

# Poster Presentations



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Seminar Series

23 May 2008

# Poster Presentations

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For conferences and fairs



# Overview

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- An effective poster
- Define your message
- Know your audience
- An effective abstract
- An effective poster (planning, focus, layout, headings, graphics, text, colours, editing, software)
- Present your poster
- Examples of posters
- Resources

# Effective Posters – “SHOW”

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- ❑ Visual communication tool: info, conversation starter, advertise + summary of your work
- ❑ Engage colleagues in conversation
- ❑ Main points to many people
- ❑ Focus on single message
- ❑ Graphs and images
- ❑ Little text
- ❑ Well-ordered sequence

# Define your message

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- Clear message
- Images +Short texts
- Know your message!
- Leave out unnecessary info
- Be explicit! Ex: The effect of x on y...
  - Substance x induces y-cells
- Look for the strongest statement
- Interpret

# Know your audience

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- Different types of readers: specialists, wide-ranging audience, general audience
- The big picture (your work)
- Plain language
- No jargon and acronyms (unless special)
- Interpret findings

# An effective abstract

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- Explain why
- Objectives of your work
- Explain methods
- Results, conclusion, recommendations
- No abstract on your poster

# Create your Poster: Planning

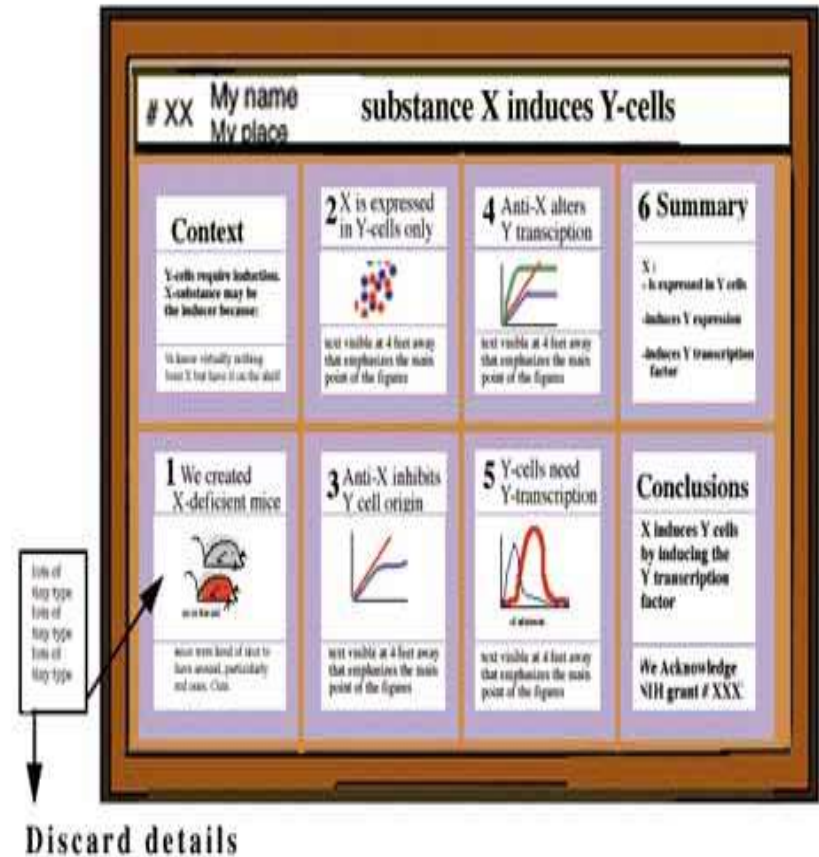
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- What's my message?
- How much room do I have?
- How much money do I have?
- What milestones should I establish?



