# **Title and Executive Summary**

A. S. M. A. Haseeb Research Clusters, IPPP and Dept. of Mechanical Engineering University of Malaya

M A L A Y A

Workshop on Research Grant Proposal Writing: Attaining Essential Quality for Success, Research Clusters, IPPP, University of Malaya, 06 Nov 2019

#### References

- S. Finger, Advice on Writing Proposals to the National Science Foundation, Carnegie Mellon University, April 2015
- Adventures in Grantseeking: NSF, TAMU Texarkana, May 2018
  G. A. Hazelrigg, Honing Your Proposal Writing Skills, National Science Foundation
- NSF, A Guide for Proposal Writing
- 2013 NSF CAREER Proposal Writing Workshop, University of South Florida
- Grant Proposals (or Give me the money!), The Writing Center, University of North Carolina at Chapel Hill
- Art of Grantsmanship, Human Frontier Science Program
- · Writing Guide for NSERC Grant Applications, The Word Company, Ottawa
- T. M. Pinkston, Academic Career Workshop: Writing Research Proposals, USC
- Regents of the University of Michigan, Updated in 2014 by Christine Black (Originally produced by Don Thackrey)
- Principal Investigators Association, Executive Report: How to Write a Winning NSF Proposal
- University of Sheffield, Technical Report Writing for Engineers
- https://www.futurelearn.com/courses/technical-report-writing-for-engineers/0/steps/40128
- https://www.thebalancesmb.com/writing-goals-for-grant-proposal-2501951
- S. A. Jones, Proposals, Biomedical Engineering, Louisiana Tech University
- https://www.editage.com/insights/how-to-write-a-problem-statement-for-my-research
- https://chandoo.org/forum/threads/the-connections-between-milestone-activities-deliverables-project-phase.16738/
- Univ of Michigan, The Proposal Writer's Guide: Overview
- UNISA, Engineering research project: proposal
- Elena Kallestinova, How to Write a Compelling Grant Abstract, Yale Center for Teaching and Learning
- RT Erasmus, Writing a Grant Funding Proposal: General Overview, Choosing the topic, Abstract and Executive Summary

