UNIVERSITI TEKNIKAL MALAYSIA MELAKA

CENTRE FOR ACADEMICS EXCELLENCE AND SCHOLARSHIP
PUSAT KECEMERLANGAN DAN KESARJANAAN AKADEMIK

WORKSHOP ON EFFECTIVE RESEARCH SUPERVISION

Centre For Academics Excellence & Scholarship (CAES)
Bilik Galaksi Samsung IoT, UTeM Kampus Teknologi
Universiti Teknikal Malaysia Melaka (UTeM)

22 November 2018

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Professor
Center for Telecommunication Research and Innovation (CeTRI)
Faculty of Electronic and Computer Engineering
Universiti Teknikal Malaysia Melaka

FAKULTI KEJURUTERAAN ELEKTRONIK DAN KEJURUTERAAN KOMPUTER

Centre for Telecommunication Research & Innovation

ABOUT ME

- PhD in EE Engineering (Microwave Engineering), Leeds – Sept 2010
- Professor/ Centre of Excellence (CoE) Coordinator of CeTRI
- Deputy Dean (Academic) – FKEKK (Sep 2012 - Jun 2014)
- Head of Department (Telecommunications) – FKEKK (Sep 2011 – Aug 2012)
- One of UTeM's Top Authors in SCOPUS 2011-2018
- Journal Article Publication Award 2014, 2015, 2016 (AAU-UTeM) & 2017
- Research Award 2016 (AAU-UTeM)
- Publications: > 145 journals, 57 proceeding
- H-index: 10

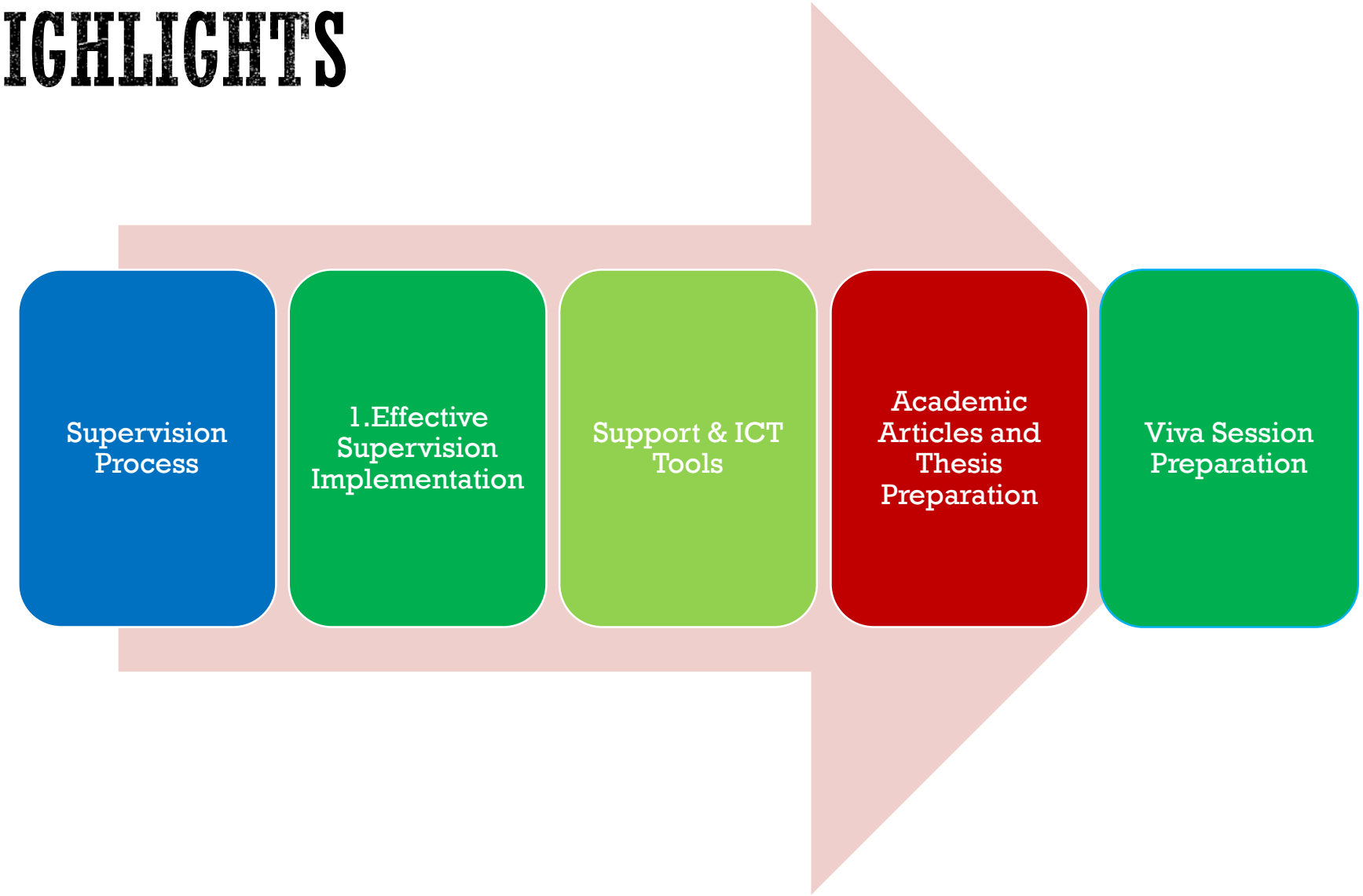
ABOUT ME

- Postgraduate Supervision
  - PhD – 5 (graduated), 10 (on-going)
  - MSc – 14 (graduated), 2 (on-going)
  - MEng (Taught-course) > 25
- Undergraduate Supervision > 50, since 2012

LEARNING OUTCOME

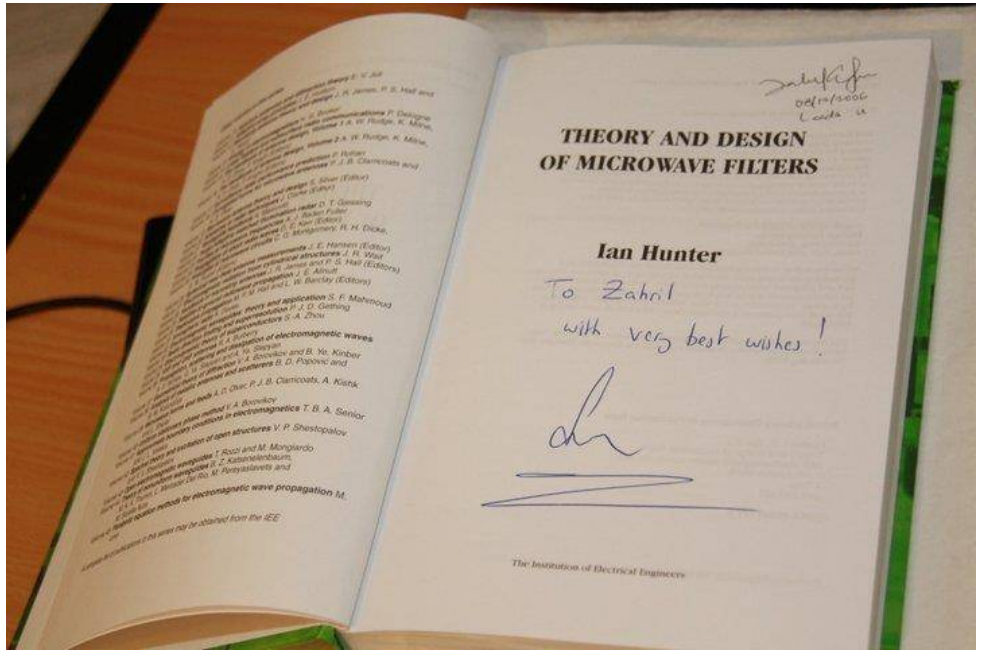
Plan method of supervision for postgraduate students in the most efficient way for achieving excellence in supervision.

HIGHLIGHTS


Supervision Process
1.Effective Supervision Implementation
Support & ICT Tools
Academic Articles and Thesis Preparation
Viva Session Preparation

MY SUPERVISOR, MY MENTOR

Professor Ian Hunter
PhD Supervisor
2006 - 2010
University of Leeds, U.K



DEFINITION

"A **research supervisor** (also known as thesis/ dissertation advisor) is a member of a university faculty whose role is to **guide** graduate students who are candidates for a doctorate/ master, helping them in **shaping, refining and directing** the students' choice of **sub-discipline (research topic)** in which they will be examined or on which they will write a thesis/ dissertation.