# Focus

- Simple messages
- More memorable
- Only essential details
- Edit carefully – plain language, simple sentence structures



# Layout

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- Visual grammar
- Column format
- Organisation cues
- “reader gravity”
- clear headings
- Balance text and graphics
- Use white space creatively

# Headings

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Headings: Title, section, title figure captions

- Summarise
- Organise
- Be hierarchical
- Be bold

# Text

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- Minimise text
- Graphs and images
- Text elements (max 50 words)
- Phrases rather than full sentences
- active voice
- Avoid jargon (depends on audience)
- Left-justify text
- Serif font (eg: times) – easier to read text
- Sans-serif font (eg. Helvetica) – for headlines
- Size: 24 in text, 36 for headlines
- Figures: also large
- Title 5 cm

# Graphics

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- Communicates relationships quickly
- Simple and clear
- Explanation
- Line graphs, barcharts, pie charts
- 3-D graphs diff to explain
- Visible headlines
- photos

# Edit! Edit! Edit!

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- Ruthlessly edit to reduce text
- Plain language
- Sentence structure
- phrases
- delete details
- Remove irrelevant messages
- ask Colleagues to comment
- 60 sec Evaluation ( objectives, main message, contact?)

# Software

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- MicroSoft PP
- Adobe Illustrator and InDesign
- Adobe Photoshop
- MicroSoft excel (graphics)
- Delta Graph
- OpenOffice (vector graphs)

# Present your Poster

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- Arrive early
- put up poster
- Be at your poster during your assigned presentation time
- Handouts
- business cards
- Pen and paper for comments



# Examples

## BIOTECHNOLOGY: DNA

**BIOTECHNOLOGY: DNA**

**COMIC STRIP:**

- Panel 1:** "WHAT'S BIOTECHNOLOGY?" "BIOTECHNOLOGY IS ABOUT USING THE SCIENCE OF LIFE TO DO THINGS WE WOULD NEVER BE ABLE TO DO OTHERWISE."
- Panel 2:** "BUT HOW DO YOU DO THAT?" "LIFE HAS THESE THINGS CALLED GENES. THESE GENES ARE MADE OF PROTEINS. THESE PROTEINS MAKE THINGS HAPPEN IN OUR BODIES."
- Panel 3:** "DIFFERENT CELLS DO DIFFERENT THINGS AND MAKE DIFFERENT PROTEINS. SO THE INSTRUCTIONS TO MAKE EACH PROTEIN ARE STORED IN DNA."
- Panel 4:** "THAT'S RIGHT - DNA. THE ONE MOLECULE THAT HOLDS THE GENETIC INSTRUCTIONS FOR LIFE. AND THAT PASSES ON INHERITENCE FROM PARENTS TO THEIR OFFSPRING."

**CELLS:**

- THE BILLIONS OF CELLS IN MY BODY MAKE UP MY BODY FROM A SINGLE CELL.
- CHROMOSOMES ARE FOUND IN THE NUCLEUS OF THIS CELL. THEY CONTAIN ALL THE INSTRUCTIONS TO GROW MY WHOLE BODY.
- DIFFERENT PARTS OF THE INSTRUCTIONS ARE USED TO MAKE DIFFERENT PARTS OF THE BODY (SUCH AS SKIN, BONES AND BLOOD).
- BUT ALL THE CELLS HAVE THE SAME SET OF THE INSTRUCTIONS.

**CHROMOSOMES:**

- THERE ARE 46 CHROMOSOMES IN A HUMAN CELL. CONTAINING ABOUT TWO METRES OF DNA.
- SECTIONS OF DNA ARE CALLED GENES. THEY ARE INSTRUCTIONS FOR MAKING SPECIFIC PROTEINS.

**DNA:**

- UNUSUAL & CHALLENGING TO VISUALISE THE TWO DNA STRANDS.

**GENES:**

- WE INHERIT OUR GENETIC MATERIAL THROUGH DNA FROM OUR PARENTS. HALF FROM OUR FATHER AND HALF FROM OUR MOTHER.
- THAT'S WHY WE OFTEN LOOK AND THINK OUR BROTHERS DIFFER. HOW OUR BROTHERS ARE MADE FROM THE INSTRUCTIONS TO BE DIFFERENT TO OUR OWN COLOUR.
- HUMANS ARE TRYING TO MAKE ADVANCES BETWEEN THE TWO TO DO GOOD THINGS.

