RESEARCH CLUSTER AREAS NICHE & THRUST

In alignment with UM's aspiration to be the preferred partner in research & champions in leading interdisciplinary research, Research Cluster will focus on research areas with promising performances & experts-ready with critical mass (Niche) and emerging areas (Thrust).

NICHE

THRUST

specialised research areas with strong foundation already existing in the university

Characteristics:-
- ❏ With strength (volume of research, visibility, recognised expertise)
- ❏ Critical mass (sustainability)
- ❏ Centre of research (as referral point, management) - preferred
- ❏ impact (social economy, academic)

an area that the university would like to push
an area of importance in the future
current thrust could be niche in the future

Characteristics:-
- ❏ Emerging
- ❏ Potentially impactful research
- ❏ Innovative

RESEARCH CLUSTER AREAS NICHE & THRUST

In alignment with UM's aspiration to be the preferred partner in research & champions in leading interdisciplinary research, Research Cluster will focus on research areas with promising performances & experts-ready with critical mass (Niche) and emerging areas (Thrust).

NICHE AREAS

THRUST AREAS

CLUSTERS

SOCIAL ADVANCEMENT & HAPPINESS

Niche:
- Cultural, Heritage and Civilization
- Behavioral Studies

Thrust:
- Education for the Future
- Smart Society

HEALTH & WELL-BEING

Niche:
- Cancer
- Active Ageing

Thrust:
- Innovative Health
- Mental Well-Being
- Lifestyle Diseases

FRONTIERS OF THE NATURAL WORLD

Niche:
- Nature-inspired Technology (Drug Discovery)

Thrust:
- Curiosity-driven Fundamental Research

INNOVATIVE INDUSTRY & SUSTAINABILITY SCIENCE

Niche:
- Energy
- Materials

Thrust:
- IR4.0
- Water & Environment
- Sustainable living

IIRG

"To develop impactful research projects that address real world issues relevant to the society and industry. It is at these interfaces between different disciplines that creativity and innovation thrive"

DEFINITION - INTERDISCIPLINARY

a mode of research by teams or individuals that **integrates information**, **data**, **techniques**, **tools**, **perspectives**, **concepts** and/or **theories** from **TWO** or **more disciplines** or bodies of specialized knowledge **to advance fundamental understanding** or to **solve problems** whose solutions are beyond the scope of a single discipline or area of research practice.*
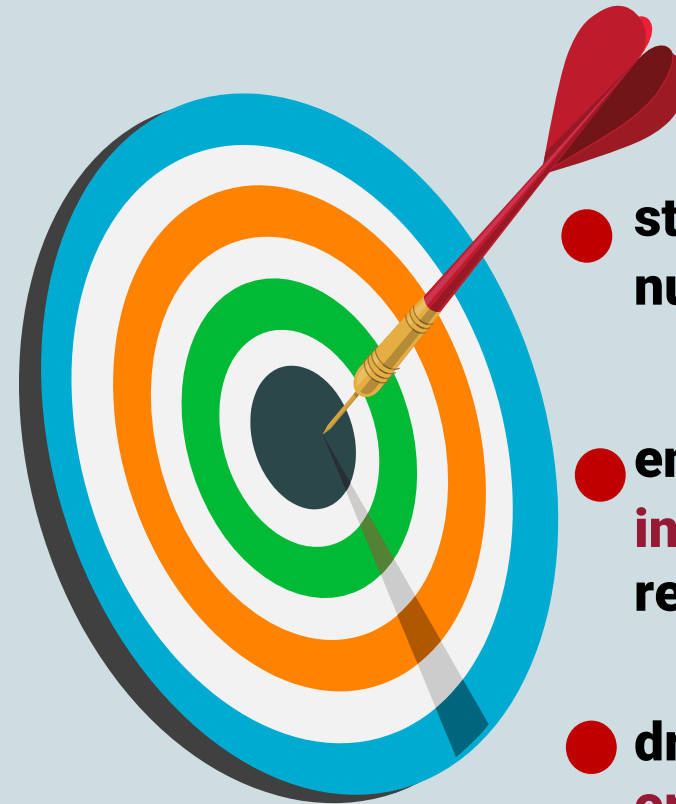
AIMS

