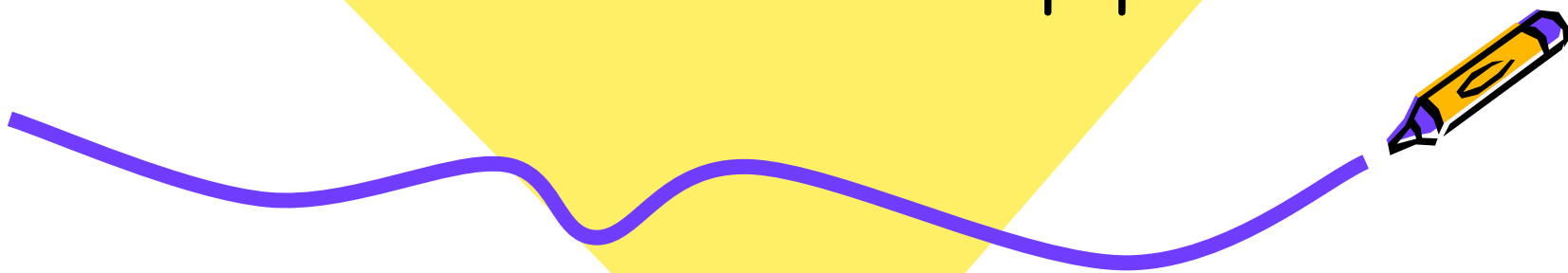


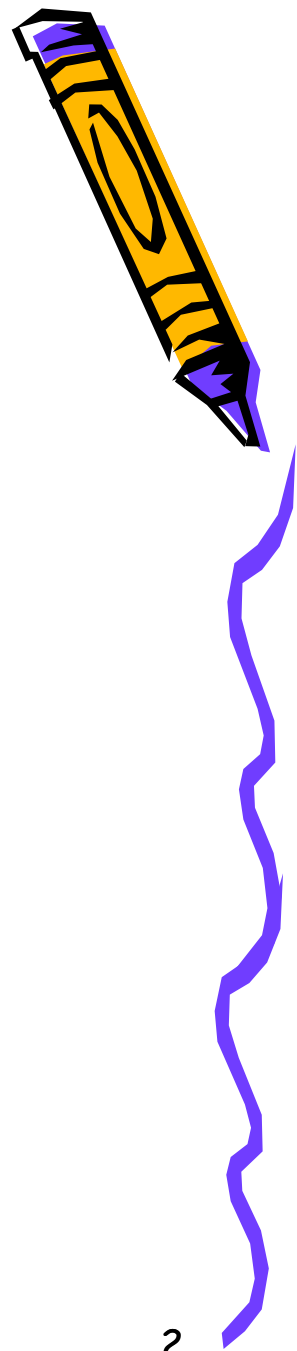


# 科技论文写作

How to write a research paper?



# Why publication?

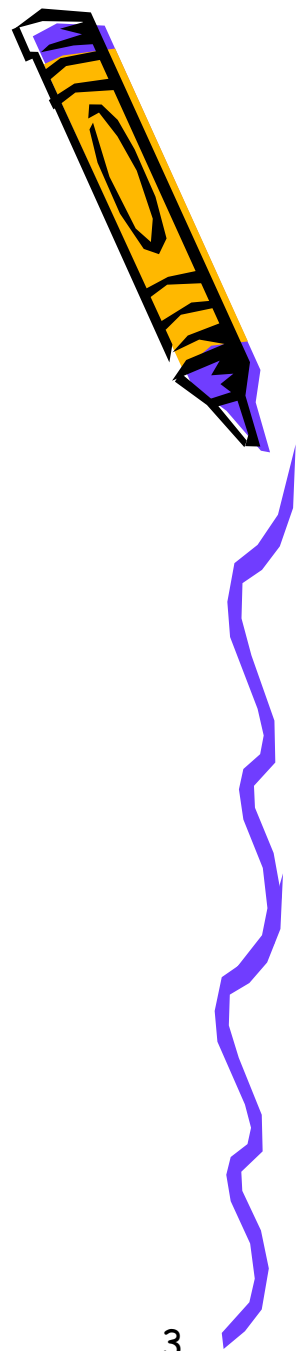


- "Publish or Perish"
  - Pressure in academia
  - The primary way to judge a researcher
  - H-index
- Convey your idea
  - Tell other people (not yourself) an exciting story.
  - Soundness, originality, significance ...
  - Get credits and citations.