Students generally choose advisors based on their areas of interest within their discipline"

Miles T. Bryant, 2003

PART 1

SUPERVISION & RESEARCH PROCESS

SELECTING A SUPERVISOR

- Early stage
- Very important decision
- Expert in the area of research
- Research articles published by the potential Supervisor
- Research grants – to support equipment, material, publications, etc
- Number of students (graduated and on-going)
- Research team
- Ask his/ her students or ex-students. To be fair, ask several students under his/ her supervision to obtain his/ her supervision style

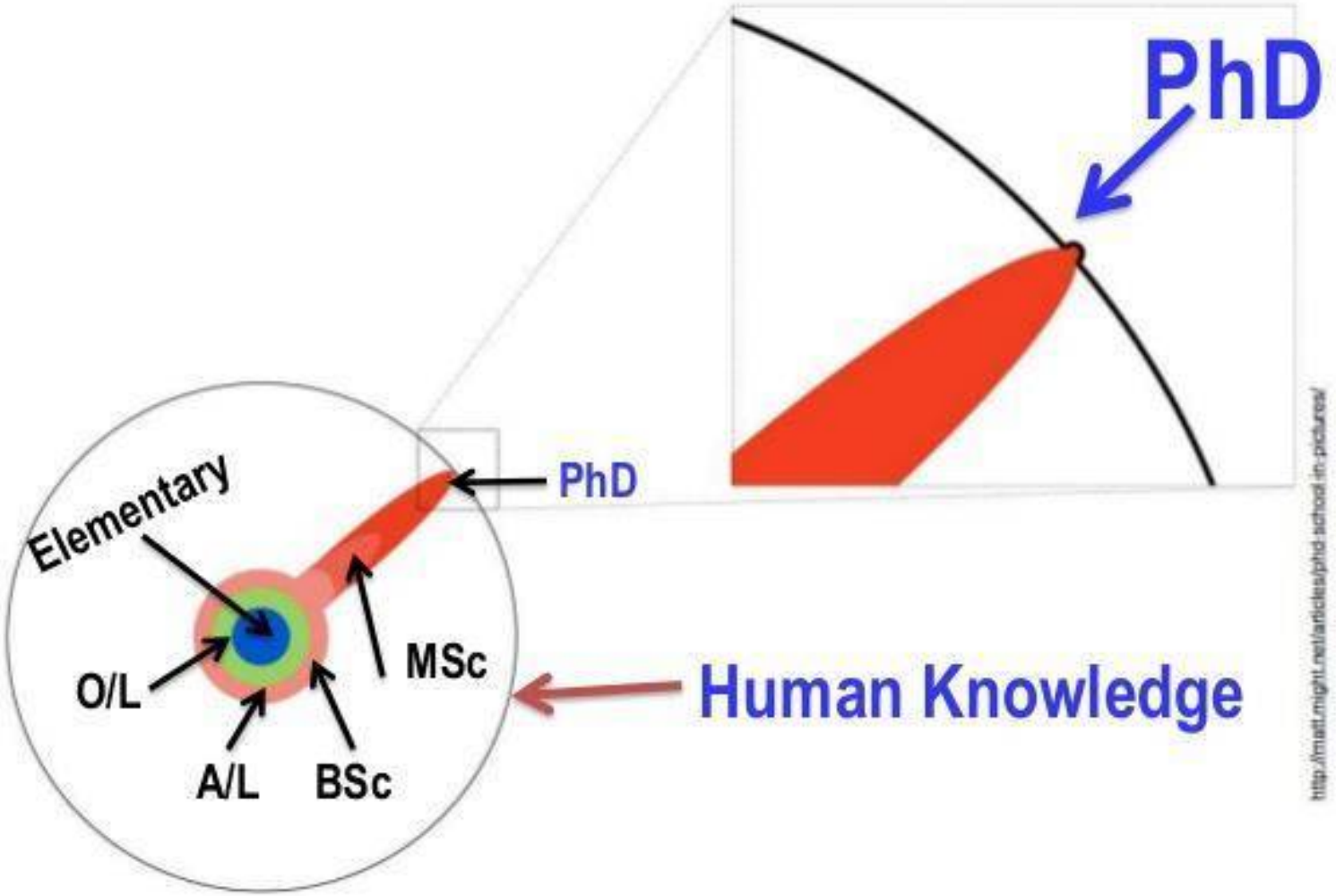
TRANSITION COUNSELLING OF UNDERGRADUATES TO POSTGRADUATES

FYP Project

1.MSc

PhD

What is a PhD?



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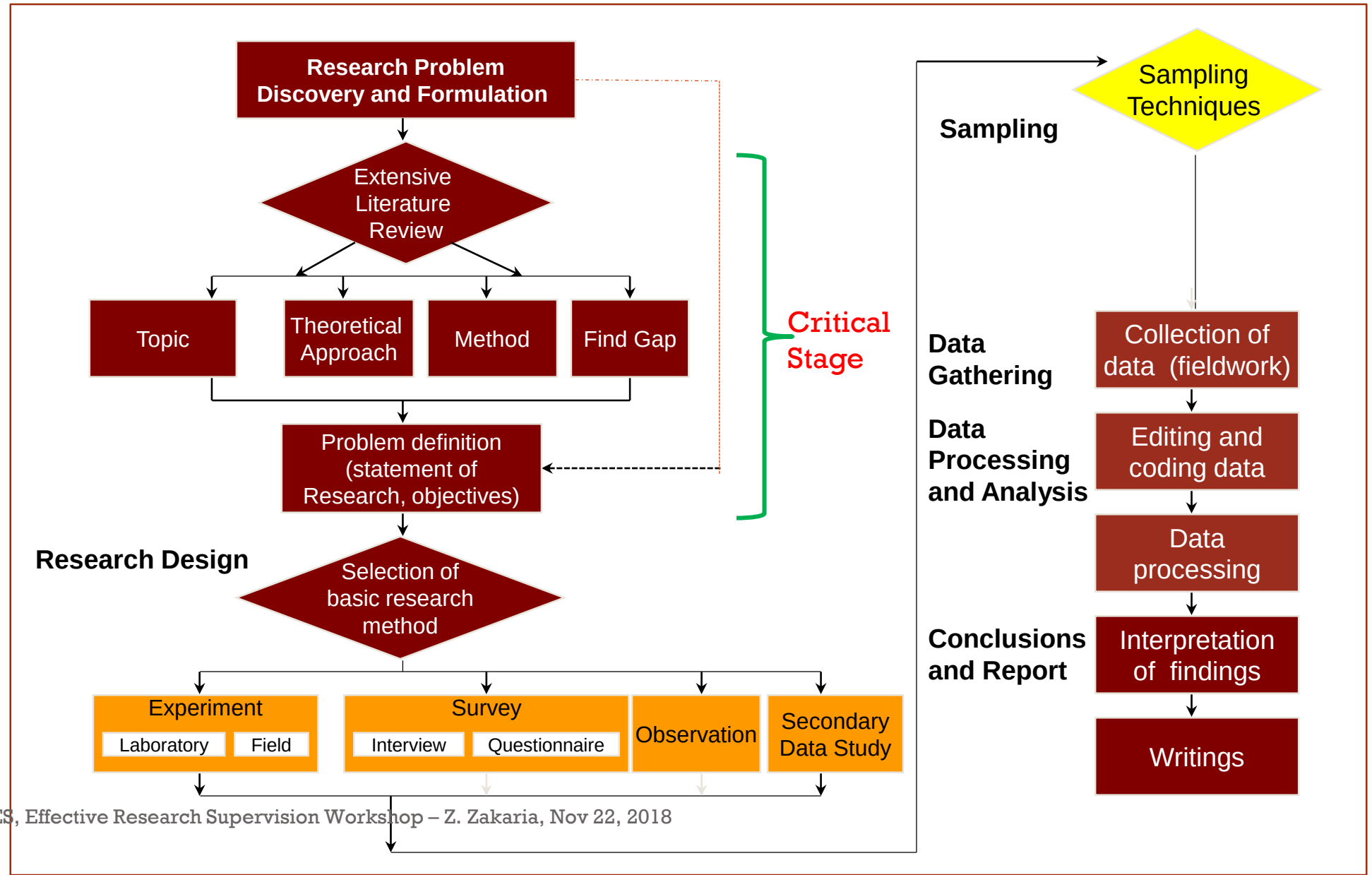
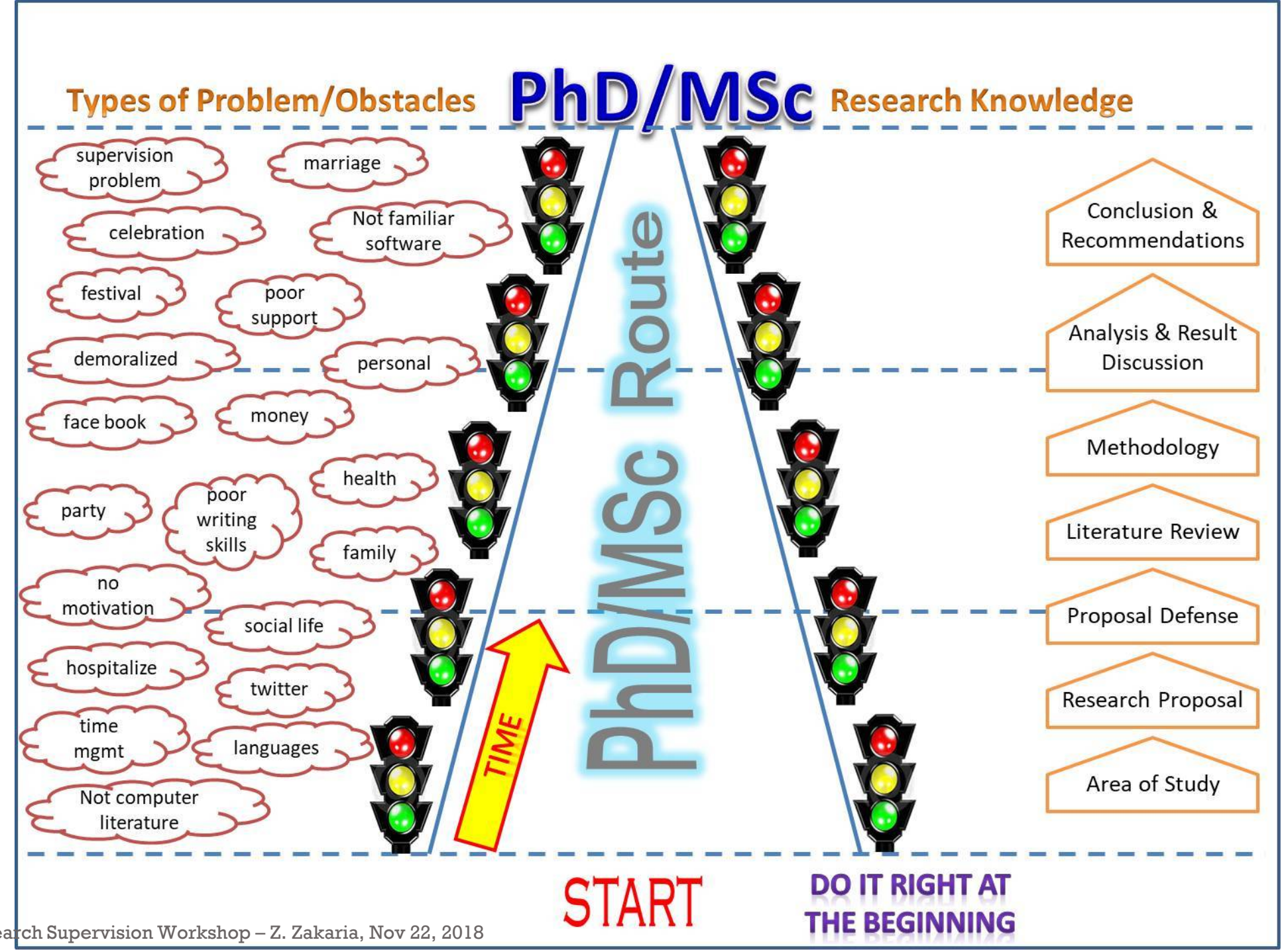
Research Process Big PICTURE



