Sharing session on *unsuccessful* FRGS grant proposals and some *probably* useful tips ~~and nightmares~~ for securing FRGS grants.

Lengthy & boring title

3 October 2024

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A part of the series: A Guide for a Beginner, by a Beginner

List of successful FRGS proposals by JKMPians

Year	Type	Title	Status
2020	Marini	Mathematical modelling of electrospun fibre ultrasonication scission	√
2020	Danial	Investigation of nanosheets semi-hydrodynamics rheology for friction reduction and anti fouling	√
2020	Nicholas	Parametric study of environmentally-friendly Luffa Acutangula reinforced polymer composite and its fibre metal laminate for anti-impact design and applications	√
2021	Ana Sakura	Improving the white pepper drying behavior towards efficient drying process of the premium quality product employing hybrid drying scheme	√
2024	Annisa	Formulating an intelligent adaptive impedance controller for the assist-as-needed framework of the upper-limb exoskeleton	√

List of my PRGS proposals

Year	Type	Title	Status
2018			
2019	PRGS Cycle-1	Development of low-cost compact laser glucometer with app for nationwide diabetes screening and monitoring	☹
2019	PRGS Cycle-2	Development of disposable microfluidic device for non-intrusive diabetes screening	☹
2020			
2020	PRGS Cycle-1	Teaching module for laser painting	☹
2021			
2022			
2023			
2024	PRGS Cycle-1	Non-contact and real-time ripeness measurement of oil palm fresh fruits bunches (FFBs) by laser-induced breakdown spectroscopy (LIBS) towards accelerating the harvesting procedure	☹