- **strengthen niche & nurture thrust areas**

- **encourage interdisciplinary research**

- **drive impact oriented research**

THE CARROT ANALOGY© HAYATY

Addressing one problem by **including multiple** perspectives and disciplines. Researchers not integrating them. The disciplines maintain their distinctiveness and the results remain grounded in the framework of the root discipline

MULTI-DISCIPLINARY
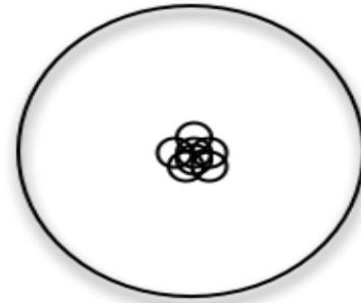
"across, over, beyond"—emergence of a **new perspective**. The research paradigms involve non-academic participants as (equal) participants in the process to re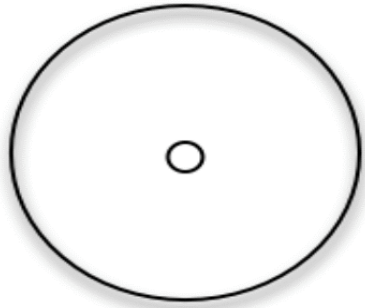ach a common goal—usually a solution to a problem of society at large. It can be considered as the culmination of interdisciplinary efforts. The field of 'sustainability' in essence is a transdisciplinary one.

TRANS-DISCIPLINARY
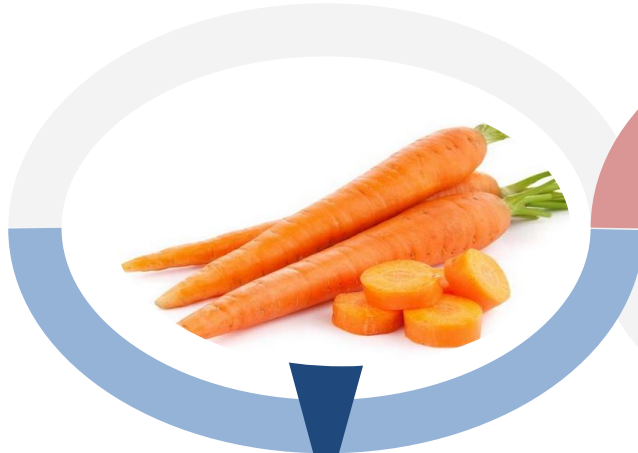
WITHIN DISCIPLINE

Problem within the frame of a **single discipline**. For example, a mechanical engineer focusing on material research working with material scientists, as collaborators they will publish in similar journals.
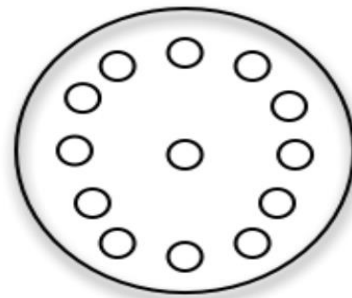
INTER-DISCIPLINARY

"among, between, in the midst"—**integrating knowledge and methods** from **different discipline**s using a synthesis of approaches. Interdisciplinary concerns collaborations between contrasting academic disciplines or research methods for new applications, new analyses, or the creation of entirely new disciplines (Nicolescu 1997).
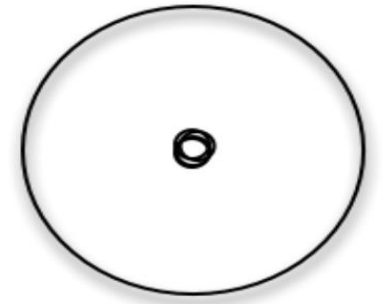
IIRG: SPECIFIC CRITERIA

NO OF SUB-PROGRAM

≥3 researchers must come from at least
2 different disciplines &
2 different faculties

MAXIMUM CEILING / PROGRAM

DURATION

24

MONTHS

RM 300,000
SCIENCE

RM 150,000
NON-SCIENCE

UNIVERSITI MALAYA

APPLICATION FORM

UNIVERSITY OF MALAYA IMPACT-ORIENTED INTERDISCIPLINARY RESEARCH GRANT PROGRAMME (IIRG) 2020-2022

PROGRAMME SUMMARY : PART A
[Incomplete Form will be rejected]

PROGRAMME LEADER		
PROGRAMME TITLE		

SUB-PROGRAMME TITLE & LEADERS	SUB-PROGRAMME TITLE	SUB-PROGRAMME LEADER
	1.	
	2.	
	3.	