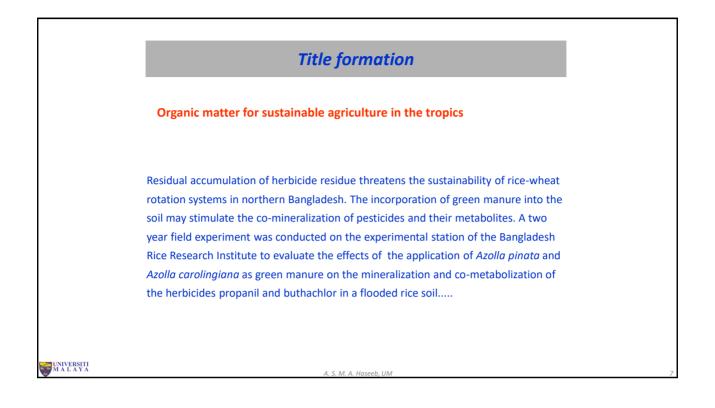


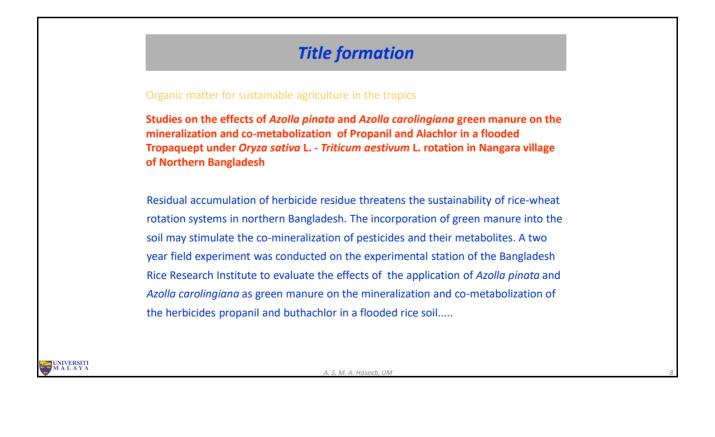
## **The Title**

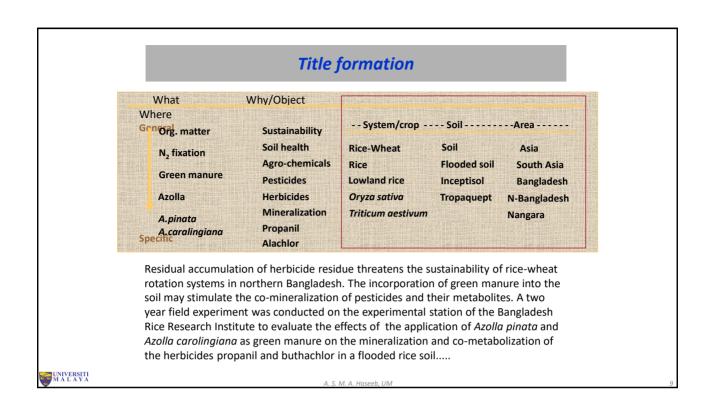
- Extremely important and needs great care  $\rightarrow$  will be read first
- Captures nature of work → must relate to specific research question being studied
- Should relate to grant funder's application call
- "Good title"  $\rightarrow$  fewest possible words that adequately describe contents of proposal
- Accuracy of title  $\rightarrow$  Very important
- Concise, specific and informative
- Usually emerges when proposal has been completed

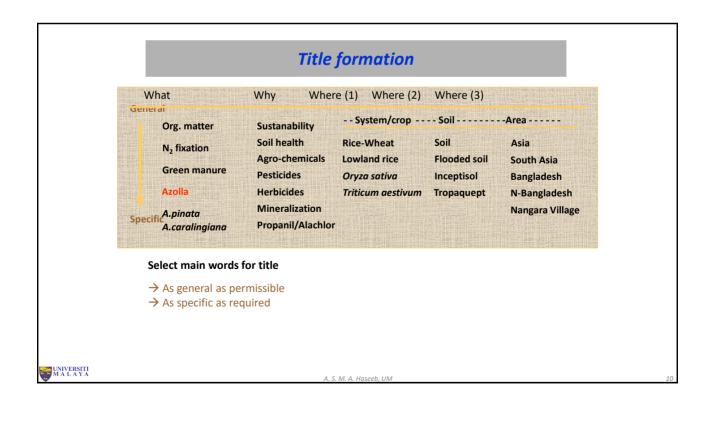


		Title
Original	Revised	Remarks
Preliminary observations on the effect of Zn element on anticorrosion of zinc plating layer	Effect of Zn on anticorrosion of zinc plating layer	Long title distracts readers. Remove all redundancies such as "studies on", "the nature of", etc.
Action of antibiotics on bacteria	Inhibition of growth of <i>mycobacterium</i> <i>tuberculosis</i> by streptomycin	Titles should be specific. Think about "how will I search for this piece of information" when you design the title.
Fabrication of carbon/CdS coaxial nanofibers displaying optical and electrical properties via electrospinning carbon	Electrospinning of carbon/CdS coaxial nanofibers with optical and electrical properties	"English needs help. The title is nonsense. All materials have properties of all varieties. You could examine my hair for its electrical and optical properties! You MUST be specific. I haven't read the paper but I suspect there is something special about these properties, otherwise why would you be reporting them?" - the Editor-in -chief