Research Process

Introduction, Research Problems/Objectives & Justification	• What--What was studied? • What about--What aspects of the subject were studied? • What for--What is/was the significance of the study?
Literature Review	• What did prior lit./research say?
Methodology (Research sample, data, collection, measurement, data analysis)	• What was done--How was the study conducted?
Results & Discussion	• What was found?
Implications	• So what?
Conclusions and Recommendations for Future Research	• What now?


Types of Problem/Obstacles
PhD/MSc
Research Knowledge
supervision problem
marriage
celebration
Not familiar software
festival
poor support
demoralized
personal
face book
money
party
poor writing skills
health
family
no motivation
social life
hospitalize
twitter
time mgmt
languages
Not computer literature
PhD/MSc Route
TIME
Conclusion & Recommendations
Analysis & Result Discussion
Methodology
Literature Review
Proposal Defense
Research Proposal
Area of Study
START
DO IT RIGHT AT THE BEGINNING


Good
RESEARCH
tells a
STORY
Kelly McGillivray
Peoplecount

RESEARCH PLANNING

- Knowing vs Doing
- Implementation requires planning
- Failure to plan is a plan to failure
- Good traits
  - Clear plan
  - Strong grasp of the fundamentals/theory
  - Extensive critical reviews
  - Sufficient facility
  - Detail experimentation
  - Thorough analysis
  - Passionate

RESEARCH PLAN

1. Planning
   - Develop
     - Micro: K Chart
     - Macro: Gantt Chart
   - Manpower and facilities requirements
   - Collaboration
   - Funding
2. Execution
   - Literature review; Indexing of papers end notes
   - Summary of contents
   - Regular discussions

RESEARCH PLAN

3. Results
   - Results organization – indexing
   - Results reporting
4. Publication
   - List of journals
   - Publication plan
   - Writing retreats & template
5. Protection & Commercialization (beyond)
   - IPR (patent, copyright, trademark) filing
   - Market and competitiveness analysis

PLANNING TOOL (1)

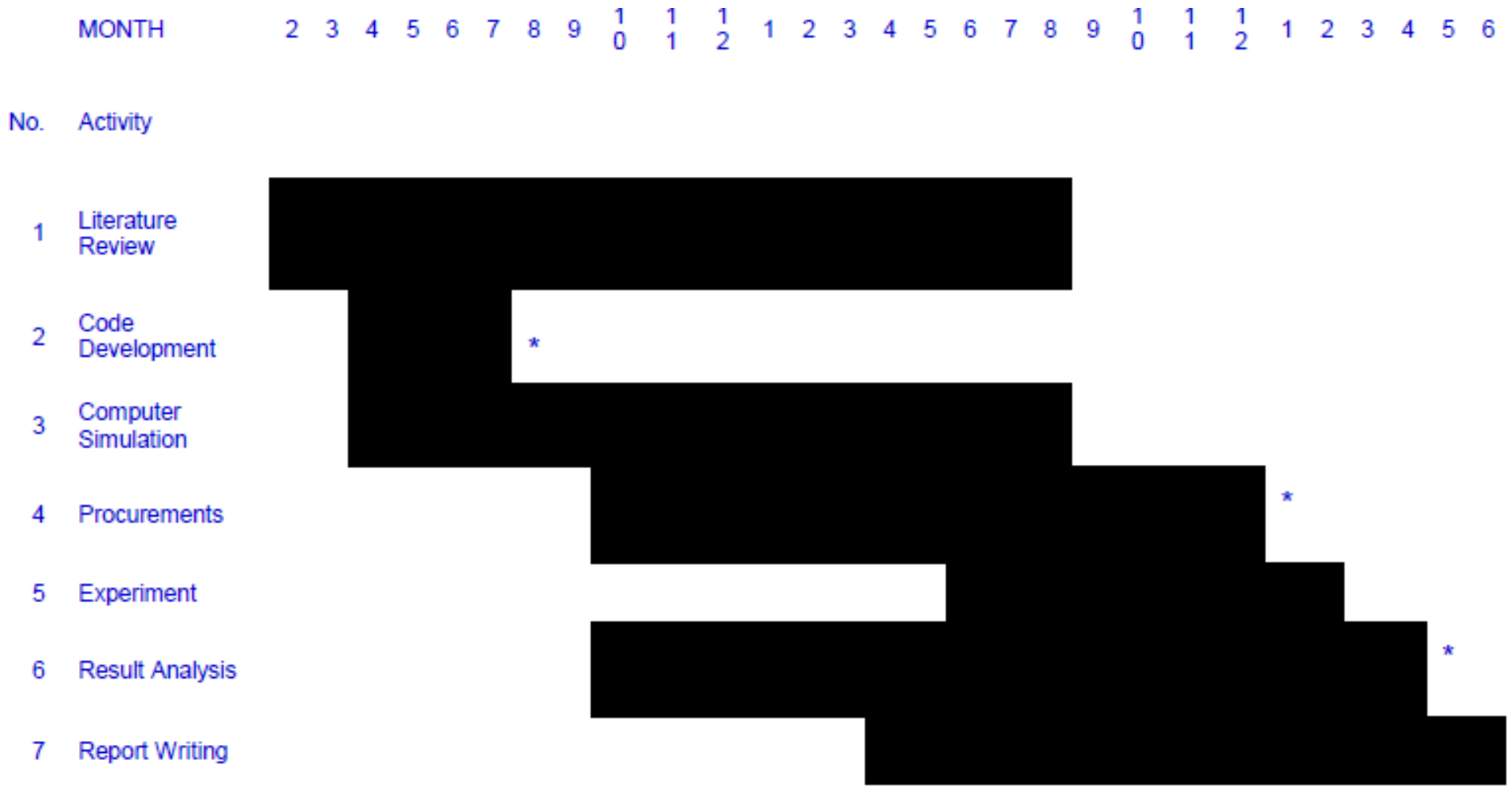
Gantt Charts

What to do
When to do and When to stop
What to achieve

Contents of Gantt Charts

Activities
Period of activities/timeline
Deliverables and milestones

GANTT CHART


MONTH
2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6
No.
Activity
1 Literature Review
2 Code Development
3 Computer Simulation
4 Procurements
5 Experiment
6 Result Analysis
7 Report Writing

PLANNING TOOL (2)

What is K-CHART?

