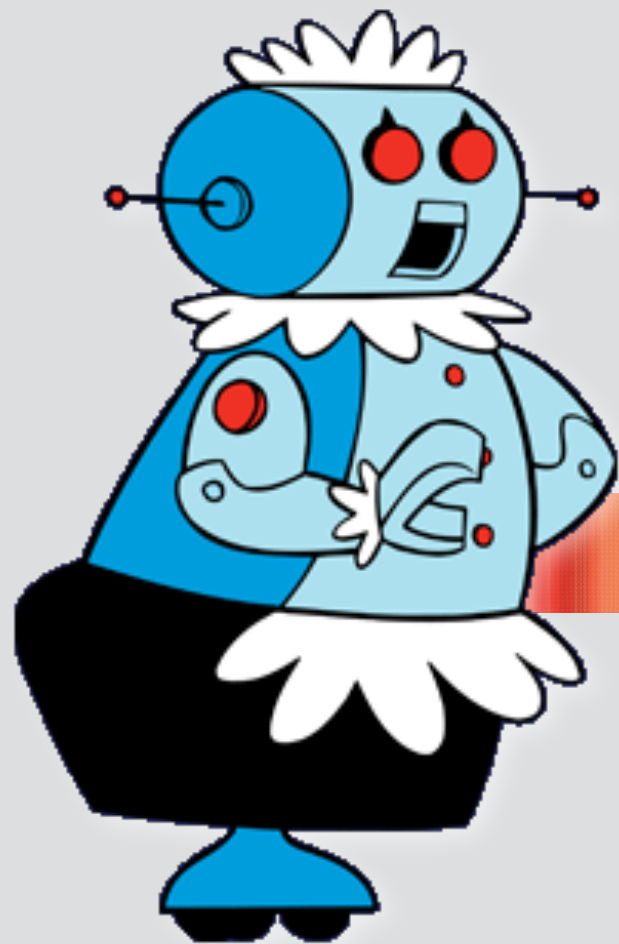
Like... Umm... Uhh... Er...
So... Well... If you will...
Sort of... Ah... You know...
Actually... Technically...
Basically... I guess... I
mean... Now...



Image: goo.gl/rgUj4

How enthusiastic should a presenter be?

Low



High



Natural state for most people

Socratic ideal for presenters

Do you have a mousy voice?



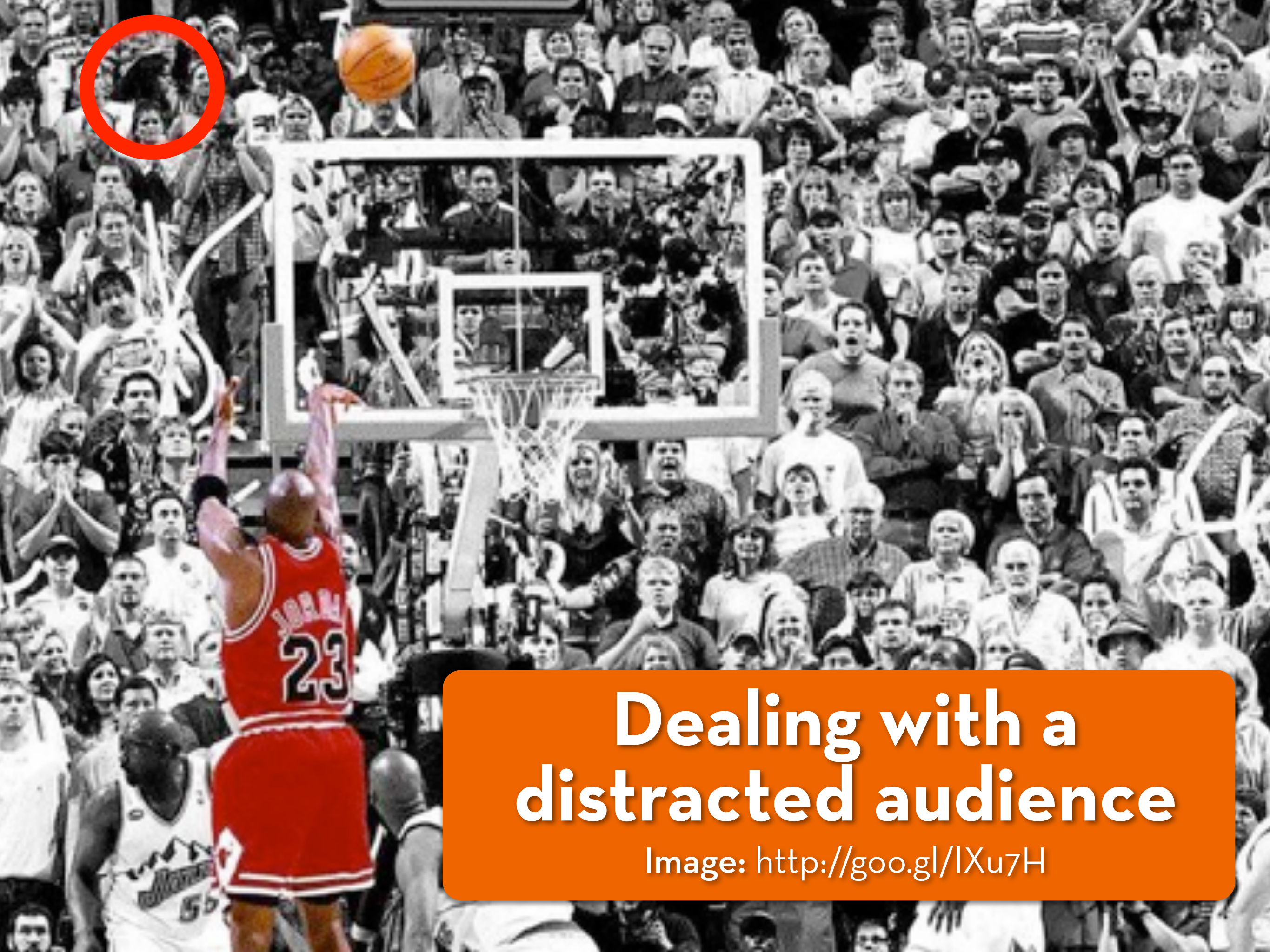
Image: goo.gl/izgKN

Channel your inner construction worker and speak up!

Be this guy.



Image: goo.gl/vGscu



Dealing with a distracted audience

Image: <http://goo.gl/lXu7H>

Combatting distraction



- circulate among the audience, slightly invading personal space
- ask a question
- assign a task



- sit on lap of people who aren't paying attention
- stare menacingly
- smash their iPhones

**Repurpose the same
visual elements for a
polished look**

Consistency implies sanity

- Header font
- Header font size
- Header font color
- Body font
- Body font size
- Body font color
- Distance between header and top of slide
- Distance between body and left of slide

Consistency implies sanity

74px

79px

Neutra Text Bold, 63px, #FFFB83
Aligned center

- Header font
- Header font size
- Header font color

98px

- Body font
- Body font size
- Body font color

Neutra Text Regular, 35px, white

- Distance between header and top of slide
- Distance between body and left of slide

Use templates smartly

Institutional templates

- The template for Weill Cornell Medical College is available on the College's site:
 - <http://brand.weill.cornell.edu>
- You are supposed to use these templates in any talks in which you represent the College.



Pros of templates

- Institutions tend to mandate that you use them
- It's less work to create PowerPoints with them
- Consistent look and feel can make the presentation seem more professional



Cons of templates

- Depend on the template
- Many have small default text, inviting you to include too much content
- You don't want to compete against your slides for your viewers' immediate attention.



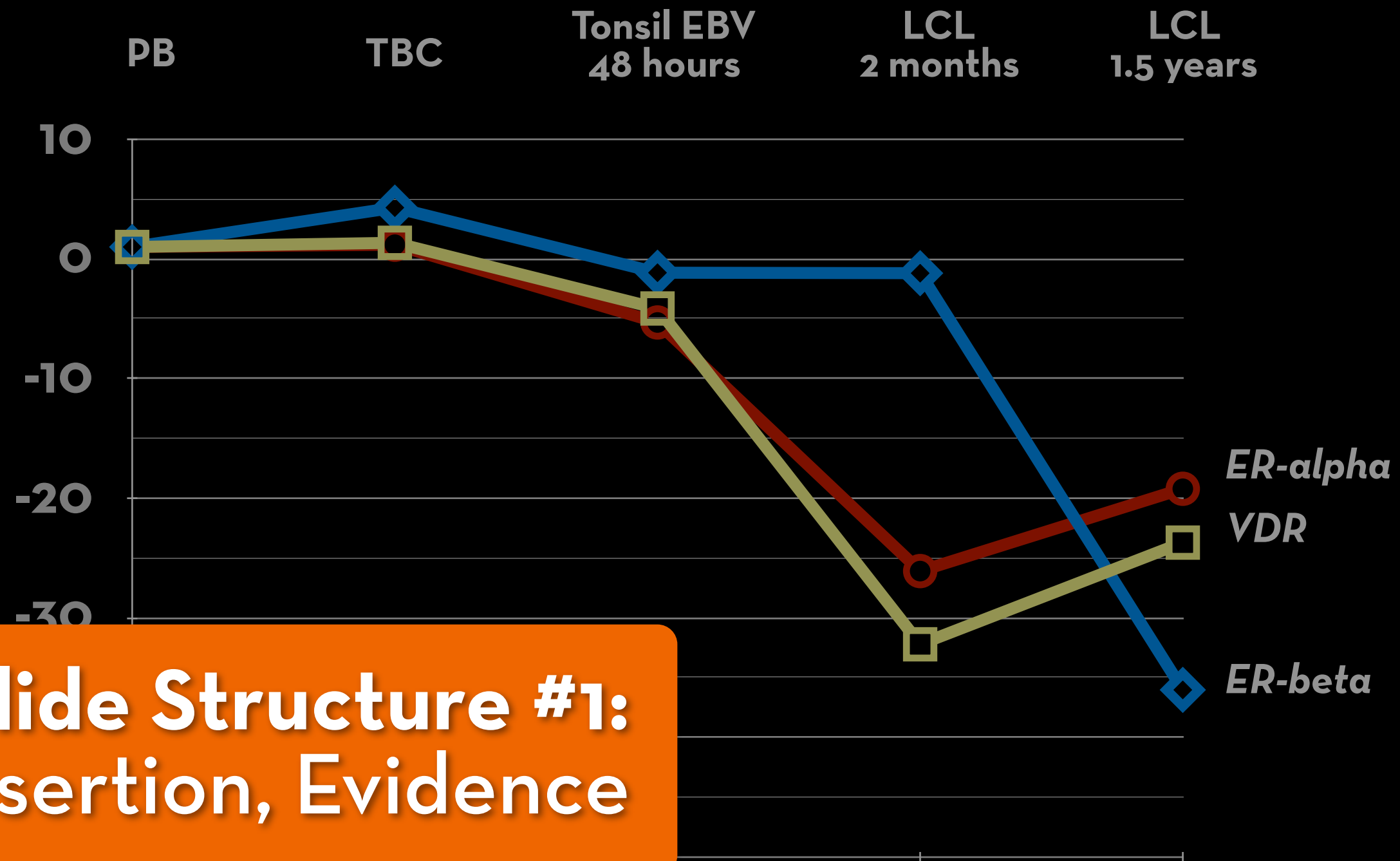
Cons of templates

I bolded the header!!
(*not a felony except in Texas*)

- Depend on the template
 - Many have small default text, inviting you to include too much content
 - You don't want to compete against your slides for your viewers' immediate attention.
- There's no rule that says you can't tweak a template.**

Slide structure: organizing content on a slide

Nuclear receptors' mRNA expression is downregulated upon infection of B-cells with EBV



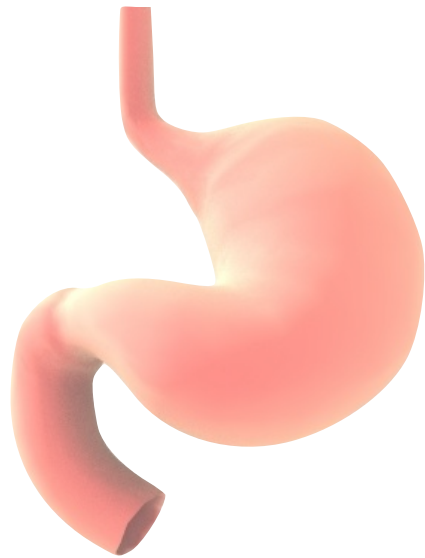
Slide Structure #1:
Assertion, Evidence

Source: *Experimental Oncology*. 2009; 31(2): 92-96.



Koch's
postulates did
not anticipate
the presence of
a **metagenomic
microbiota.**

Slide Structure #2:
Assertion, No evidence



Stomach microbiome

PMID: 16407106



Blood microbiome

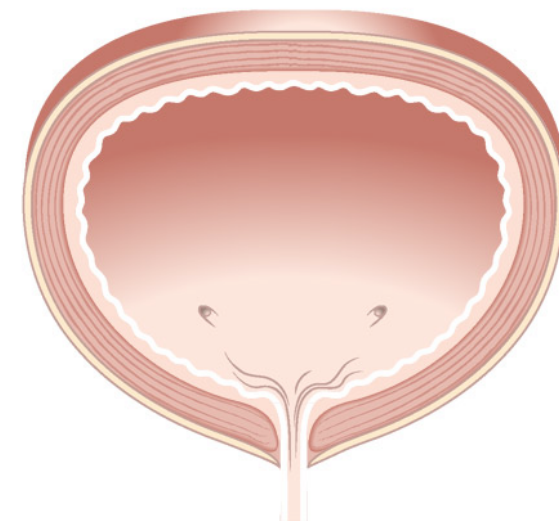
PMID: 21364979, 12454193

Slide Structure #3:
Topic



Lung microbiome

PMID: 22683412



Bladder microbiome

PMID: 22278835


Slide structure #3: Examples of good and bad topics

- Good topics:

- EBV's effect on B-cells' mRNA expression
- Epstein-Barr virus and protein expression in B-cells
- How does EBV interact with white blood cells' nuclear receptors?

- Bad topics:

- Epstein-Barr virus
- Results



Maybe not so bad if you stick to the standard structure of a paper: Introduction, Methods, Results, Discussion, Conclusion.

How wonderful that we have met with a paradox. Now we have some hope of making progress.

Niels Bohr

**Slide Structure #4:
Quote**

“Autoantibodies” target microbes

Antibody	Shown to be generated in response to...	PMID
RO, La, dsDNA	Epstein-Barr virus (EBV)	17917546
RF	A variety of viral, bacterial, and parasitic infections	9198668
	Chronic infections	8898963
	Subacute bacterial endocarditis	214511
anti-EBNA-1	Lupus-specific autoantigens such as Sm or Ro	17121489
antibodies against annexin-V, prothrombin and laminin	Acute infections in patients without autoimmune disease	17121489
Anti-microbial antibodies	Targeted against microbes including <i>Lactobacilli</i> , <i>H. pylori</i> , <i>E. coli</i> , <i>M. tuberculosis</i> , <i>M. pseudotuberculosis</i> , and <i>Listeria</i>	18262391

Slide Structure #5:
Table

Avoid verbose slides

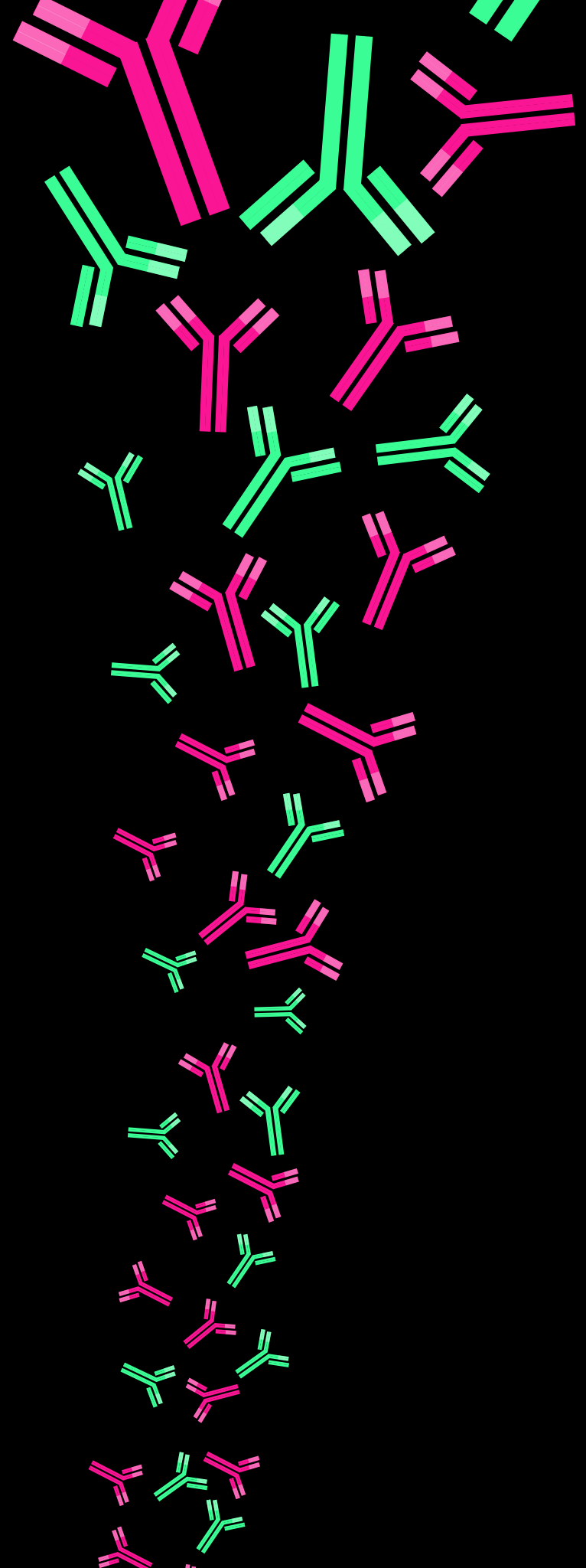
Предстоящая тарифная кампания

1. ФСТ должна утвердить федеральные факторы в новой структуре (они составляют ~ 90% от конечного тарифа). После этого региональные регулирующие органы должны утвердить тарифы для конечных потребителей в рамках предельных.
- Все федеральные факторы будут утверждены 20-30 ноября 2005 года. Причина – задержка Постановления Правительства о порядке вывода субъектов на ОРЭ и утверждения индивидуальных тарифов с ОРЭ.