# Types of Papers

- Research vs. Review
- Theoretical vs. Experimental
- Methods vs. Applications
- Long vs. Short
- Published vs. Unpublished



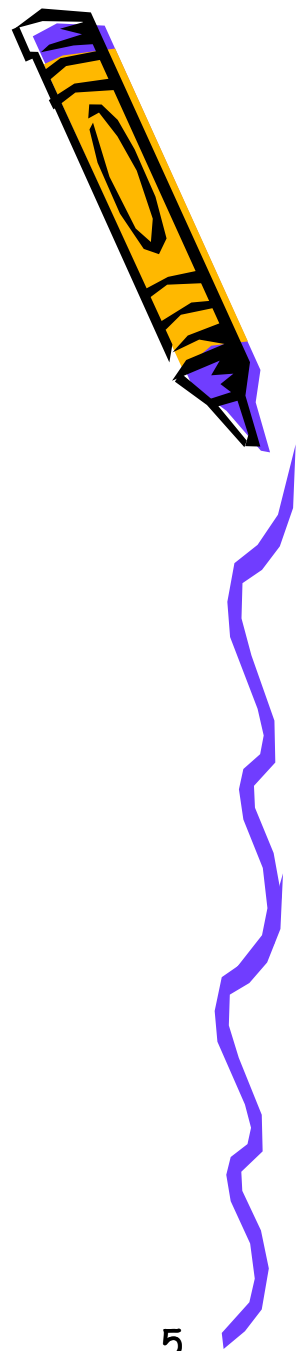
# Where to publish?

- Journal
- Conference
- Books
- Workshop

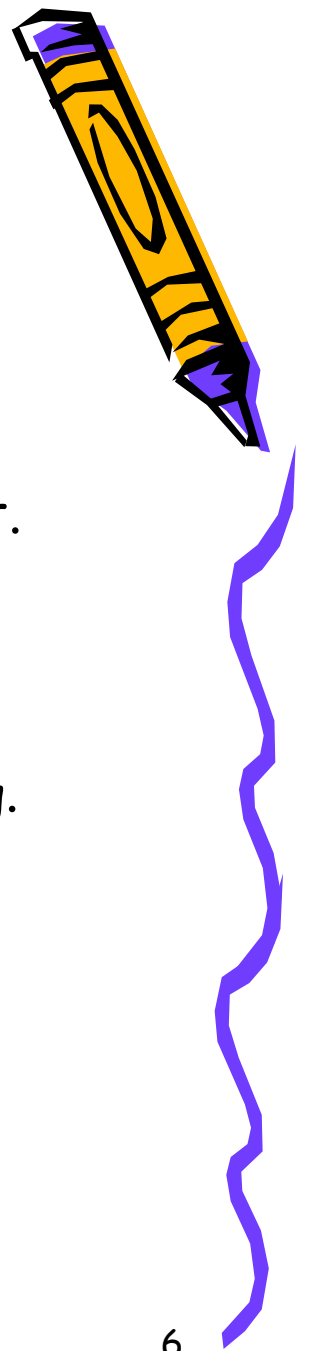


# Things to Consider

- Impact
- Acceptance Rate
- Preference
- Time & Location
- Word Processor: Latex vs. Word



# Myths & Facts



- Myth → Writing is a frustrating task.
- Fact → It could be a lot of fun once you can manage it.
  
- Myth → Every researcher knows how to write.
- Fact → Good writing skills need years of hard training.
  
- Myth → There are secrete recipes.
- Fact → Yes, but they are just guidelines.



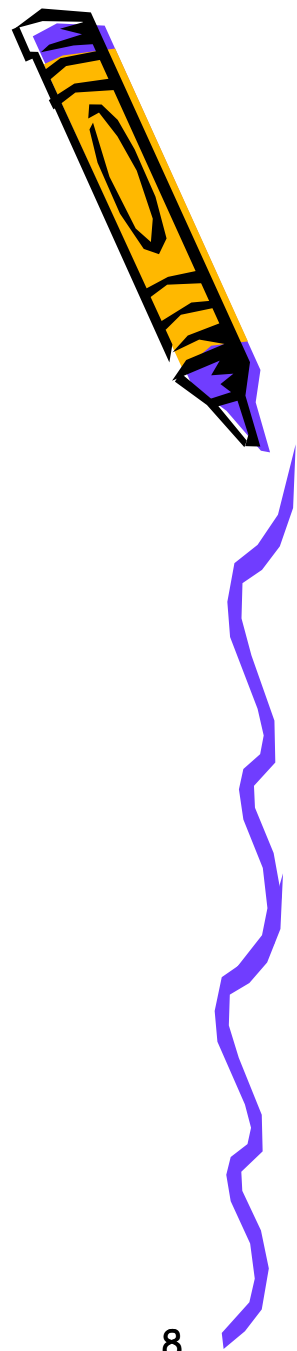
# Plagiarism!!!

- A serious offence
  - Lack of quotation or citation
  - Worse than copyright infringement.
- Self-plagiarism
  - Reuse of (nearly) identical contents
  - Multiple submission
- Don't take any chances!
  - It will be revealed sooner or later.
  - Ruin your reputation and credit.



# Presentation Matters

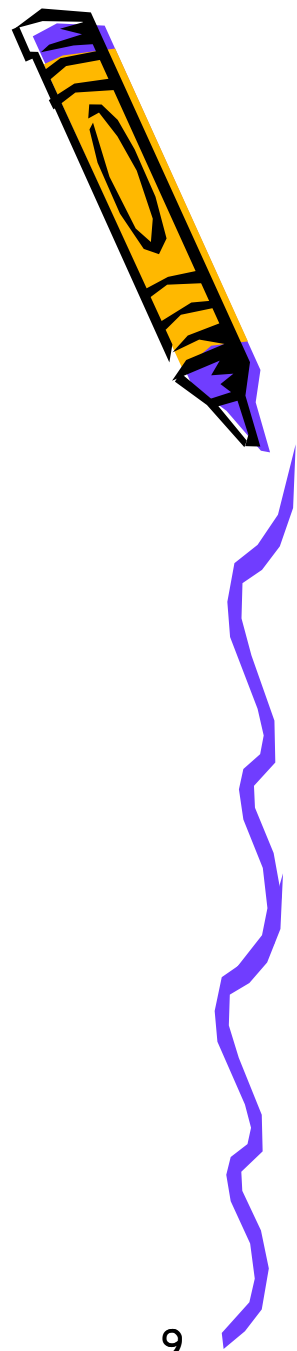
- Many papers are badly written.
- Good ideas get buried ...
- Papers are to be read by other people.
- Clarity, Clarity, Clarity!
- Show your seriousness and preciseness.



