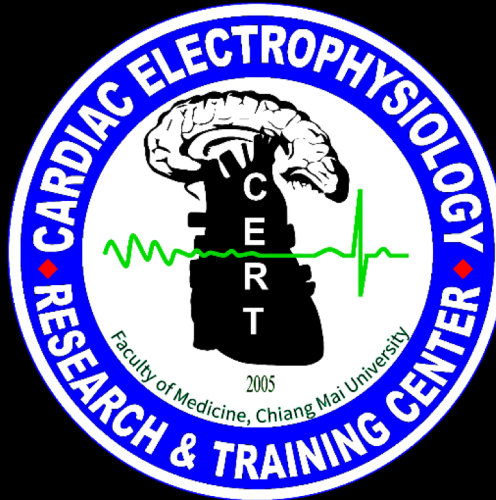


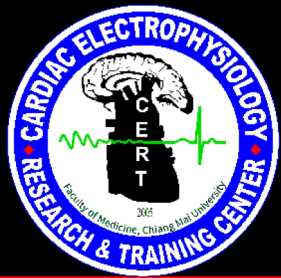
# Research Proposal Writing



ศาสตราจารย์(เชี่ยวชาญพิเศษ) ดร. นพ. นิพนธ์ ฉัตรทิพากร

ศูนย์วิจัยและฝึกอบรมสาขาโรคทางไฟฟ้าของหัวใจ (CERT)

คณะแพทยศาสตร์ มหาวิทยาลัยเชียงใหม่



# Why write research proposal?

Ideally –

to do research and discover new findings  
that hopefully can be used to improve  
healthcare for mankind.

Practically –

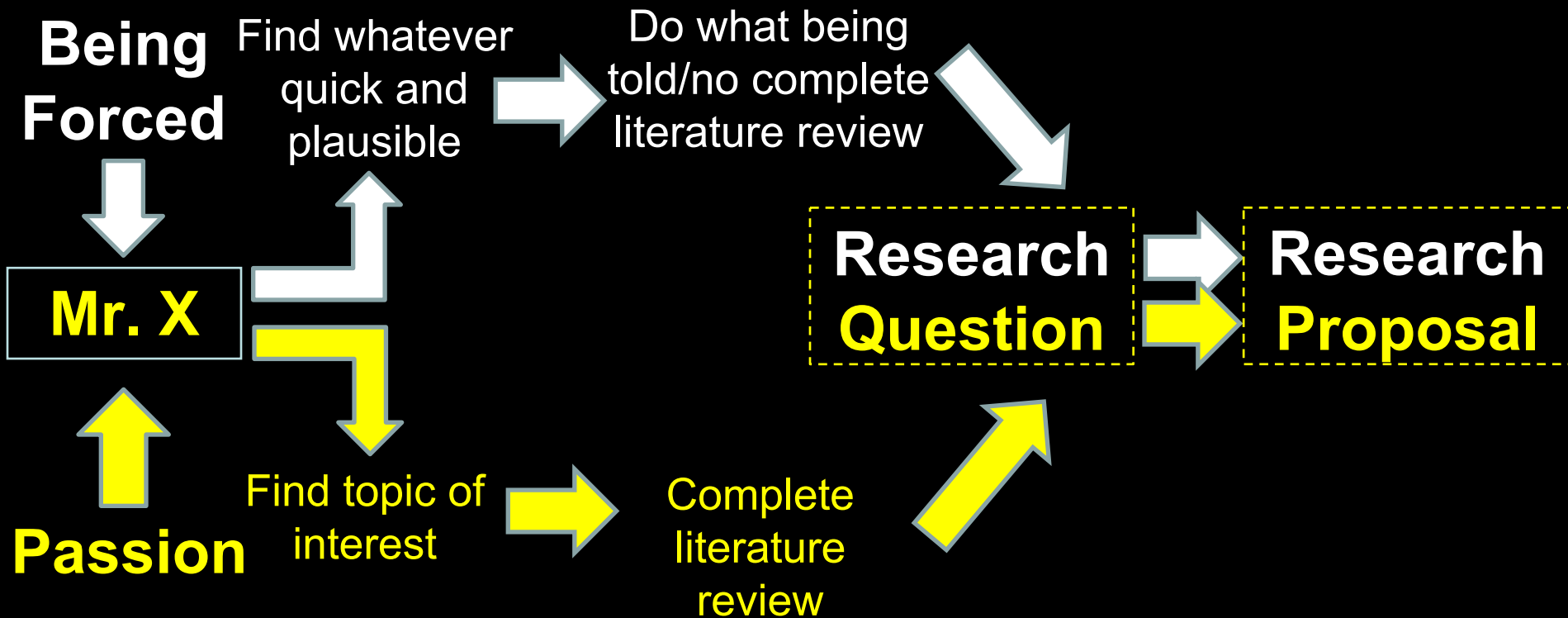
to pass RS2  
to do medical research  
to get research funding