Knowing the language doesn't make this slide less terrible.

Idea and image: <http://slidesha.re/ppt22>

**We must
reevaluate the
autoantibody**



**If you must use lots of
words, highlight the
key points**

Even 13 year ago, estimates of resident microbial flora were far too low

Nasal secretions – 10^6 organisms/mL

Dental plaque – 10^{11} organisms/g

Saliva – 10^9 organisms/mL

Lungs – sterile

Stomach – 10^3 organisms/mL

Liver – sterile

Bile – sterile

Small intestine – 10^4 organisms/g

Large intestine – 10^{11} organisms/g

Skin (axilla and groin) – 10^6 organisms/cm²

Skin (other sites) – 10^3 organisms/cm²

Conjunctiva – < 10 organisms/mL

Pancreas – sterile

Kidneys – sterile

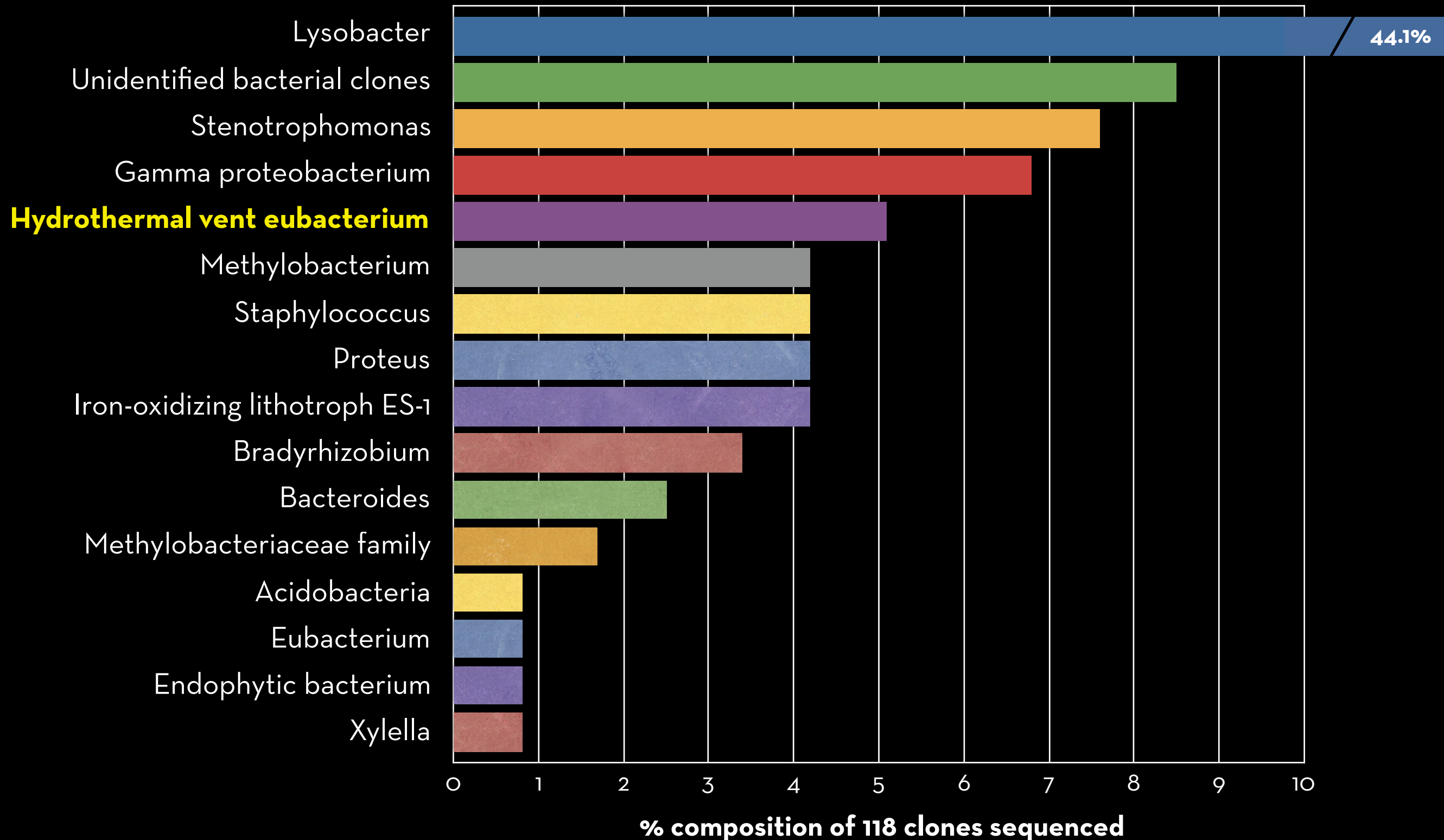
Bladder – $< 10^3$ organisms/mL

Uterus – sterile

Vaginal secretions – 10^9 organisms/g

Hip joint microbiome

Source: Dempsey. 2007. *Arthritis Res Ther* 9 p. R46.

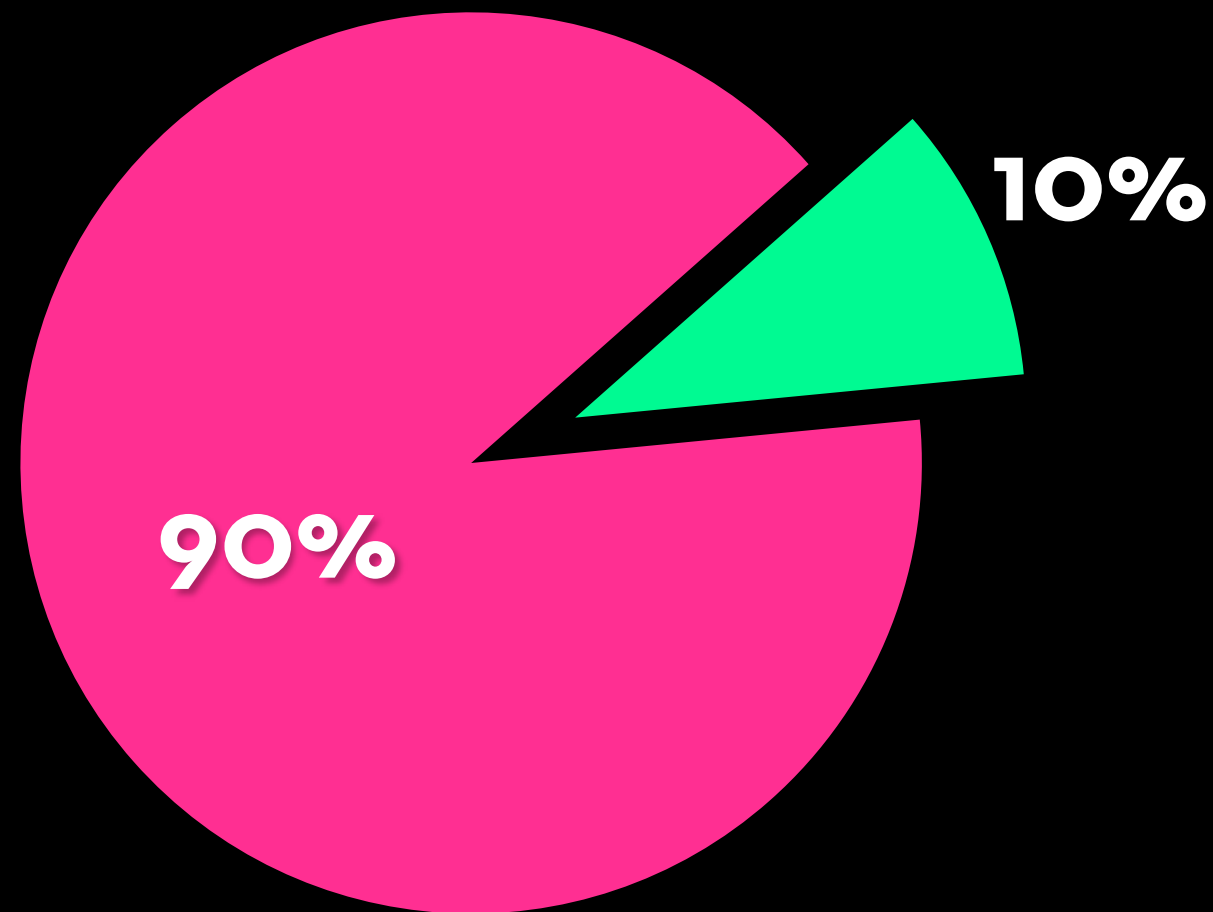


Cut design elements



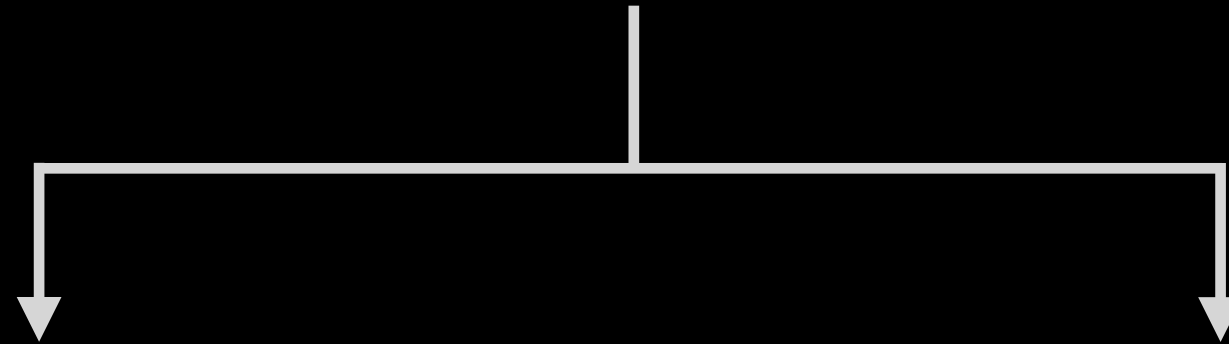
**White space implies value.
Are your ideas valuable?**

The vast majority of bacteria in the human body have yet to be cultured



Source: Nature. 2007;449(7164):811-8.

The Vitamin D Receptor transcribes a variety of key genes



Autoimmune genes

Insulin-like growth factor-
binding protein 3
(IGFBP-3)

Cancer genes

Metastasis suppressor
protein 1 (MTSS1)

**Opt for easy-to-read
sans serif fonts**

Helvetica *EASY TO READ*

Verdana *WIDE, GOOD FOR HEADERS*

Arial *EASY TO READ*

Calibri *AVAILABLE ON MOST RECENT COMPUTERS*

Georgia *EASIER TO READ THAN TIMES NEW ROMAN*

Neutra Text *NICE FONT BUT, LIKE ALL NON-STANDARD FONTS, REQUIRES INSTALL ON PRESENTER COMPUTER*

Impact *HARD TO READ*

Times New Roman *HARD TO READ*

Comic Sans *CRIME AGAINST HUMANITY*

**Use a mix of fonts
from the same font
family**

**This presentation uses four
fonts from the same family**


Neutra Text Bold

Neutra Text Book

NEUTRA TEXT BOLD SC ITALIC

Neutra Text Bold Italic

Use big font sizes



WORSE

[illegible]

**Can you have a
powerful slide with no
imagery?**

Yes.

**If you include them,
images must
meaningfully contribute
to the message**

Do *you* use clichéd images or clip art?

Images: 101cliches.com



Even this generic image
of viruses offers little

Epstein-Barr virus and protein expression in B-cells

**Full-screen images as
backgrounds can
serve your message**

Humans are a superorganism



Image: [usgs.gov](https://www.usgs.gov)

M. tuberculosis downregulates VDR by a factor of 3.3.

Source: Flannagan. 2009. *Nature Reviews Microbiology* 7 355-366.



Image: bit.ly/mtb23

The VDR expresses at least 913 genes, many connected to autoimmune conditions and cancers.

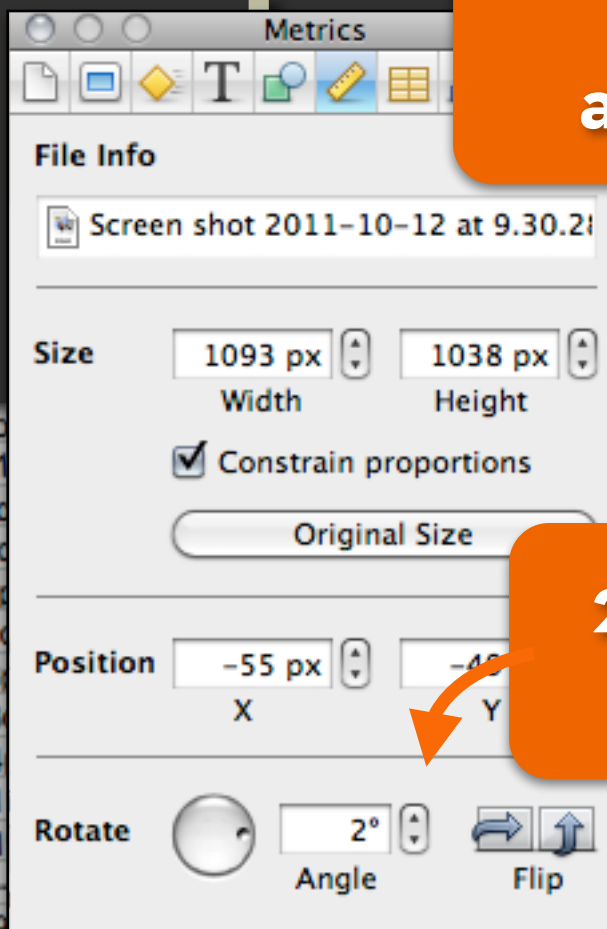
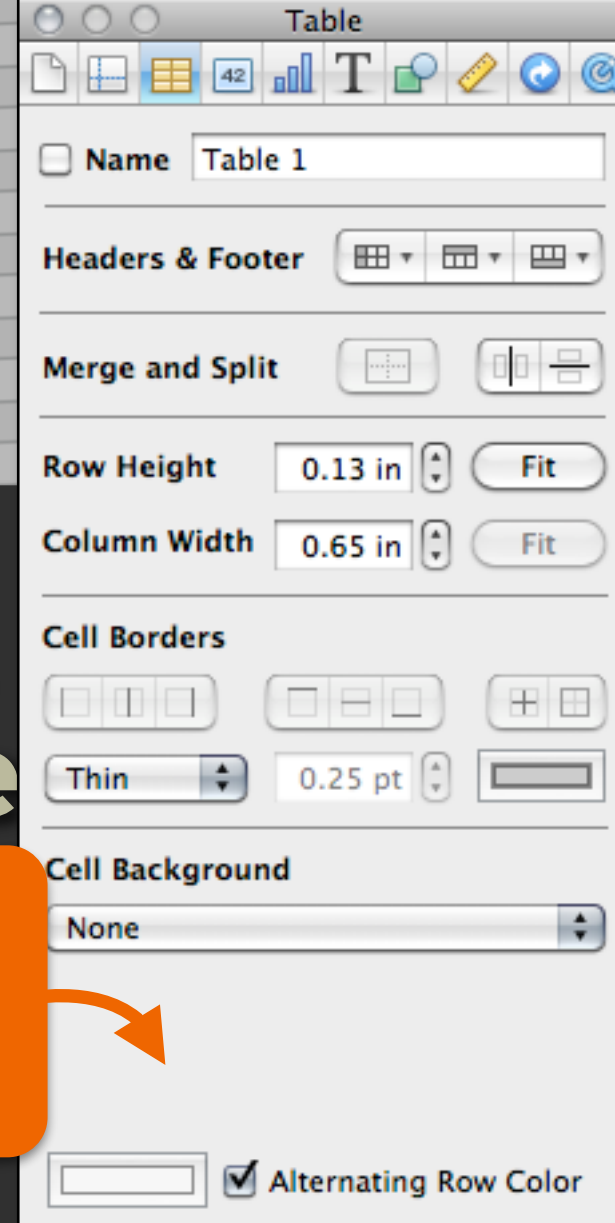
PMID: 16002434