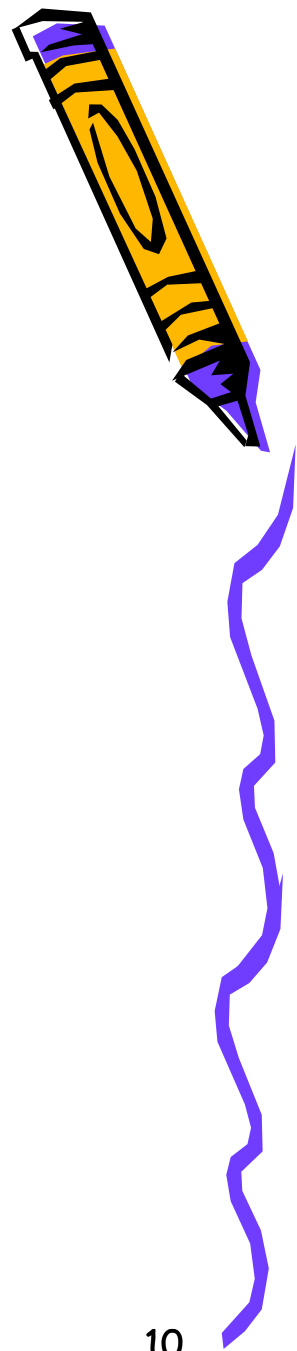


# Title

- Capture the eyeballs of potential readers.
- Bad Titles
  - Too short → Not specific enough
  - Too long → Difficult to follow
- Good Titles
  - Informative
  - Key Words
  - Match the content



# Authorship

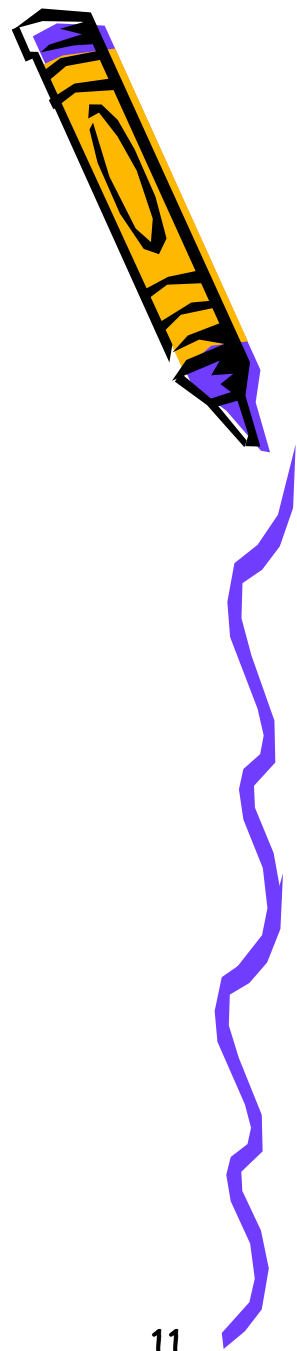


- Responsibility vs. Credit
  - Make significant intellectual contribution.
  - Participate in writing and approve the final version.
- Order of Authorship
  - Simple but could be troublesome.
  - Alphabetical Order
- Not all contributions justify authorship.

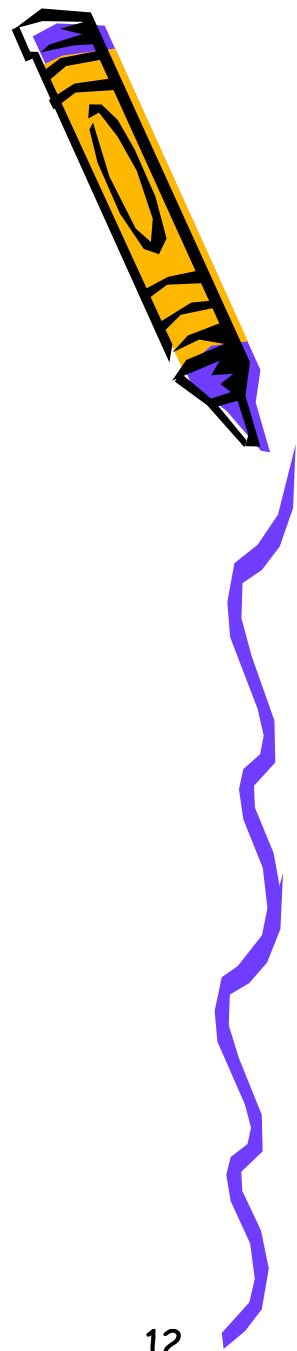


# Abstract

- The most challenging part of a paper!
  - Sell your work in 50 to 150 words.
- Many people will only read your abstract!
- General Structure
  - What is the research question?
  - Why bother?
  - What is your idea?
  - What is your achievement?