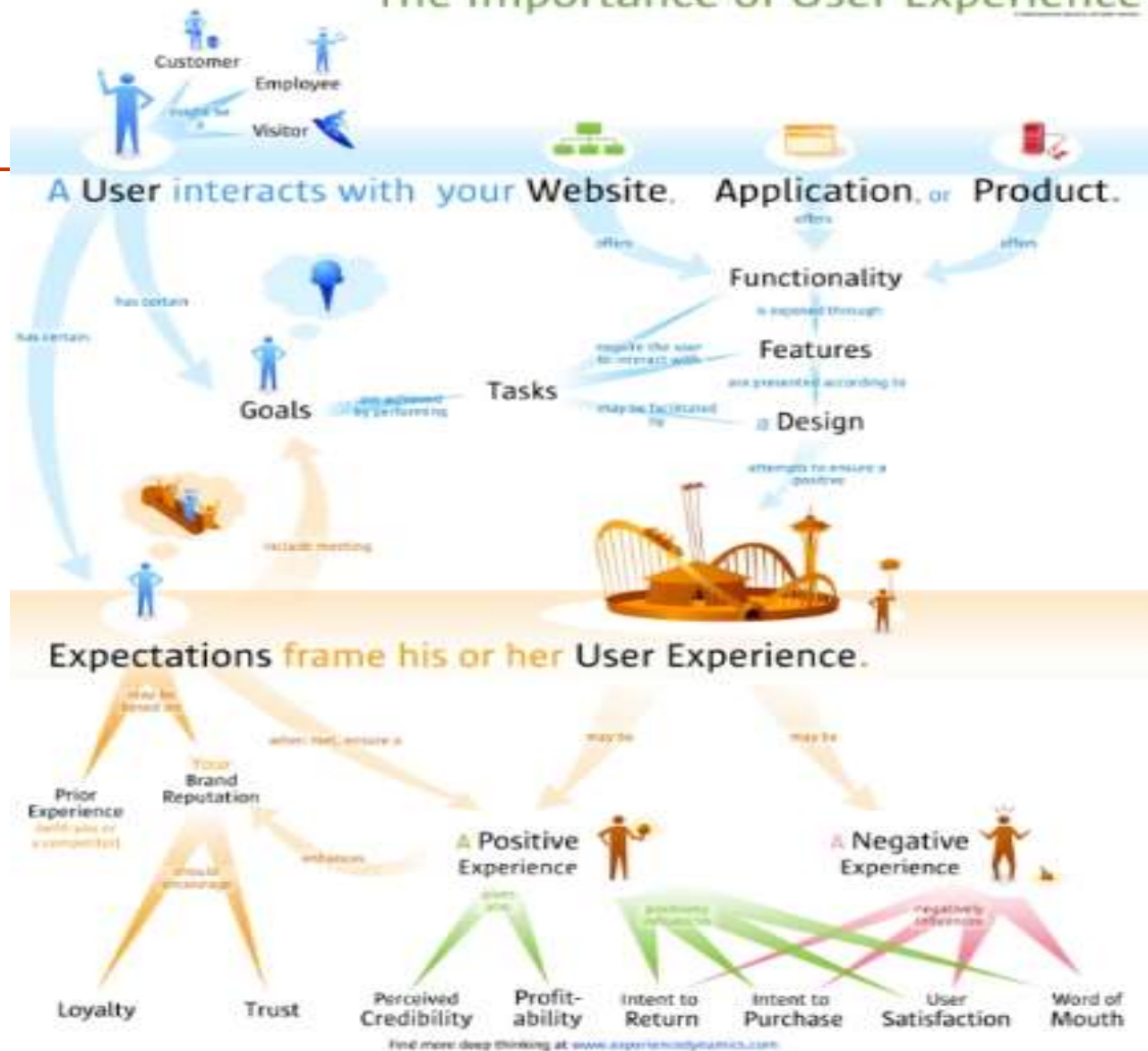
**DNA STRUCURE & FUNCTION:**

- DNA STANDS FOR DEOXYRIBONUCLEIC ACID. ALL DNA IS MADE FROM JUST FOUR CHEMICAL BUILDING BLOCKS CALLED NUCLEOTIDES. GUANINE, THYMINE, GUANINE, CYTOSINE - G, C, T, A, G, C.
- WHETHER WE ARE PLANTS, ANIMALS OR HUMANS OUR DNA IS MADE FROM THESE FOUR NUCLEOTIDES. JUST IN A DIFFERENT ORDER.
- TO MAKE A PROTEIN, THE DNA STRANDS SEPARATE AND FREE NUCLEOTIDES. THEN TO MAKE A NEW COPY OF ONE STRAND.
- AMINO ACIDS
- AND A FORM OF SUGAR JOIN UP TO MAKE A PROTEIN.
- THIS COPY IS A MESSAGE THAT MOVES TO THE RIBOSOMES TO MAKE A SPECIFIC PROTEIN.
- AMINO ACIDS JOIN TOGETHER FOLLOWING THE TEMPLATE MADE FROM THE ORIGINAL DNA STRAND.

**BIOTECHNOLOGY**

- ❑ Audience?
- ❑ Clarity?
- ❑ Language?
- ❑ Effectiveness?
- ❑ The big pic?
- ❑ Methods?
- ❑ Results, Conclusion, Recommendation

# The Importance of User Experience



# Gene Flow in Lions

## Introduction

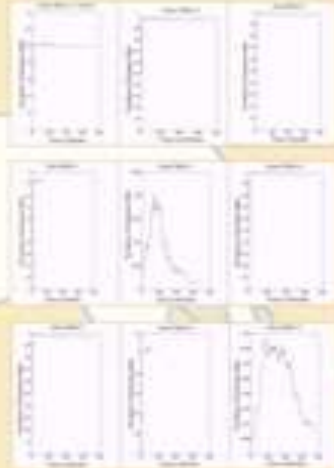
- One of the greatest dangers to small populations is when to gene flow.
- Dispersive alleles can creep up and spread throughout a small population, pushing the population towards extinction.
- It may be possible to counter extinction, at least gene flow to small populations to our advantage, by introducing beneficial genes into a small population, perhaps by transferring animals with desired traits.
- In other cases, it is essential to know how fast the new gene affects beneficial or deleterious. Will affect the population.
- Reasons of their removal social structure and ecological species status. Less proven as increasing and informative models of gene flow to small populations.