Use a spreadsheet as a striking background

The VDR expresses at 913 genes, many connected to auto

1. Take screenshot of a spreadsheet with alternating row colors.

2. Rotate image two degrees.



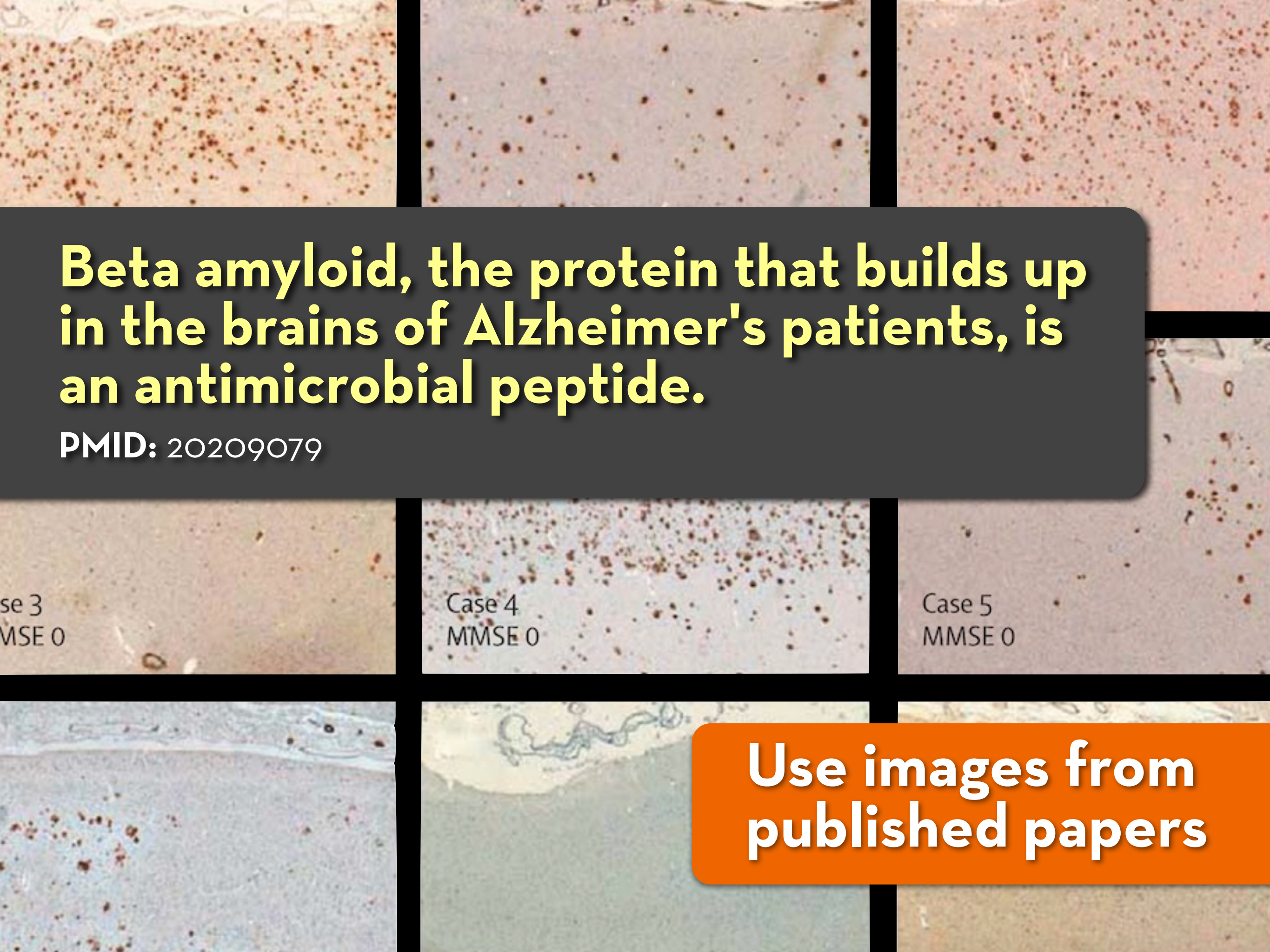


**Sometimes text
is unnecessary as in
this slide on aging.**



Image: Michael Albert

**Be resourceful about
finding images that
serve your message**

The background of the slide is a collage of six microscopic images of brain tissue. These images show various stages and types of beta amyloid plaques, which are characteristic of Alzheimer's disease. The plaques appear as dark, irregular clusters or dense deposits within the brain tissue, which is stained with hematoxylin and eosin (H&E). The top row shows three panels with different plaque densities. The bottom row shows three panels, with the middle two labeled 'Case 3 MMSE 0', 'Case 4 MMSE 0', and 'Case 5 MMSE 0'.

Beta amyloid, the protein that builds up in the brains of Alzheimer's patients, is an antimicrobial peptide.

PMID: 20209079

se 3
MMSE 0

Case 4
MMSE 0

Case 5
MMSE 0

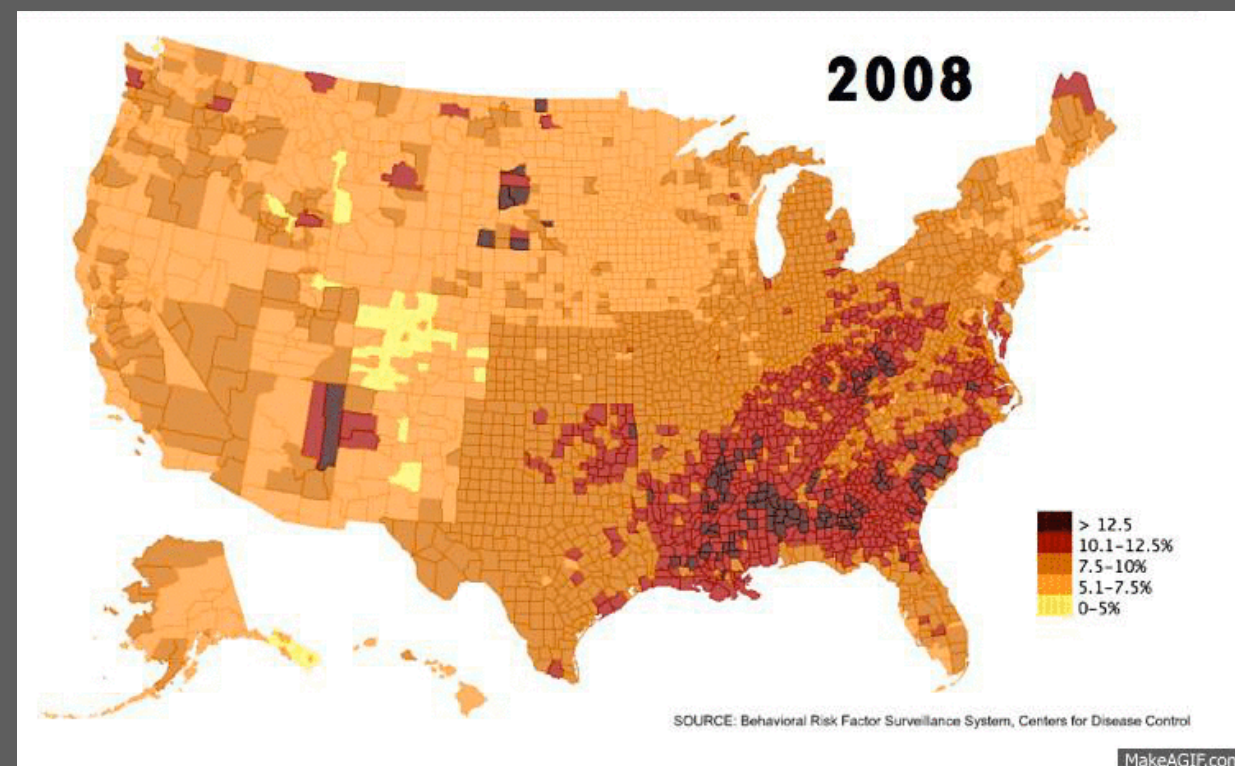
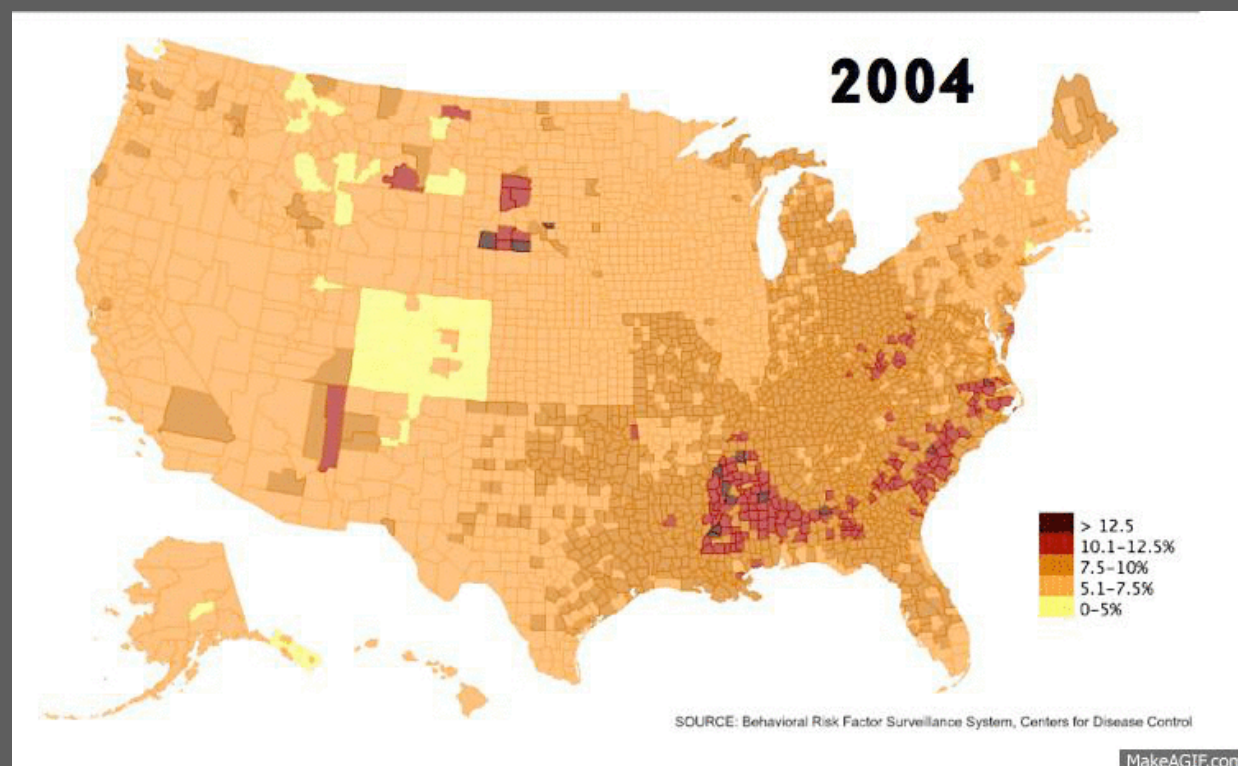
**Use images from
published papers**

Or, use images from
Flickr or iStockPhoto.

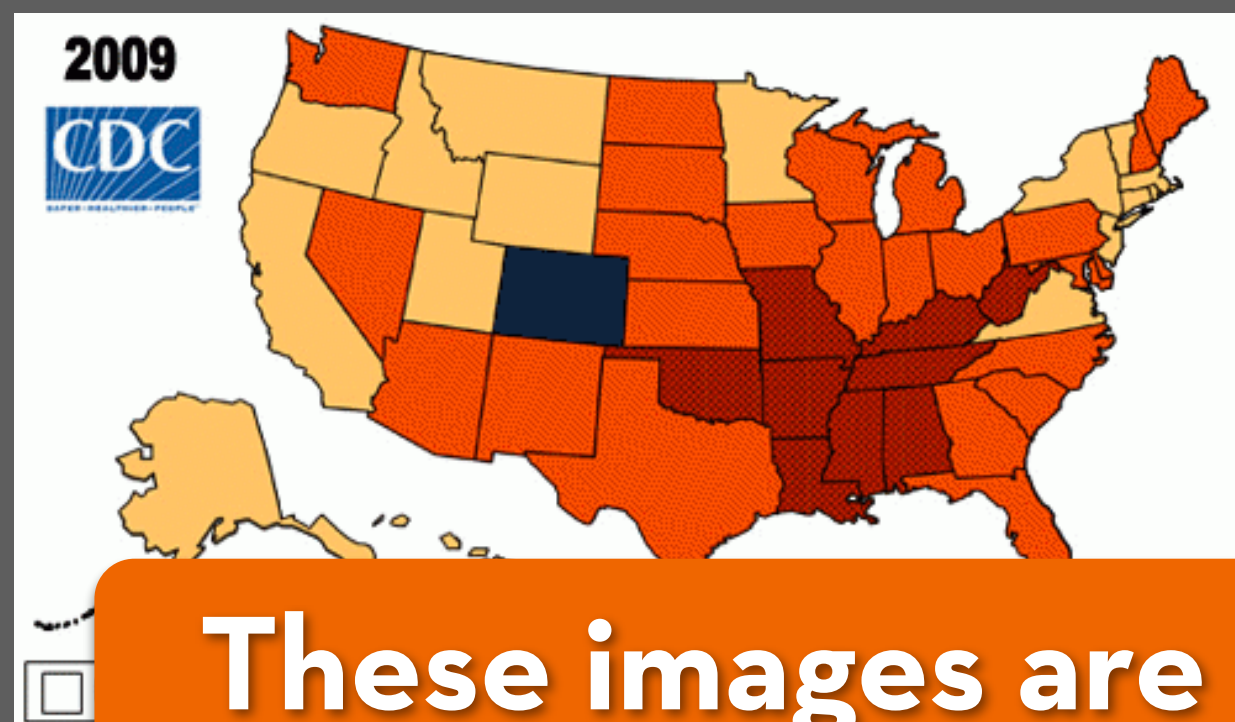
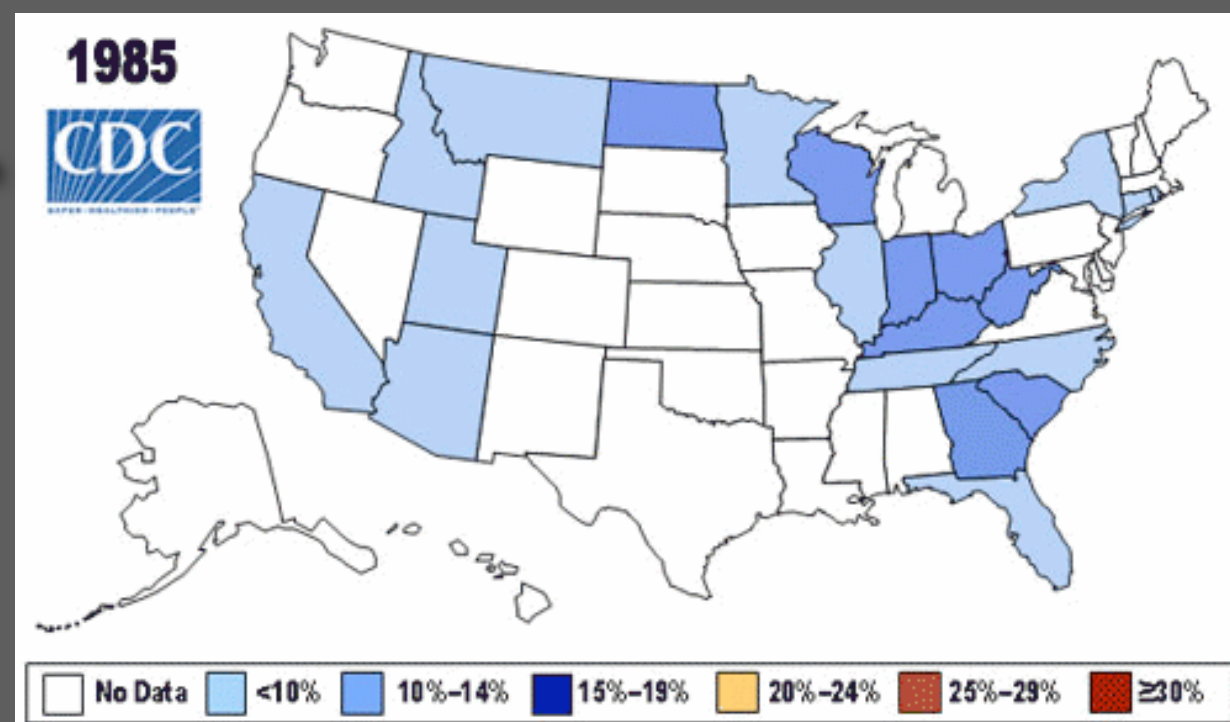
NIH: 90+% of cells
in *Homo sapiens* are
non-human.

Sources: Michael and
Katie Albert flickr

Diabetes



Obesity



These images are from the CDC.

**Preserve images'
aspect ratio**

Good



Boo, hiss, etc.