A. Research Programme [Please tick (√) ONE (1) Research Cluster AND ONE (1) Niche OR Thrust area only]

RESEARCH CLUSTER:	NICHE AREAS:	THRUST AREAS:
☐ Frontiers of the Natural World	☐ Nature-Inspired Technology (Driving Drug Discovery)	☐ Curiosity-Driven Fundamental Research
☐ Health & Well Being	☐ Active Aging	☐ Innovative Health
	☐ Cancer	☐ Lifestyle Diseases
		☐ Mental Well-Being
☐ Innovative Industry & Sustainability Science	☐ Energy	☐ IR4.0
	☐ Materials	☐ Water & Environment
		☐ Sustainable Living
☐ Social Advancement & Happiness	☐ Behavioural Studies	☐ Education for the Future
	☐ Cultural, Heritage and Civilization	☐ Smart Society

B. EXECUTIVE SUMMARY (max. 300 words: Should include, but not limited to background of research, objectives, problem statement (needs, approach, benefits, competition) and brief methodology)

C. LINKAGES BETWEEN SUB-PROGRAMME (max. 300 words)

D. QUALITY OF RESEARCHERS

i. Research Team Track Record

No.	Name	Faculty	H-Index	Citations	No. of Publications**	Role/ Contribution
1.						
2.						
3.						

** For the past 5 years and MUST be relevant to the proposed programme

ii. International Collaborations/External Collaborator and Stakeholders (MUST be relevant to the proposed programme)

No.	Institution	Name of Researcher	Role/ Contribution
1.			
2.			
3.			

E. TARGETTED RESEARCH OUTPUT(Please select at least 1 (ONE) from each category)

i. ACADEMIC OUTPUT

No.	Details	Output
1.	ISI	
2.	IPR/Copyright	
3.	Human Capital Developments	
4.	Book (s)/Chapters in book (s)	
5.	Scopus / Peer reviewed journal articles (for non-science only & journal category A & B)	
6.	Policy	

ii. NON-ACADEMIC OUTPUT

No.	Details	Output
1.	Commercialization	
2.	Media Articles	
3.	Website	
4.	Software/Applications	
5.	Societal Engagement	
6.	Others: Please specify	

IMPACT

F. RESEARCH IMPACT [i]

You can use these columns to help write your 'IMPACT SUMMARY'		This may be helpful for structuring your 'Impact Summary' and 'Pathways to Impact' sections	You can use these columns to help write your 'PATHWAYS TO IMPACT'				
Who will your research benefit? (non-academic beneficiaries)	What will be the benefits to them from your research?	How would you categorise this benefit/beneficiary? (E.g. public, industry, Policy?)	How are you going to share your research with them? (I.e. what is the specific activity?)	When are these activities going to take place? (Be as specific as possible)	Who from your research project is going to arrange and deliver this activity?	What resources/ training will you need for this activity? (Include in costs & justification of resources)	How will you know these activities have been successful?

RESEARCH IMPACT

Research impact is the good that researchers can do in the world. It consists of the non-academics benefit that arise, whether directly or indirectly from research.

IMPACT

RESEARCHER

what could my research change

whom could my research benefit

How do I make this happen

Routes to Impact

Dissemination of my research

Engaging key stakeholders

Involving possible end users

Co-production

My research itself is shaped & developed

Uptake and use of my research outside academia

IMPACT!