A tool for systematically organizing research;

1. Scope of issues under study,
2. Methods, and
3. Results

in the form of a Tree Diagram

THE K-CHART LAYERS

K-Chart organizes the items in 5 layers:

GENERAL TITLE

↓

SCOPE OF ISSUES LAYERS

↓

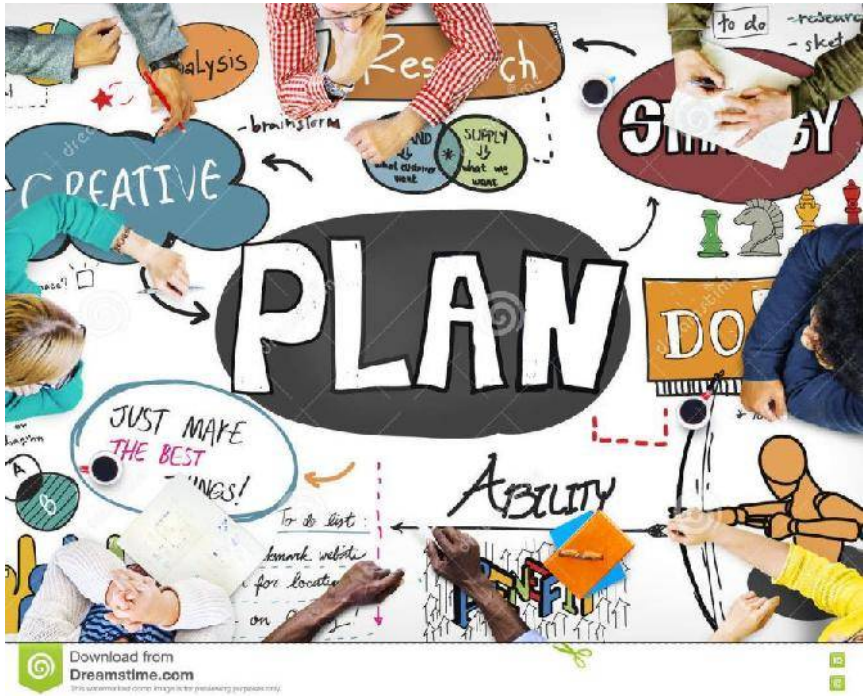
METHODOLOGY LAYERS

↓

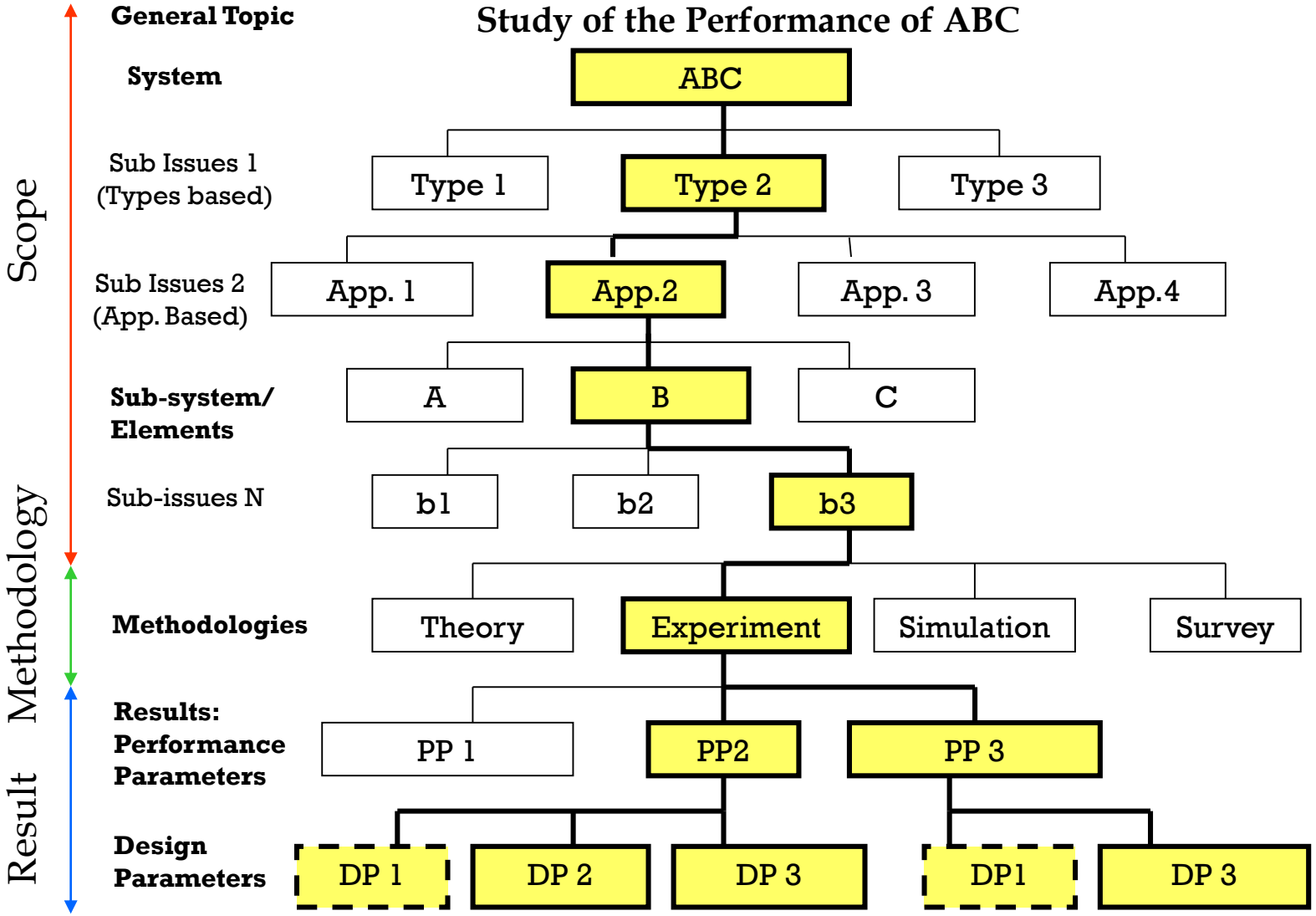
RESULTS LAYERS

↓

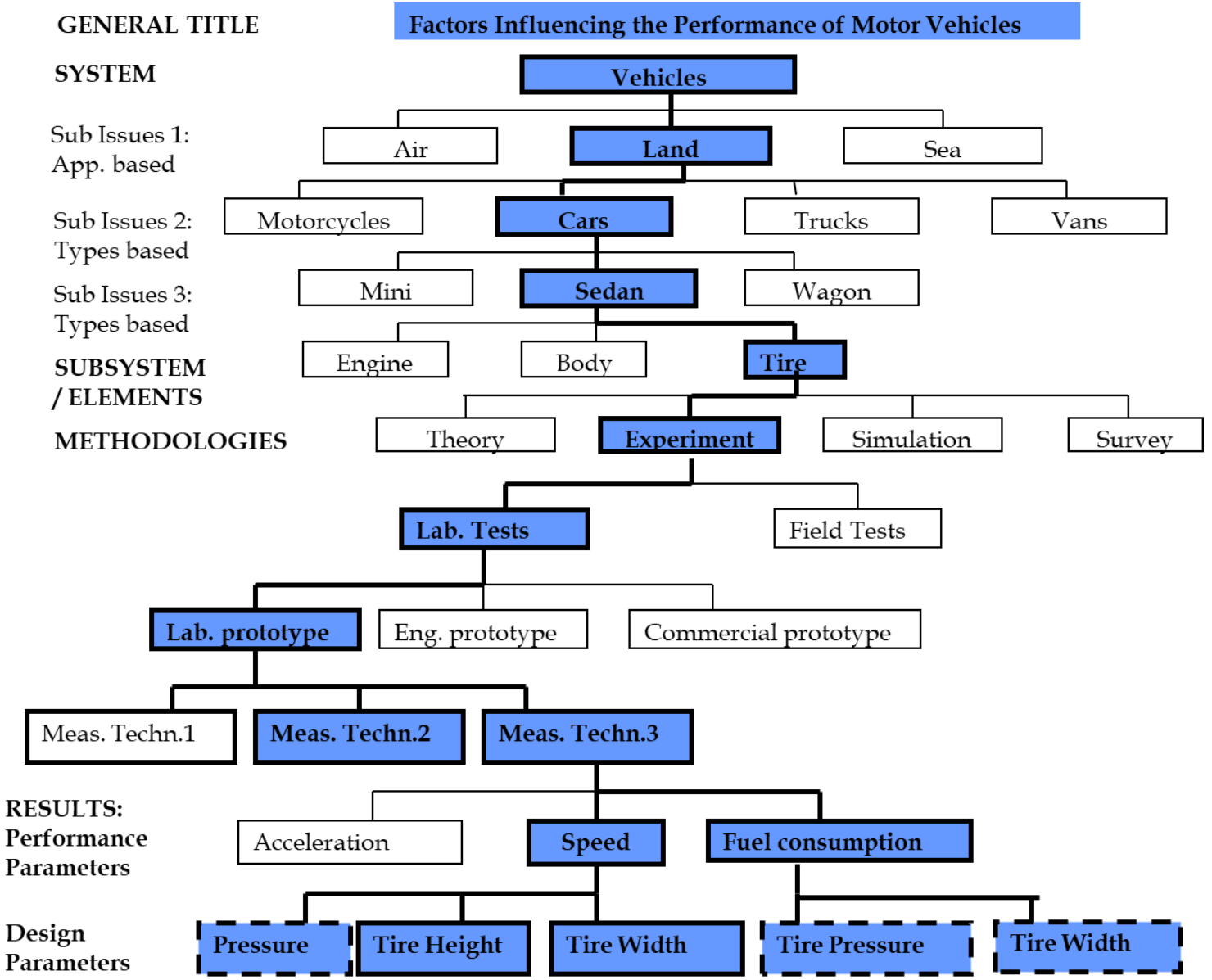
TIMELINES



PLANNING TOOL (2) - STRUCTURE OF A K-CHART



EXAMPLE: K-CHART



K-CHART: THE IMPORTANCE OF TITLE

A title should indicate:

- The systems you are working on
- The problems you are solving
- Your achievements
- Your methodology

General Title: General

Final Project (Thesis) Title: More specific

Paper's Title: Very specific

K-CHART: THE IMPORTANCE OF ISSUES LAYER

- The more detail the layers, the less the assumption, the better
- Every time there is a jump between the layers, an assumption is made (thus, a justification is required)
- One can choose any way he/she likes to arrange the sequence of layers