Use ample contrast

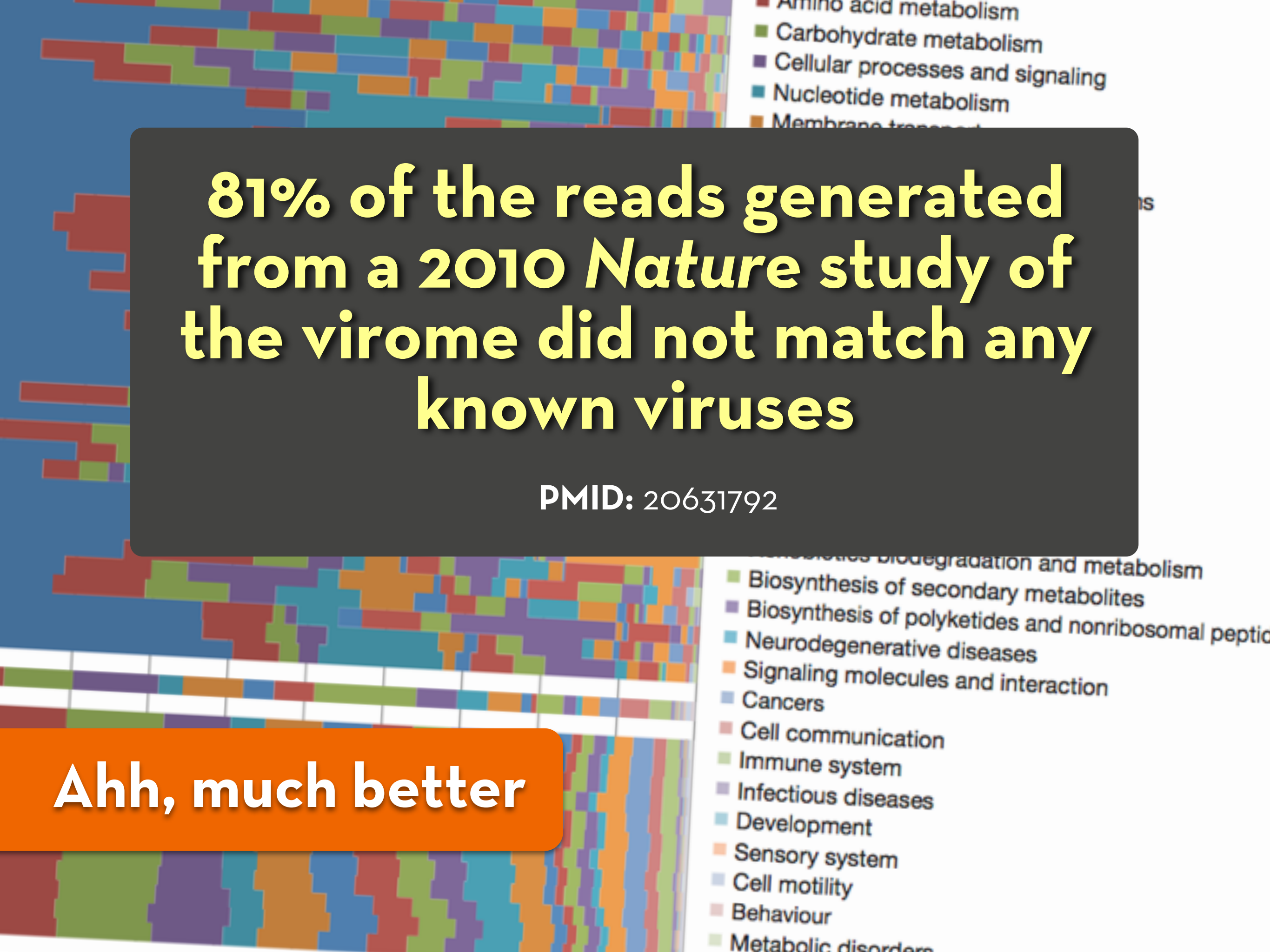


**81% of the reads generated
from a 2010 *Nature* study of
the virome did not match any
known viruses**

PMID: 20637566

**What is wrong
with this slide?**

- Amino acid metabolism
- Carbohydrate metabolism
- Cellular processes and signaling
- Nucleotide metabolism
- Membrane transport
- Translation
- Metabolism of cofactors and vitamins
- Genetic information processing
- Poorly characterized
- Lipid metabolism
- Transcription
- Signal transduction
- Folding, sorting and degradation
- Endocrine system
- Glycan biosynthesis and metabolism
- Metabolism of other amino acids
- Xenobiotics biodegradation and metabolism
- Biosynthesis of secondary metabolites
- Biosynthesis of polyketides and nonribosomal peptides
- Neurodegenerative diseases
- Signaling molecules and interaction
- Cancers
- Cell communication
- Immune system
- Infectious diseases
- Development
- Sensory system
- Cell motility
- Behaviour
- Metabolic disorders



**81% of the reads generated
from a 2010 *Nature* study of
the virome did not match any
known viruses**

PMID: 20631792

Ahh, much better

Inflammaging

A process to describe how aging is accompanied by a low-grade chronic, systemic upregulation of the inflammatory response.

Underlying inflammatory changes are common to most age-associated diseases.

What is wrong with this slide?

Inflammaging

A process to describe how aging is accompanied by a low-grade chronic, systemic upregulation of the inflammatory response.

Underlying inflammatory changes are common to most age-associated diseases.

Ahh, much better

Inflammaging

Text has a subtle
black shadow (as
does this box!)

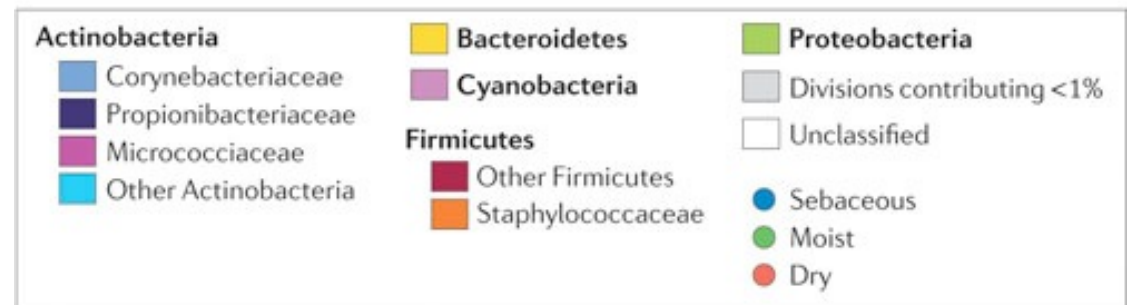
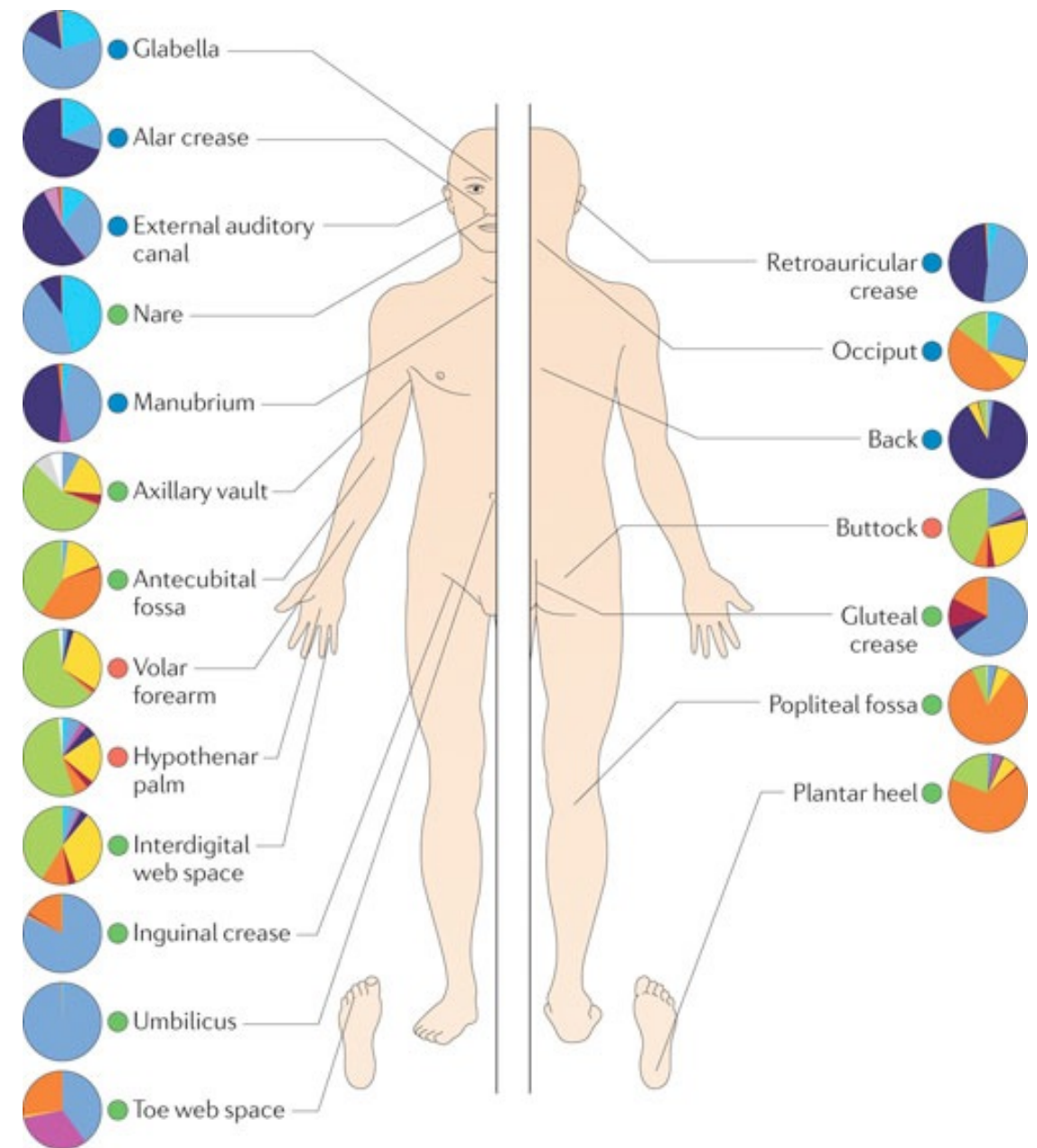
A process to describe how aging is accompanied by a low-grade chronic, systemic upregulation of the inflammatory response.

Underlying inflammatory changes are common to most age-associated diseases.

Image brightness
reduced to 43%

Forearms and underarms, though located just a short distance apart, are as “ecologically dissimilar as rainforests are to deserts.”

PMID: 19478181



PMID: 21407241

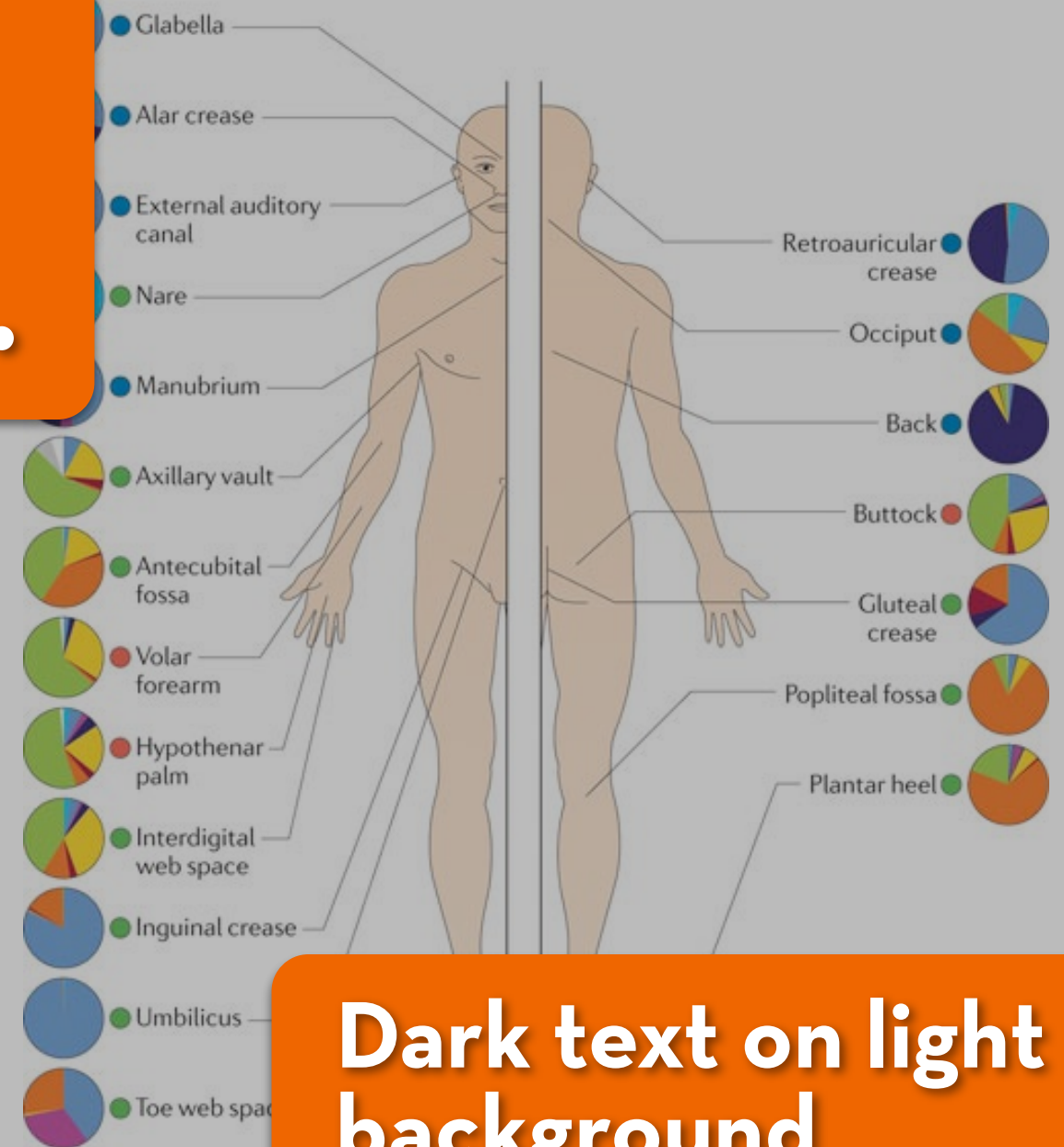
Nature Reviews | Microbiology

Mixing up dark on light, and light on dark pleases the eye.

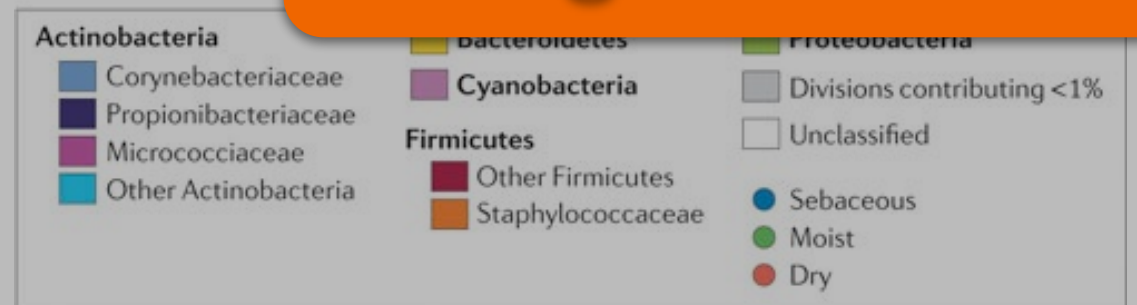
located just a short distance apart, are as “ecologically dissimilar as rainforests are to deserts.”

Light text on dark background

PMID: 19478181



Dark text on light background



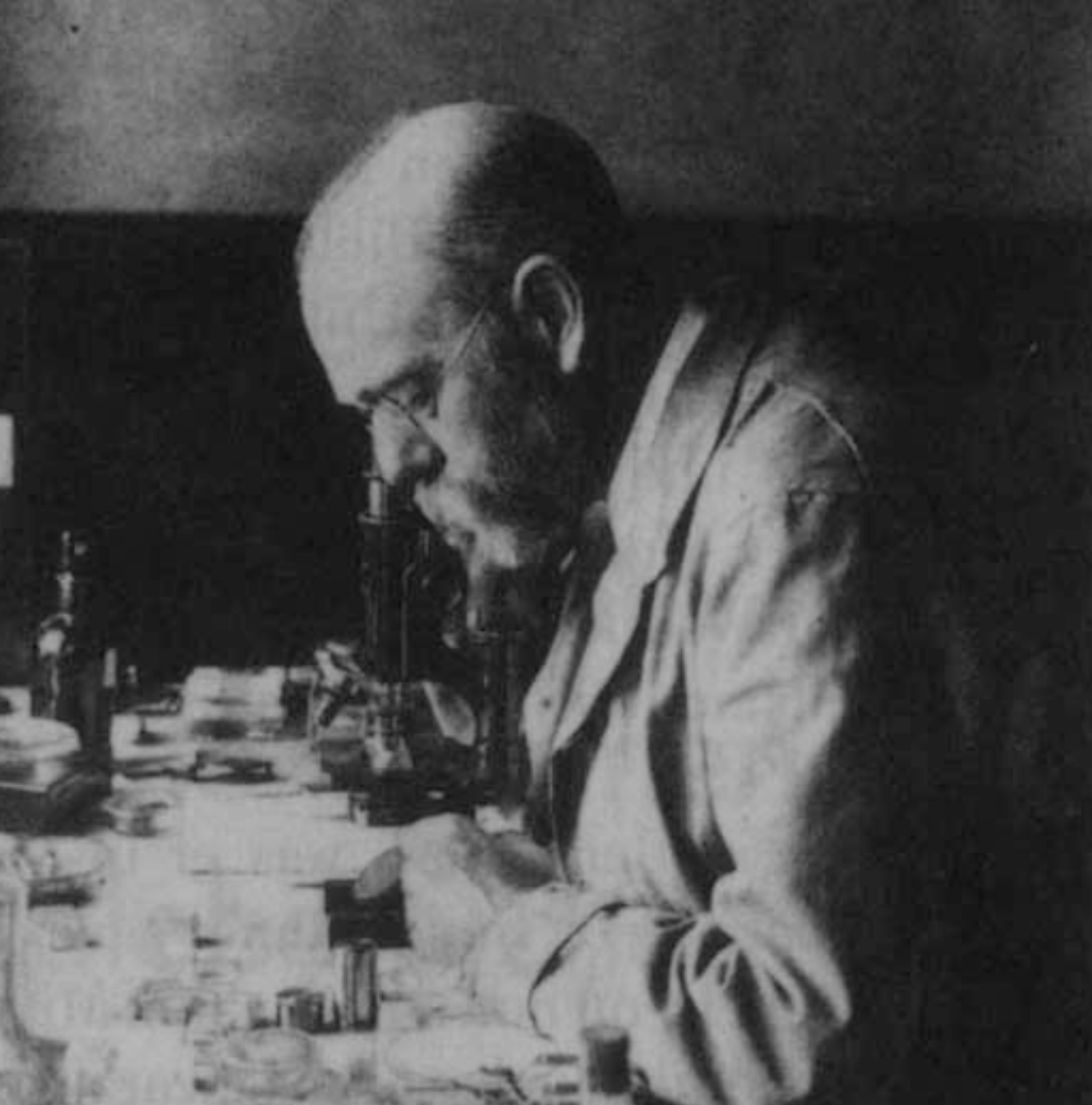
PMID: 21407241

Nature Reviews | Microbiology

Stick to a color palette



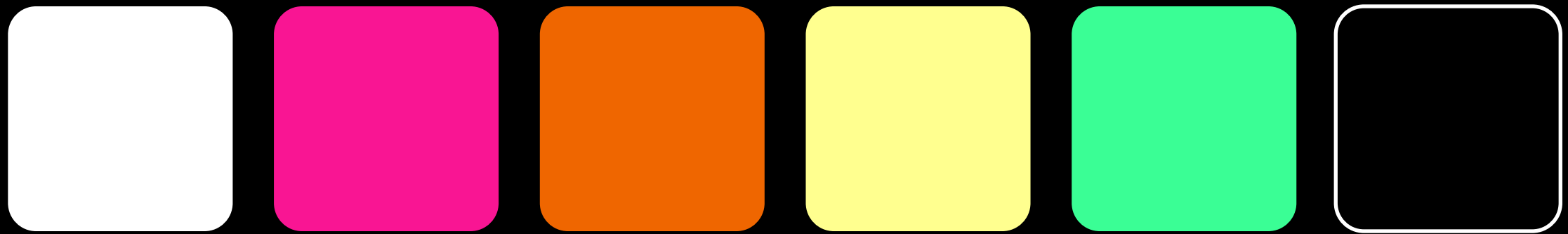
Koch's
postulates did
not anticipate
the presence of
a **metagenomic
microbiota.**