# Why writing a good proposal is crucial?

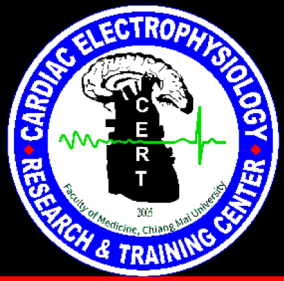
Good research outcome

Novel Findings  
(not “me too” findings)





*“The CORE of  
A Good Research Proposal  
is the  
Research Question(s).”*



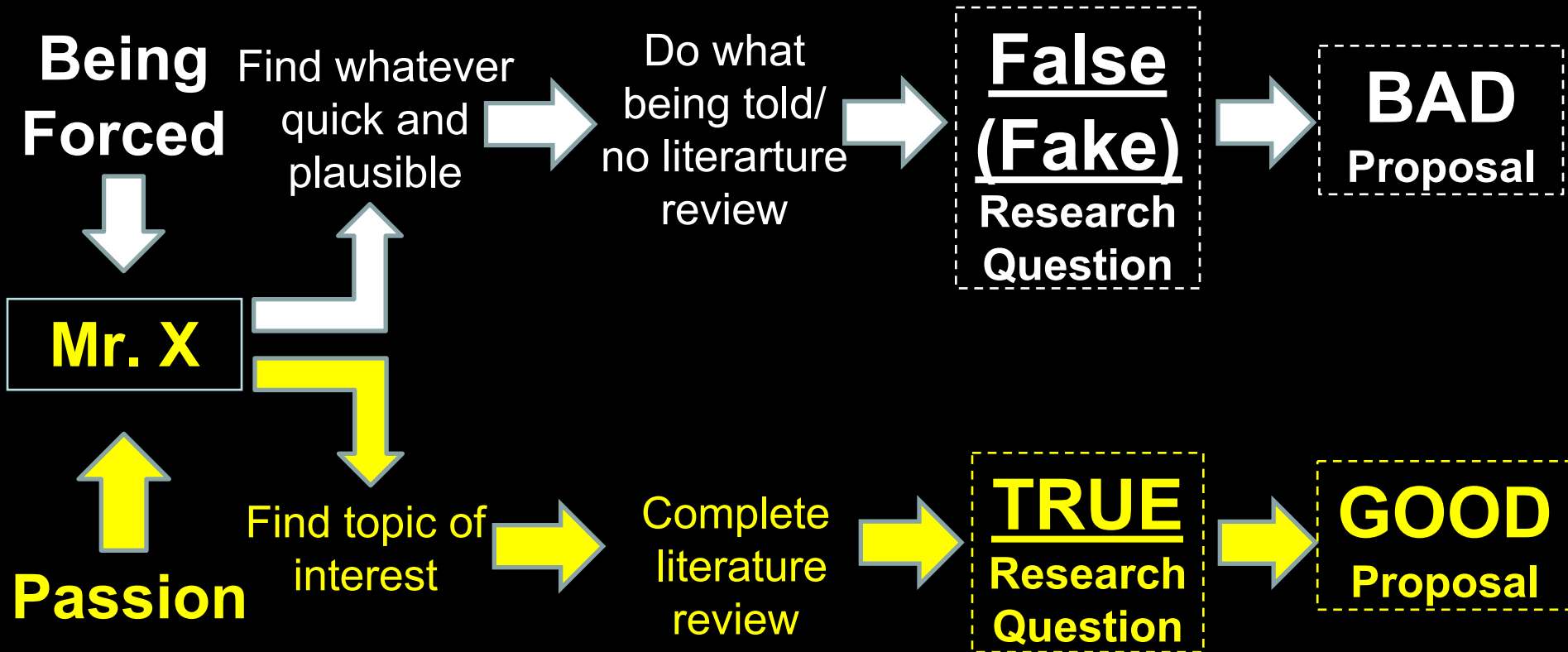
# Research Question: 2 Types

**TRUE**

*Research Question*

**FALSE (FAKE)**

*Research Question*





**Mr. X**

**Find topic  
of interest**

**Novel Knowledge/  
Mankind's Benefit**

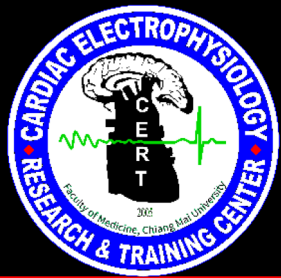
**Complete  
literature  
review**

**TRUE  
Research  
Question**

**GOOD  
Proposal**

**Passion**





# Key Messages to have in a GOOD PROPOSAL

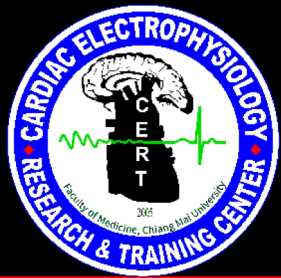
**TRUE Research Question**

**Hypotheses**

**Reasonable Methodology  
To test the hypotheses**

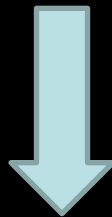
**Comprehensive Literature Review**

**Preliminary Results**

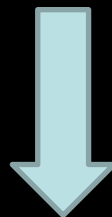


# GOOD PROPOSAL & GOOD SCIENCE

**Good Proposal**



**Good Science**



**WHY??**



# What constitutes good science?

**Novel** – new and not resembling something formerly known or used (can be novel but not important)

**Mechanistic** – testing a hypothesis - determining the fundamental processes involved in or responsible for an action, reaction, or other natural phenomenon

**Descriptive** – describes how things are but does not test how things work – hypotheses are not tested.



# Tips for Writing Good Research Proposal

**Want to do research/Passion**



**Literature Review on that "topic of interest"**



**Get TRUE research question(s)**



**Set hypotheses**



**Design the methods**



**Once all of the above are done,**

**Writing the BACKGROUND/RATIONALE is to begin!**



# **Template of Proposal Writing: Part #1/3 (Title Page)**

- 1. Project Title**
- 2. Project Duration**
- 3. Total Budget Needed**
- 4. Research Team** (May assign a team leader here)
- 5. Name and address of Mentor(s)**
- 6. Place(s) to conduct research**



# Template of Proposal Writing: Part #2/3 (Abstract)

**1. Research Proposal Abstract**

**2. Keyword: 3-5 words**



# **Template of Proposal Writing: Part #3/3- Proposal**

- 1. Introduction to research problem and its significance  
