

# Lecture 7 : Proposal

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# General

- Significance
  - Define the problem (emphasize the importance of the problem)
  - Explain the state-of-the-art (global not regional) and gaps in knowledge
  - How the project will advance the technical capability and reduce the knowledge gap
  - The novelty of the proposed works
    - Methods, applications, instrumentations, theory...
  - Sustainability
  - List the associate reference

# General

- General research content
  - Long term goal
    - Specific aims (2-4)
  - Preliminary works
  - General research methods
  - Technical problems to be solved
- Methodology (how to do it?)
  - Detailed experimental designs, methods, subjects, tools and data analysis
  - Feasibility analysis
    - Plan B?
  - Flow chart

# Tips

- Read the guideline first!
- Not the more the better
  - Feasibilities
    - All proposed activities and goals can be done within the PI and collaborators' capacity
  - Research activities achievable within the funding period (1, 2 or 3 yrs)
    - Clear end point
  - Emphasize the novelty
    - Repeating other's works not a proposal
  - **Each research activities should tackle the research problem in different perspectives while still connected and be presented in a logical order**
- Pick a hot and relevant topic in the field that fits your background
- Make a strong team
  - Strong members and collaborators

# Supplementary info

- Related track record
  - PI and collaborators suitable for the project
- Reasonable budget
  - Personnel, equipment, trips, consumables, IT
- Lab facilities/environment
- Commercialization plan
- Road map
- Time table
- Uniqueness
  - Why yr team is the best among the country/city?
- What problems will be solved? What are the end products? How much improvement? What will be the **impact**?
- Achievable outcome

# Others

- Literature review is not the method – should be well performed before starting the proposal
- Get winning proposals as templates
- Prepare ahead of time
- Sounds like a solid plan that you can execute tomorrow, not mention anything like things will be figured out later after securing the funding
- Use phases like “pioneering”, “first attempt to”, “first group to propose” – be confident!
  - No “think”, “may be”
- Chinese and English equally important

# Format

- Follow the research paper
  - Times New Roman
- Mention figures and tables in the content
- Clear axes and legends
- Define abbreviations

# Homework 5

- Prepare the significance section of the proposal
  - Title
  - 1-2 page
  - 12 font size
  - Times new roman
  - Double space
  - 1 column