**Koch's
postulates did
not anticipate
the presence of
a metagenomic
microbiota.**

**This slide relies on small
amounts of bright colors
on a dark background**

This presentation's color palate



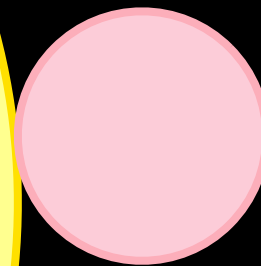
Other combos: kuler.adobe.com

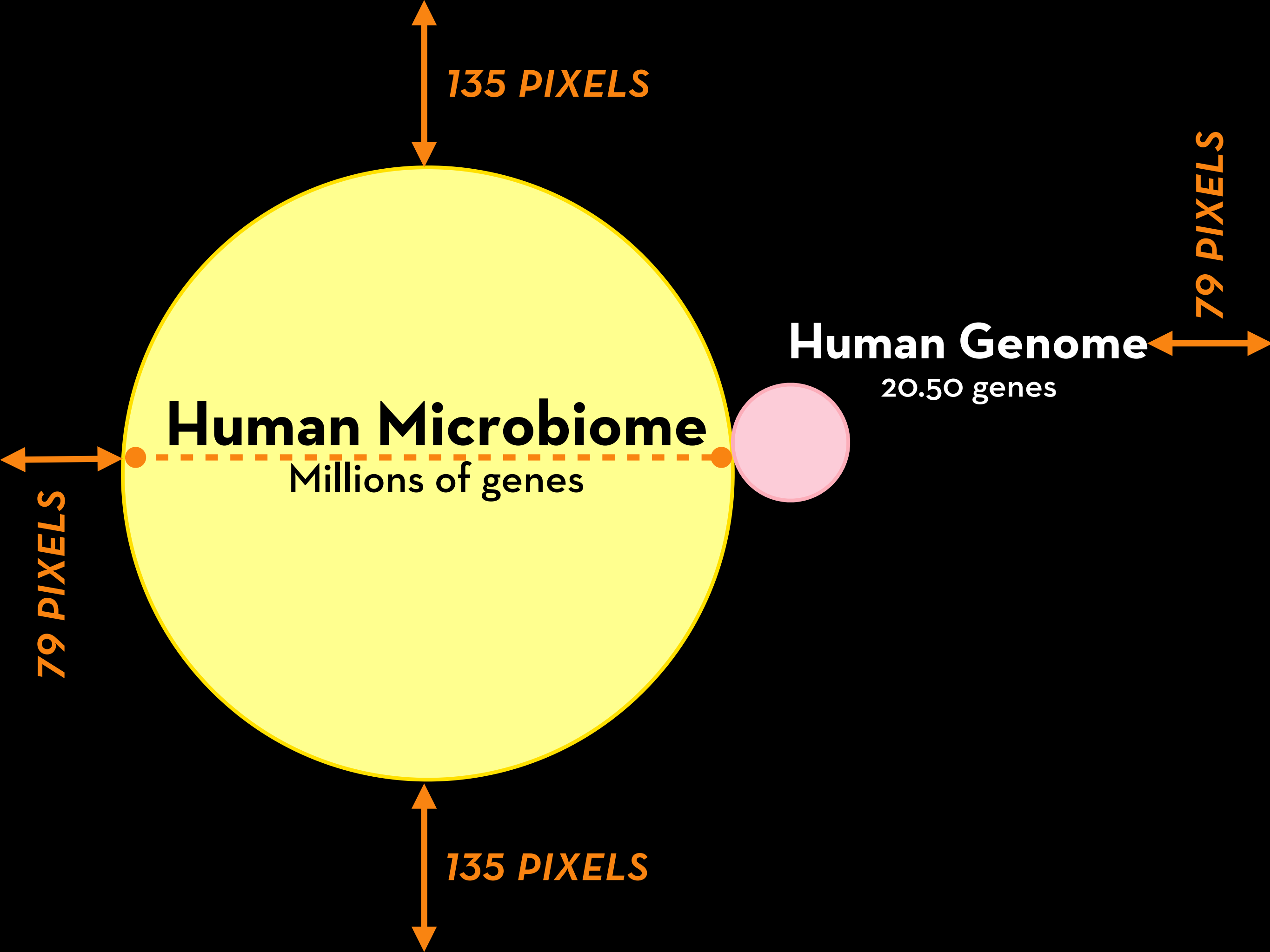
Alignment 101: how to position your visual elements

**How is alignment
used here?**

Human Microbiome
Millions of genes

Human Genome
20,500 genes

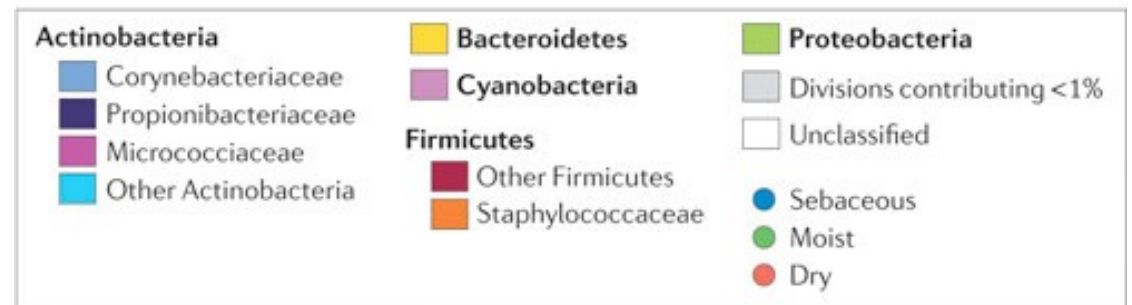
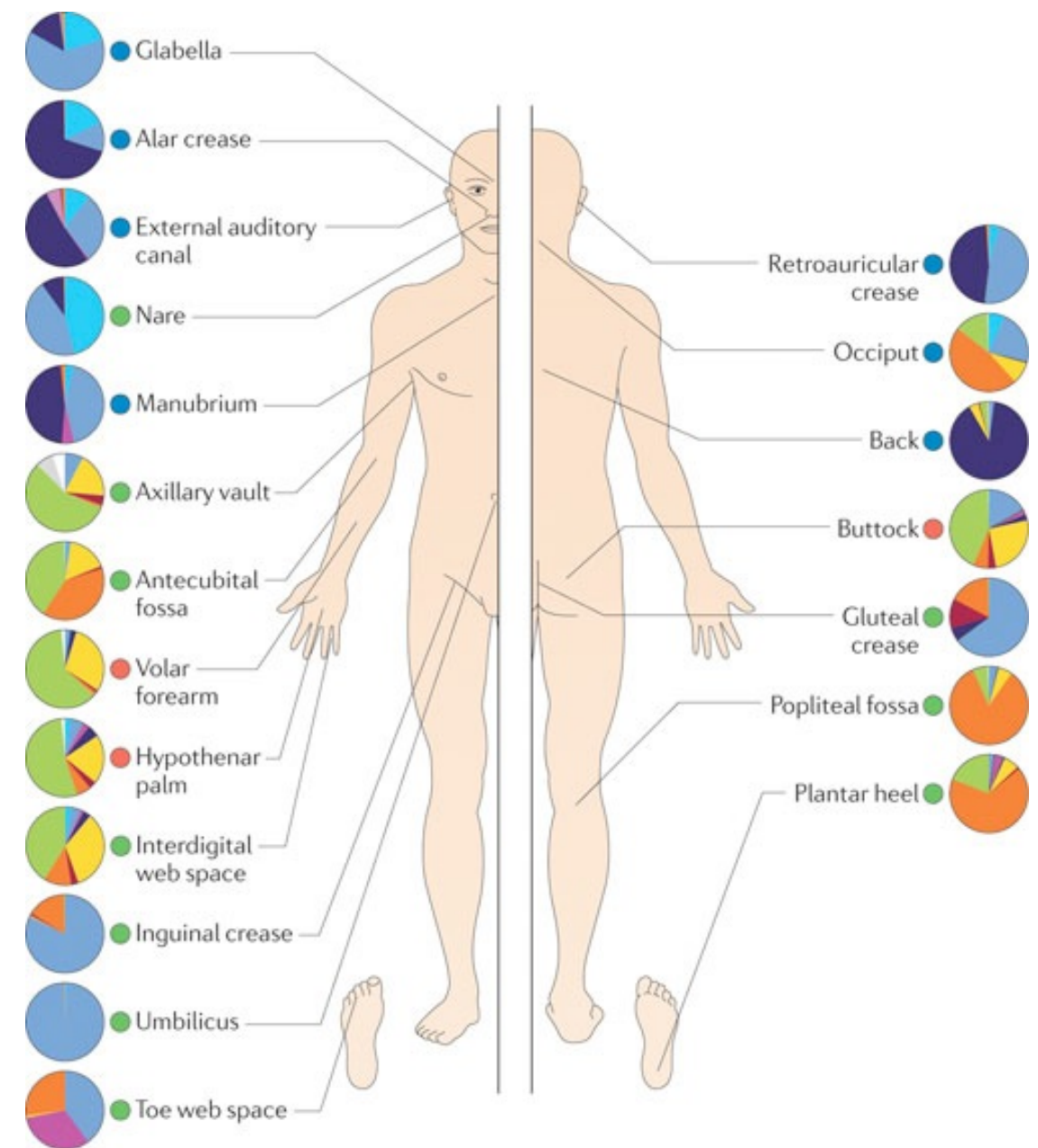




How is alignment used here?

underarms, though located just a short distance apart, are as “ecologically dissimilar as rainforests are to deserts.”

PMID: 19478181



PMID: 21407241

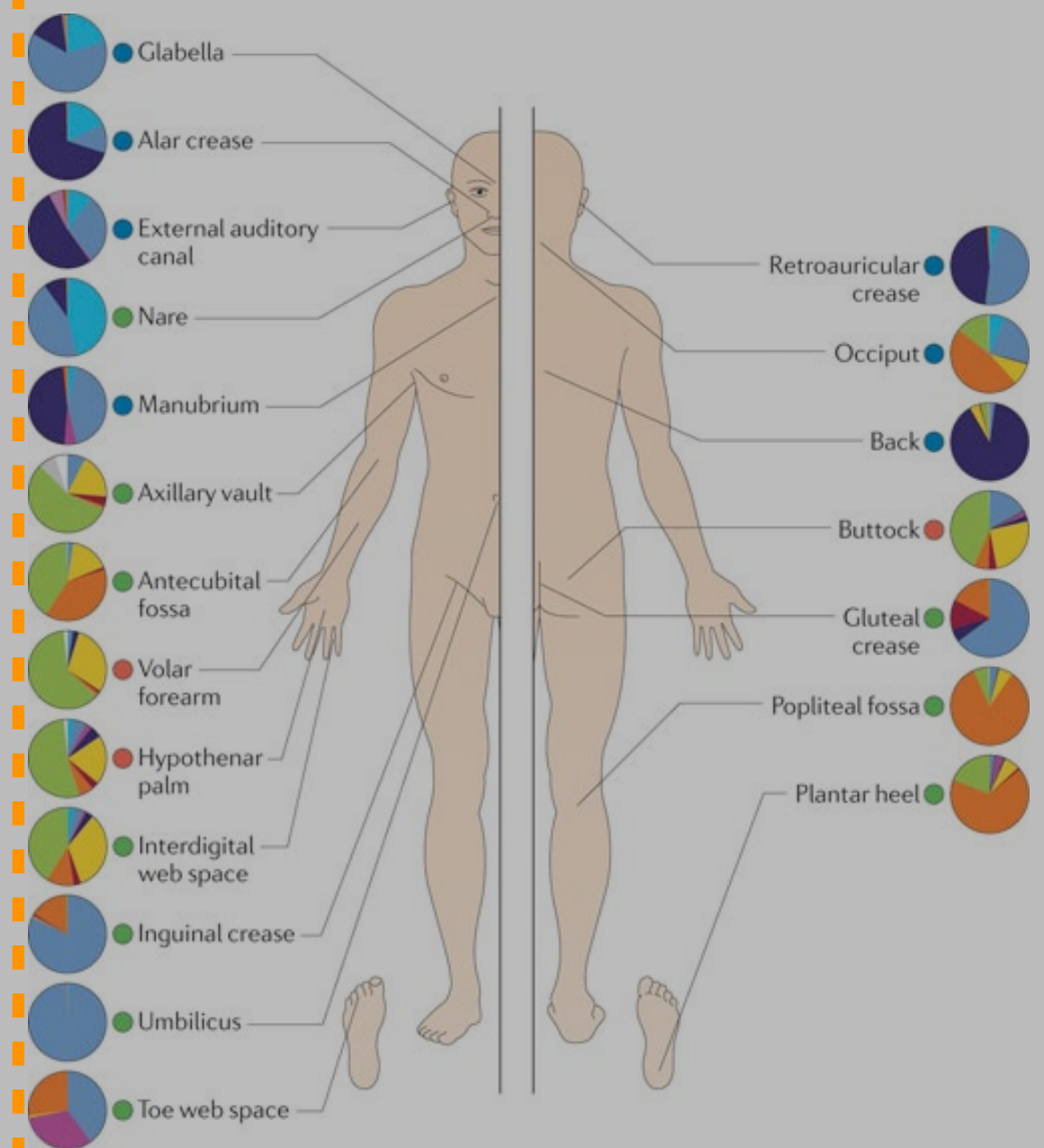
Nature Reviews | Microbiology

Forearms and underarms, though located just a short distance apart, are as “ecologically

Line bisects page

rainforests are to deserts.”