# Introduction

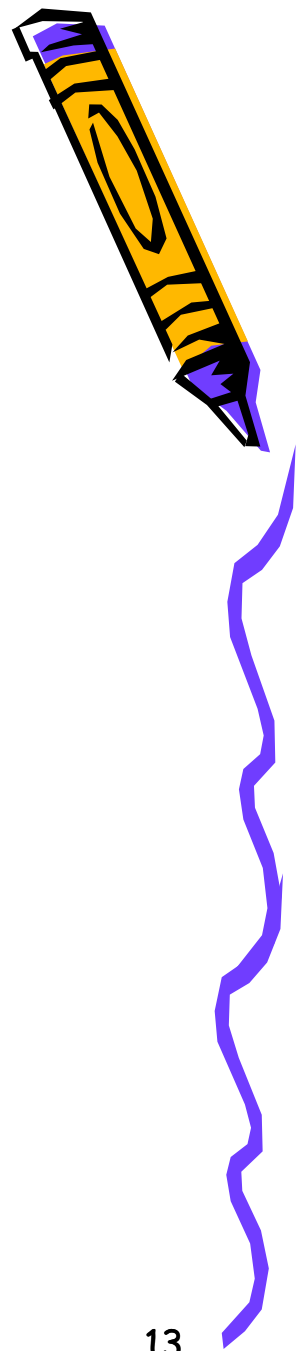


- Introduce the background
  - Reviewers may not be experts in your domain.
- Related work (literature review)
  - Present existing research work in a systematic way.
  - Don't simply put on a list of papers.
- The missing part (the gap)
  - Your research question!
- Preview of the paper

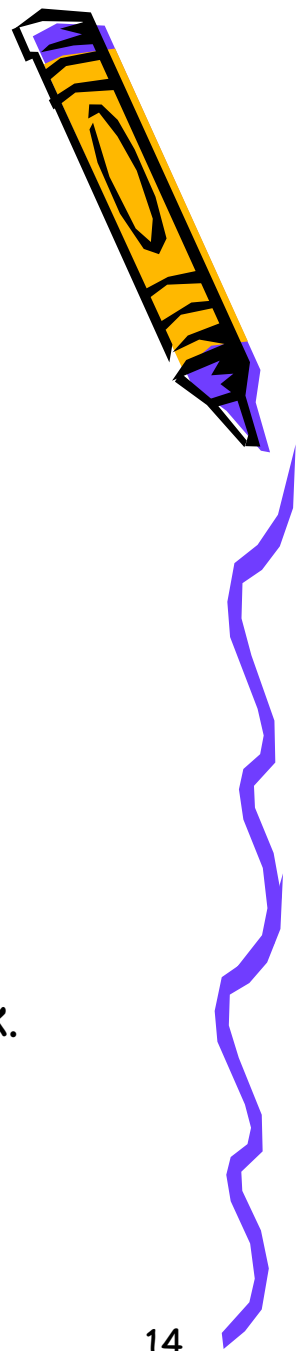


# Methodology

- State the motivation clearly.
- Highlight the principle and mechanism.
- Give a formal definition/specification.
- Show an intuitive example.
- Use tables and graphs whenever possible.



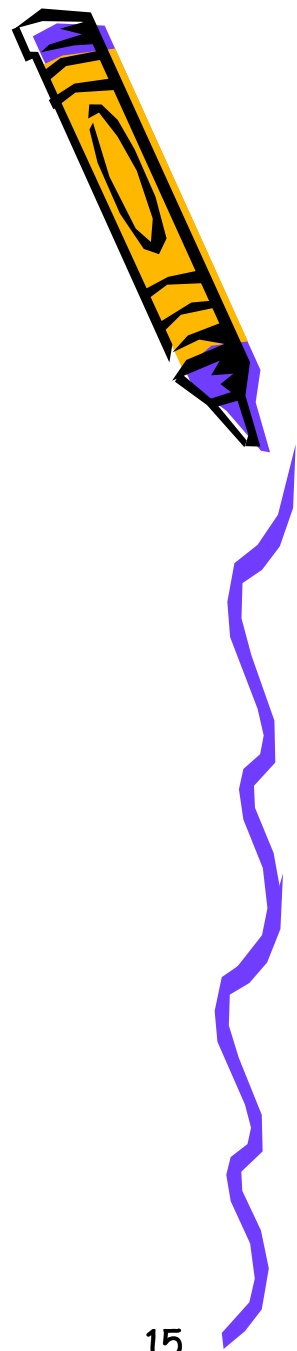
# Results



- Specify the experimental settings clearly.
  - Define the scope and limitation.
  - Avoid possible confusion.
  - Increase the replicability of your results.
- Use visualization tools for large amount of data.
  - Error bars, Box plots ...
  - Matlab can do a good job for you.
- Some analysis of the data would be a plus.
  - Can significantly increase the research value of your work.