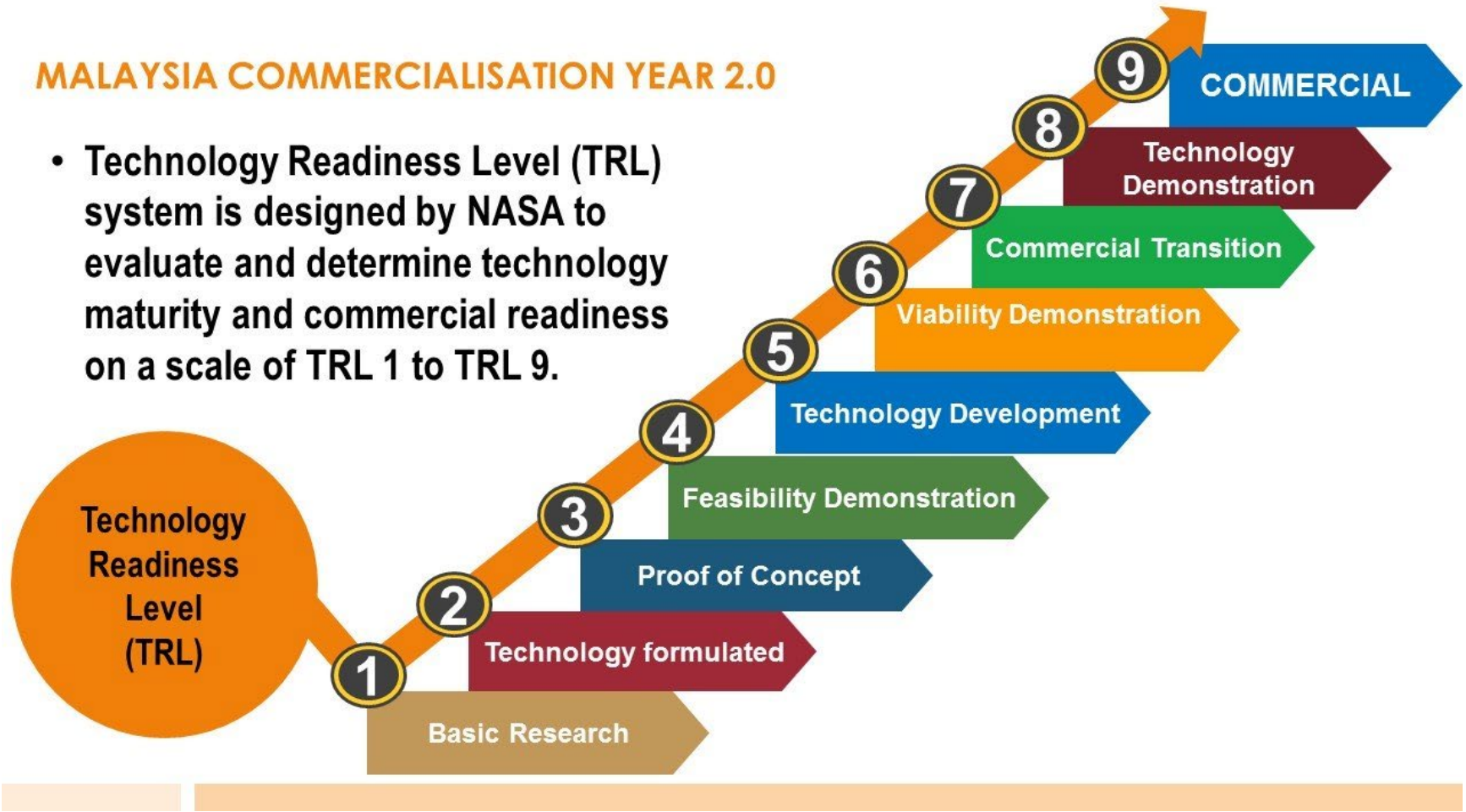
List of my FRGS proposals

Year	Type	Title	Status
2017	FRGS	Investigation of three-dimensional (3D) precision laser cutting of non-metals using modified computer DVD writer drives	√
2018			
2019			
2020	FRGS	Towards sustainable consumption and production: Experimental investigation on laser-assisted trepanning for precise high-speed extraction of fish's pituitary gland	☹
2021	FRGS	Damage mechanism of laser drilled bone under thermo-mechanical loading	☹
2022	FRGS	Underwater defouling mechanism of freshwater bacterial (Caulobacter crescentus) biofilm by laser radiation for green biofouling treatment	√
2023			
2024			