Example of Research Output

Assays & Reagents

Highly Trained Scientists

Knowledge e.g. research paper or expertise

Intellectual Property, e.g.. Easy Access IP

Techniques & Methodologies

Softwares

Training Tools

Datasets, e.g. biobanks, surveys

Websites & Other New Media, e.g. blogs

Operational Frameworks
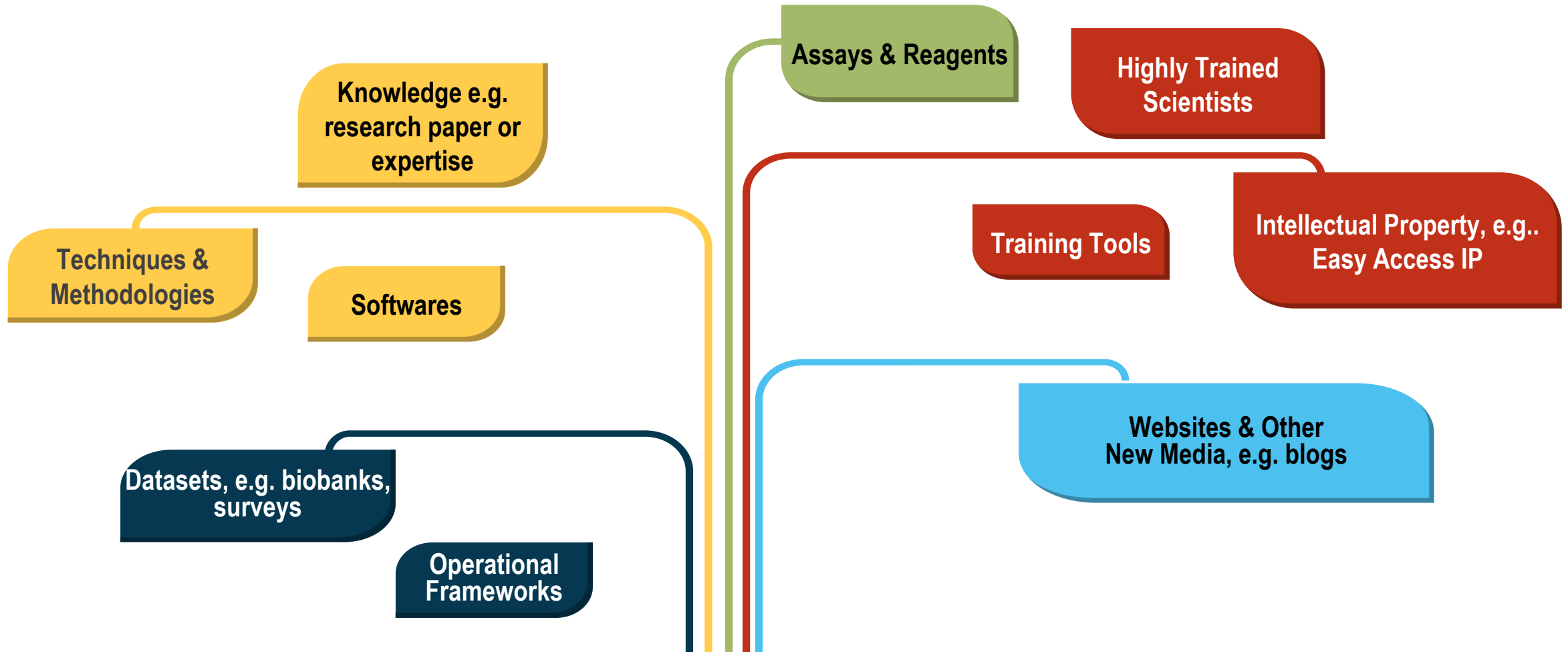
Research impacts can be manifest at any stage in the research life cycle and beyond,
often stemming from unexpected/unintended outcomes,
and generated through a range of diverse pathways