# Conclusion



- Final chance to impress the reviewers!
- Not a simple repeat of what you have done.
- It usually contains:
  - Motivation & Purpose (research question)
  - Major findings and achievement
  - Extensions (don't throw out really brilliant ideas!)
  - Potential contributions to related areas
- Make the strongest claims possible.



# Acknowledgement

- Financial Support
  - Grants, Scholarships ...
- Technical Support
  - Source Code
  - Dataset
  - Facilitates
- Helpful People
  - Anonymous Reviewers
  - Colleagues



*Thank You*

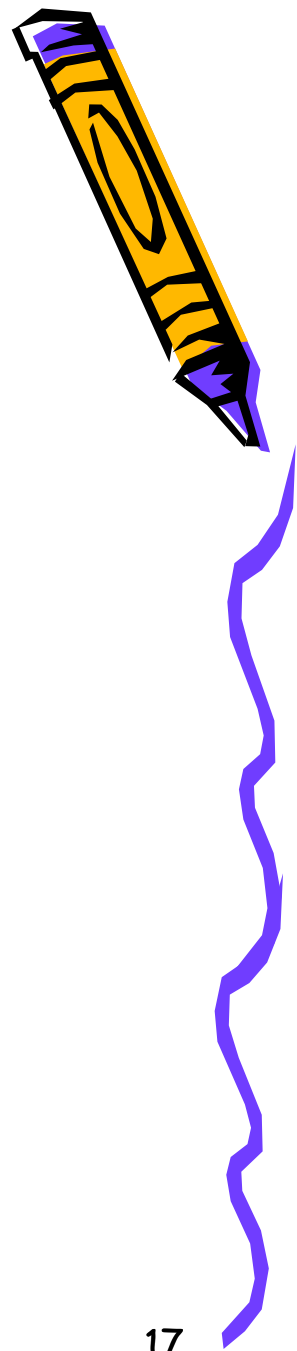
*Merci*





# Reference

- Every claim (not yours) should be referred.
- Every reference should be cited in the paper.
- Do not cite resources that you did not read.
- Style: IEEE, ACM, LNCS ...
- Bibliography Management: Endnote



# Language



- Present vs. Past
- Active vs. Passive
- It/This/Which ...
- We/Our ...
- Long vs. Short
- Typos



# Checklist

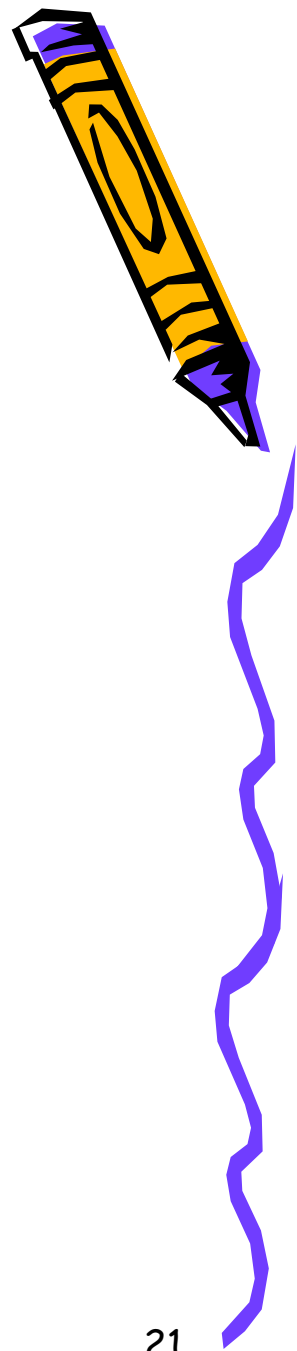
- Title and Abstract
- Spelling and Grammar
- References
- Terms and Variables
- Tables, Figures, Equations
- Format and Page Limit



# Take a Break ...



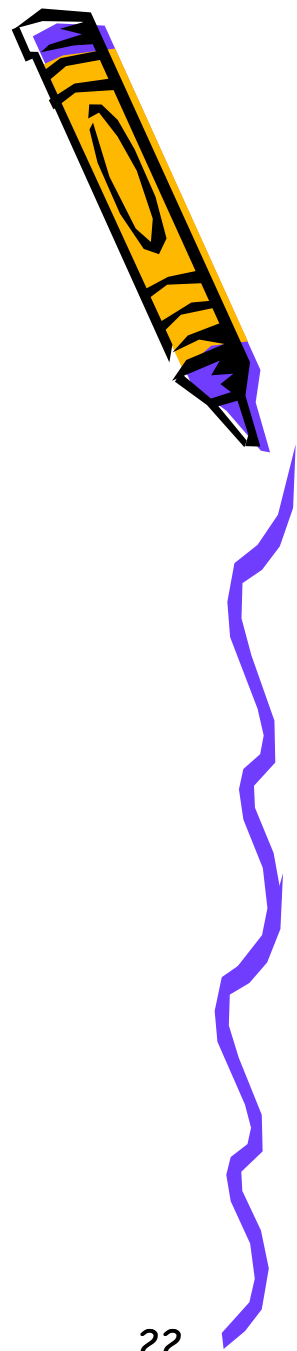
# The Reviewing Process



- Timeline
  - Usually 1~3 months but could be much longer.
- Reviewing
  - 3~5 reviewers
  - Single-blind vs. Double-blind
- Outcomes
  - Journal
    - Accept, Minor Revision, Major Revision, Reject
  - Conference
    - Accept, Reject



# Got Comments Back ...



- A very tough time!
  - Nobody likes criticism.
  - Constructive vs. Destructive
- Go through the comments word for word.
- Be Positive
  - Reviewers are trying to help improve your paper.
  - Mm, I should have explained this point better ...
- Be Polite
  - Reviewers have devoted their time.
  - You may also be a reviewer one day.