Nature of FRGS grant

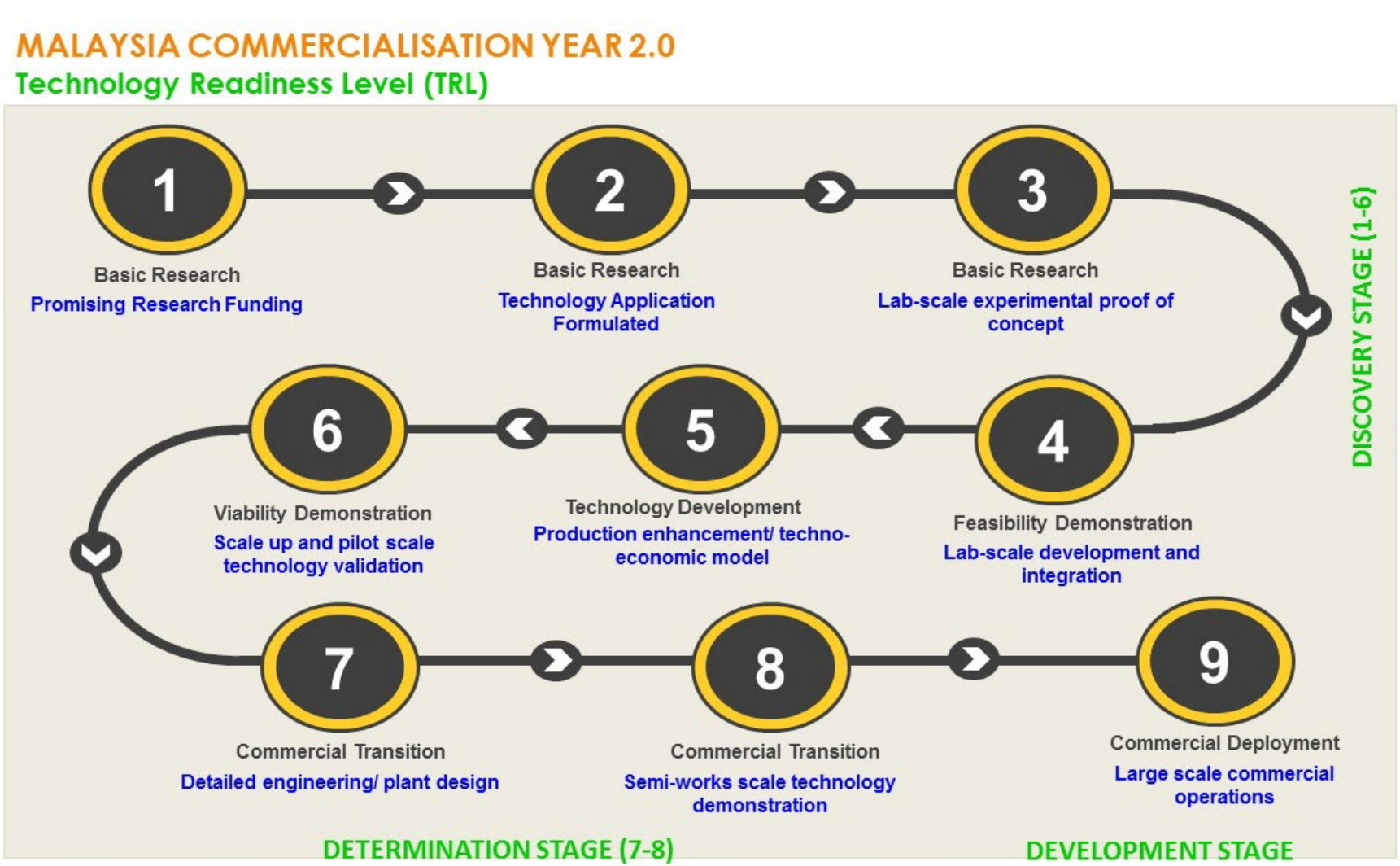
- Purely fundamental research (TRL 1)
- Not applied research (TRL 2)
- Nonetheless, the outcome of the FRGS would potentially lead to applied research or development work in the future (PRGS). How soon is the future?
- What is the fundamental equation you desire to formulate / construct / validate?
- Examples

Technology Readiness Level (TRL)



MOSTI

Technology Readiness Level (TRL)



MOSTI

Rejected in 2020

04/03/2020	(Ref: FRGS/1/2020/TK0/UNIMAS/02/2) Towards sustainable consumption and production: Experimental investigation on laser-assisted trepanning for precise high-speed extraction of fish's pituitary gland	FRGS 2020-1	No Hide	Leader Show members	3 Show Older	

Level	Evaluation	Remark
KPT Result	Not Recommended	Based on the research background and budget proposed, this research is focusing on developing a laser machine system for high-speed fish's pituitary gland extraction. It is not recommended for FRGS. Title: Title reflects an application of laser-assisted trepanning for precise high-speed extraction of fish's pituitary gland -- a new method Executive Summary: The proposal objective is not focusing on fundamental solution -- '... to investigate the application of laser-assisted trepanning system with machine vision for precise high-speed extraction of pituitary gland (PG) ...' Research Background: Although the figures are provided, the explanation of fundamental problem is missing from problem statement. Objective: Objective 2 is developing laser machine -- not a fundamental study Objective 3 is too general -- require to specify which artificial intelligence techniques. Vot 29000: Local conference fee -1500

Rejected in 2021

25/02/2021	(Ref: FRGS/1/2021/TK0/UNIMAS/02/9) Damage mechanism of laser drilled bone under thermo-mechanical loading	FRGS 2021-1	No Hide	Leader Show members	4 Show Older	