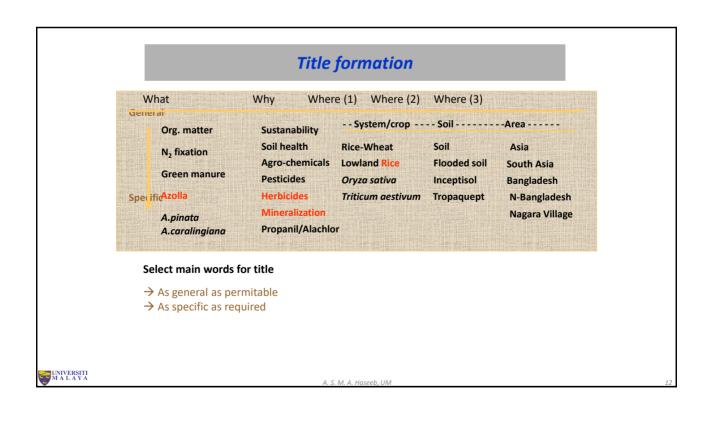




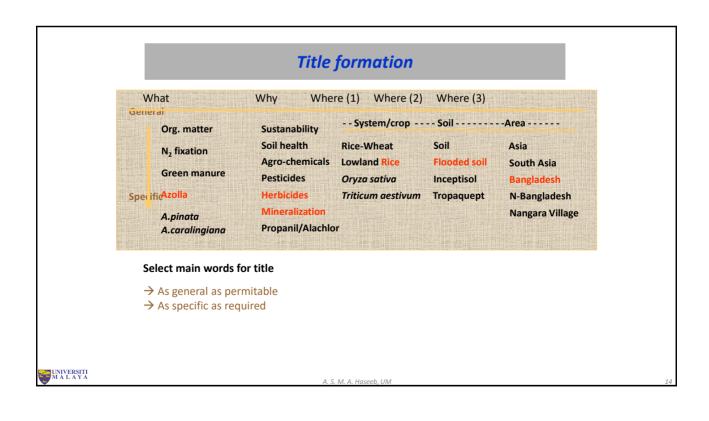


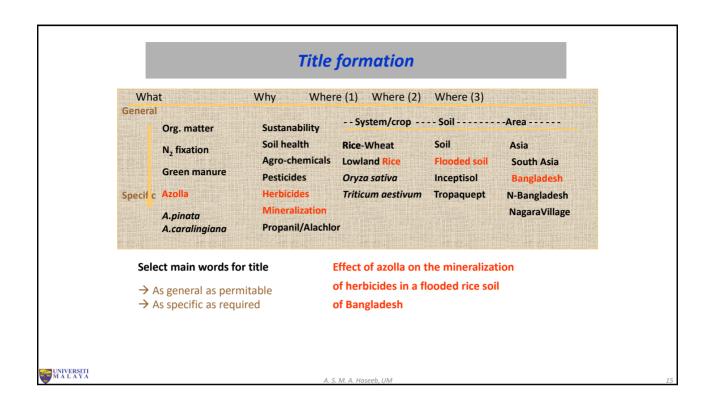


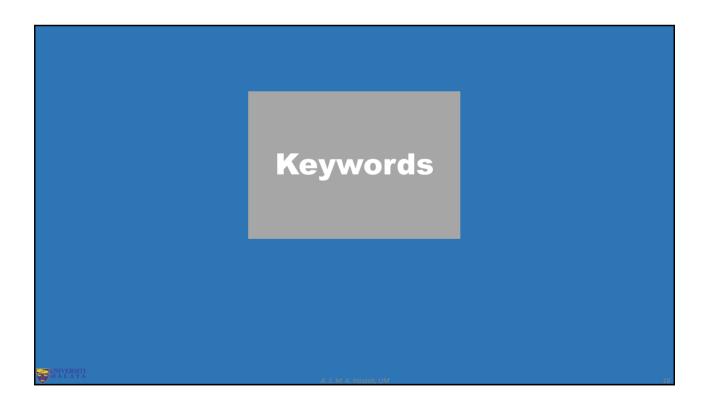
What	Why Whe	ere (1) Where (2)	Where (3)	
Org. matter N <sub>2</sub> fixation	Sustanability Soil health Agro-chemicals	System/crop Rice-Wheat Lowland rice	Soil Soil Flooded soil	Area Asia South Asia
Green manure Spec <mark>ificAzolla</mark> A.pinata A.caralingiana	Pesticides Herbicides Mineralization Propanil/Alachlo	Oryza sativa Triticum aestivum or	Inceptisol Tropaquept	Bangladesg N-Bangladesh Nangara Village
Select main word	s for title			
$\rightarrow$ As general as p $\rightarrow$ As specific as r				

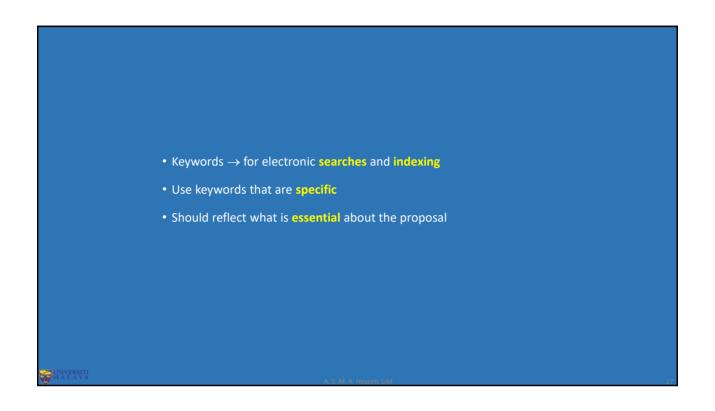


System/crop Soil Area		re (1) Where (2)	Why When	What
Soil health  Rice-Wheat  Soil  Asia    Agro-chemicals  Lowland Rice  Flooded soil  South Asia    Pesticides  Oryza sativa  Inceptisol  Bangladesh    Herbicides  Triticum aestivum  Tropaquept  N-Banglades    Mineralization  Nangara Villa	Soil Flooded soil Inceptisol	Rice-Wheat Lowland Rice Oryza sativa	Agro-chemicals Pesticides Herbicides	Org. matter N <sub>z</sub> fixation Green manure SpecificAzolla