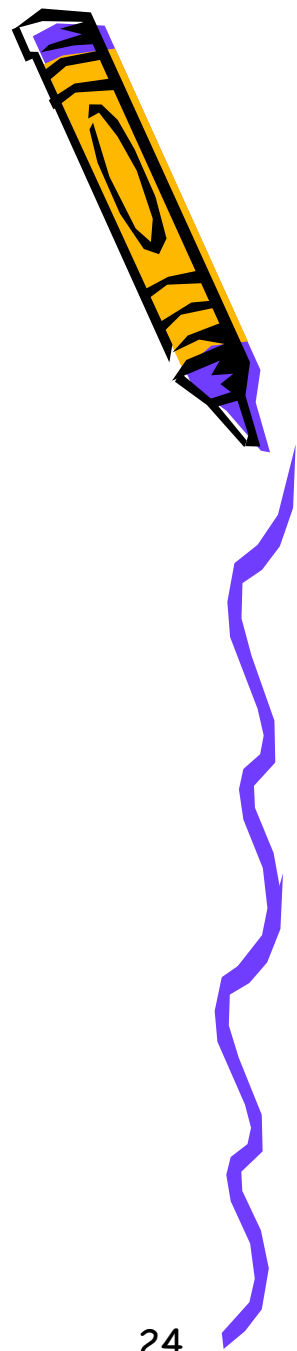
# Oral vs. Poster

- Depends on conferences.
- Oral Presentation
  - Limited time & audience
  - One-way communication
  - Can be very impressive!
- Poster
  - Focus on interaction.
  - More potential audience



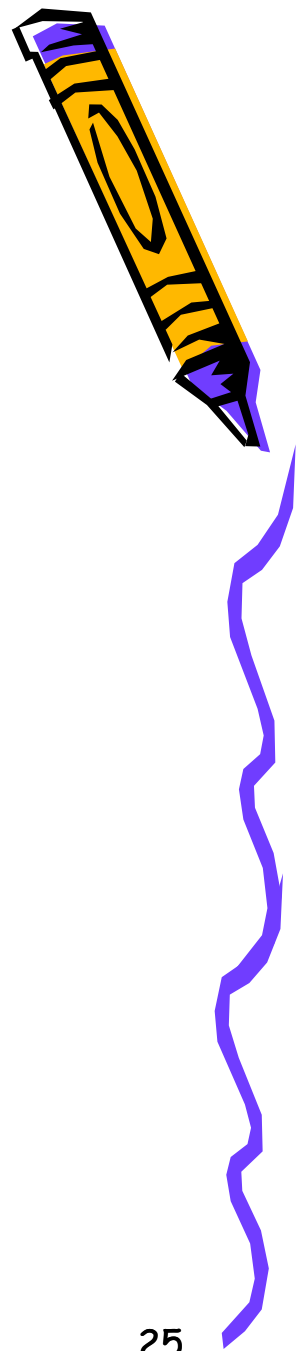
# Slides

- Flashy vs. Succinct
- Use light and soft background.
- Leave enough space between lines.
- Minimum 16 points font
- Pictures, Video Clips, Animations ...
- Slides are not your lecture notes!