Forms IMPACT Take

Environmental change
e.g. reduced carbon emissions

Change in Policy

Change in health or well-being
e.g improved treatment outcome
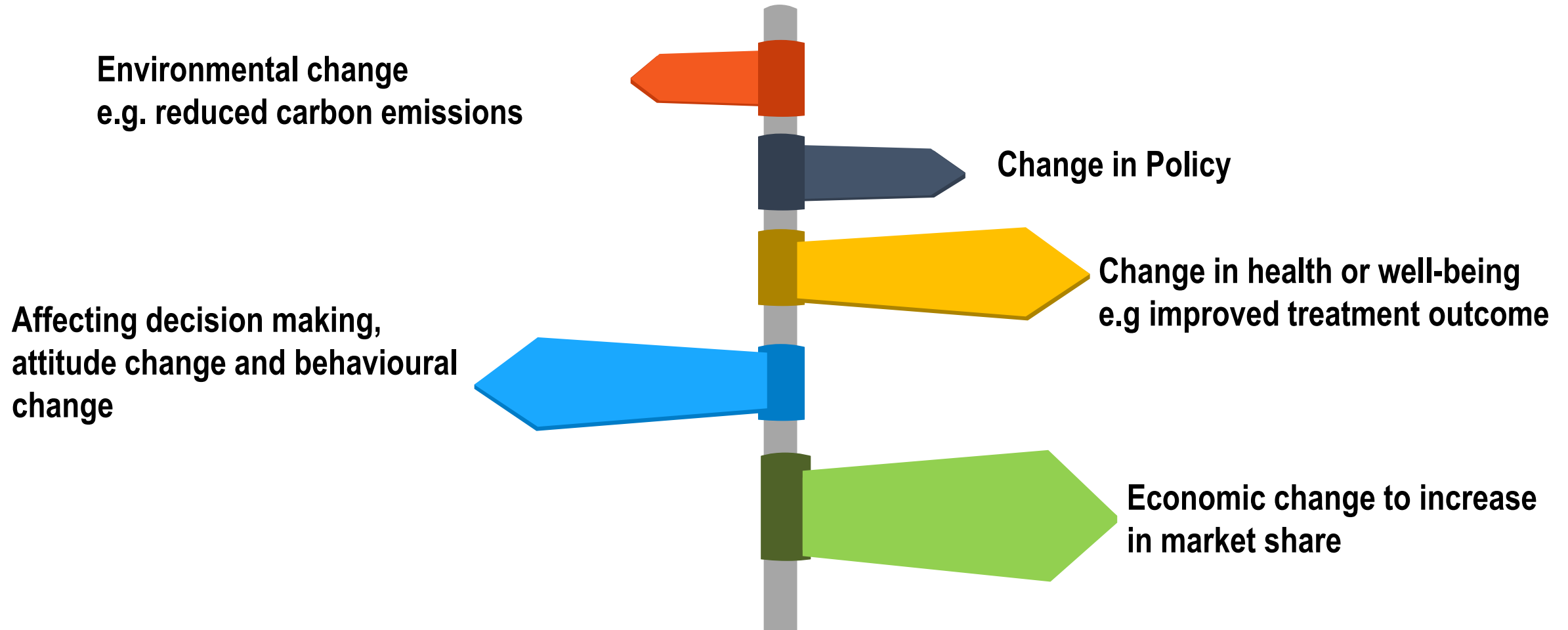
Affecting decision making,
attitude change and behavioural
change

Economic change to increase
in market share

Potential impacts can be generated through a range of **diverse pathways**, can take **many forms**, can become **manifest at different stages** in the research process and beyond and can be promoted through many different mechanisms.

ADDITIONAL INFORMATION

B(viii)	Latest CV & Researchers' Profile (maximum 1 page each- Please use attached template for the profile and enclose in the Appendix) *CV Terkini & Profile Penyelidik (maksimum 1 muka surat bagi setiap dokumen - Sila gunakan template yang telah disediakan bagi profil penyelidik dan lampirkan di bahagian Apendiks)*

D	**RESEARCH DETAILS / BUTIRAN PENYELIDIKAN**
Di)	**Detailed Proposal of Research Sub-Programme :** *Maklumat cadangan sub-program penyelidikan secara terperinci:* (a) **Abstract (maximum 150 words)** *Abstrak (maksimum 150 patah perkataan)* (b) **Graphical Abstract (maximum 1 page-A4)(Please use attached template and enclose in the Appendix)** *Abstrak grafik (maksimum 1 muka surat-A4)(Sila gunakan template dan lampirkan di bahagian Apendiks)* (c) **Research background including Introduction /Hypothesis /Research Questions and Literature Reviews.** *Keterangan latar belakang penyelidikan termasuk Pengenalan/kenyataan hipotesis / persoalan penyelidikan dan kajian literatur.* (d) **SMART Objective (s) of the Research/ SMART Objektif Penyelidikan**** **SMART** i.e. specific, measurable, achievable, realistic and timely **SPECIFIC:** outline in a clear statement precisely what is required. **MEASURABLE:** include a measure to enable you to monitor progress and to know when the objective has been achieved. **ACHIEVABLE:** objectives can be designed to be challenging, but it is important that failure is not built into objectives. Employees and managers should agree to the objectives to ensure commitment to them. **REALISTIC:** focus on outcomes rather than the means of achieving them **TIMELY**(or time-bound): agree the date by which the outcome must be achieved.