Level	Evaluation	Remark
KPT Result	Not Recommended	The title does not clearly reflect of what is mention in few sections of the proposal. With good association of the elements , the proposal can be taken to a greater quality. Title: Sounds incomplete investigation to be Executive Summary: The key element in the ES is not associated with title. The ES could have been written much better with the guide in the application. Research Background: Good to be much clearly written on comparison to the existing solutions/problems of the similar work. Thus, the contribution to be can be much appreciated. Methodology: Must be well associated with the research goal Expected Result: Expected to be crisply spell out the expectation of enhancement Quality of Proposal: Associating within the research elements are to be improvised. Elements of FRGS Criteria: Should be much strengthened Risk Assessment: Room for improvement to this . Overall, the proposal is weak. It meets certain criteria but has major weaknesses/ limitations. Therefore, this proposal is not recommended for funding.

What is ~~your~~ my research landscape?

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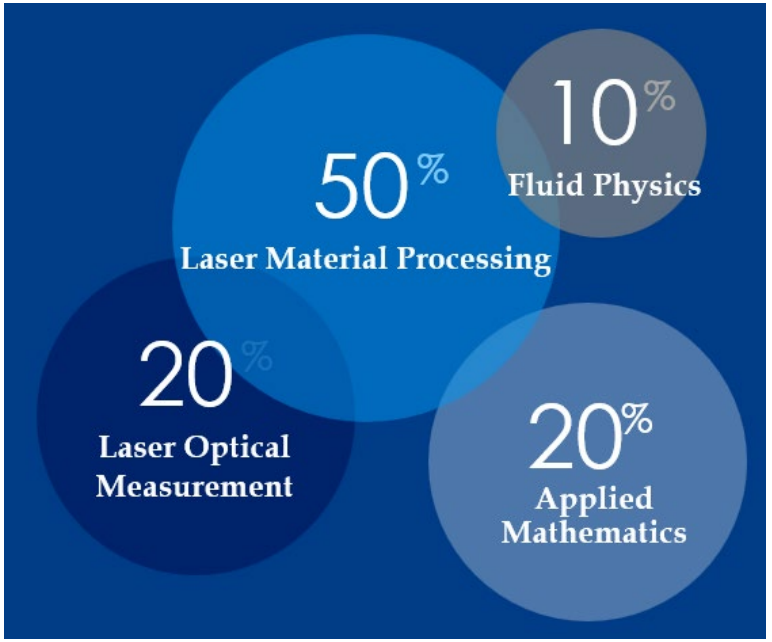
- What is your research landscape?
- How do you determine your research landscape?
- How do you consider your research infrastructure?
- How do you align your research landscape with publication output?