PMID: 19478181



Actinobacte
Coryn
Propio
Micro
Other

Align elements
when practicable

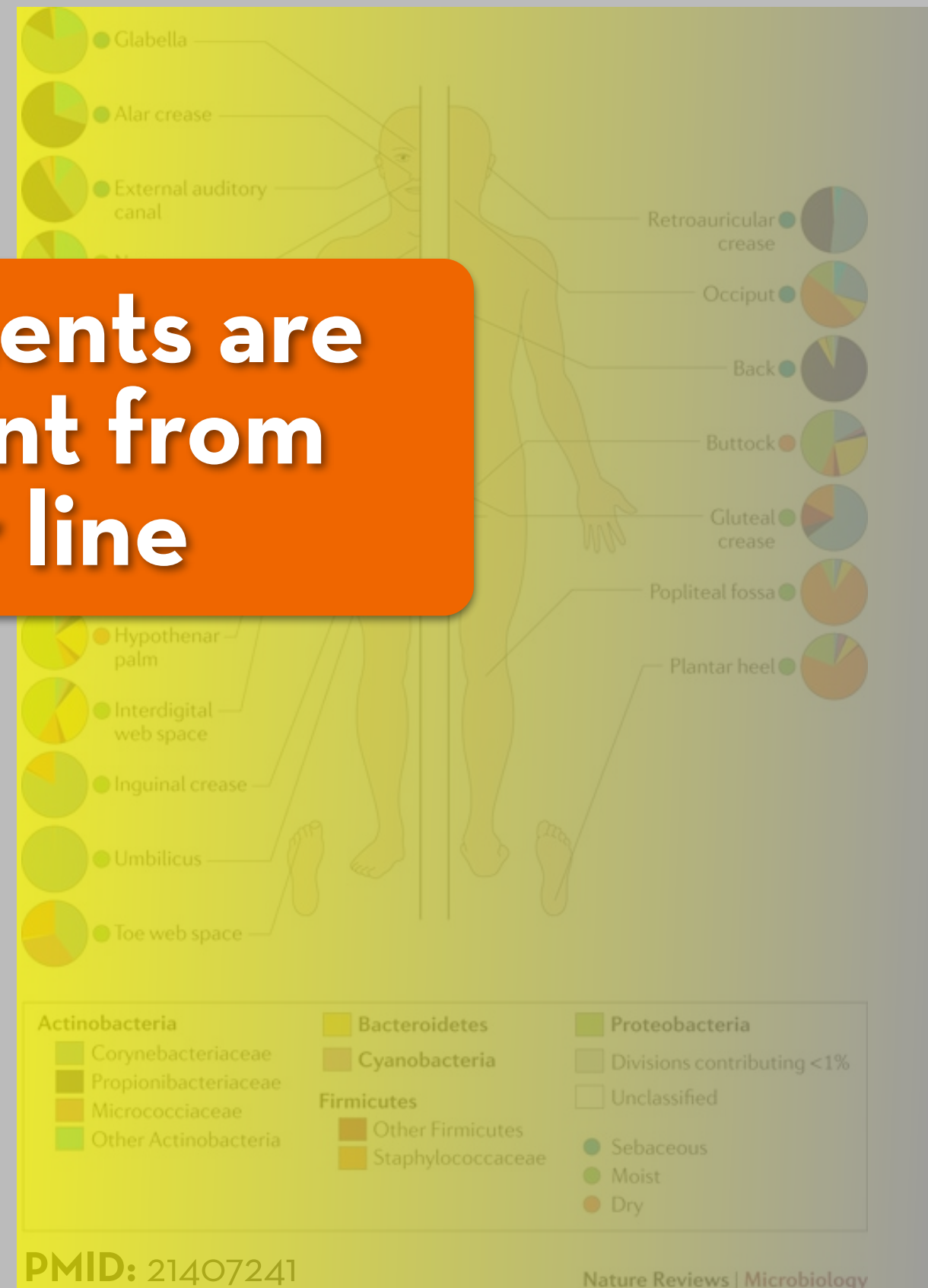
PMID: 21407241

Nature Reviews | Microbiology

Forearms and underarms though located just as far from the center line as “ecotopes” as rainforests are to deserts.”

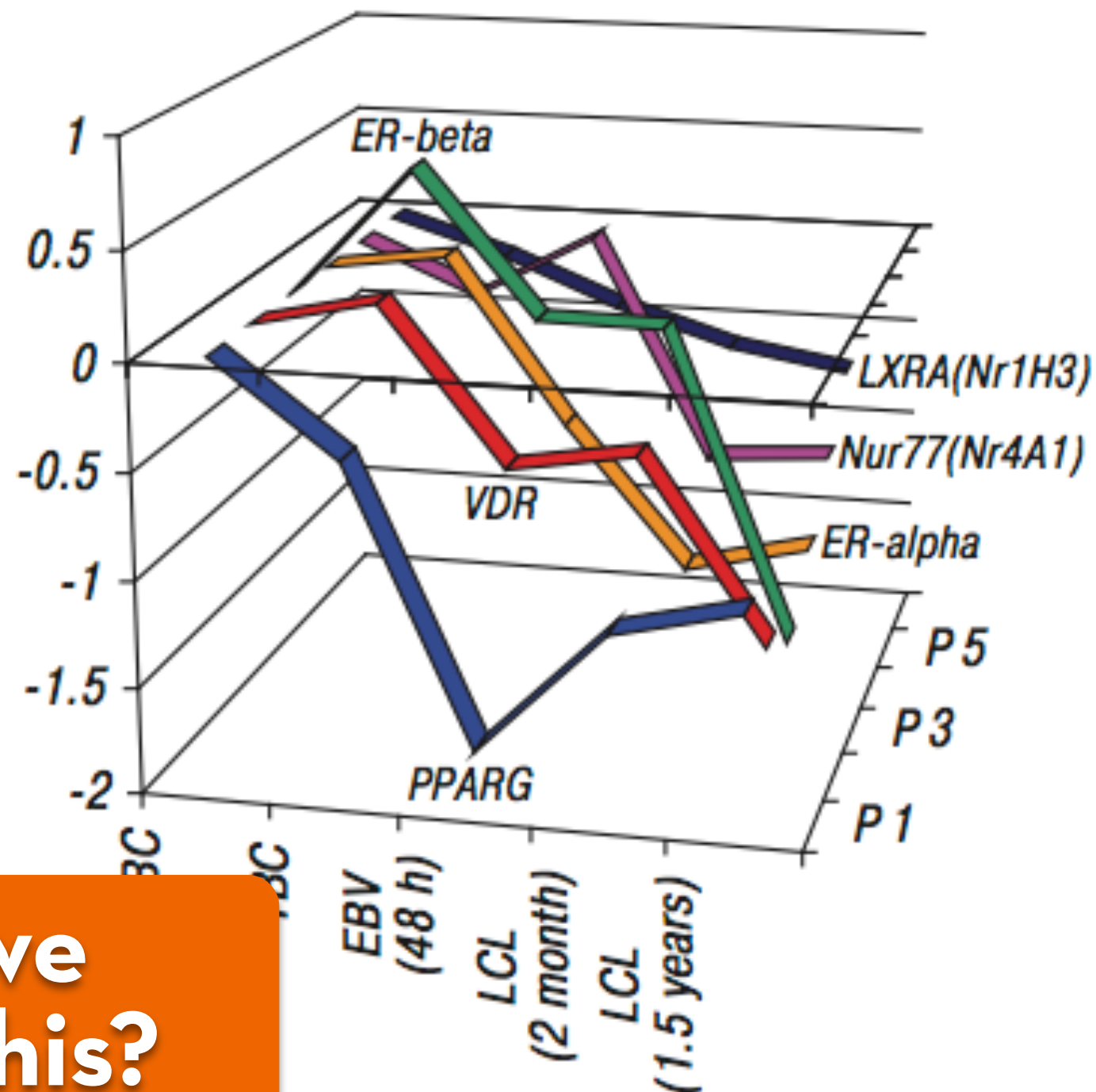
PMID: 19478181

Main elements are equidistant from center line



**Use bright colors and
cut “chart junk” to
create striking graphs**

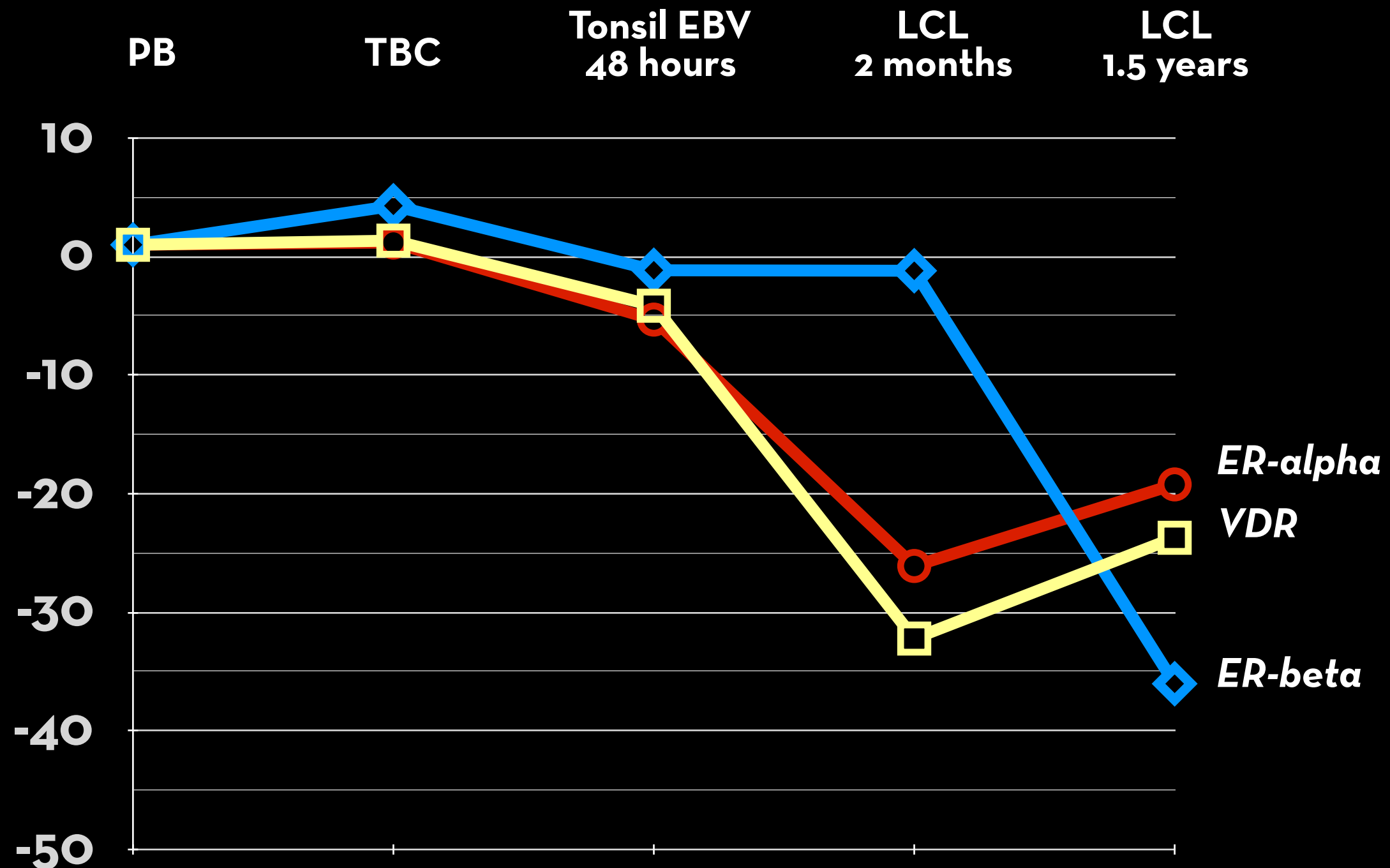
Nuclear receptors' mRNA expression is downregulated upon infection of B-cells with EBV



How can we improve this?

Source: *Experimental Oncology*. 2009; 31(2): 92-96.

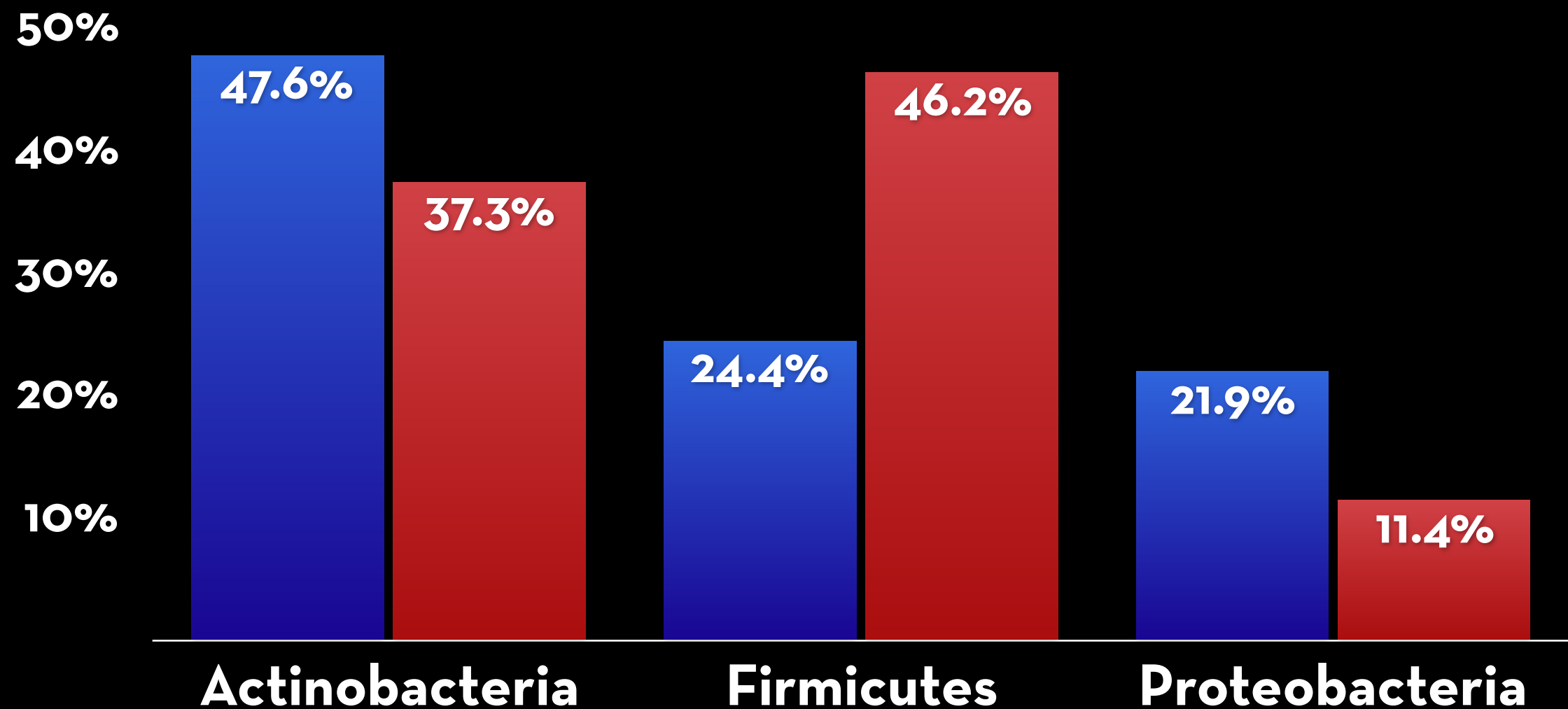
Nuclear receptors' mRNA expression is downregulated upon infection of B-cells with EBV



Source: *Experimental Oncology*. 2009; 31(2): 92-96.

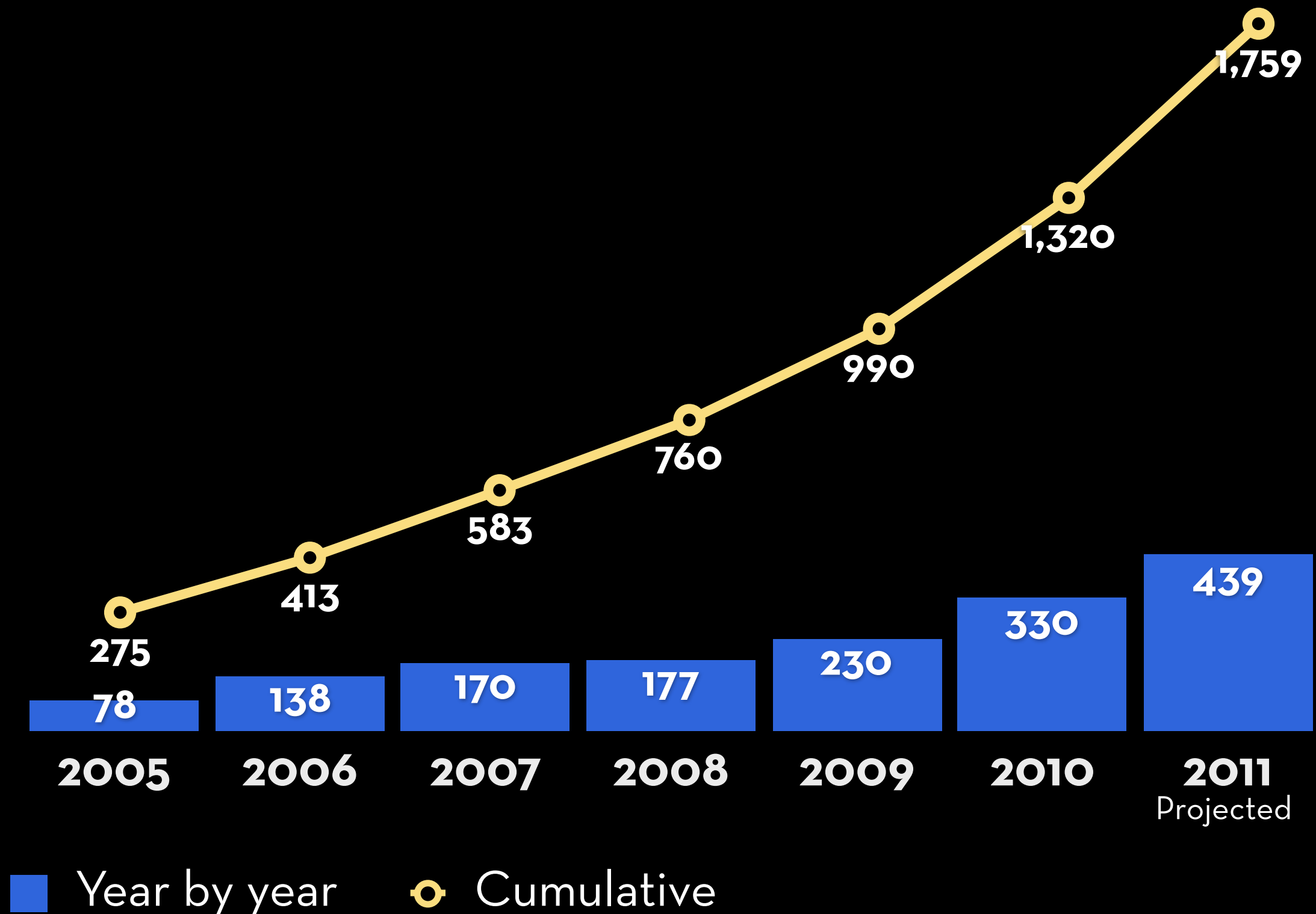
Bacterial composition of psoriatic vs. healthy skin by select phyla