# How to give a talk?

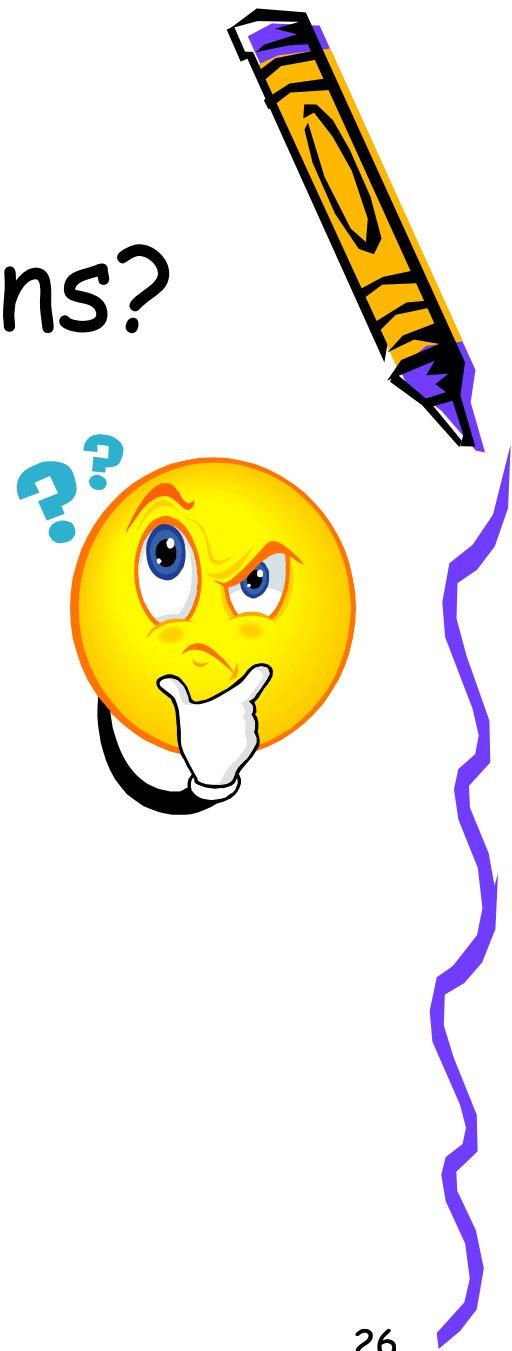


- Don't panic!
- Speak loudly at normal speech rate.
- Keep an eye on your audience.
- Use voice and pause smartly to address key points.
- Manage your time well.
- Practice publicly in advance.

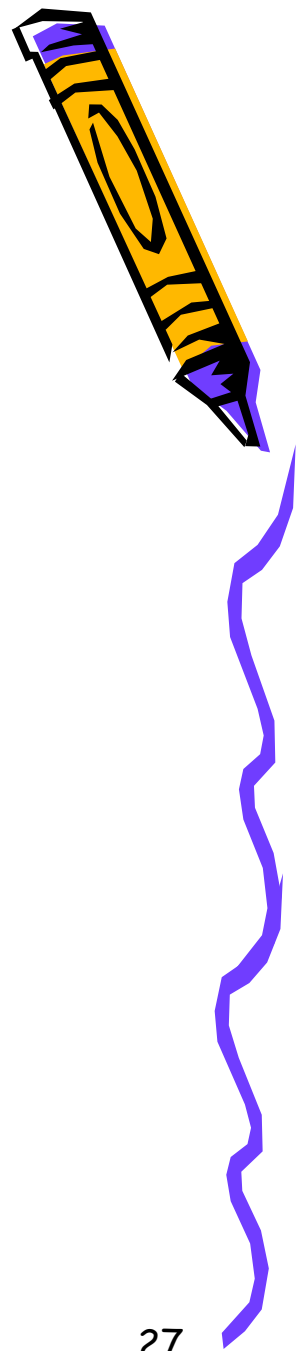


# How to answer questions?

- If it is a simple one ...
  - Let them finish their questions!
  - Be humble and respectful.
- If it is a challenging one ...
  - Be honest!
  - Stick to the question.
  - Tell them what you know and don't know.
- If you don't even understand ...
  - Ask them to repeat their questions politely.
  - "Shall we discuss this issue later?"

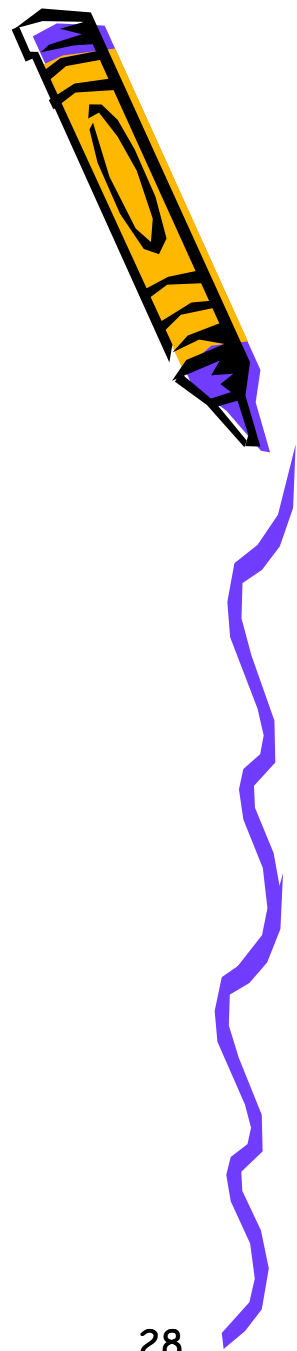


# How to ask questions?



- Think before asking ...
  - No enough time for in-depth discussion.
  - Ask questions that may be of interest to other audience.
- You are not the only one having questions!
  - Keep your questions short.
  - One question at a time.
- Be polite!
  - Avoid phrasing that would antagonize the speaker.
  - Leave controversial ones after the talk.





# How to present a poster?

- Don't simply hang up your papers!
- Be concise: 15 seconds rule.
- A picture is worth a thousand words.
- HCI: Color, Font size, Layout ...
- Be interactive: introduce your work in 30 seconds!
- Don't leave your poster unattended!