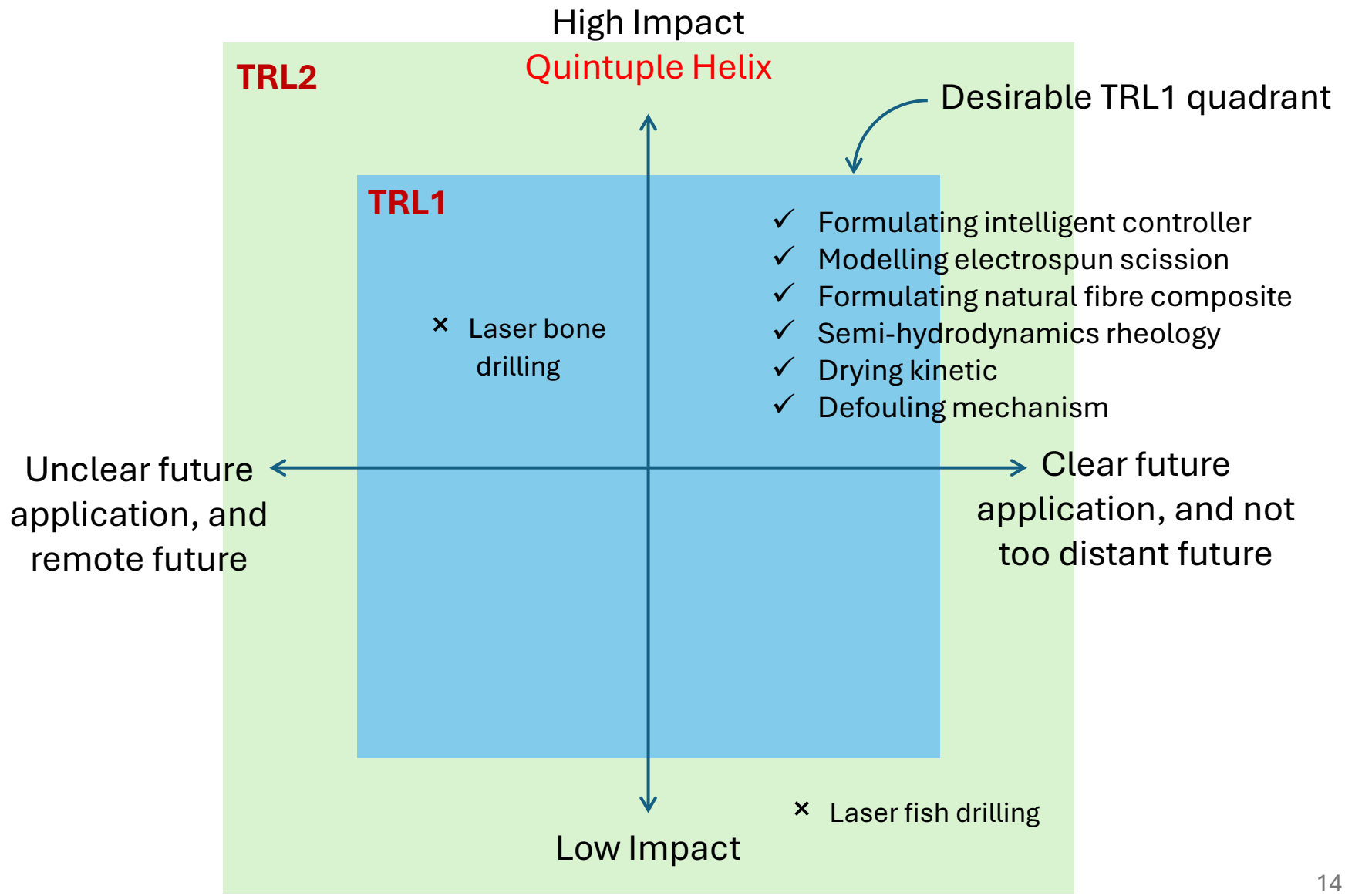
Seminar by Prof Datuk Fauzi UTM

- Align academic activities with economic development in the region – reasons why proposals were rejected
- Need to think and strategise on how to survive in limited-resource institution to develop research activities
- SMART (specific, measurable, attainable, relevant, time-bound)
- Refer to disruptive technology trends
- Wow factor
- Do the right things, do things right
- Link