■ Healthy controls
■ Unhealthy skin of psoriasis patients



Source: PLoS ONE. 2008; 3(7): e2719

Published bacterial genomes



Source: GenomesOnline.org

Creating striking tables

“Autoantibodies” target microbes

Antibody	Shown to be generated in response to...	PMID
RO, La, dsDNA	Epstein-Barr virus (EBV)	17917546
RF	A variety of viral, bacterial, and parasitic infections Chronic infections Subacute bacterial endocarditis	9198668 8898963 214511
anti-EBNA-1	Lupus-specific autoantigens such as Sm or Ro	17121489
antibodies against annexin-V, prothrombin and laminin	Acute infections in patients without autoimmune disease	17121489
IgG or IgA autoantibodies against ghrelin, leptin, vasopressin, and insulin	Over 30 microbes including <i>Lactobacilli</i> , <i>H. pylori</i> , <i>E. coli</i> , <i>Yersinia pseudotuberculosis</i> , and <i>Listeria monocytogenes</i>	18262391

Different fonts from same family

target

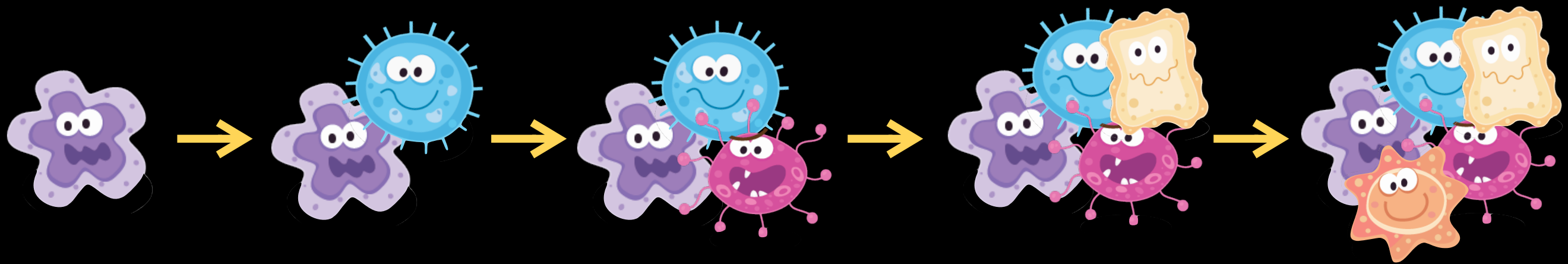
Brightly colored header row

Antibody	Shown to be generated in response to...	PMID
RO, La, dsDNA	Epstein-Barr virus (EBV)	17917546
RF	A variety of viral, bacterial, and parasitic infections	9198668
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Subtle striping of rows

**Avoid dissolves, spins,
or other animations**

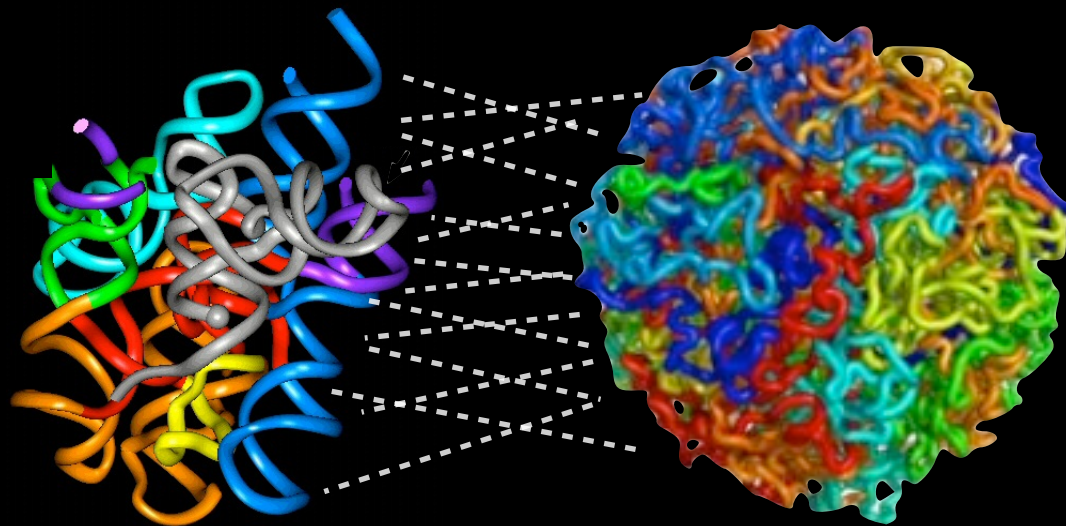
Successive infection



**Holy Grail: use design
to simplify complex
concepts**

The Interactome

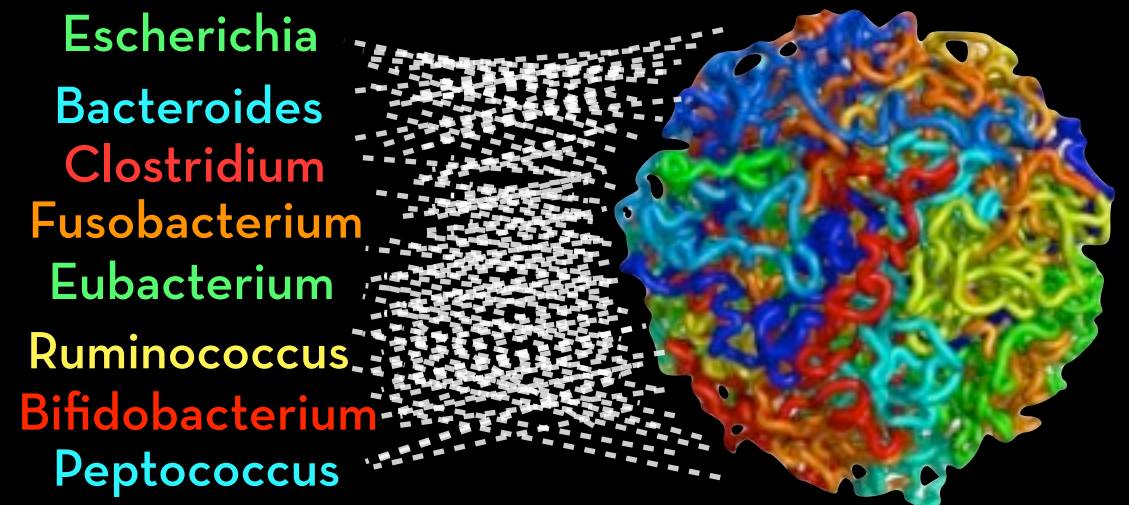
1,443 direct interactions



HIV
19 proteins

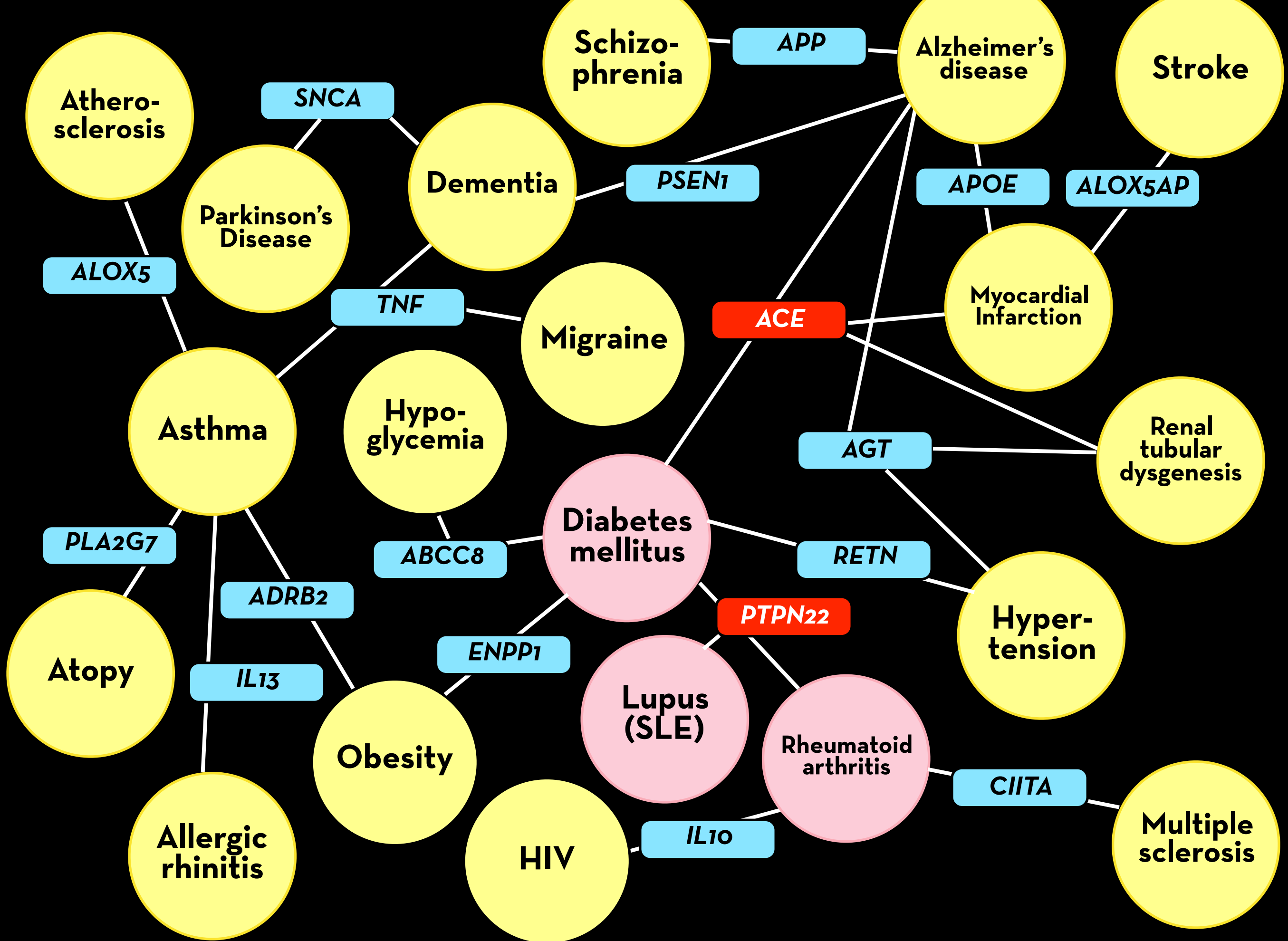
Homo sapiens
100,000
proteins

$10^{??}$ interactions



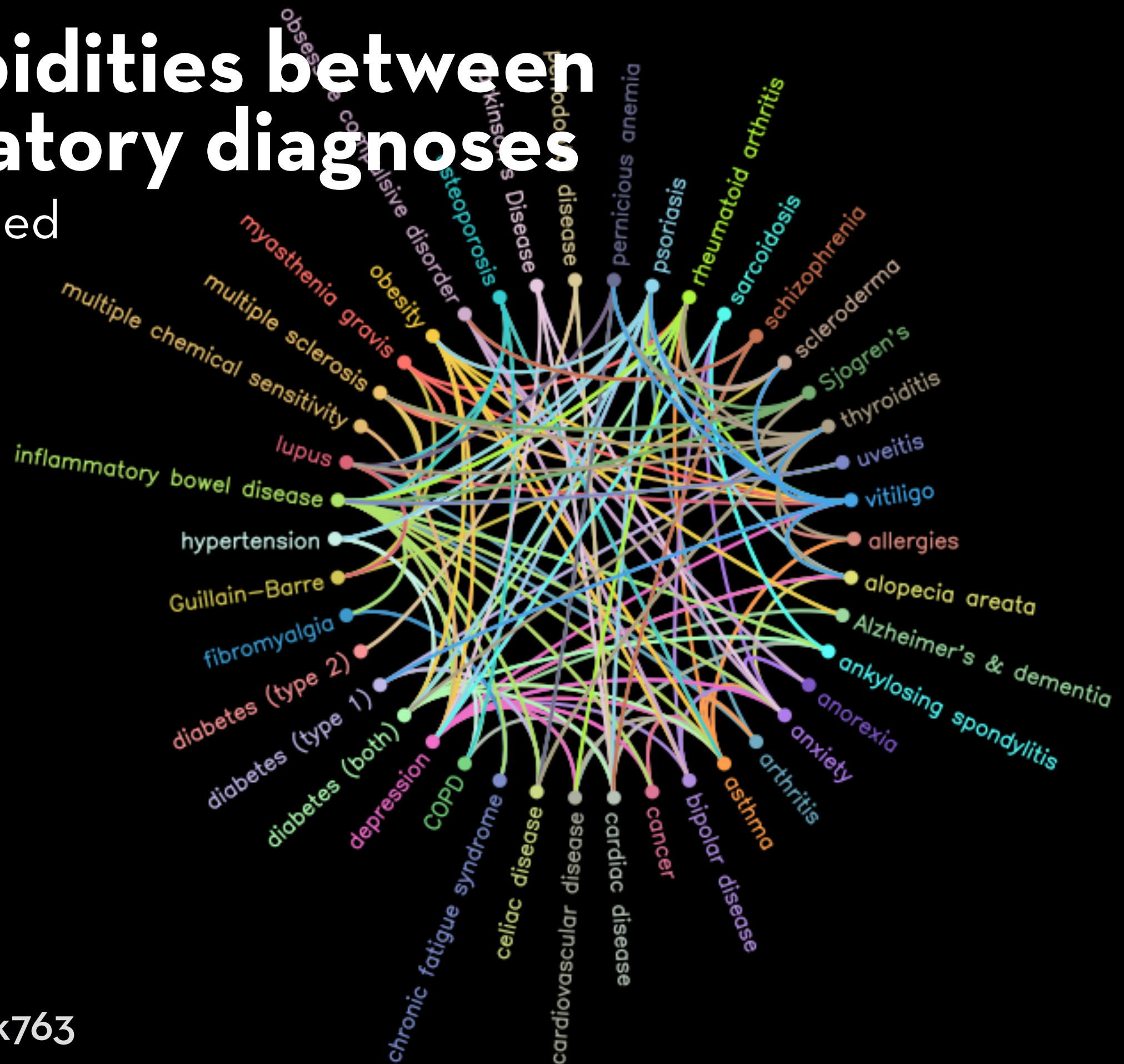
Gut microbiome
9 million unique
genes

Homo sapiens
100,000
proteins



Co-morbidities between inflammatory diagnoses

Source: PubMed



Code: goo.gl/d3k763

**Cite research and
images**

Health vs. disease in the microbiome

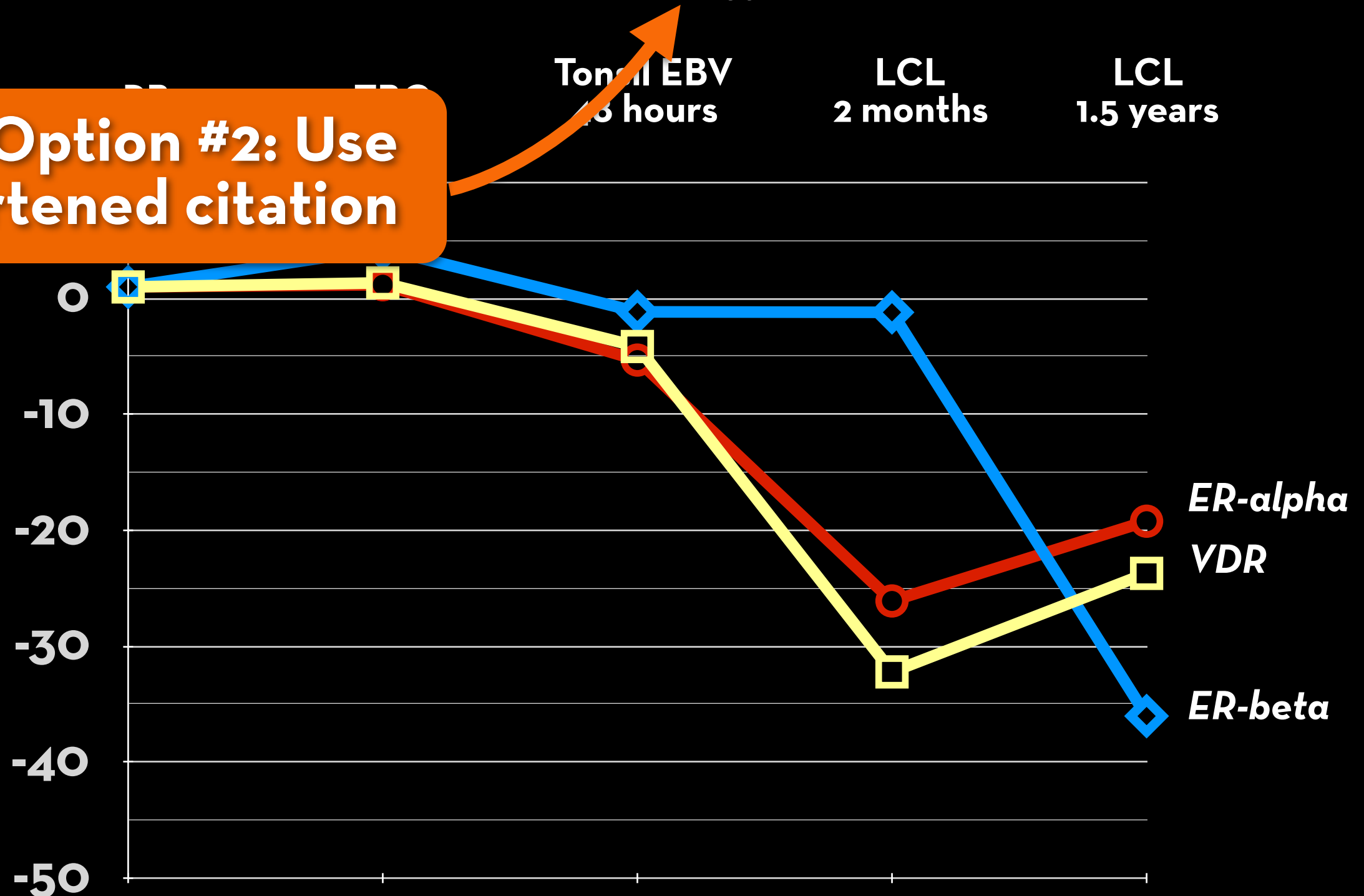
Disease	Finding	PMID
Chronic fatigue syndrome	738 unique proteins in cerebrospinal fluid of CFS patients vs. controls	21383843
Celiac disease	Higher levels of <i>Lactobacillus</i> , <i>Enterococcus</i> and <i>Bifidobacteria</i> than in controls	21970810
Diabetes, Type I	Lower diversity in gut bacteria relative to controls. High prevalence of <i>Bacteroides ovatus</i>	20613793
Diabetes, Type II	Higher levels of lipopolysaccharides and beta-amyloid, an antimicrobial peptide, than controls.	17090751 18950899
Obesity	Obese humans and mice have a 50% relative reduction in the abundance of <i>Bacteroidetes</i> and a proportional increase in Firmicutes.	16033867
Psoriasis	Significant differences in three families of bacteria in infected tissue	18648509

Option #1: Use PMIDs for compact shorthand

Nuclear receptors' mRNA expression is downregulated upon infection of B-cells with EBV

Source: *Experimental Oncology*. 2009; 31(2): 92-96.