- However, Issues of the same theme should be in the same layer
- The Issues Layers indicate

  - The scope of critical reviews (what to get from the papers)

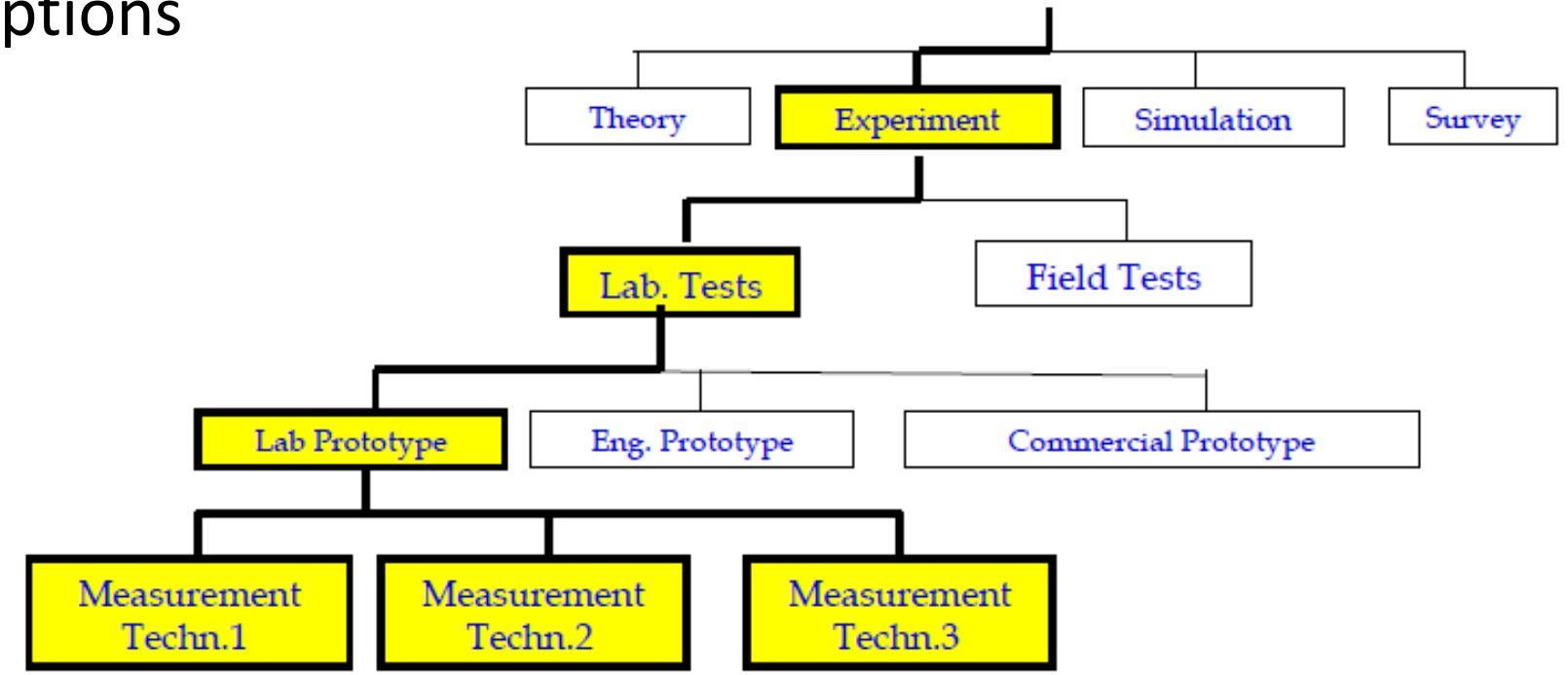
  - The focused issues (designation of issues)

  - The rationale in choosing issues to study (to move from one level to the next)

  - The Problem Statement

THE IMPORTANCE OF METHODOLOGY LAYER

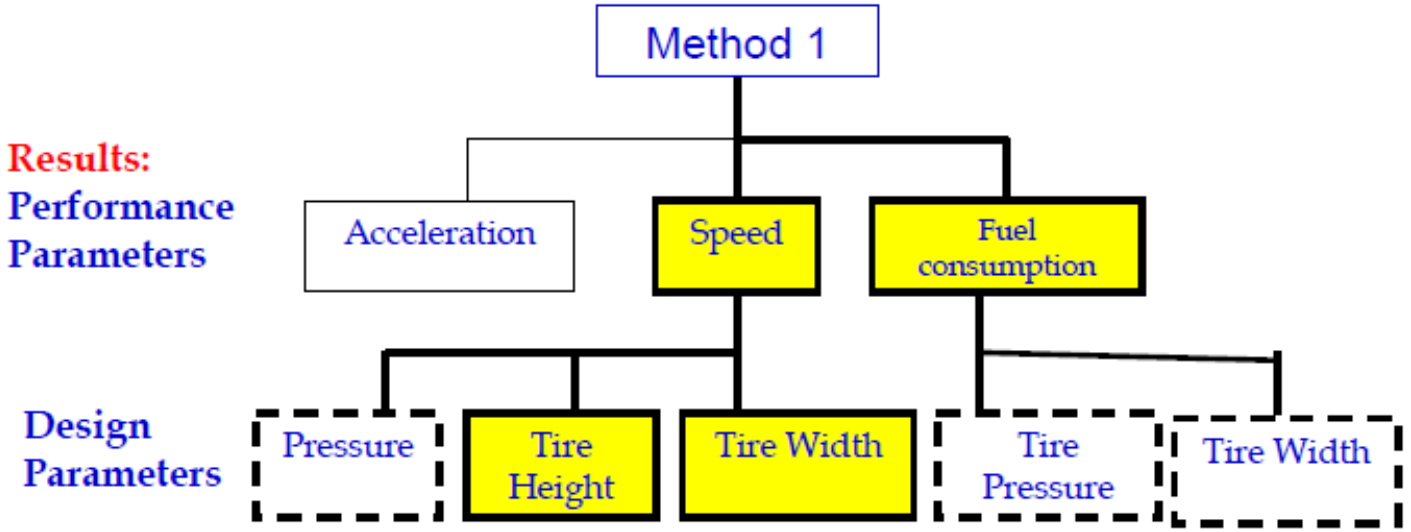
- To define the specific methods adopted
- To designate which methods are of higher priorities
- To avoid ambiguities in the approach taken
- To reduce assumptions



THE IMPORTANCE OF RESULTS LAYER

The Results Layers help in:

1. Identifying the expected results, and how many of them
2. Setting the priorities and designation of results
3. Identifying the possible analyses e.g. comparative studies
4. Organizing reports/thesis/papers
5. Designating sub-projects



WITH A K-CHART, LET'S TRY TO ANSWER THESE QUESTIONS AGAIN ….