(Background and Its Significance/Rationale)**
- 2. Literature Review**
- 3. Objectives/Aims**
- 4. Methodology**
- 5. List of References**
- 6. Work plan for the entire project (can be a timeline)**
- 7. Expected output/outcome and impact**



# Tips for Writing Good Research Proposal

**How to Write a GOOD  
Background/Rationale?**





# Tips for Writing Good Research Proposal

## How to Write a GOOD Background/Rationale?



### First Part

**World incidence/ Regional incidence of the problem**

[Basically, emphasizing on the  
**SIGNIFICANCE** of the problem(s)]



# Tips for Writing Good Research Proposal

## How to Write a GOOD Background/Rationale?



### Second Part

Emphasize on

- What are currently known
- What is currently unknown/controversy/inconsistent
- Then, emphasize on the fact that (several) problem(s) still exist(s)

**At this point, you are ready to introduce your TRUE Research Question.**



# Tips for Writing Good Research Proposal

## How to Write a GOOD Background/Rationale?



### Third Part

Here, introduce your TRUE Research Question  
and followed by your HYPOTHESES  
in this part.



# Tips for Writing Good Research Proposal

## How to Write GOOD Methods?



# Tips for Writing Good Research Proposal

## How to Write GOOD Methods?



Be realistic  
(timewise/expertise/budget/etc)



# Tips for Writing Good Research Proposal

## How to Write GOOD Methods?



**Be translational**  
**(clinically relevant/  
clinical implication-application)**

**Approaches: Prevention VS. Treatment**



# Tips for Writing Good Research Proposal

**Be translational**  
**(clinically relevant/  
clinical implication-application)**

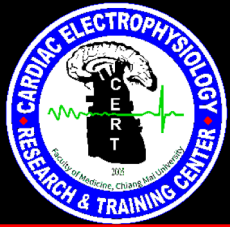
**Approaches: Prevention VS. Treatment**



# Tips for Writing Good Research Proposal

## How to Write a GOOD Literature Review?





# Tips for Writing Good Research Proposal

## How to Write a GOOD Literature Review?



**Be comprehensive!**

Must cover **ALL KEYWORDS** appeared in the

-Research Question(s)

-Hypotheses

-Designed method(s)

**Basically, it is the expanded version of the  
Background/Rationale!**



# What constitutes good science (proposal)?

**TRUE RESEARCH  
QUESTION(S)**

*Is the KEY!*



# Question!!!