## Objectives

- Understand what kinds of deleterious genes are likely to occur in small populations.
- Predict the speed with which a beneficial gene will spread throughout the population.

## Methods

- I developed a stochastic model that followed the fate of an allele during months by month, over a period of 60 years.
- I modeled nine different effects of gene flow on survival.
- Case Effect 1 - Control**
  - Initial population - random, about 50% heterozygous
  - Effect on survival - none
- Case Effect 2 - Harmful recessive gene**
  - Initial population - RR with one Rr which female
  - Effect on survival -  $\approx 10\%$
- Case Effect 3 - Beneficial recessive gene**
  - Initial population - RR with one r which female
  - Effect on survival -  $\approx 10\%$
- Case Effect 4 - Harmful dominant gene**
  - Initial population - rr with one Rr which female
  - Effect on survival -  $\approx 10\%$
- Case Effect 5 - Beneficial dominant gene**
  - Initial population - rr with one RR which female
  - Effect on survival -  $\approx 10\%$
- Case Effect 6 - Very harmful recessive gene**
  - Initial population - RR with one Rr which female
  - Effect on survival -  $\approx 50\%$
- Case Effect 7 - Very harmful recessive gene**
  - Initial population - RR with one r which female
  - Effect on survival -  $\approx 50\%$
- Case Effect 8 - Very harmful dominant gene**
  - Initial population - rr with one Rr which female
  - Effect on survival -  $\approx 50\%$
- Case Effect 9 - Very harmful dominant gene**
  - Initial population - rr with one RR which female
  - Effect on survival -  $\approx 50\%$