S	**Specific, Significant, Stretching** Outline in a clear statement precisely what is required.
M	**Measurable, Meaningful, Motivational** Include a measure to enable you to monitor progress and to know when the objective has been achieved.
A	**Agreed upon, Attainable, Achievable, Acceptable, Action-Oriented** Objectives can be designed to be challenging, but it is important that failure is not built into objectives. Employees and managers should agree to the objectives to ensure commitment to them.
R	**Realistic, Relevant, Reasonable, Rewarding, Results-Oriented** Focus on outcomes rather than the means of achieving them
T	**Time-based, Time-bound, Timely, Tangible, Trackable** Agree the date by which the outcome must be achieved

Allocation

- salary & wages: max = **RM 30,000/year**. Each SP must hire at least 1RA
- Travel = **fieldwork ONLY**
- **X equipment**

Research continuity

- Must **show evidence** that a **proposal** is ready for submission for **external funding application** as a **continuation** of the **work** in **IIRG** (at month 21)

Research output will be ONLY accepted if:

- **after** the grant is being **awarded**.
- **relevant** to the project/programme approved.

HIGHLIGHTS

UM Safety & Research Handbook

• Applications are subjected to all requirements stated in **UM Safety & Research Handbook**. **DISQUALIFIED** if failed to do so.

• Proof of submission of **Notice of Intent [NOI]** to IBBC must be attach with your proposal for research involving use of **infectious** & **potentially infectious agents/materials & biological toxins**.

Research Ethics

• Research involving **human participants** and the **use of vertebrate animal subjects** must be referred to the appropriate ethics committee

• If your proposal is successful, please be reminded that **researchers are responsible for obtaining the biosafety and ethics approvals. Researchers are to take full responsibility if the project is conducted without the approvals.**

• If researchers do not show any proof of biosafety and ethics approvals within six (6) months of grant approval, the research project may be suspended.

Impact Oriented Interdisciplinary Research Grant Programme (IIRG) 2020

Types of Documents	Download
IIRG 2020 Guideline	DOWNLOAD
A1 Checklist Form	DOWNLOAD
A1 Programme Summary Application Form	DOWNLOAD
A2 Checklist Form	DOWNLOAD
A2 Sub-Programme Summary Application Form	DOWNLOAD
Biography	DOWNLOAD
Researcher Profile	DOWNLOAD
Graphical Abstract	DOWNLOAD
Code of Research Ethics	DOWNLOAD
IBC Guidelines	DOWNLOAD
Malaysia Laboratory Biosafety Biosecurity Policy and Guideline	DOWNLOAD
UM Safety Handbook	DOWNLOAD
UM Animal Care and Use Policy	DOWNLOAD
University Malaya Policy and Procedure on Laboratory Biosafety and Biosecurity	DOWNLOAD

CHECKLIST A1

NOTE
- **The Programme Leader must ensure all documents in the checklist are submitted.**
- **Incomplete applications will not be processed.**

No.	DETAILS (Please tick ([v])	Programme Leader
1.	A1 Form - Programme Summary	
2.	CV (For the past 5 years and MUST be relevant to the proposed programme) - maximum 5 pages i. Programme Leader & Sub- Programme Leader	
	ii. Co-researcher(s) (Internal & External)	
3.	Biography (maximum 1 page) i. Programme Leader	
	ii. Sub- Programme Leader	
4.	Researchers' Profile (maximum 1 page) i. Programme Leader	
	ii. Sub- Programme Leader	
5.	Commitment Letter for External Co-Researcher/s (if any)	
6.	Document related to engagement with stakeholder (if any)	
7.	Graphical Abstract (maximum 1 page)- Programme Summary	.
8.	Gantt Chart of Research Activities including Milestones- Programme Summary	
9.	Flow Chart of Research Activities - Programme Summary	
10.	Softcopy of proposal-with attachments (Programme & Sub-programme) to Research cluster office	