Option #2: Use shortened citation



The Vitamin D Receptor

- expresses many genes connected to autoimmune diseases and cancers
- regulates expression of several families of key antimicrobial peptides
- TLR2 TLR4 expression

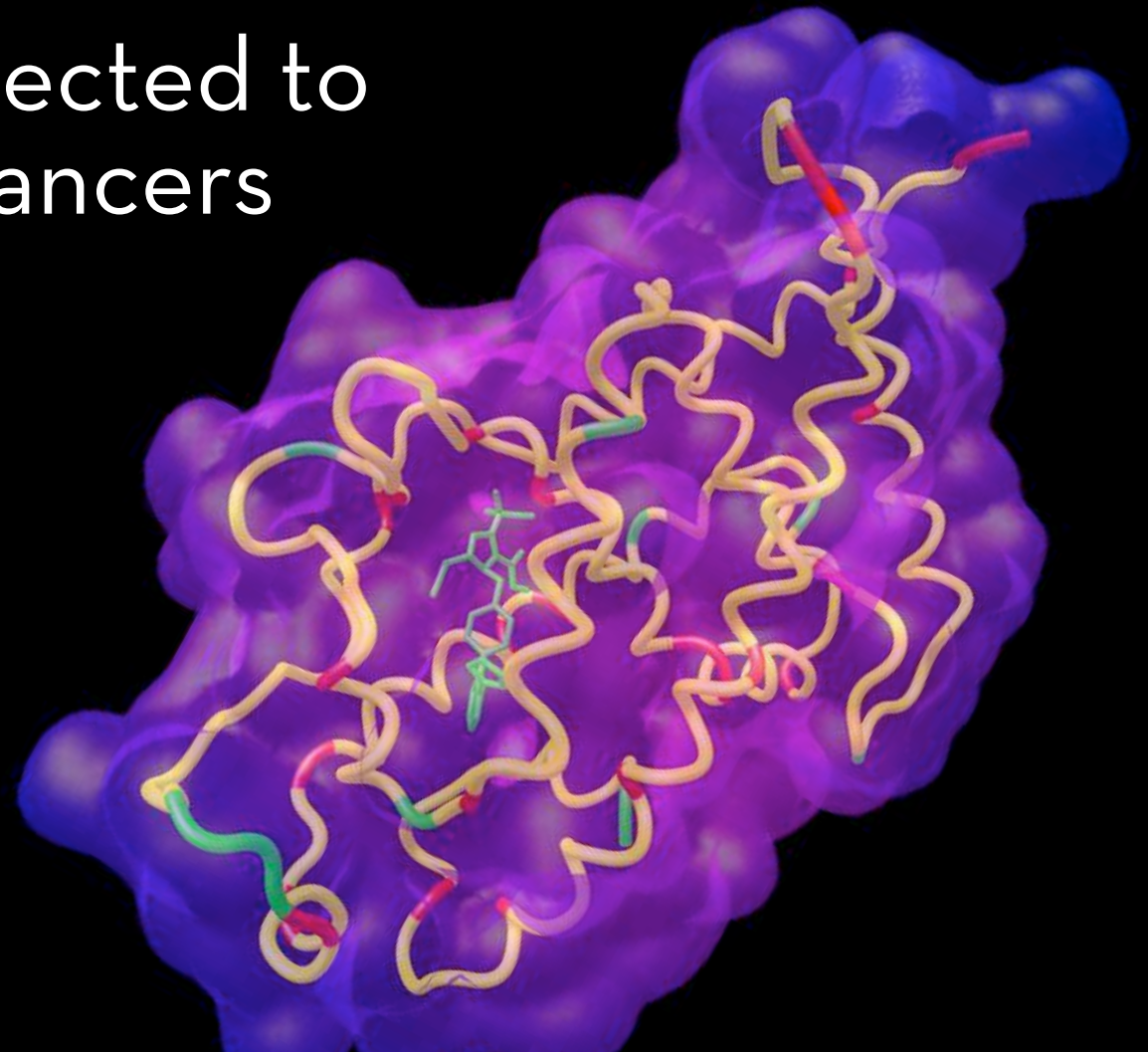


Image: Trevor Marshall

Cite your images too!

Google Images lets you do a reverse image search



Search by image



Search Google with an image instead of text. Try dragging an image here.

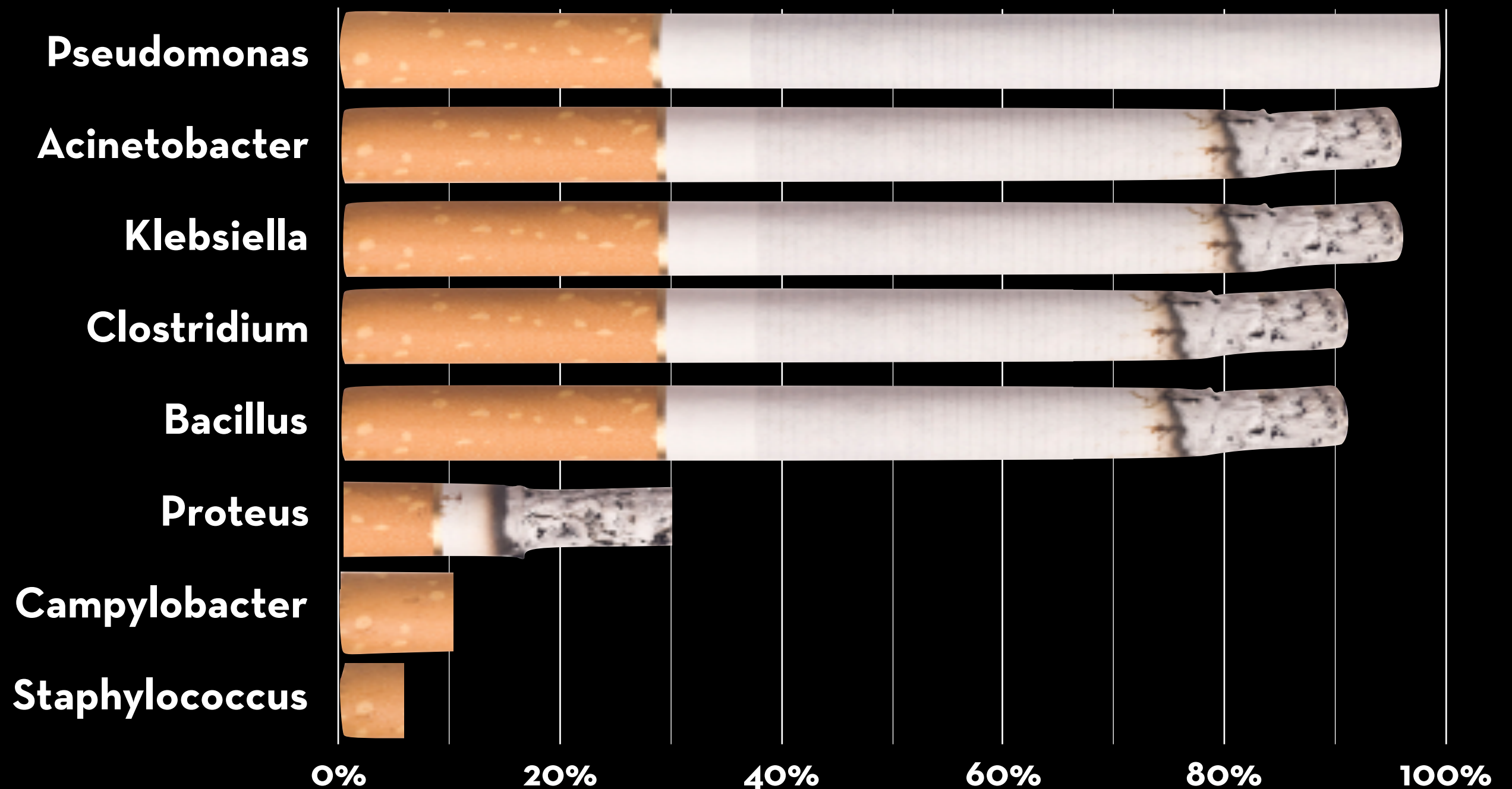
Paste image URL 

Upload an image

Search by image

**Strive for slides that
make an indelible
impression**

Select bacteria in commonly smoked cigarettes



Source: Environ Health Perspect. 2010 Mar;118(3):351-6.

Available tools

PowerPoint

- The industry standard; should be on every display computer
- Not particularly user friendly



Keynote

- Only on (some) Macs
- Lots of great tools; easy to quickly create great presentations
- Can export to PowerPoint but some features not supported



Prezi

- For presenters who are impressed by animations and think their audience will be too
- “Portable Prezi” available
- May require Dramamine



PDF

- Should be on every display computer
- Best of both worlds: export Keynote to PDF
- Color is okay but not perfect

**Proud of your slides?
Share them!**

Share your slides with shortened URLs

1. Save your slides as PDF.
2. Upload them to a public site. Options:
 - Cornell's e-Commons
 - Slideshare
 - Dropbox

Available here: goo.gl/uFFRL8

Review what you did

Agenda

- The Thesis (aka Central Idea)
- Connecting with your audience
- Speaking style – know your content, don't read from your slides
- Slide structure
- Visual considerations – big fonts, ample contrast, minimalism...
- Reinforce your key points
- Now you try!

Thanking the audience



Never thank your audience for paying attention as that implies weakness.

Now, you try!

Use the institutional template to rescue this slide

<http://bit.ly/fixme55>

<http://brand.weill.cornell.edu>

Microbiome in autoimmune diseases

Significant differences can be found in the microbiomes of patients with autoimmune diseases such as diabetes types I [18] and II [19], Crohn's [20], ulcerative colitis, and psoriasis [21]. Even the composition of the cerebrospinal proteome is significantly altered in autoimmune disease. Schutzer et al. found that while healthy subjects, and patients with chronic fatigue syndrome (CFS) [22], harbored many of the same proteins in the cerebrospinal fluid, 738 of 2,783 detected proteins were unique to patients with CFS [23]. Because so many of the proteins created in the body are microbial, these changes are a direct reflection of alterations to the human interactome.

18. Giongo A, Gano KA, Crabb DB, Mukherjee N, Novelo LL, Casella G, et al. Toward defining the autoimmune microbiome for type 1 diabetes. *Isme J.* 2010.

19. Larsen N, Vogensen FK, van den Berg FW, Nielsen DS, Andreassen AS, Pedersen BK, et al. Gut microbiota in human adults with type 2 diabetes differs from non-diabetic adults. *PLoS One.* 2010; 5:e9085.

20. Morgan XC, Tickle TL, Sokol H, Gevers D, Devaney KL, Ward DV, et al. Dysfunction of the intestinal microbiome in inflammatory bowel disease and treatment. *Genome Biol.* 2012; 13:R79.

21. Gao Z, Tseng CH, Strober BE, Pei Z, Blaser MJ. Substantial alterations of the cutaneous bacterial biota in psoriatic lesions. *PLoS One.* 2008; 3:e2719.

**And now for the
correct answer...**

Microbiome in autoimmune diseases

- diabetes, types I and II
- Crohn's disease
- ulcerative colitis
- psoriasis

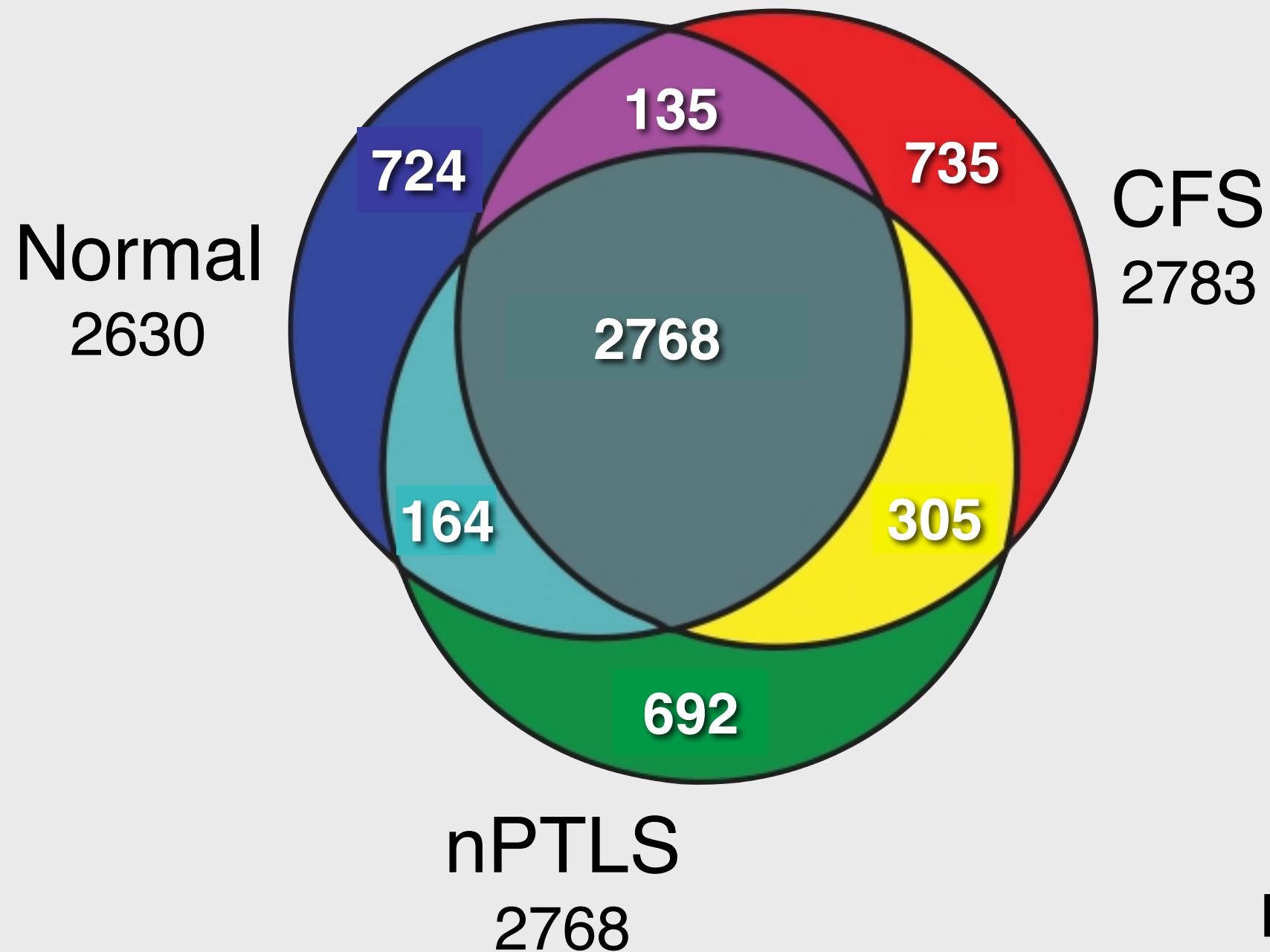
Proteome in CFS

Schutzer found that while healthy subjects, and patients with chronic fatigue syndrome harbored many of the same proteins in the cerebrospinal fluid, 738 of 2,783 detected proteins were unique to patients with CFS.

PMID: 21383843



Microbiome in autoimmune diseases



PMID: 21383843

Follow up

Resources for follow up

My contact info

Paul Albert
paa2013@med.cornell.edu

Checklist

goo.gl/fz7USI

This presentation

goo.gl/zQdmiD

Template

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