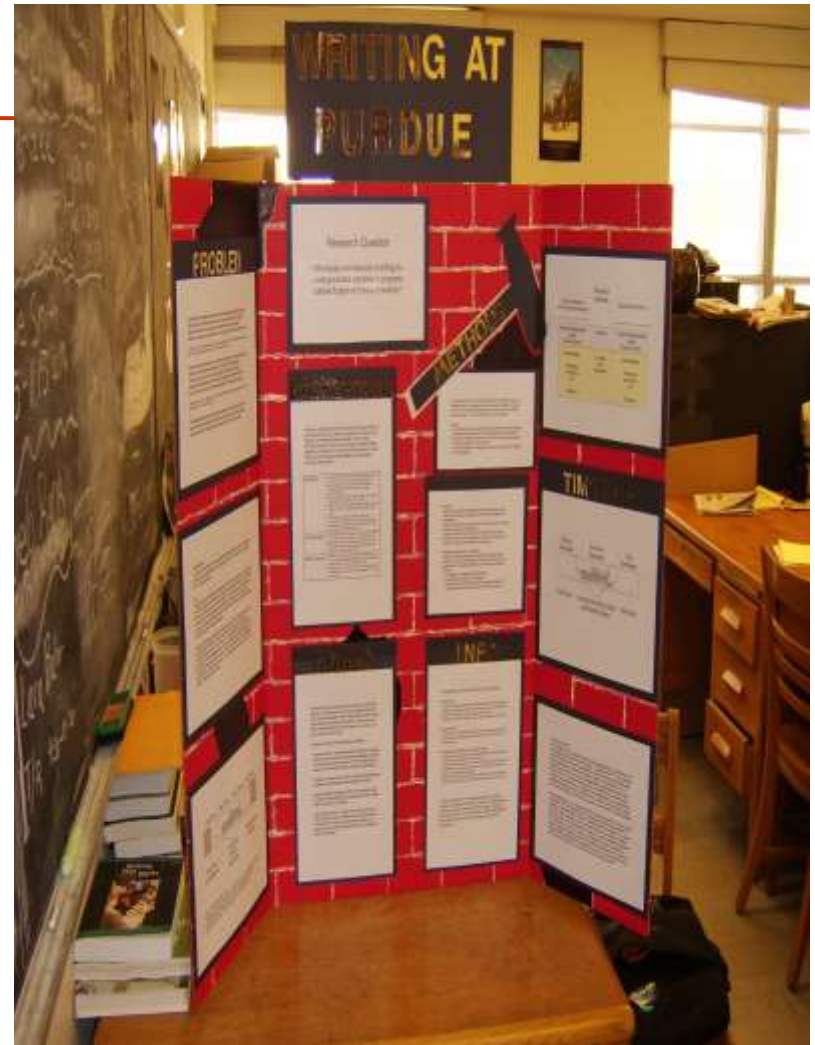


## Results

- Recessive genes had little effect, no matter how beneficial or deleterious.
- Harmful dominant genes quickly eradicated themselves, and had little effect on the resulting population size.
- Introduction of beneficial dominant genes resulted in small, quick increases in the percentage of the beneficial allele, followed by a gradual decrease.
- Case effect 9, the very harmful dominant gene, was the only effect I modeled that had any net positive effect on the final population size.

## Discussion

- If we are to attempt to use translocation as a way to "seed up" the genetics of small populations of lions, we must try to make sure that genes we wish to introduce in a deleterious one. Also, releasing just one animal is unlikely to be enough to spread the genes to a reasonable amount of time. My model would surely be essential to consider the introduction of multiple animals.
- Approximate models are unlikely to be a prediction in lion populations; recessive genes do not have a large enough effect to be dangerous, at least in the relatively short span of 60 years, and dominant genes eradicate themselves quickly.