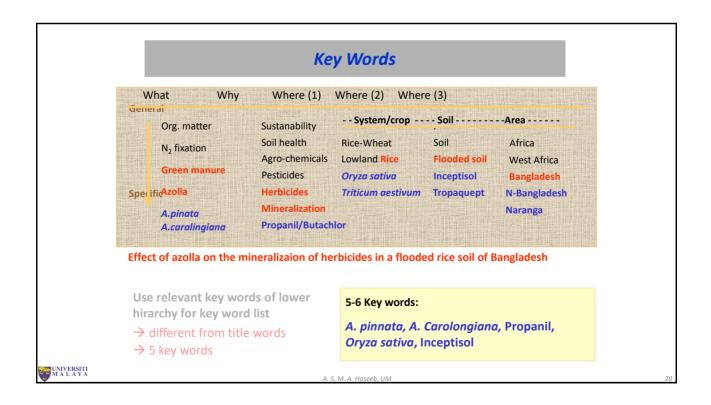




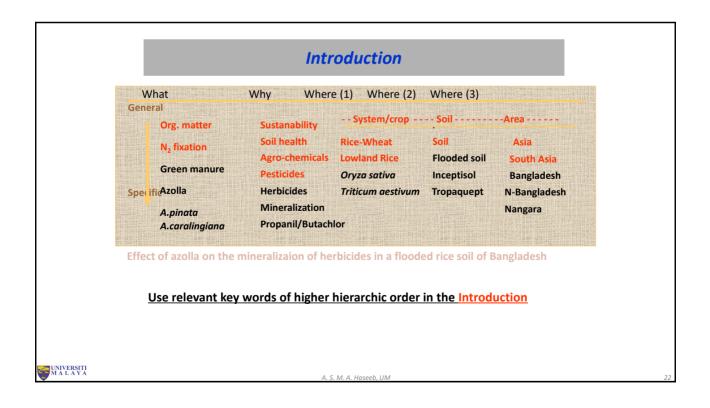
Key Words
Use relevant words of lower hirarchy for key word list
$\rightarrow$ different from title words
$\rightarrow$ 5 key words
UNIVERSITI MALAYA A. S. M. A. Haseeb, UM

9

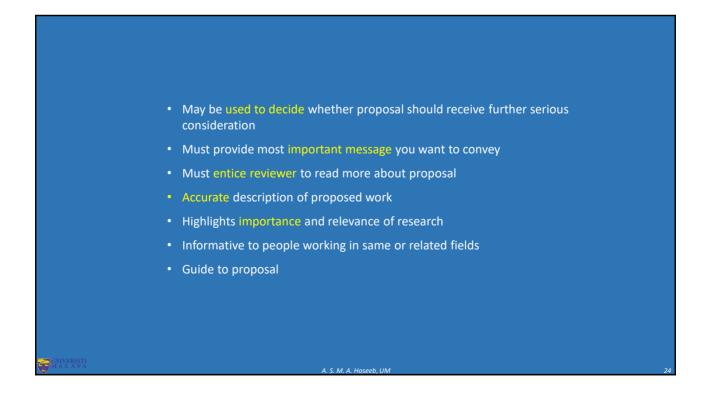
	, AC	y Words		
What	Why When	re (1) Where (2)	Where (3)	
General				
Org. matter	Sustanability	System/crop	Soil	Area
N <sub>2</sub> fixation	Soil health	Rice-Wheat	Soil	Asia
	Agro-chemicals	Lowland Rice	Flooded soil	South Asia
Green manure	Pesticides	Oryza sativa	Inceptisol	Bangladesh
Azolla	Herbicides	Triticum aestivum	Tropaquept	N-Bangladesh
Specific A.pinata	Mineralization			Nangara
A.caralingiana	Propanil/Butach	llor		
A.caralingiana	words of lower		ed rice soil of F	Bangladesh
Use relevant key w hirarchy for key w				