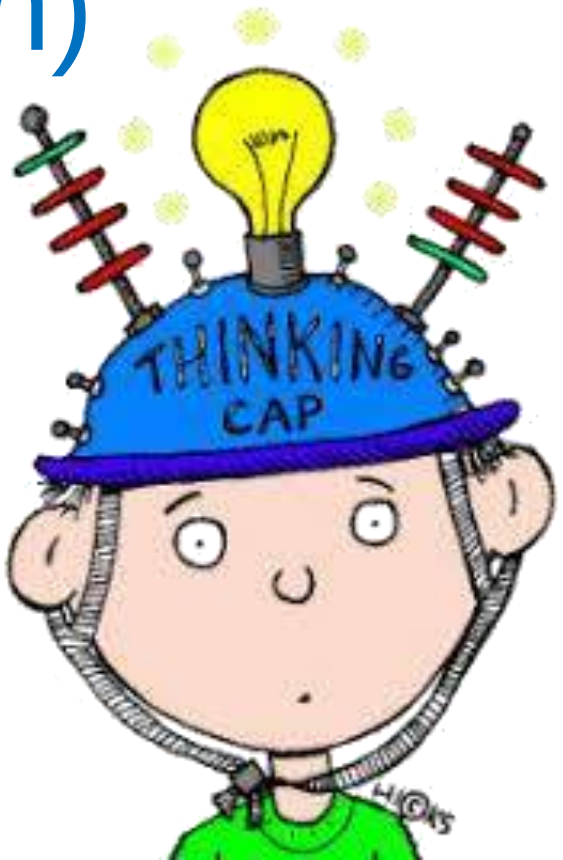
1. What is the specific title of study
2. How wide/deep is the study?
3. How much is the literature review?
4. What do I look for in reading reference papers ?
5. How do I choose between two (or more) options
6. How do I decide to move to the next level of study?
7. How do I develop the objectives of study
8. What is the methodology (Theory, Simulation, Experiment, Observation, Survey) ?
9. How many results (# curves, graphs, charts) can be obtained
10. Which results to be focused on?
11. How to arrange the results
12. How many comparisons can be made?
13. How to cluster for sub-projects
14. Who to do what?

AND MORE …

15. How to plan for publication ?
16. How to construct articles' titles ?
17. How to organize the report structure ?
18. How to plan for a graduate thesis writing?
19. How to integrate with new ideas ?
20. How to re-align the area of research when the original plan does not work ?

ACTIVITIES

Develop a K-Chart based on your research project (10-15min)



PART 2

EFFECTIVE SUPERVISION

PhD Is a Lonely Journey

- Student is alone scientifically…
- Student is alone emotionally…
- Student is alone in his/ her growth…

Student needs "support" from the Supervisor!

What are the student's expectations towards his/ her supervisor?

What are the supervisor'a expectations towards his/ her student?

The ‘Art of supervision’ is to get an average student to do superior work and a good student to excel beyond expectations

UTeM Convocation, 2017. One PhD student (conversion from MSc to PhD) obtained Chancellor award. One MSc student obtained Pro-Chancellor and Best Thesis award

Role of the Supervisor

Role of the Supervisor

Good supervision involves:

- ✓ Encouragement
- ✓ Advice
- ✓ Support
- ✓ Constructive suggestions
- ✓ Critical appraisals
- ✓ Pastoral care
- ✓ Encouraging and developing independent thinking
- ✓ Willingness to listen and engage intellectually

Role of the Supervisor

A supervisor should:

- ✓ Create a comfortable atmosphere where students are not frightened to ask questions
- ✓ Help students find their way through literature
- ✓ Provide guidance in topic formulation and research design
- ✓ Set the standard for research work through examples
- ✓ Provide constructive comments on writing style

Role of the Supervisor

- ✓ Identifying good research problems
- ✓ Know what is already done in the area of research
- ✓ Anticipating if a particular research problem is too hard for the student

Role of the Supervisor

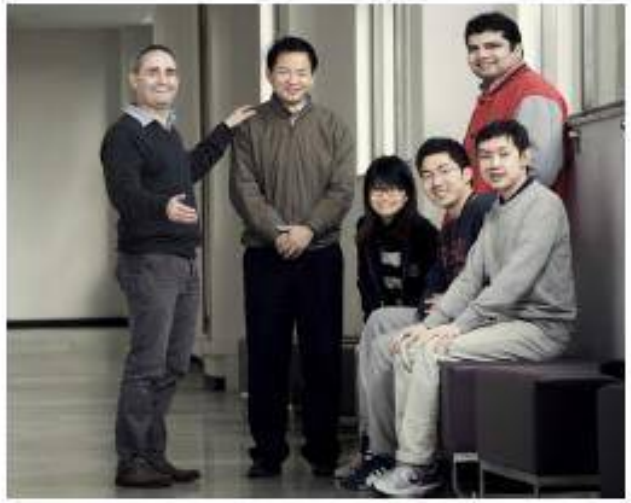
- ✓ Keep track of progress and time
- ✓ Monitor research directions and suggest changes if necessary
- ✓ Plan for publications based on experimental work
- ✓ Prepare the students for progress reviews

Role of the Supervisor

- ✓ Advice the student on when to start writing the thesis and when to submit
- ✓ Know what a thesis should look like based on the work done
- ✓ Anticipate examiners' questions

Responsibilities of the Supervisor

Responsibilities of the Supervisor



- ✓ Has the primary responsibility for supervision and must be committed to it regardless of the strength of the student

- ✓ Must have the required content knowledge and expertise to ensure appropriate supervision (sometimes a joint-supervisor may be required)

Responsibilities of the Supervisor

- ✓ Accurately assess the needs and abilities of the student
- ✓ Tailor guidance to the specific needs and abilities of the student

Meet with the candidate regularly and as often as necessary

Responsibilities of the Supervisor

- ✓ Direct the student to the best suited avenues and then encourage independent exploration
- ✓ Self-directed learning should be emphasised but considerable guidance should be provided at the early stages if required

Be accessible and available at appropriate times

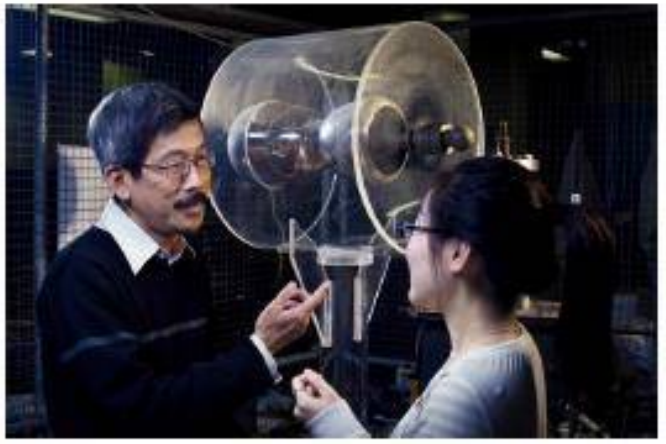
Responsibilities of the Supervisor

ENCOURAGE

When experiments / simulations fail

CHALLENGE

When experiments / simulations work



GUIDE

When necessary

Role of the Student

Role of the Student

- ✓ A PhD is an incredibly personal journey, be prepared to go through peaks and troughs.
- ✓ The student must drive the project and raise matters of concern promptly without waiting for others to do so for them

Don't be afraid to ask questions if you don't understand

Role of the Student

The goal of a PhD student is to:

- ✓ Be trained in a specific area of research and become an authority in that area
- ✓ Learn to be an independent researcher
- ✓ Contribution to new knowledge

Role of the Student

- ✓ Write journal papers, conference papers and internal reports – It will help write your thesis and improve your skills
- ✓ Contribute to other research activities, such as
  - ✓ Reviewing conference papers
  - ✓ Organising and participating in seminars (where possible)
  - ✓ Giving presentations at conferences, workshops, etc.