CHECKLIST A2

No.	DETAILS (Please tick ([√])	Sub-Programme Leader
1.	A2 Form- Sub-Programme	
2.	Graphical Abstract (maximum 1 page)- Sub-Programme	
3.	Gantt Chart of Research Activities including Milestones	
4.	Flow Chart of Research Activities	
5.	Justification/ Details of Proposed Budget	

NOTE
1. The Sub-Programme Leader must ensure all documents in the checklist are submitted. **Incomplete applications will not be processed.**
2. Does this research need **BIOSAFETY APPROVAL?** (if yes, proof of submission Notice of Intent [NOI] to IBBC must be submitted prior to proposal evaluation session)
3. Does this research need **ETHIC APPROVAL?** (if yes and your application is successful, please be reminded that researchers are responsible for obtaining the biosafety and ethics approvals. Researchers are to take full responsibility if the project is conducted without the approvals.
If researchers do not show any proof of biosafety and ethics approvals within six (6) months of grant approval, the research project may be suspended.

EXPERIENCE FROM PREVIOUS IIRG CYCLE

1. Criteria for Interdisciplinary Research Grant

1.1 Background of the University of Malaya Impact-Oriented Interdisciplinary Research Grant Programme (IIRG)

The University of Malaya Impact-Oriented Interdisciplinary Research Grant Programme aims to change the research culture within UM to a more integrated interdisciplinary approach.

Interdisciplinary research can be defined as a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts and/or theories from **two or more disciplines or bodies of specialized knowledge** to advance fundamental understanding or to solve problems **whose solutions are beyond the scope of a single discipline or area of research practice.**

(https://www.nsf.gov/od/oia/additional_resources/interdisciplinary_research/definition.jsp)

In the context of the IIRG, researchers must come from at least two (2) different disciplines and two (2) different faculties.

2. Linkages between sub-program (connectivity)
- Some programmes do not have interactions between sub-programmes.
- Lack of integration between sub-programmes

EXPERIENCE FROM PREVIOUS IIRG CYCLE

3. Incomplete application form (Technical Knockout)
   - Supporting documents eg: Gantt Chart, milestone, commitment letter, researcher profile, cv for co-researcher