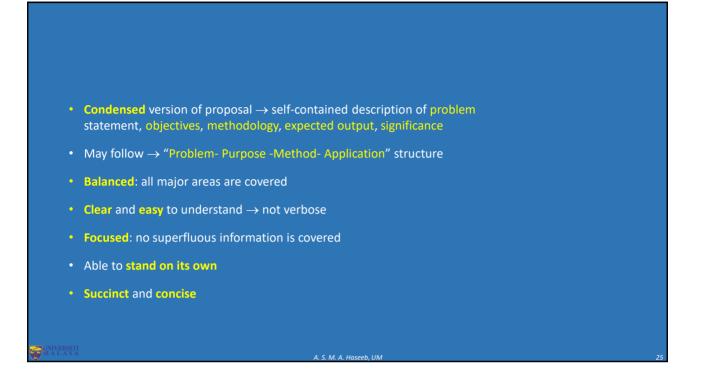


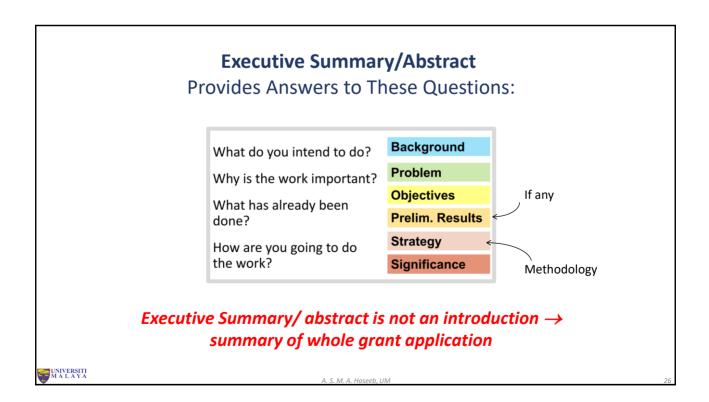
	Ке	y Words		
What Why	Where (1)	Where (2) Wher	e (3)	
Org. matter	Sustanability	System/crop	Soil	Area
N <sub>2</sub> fixation	Soil health Agro-chemicals	Rice-Wheat Lowland <mark>Rice</mark>	Soil Flooded soil	Asia South Asia
Green manure	Pesticides	Oryza sativa	Inceptisol	Bangladesh
Sper ificAzolla	Herbicides Mineralization	Triticum aestivum	Tropaquept	N-Bangladesh Naranga
A.pinata A.caralingiana	Propanil/Butach	lor		
Effect of azolla on the Use relevant key wo hirarchy for key wo	ords of lower	Key words i		ıl order !

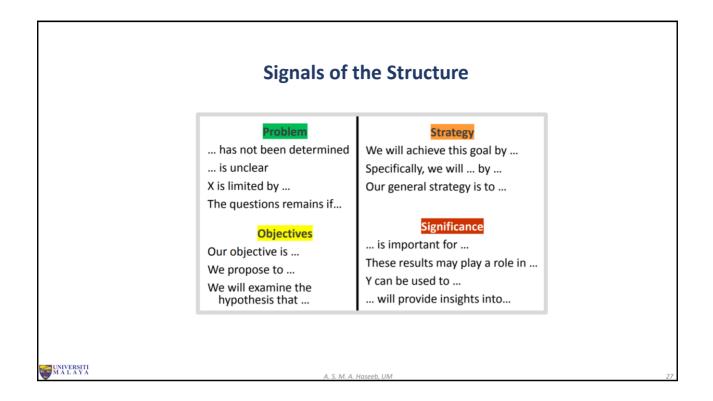


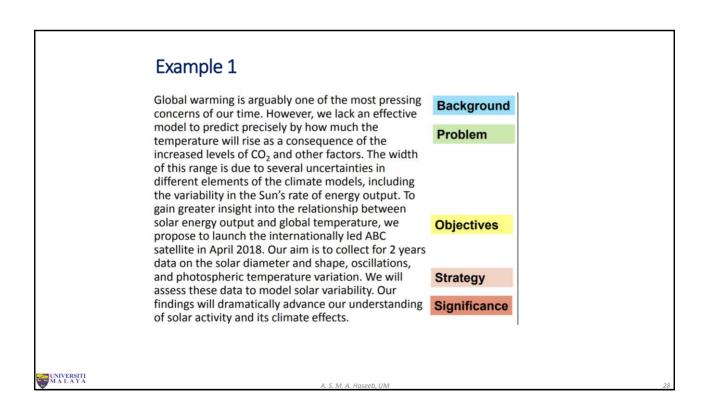












### Example 2

X is a major human pathogen, which infects over 100 million people per year, leading to high morbidity and mortality. Current therapies for X are expensive, poorly tolerated, and only partially effective in controlling the pathogens and in limiting disease. Recently, we and other succeeded in establishing a system to grow X in cell culture. These systems will allow us to completely dissect the life cycle of X. Our initial characterization of cell cultureproduced X indicates unusual physical properties. Understanding of X's life cycle will aid in the development of improved pharmaceuticals.

A. S. M. A. Haseeb, UM

#### Avoid in executive Summary/ Abstracts

- Descriptions of past accomplishments
- Any information not covered in your proposal
- Any confidential information
- Graphs or images
- Citations