Role of the Student

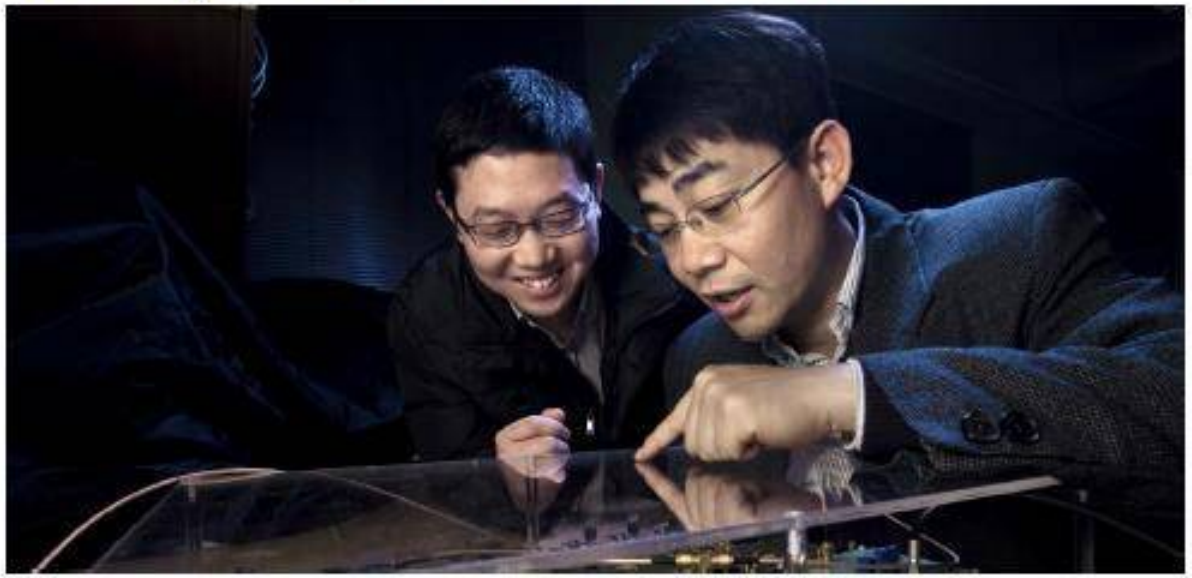
- ✓ Keep record of meetings with your supervisor
  - ✓ What was said in this meeting?
  - ✓ What you are supposed to do before the next meeting?
  - ✓ What to bring to the next meeting?

This is important because your supervisor may have more than one student and may not remember everything between meetings

Responsibilities of the Student

Responsibilities of the Student

- ✓ Acquire the necessary methodological expertise and content knowledge for timely completion
- ✓ Meet your supervisor regularly to review research progress
- ✓ Regular reading of research literature to acquire an in-depth knowledge of your research area



Responsibilities of the Student

- ✓ Devote sufficient time for your research (e.g. 45 hours per week)
- ✓ Avoid activities that interfere with timely completion of each phase of your PhD

Make sure that you undertake a progress review periodically to ensure that you have reached key research milestones

Responsibilities of the Student

- ✓ Maintain a suitable record (weekly) of research activities and progress
- ✓ Try to develop a good relationship with your supervisor and your peers

Take ownership of your research and your progress

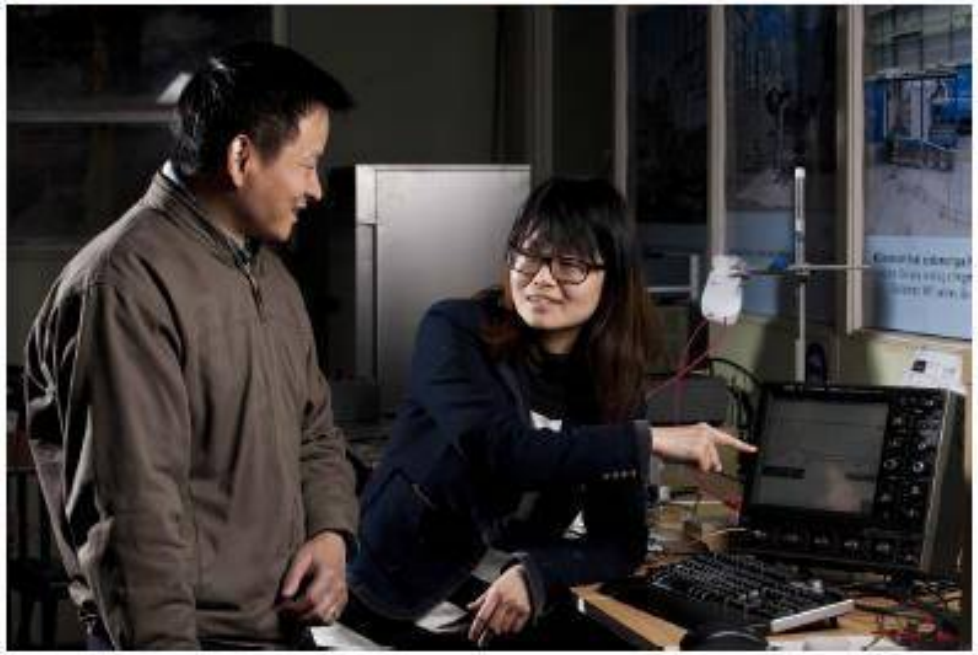
- ✓ Attend workshops on 'how to write a paper/thesis' where possible in order to develop your skills further

Supervisor-Stduent Relationships

Supervisor-Student Relationships

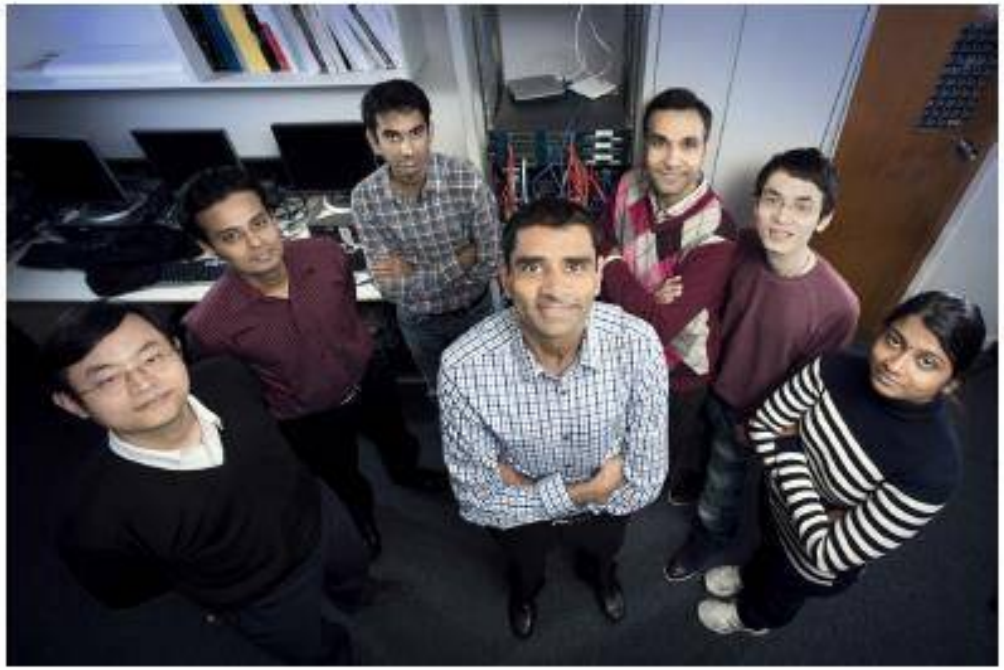
- ✓ A successful outcome depends on the relationship between the student and the supervisor
- ✓ Specific research goals must be an agreement between the supervisor and the student
- ✓ Regular discussions are essential to facilitate research progress

Many of the common problems experienced over a PhD are related to difficulties in the student-supervisor relationship



Supervisor-Student Relationships

- ✓ A supervisor should provide advice on time management – It is the responsibility of the student to actually manage the time.
- ✓ In some cases, a supervisor may have limited experience with research supervision – The partnership is a learning experience for both student and supervisor



Supervisor-Student Relationships

- ✓ Supervisors will tend to work harder to help students who work hard

- ✓ You may not be the smartest person in the research group but you can be the hardest working person which is more likely to get results – Most academics who succeed do it through hard work.

Checklist for a potential Supervisor

(D. A Isenberg et al, 2000)

TABLE 1. Suggested check list for a potential supervisor

- Does the student seem genuinely committed and have an enquiring mind?
- Emphasize that 2–3 yr of full-time research is a major commitment and demands very hard work.
- Encourage the student to write an essay on the proposed research topic to gauge their understanding of what is planned.
- Ensure that there are good support systems (people and machines!) available for the student.
- Explain clearly what form of supervision and encouragement you will provide.