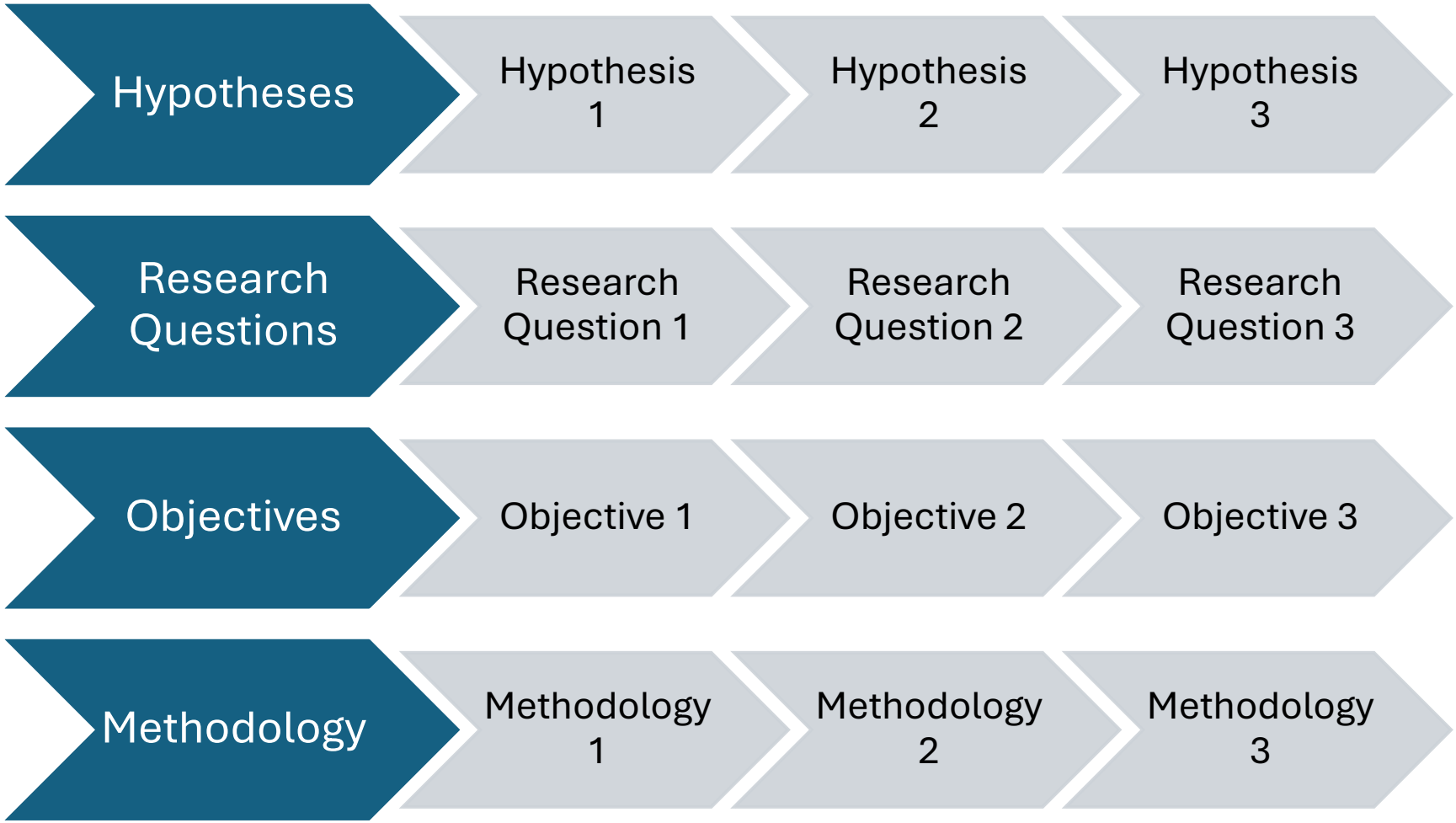
Problem statement

- Any sensible research problem that needs to be addressed at fundamental level
- Examples, research gap based on FYP/PhD findings
- You did some earlier (FYP/PhD) study, but the findings are inconclusive – this should be mentioned and clearly described in the problem statement section
- Add some figures and preliminary results to make the problem statement more convincing and compelling

Problem statement & FRGS Mapping Criteria



Constructive alignment



Useful slides by others

- Prof Omar Yaakob UTM
- Prof Che Hassan UKM (Ketua Domain Technology & Engineering)
- Prof Uda Hashim UNIMAP
- Prof Dato' Isa USM
- Prof Ku Ruhana USM