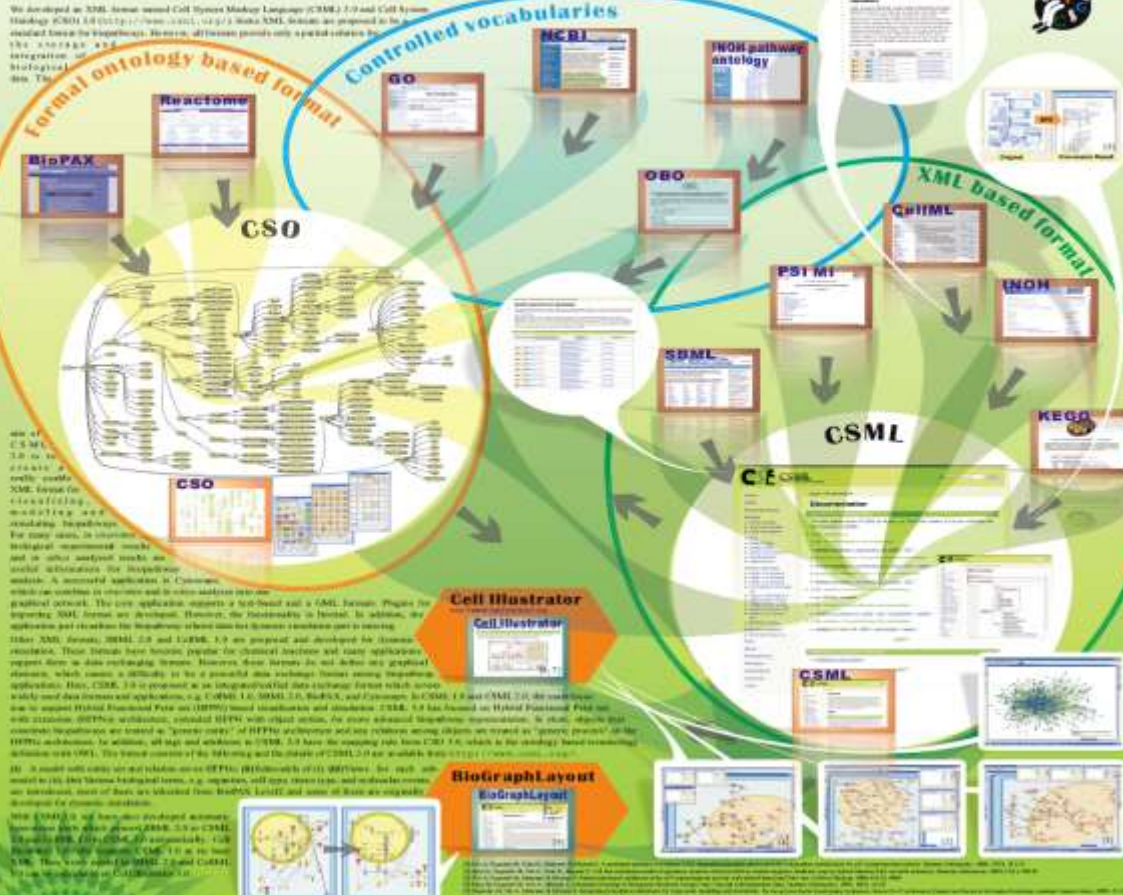


# Cell System Markup Language CSML 3.0

## — Base Concept, Its Specification, and Tools —

Saloru Miyano, Euna Jeong, Atsushi Doi, Kazuko Ueno, Emi Ikeda, Kaname Kojima, Ayumu Saito, Masao Nagasaki  
 Human Genome Center, Institute of Medical Science, University of Tokyo  
 Tokyo 108-8639, Japan

We developed an XML-based Cell System Markup Language (CSML) 3.0 and Cell System  
 Markup Language (CSML) 3.0 (http://www.csml.org) to describe cell systems. CSML 3.0 is designed to be  
 standard based for interoperability. In this paper, we describe CSML 3.0 and its tools.  
 The authors are grateful to the members of the Human Genome Center, Institute of Medical Science, University of Tokyo  
 for their kind cooperation and support.



# WWW.CSML.ORG

# Resources

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- George Hess & Leon Liegel Effective Poster Presentation Site  
[www.ncsu.edu/project/posters/](http://www.ncsu.edu/project/posters/)
- Kathryn Tosney's Effective Poster Presentation Site (U. Miami)  
[www.bio.miami.edu/ktosney/file/PosterHome.htm](http://www.bio.miami.edu/ktosney/file/PosterHome.htm)  
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- Edward Tufte's Web Site (focus on visualizing data)  
[www.edwardtufte.com/tufte/](http://www.edwardtufte.com/tufte/)

# Books and Articles

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- ❑ Tufte, Edward. 1983. *The Visual Display of Quantitative Information*. Graphics Press, Cheshire, CT.
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- ❑ Woolsey, J.D. 1989. Combating poster fatigue: How to use visual grammar and analysis to effect better visual communication. *Trends in Neurosciences* 12: 325-332.

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# Thank you!

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