4. Some researchers still confuse milestones with activities.

5. Academic output is not considered as research impact.

6. Unclear impact pathway / Need to clearer on how to monitor & achieve impact

7. Last minute submission of proposal

INVITATION TO IIRG CYCLE 2020 CLINIC
7 – 9 July 2020; 9.00 am – 12.00 pm

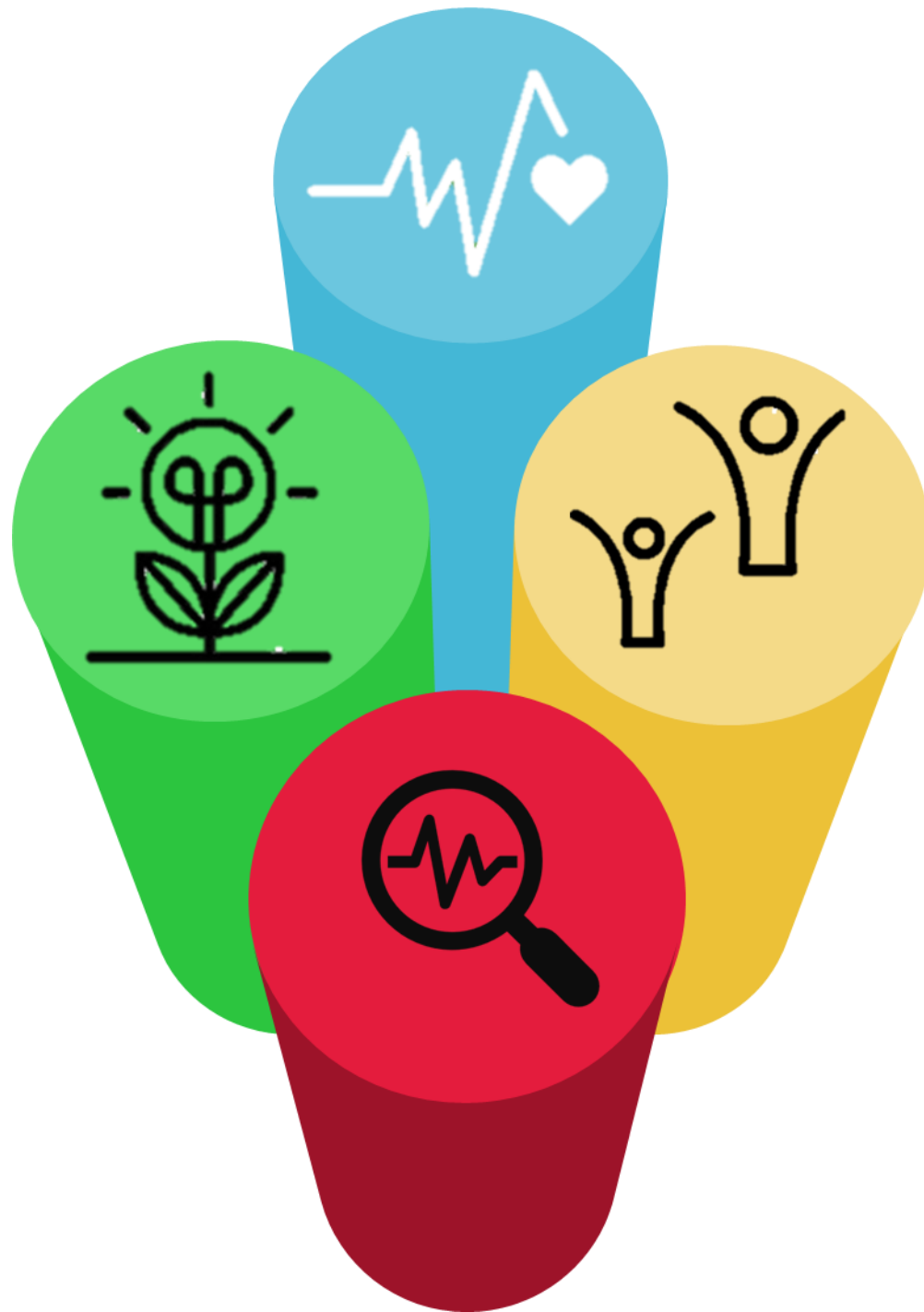|			
❑ Nature-inspired Technology (Driving Drug Discovery) ❑ Curiosity-driven Fundamental Research	❑ Cancer ❑ Active Ageing ❑ Innovative Health ❑ Mental Well-being ❑ Lifestyle Diseases	❑ Cultural, heritage & civilization ❑ Behavioral studies ❑ Education for the future ❑ Smart society	❑ IR 4.0 ❑ Water & environment ❑ Sustainable living ❑ Energy ❑ Material
Venue: Banquet Room, Lobby, Research Management & Innovation Complex, IPPP UM			

➢ **Slots are limited and based on first come first served basis - limited to 3 participants /research group /slot**

➢ **Participants are REQUIRED to present the of the concept of your research (Pitch Your Proposal - 3 minutes)**

FLOW: ANNOUNCEMENT TO AWARD

Announcement
(19 April 2020)

Submission
(Hardcopy & Softcopy)
(12.00 pm,
20 July 2020)

WE WELCOME EARLY
PROPOSAL SUBMISSION

→

Evaluation
Round 1
(Technical Knockout)
(27-29 July 2020)

Shortlist

Evaluation
Round 2
Panel
Evaluation
(3-11 Aug 2020)

→

Impact
Development
Workshop
(25-27 August 2020)

Pitch Briefing
(2 Sept 2020)

Pitch
(8-10 Sept 2020)

Submission:
Revised Proposal
(21 Sept 2020)

→

Successful
Result
(1 October 2020)

Award
October 2020

RESEARCH CLUSTER

Contact us

researchcluster@um.edu.my

+603-79677801/7802/7804/7805/7809

Level7, Research Management & Innovation Complex (RMIC), University of Malaya

https://www.um.edu.my/research-and-community/information-for-researchers/research-clusters

UNIVERSITI MALAYA