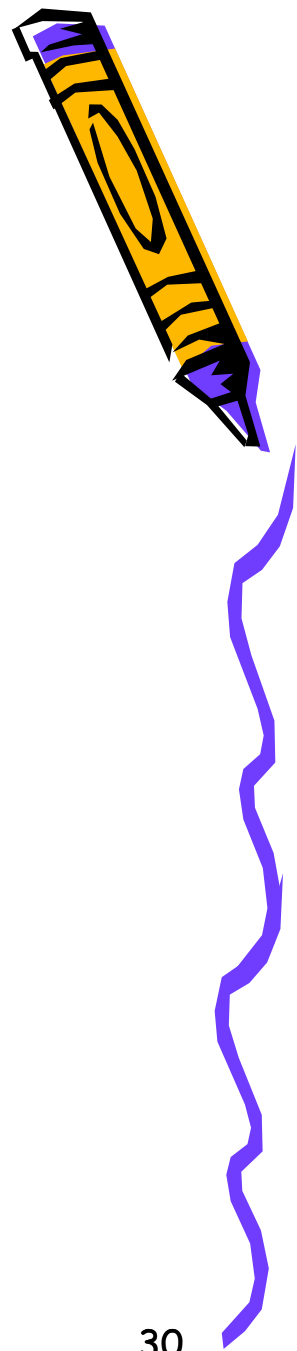


# What to do at conferences?

- A good excuse to take a few days off!
- Gain experience and confidence.
- Communication
- Networking
- Banquet & Social Events



# Conference Tips

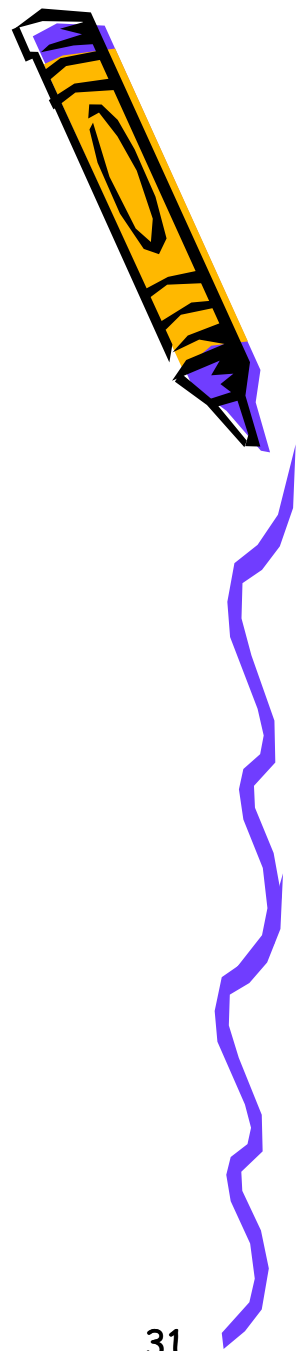


- Plan Ahead
  - Conference Calender
  - Preview the conference program for interesting talks.
- Be Active!
  - Chat with people and ask about their work.
  - Don't be shy about your English!
- Membership
  - It pays to join ACM & IEEE as a student.
- Financial Support
  - Student Travel Grant

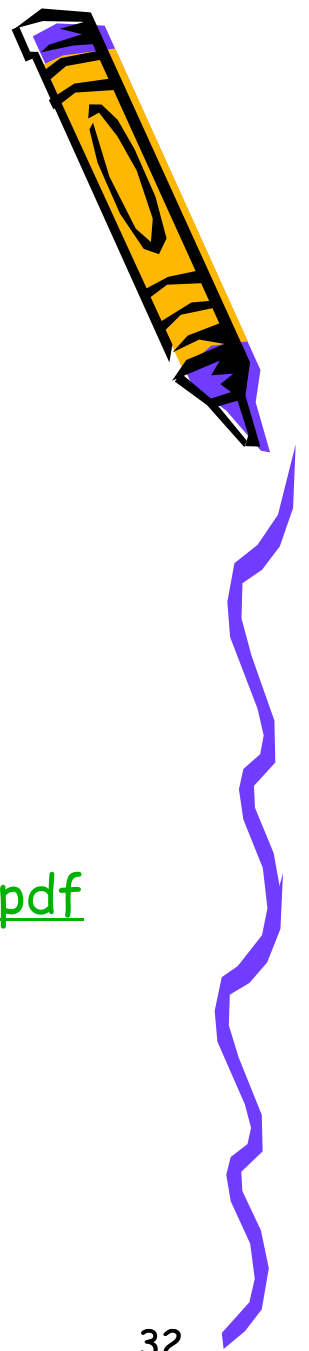


# Get Connected

- Conferences, Workshops, Seminars ...
- Mailing List & Discussion Groups
- Official Web Sites of Research Communities
- Personal Web Sites of Big Names
- Build your own web site!
- My Space: [www.global-optimization.com](http://www.global-optimization.com)



# Much More @ WWW



- A Collection of Research Tips
  - <http://www.ifs.tuwien.ac.at/~silvia/research-tips/>
- How to do Research at the MIT AI Lab
- Scientific Writing
  - <http://www.biochem.arizona.edu/marc/Sci-Writing.pdf>
- Use Google!





# Take Home Message

- Start early!
- Highlight your core idea.
- Explain your work logically.
- Make your contribution crystal clear.
- Ask friends to read your paper before submission.



# Practice makes perfect!

- Read well-written papers back and forth.
- Write down your ideas and thoughts.
- Prepare work reports regularly.
- Learn from the feedbacks from your advisor.
- You will be more confident with your thesis!