Checklist for a potential Student

(D. A Isenberg et al, 2000)

TABLE 2. Suggested check list for a potential student

- Does the research project really interest you and do the research goals seem attainable?
- Seek objective evidence about the track record of your potential supervisor and his/her department (if not known to you).
- Do not take an MD/PhD without solid assurance that the project is adequately funded.
- Make sure your supervisor has clarified how you will be supervised and supported during your research.
- Familiarize yourself with the local university's rules and regulations about writing up your thesis.

SUPPORT AND ICT TOOLS

Qualities of a good research supervisor

https://www.youtube.com/watch?v=xQhIKxP0jDc

PART 3

SUPPORT AND ICT TOOLS

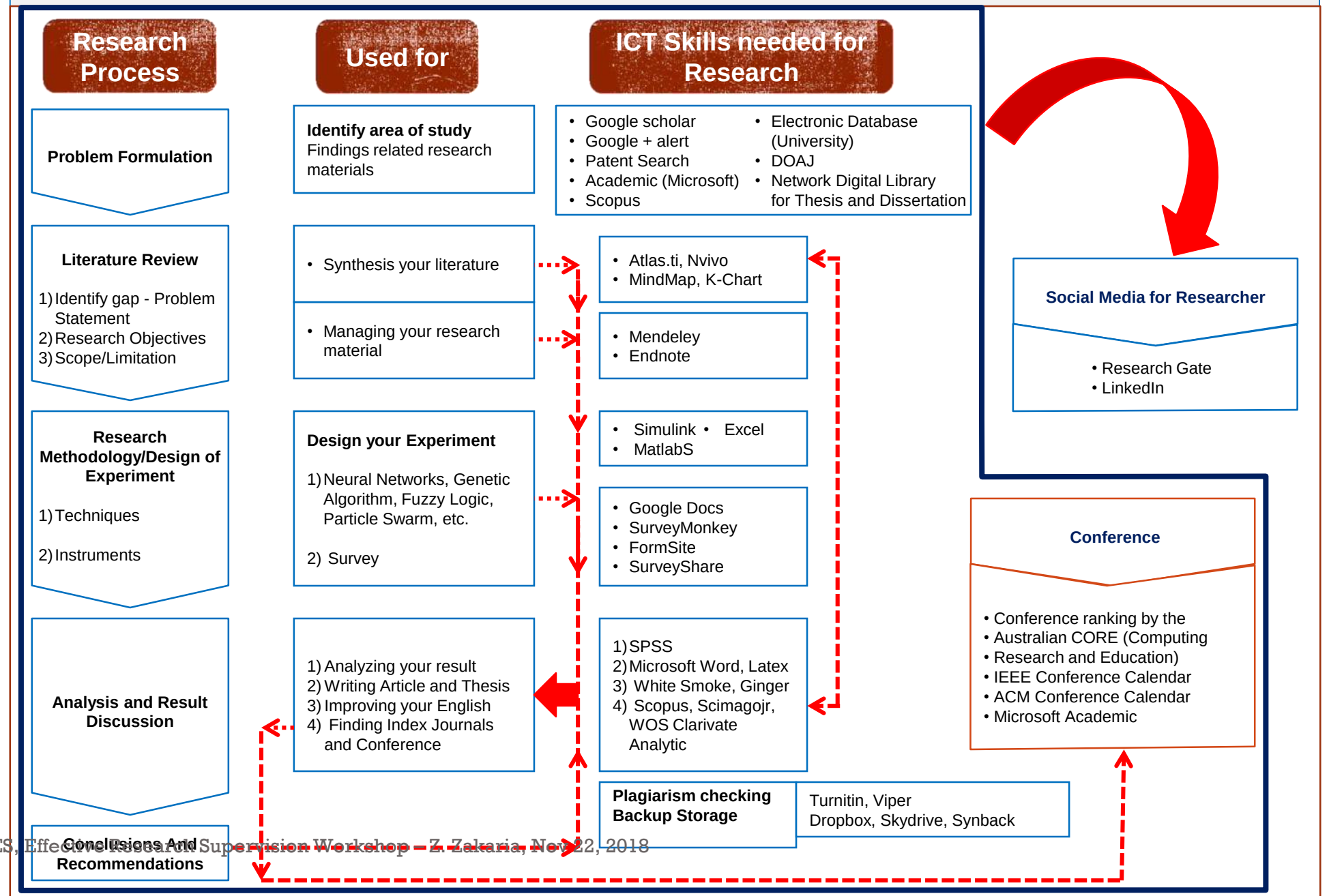
Student needs to be exposed with ICT tools and related support

ICT Skills needed

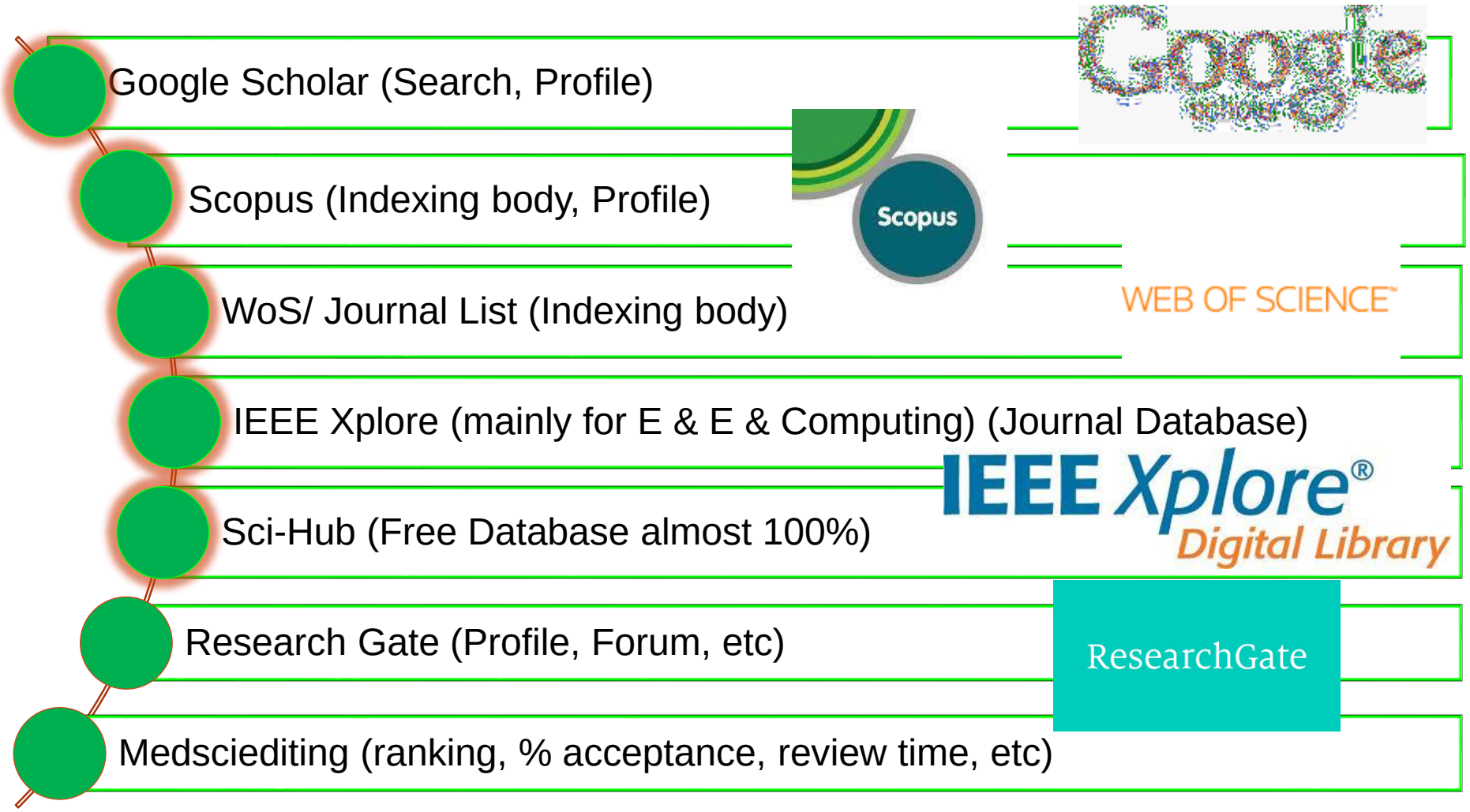
- **Student/ Researcher needs to equip themselves with ICT skill in:**

Accessing and exploring knowledge	Managing research materials	Structuring/Sensitizing research materials
Communicating and collaboration	Academic Writing	Knowledge disseminating/**Virtual Visibility**
Statistical Analysis Software	Presenting result	Many more related tools (learn from others)

Research Framework: Process Diagram and ICT Tools

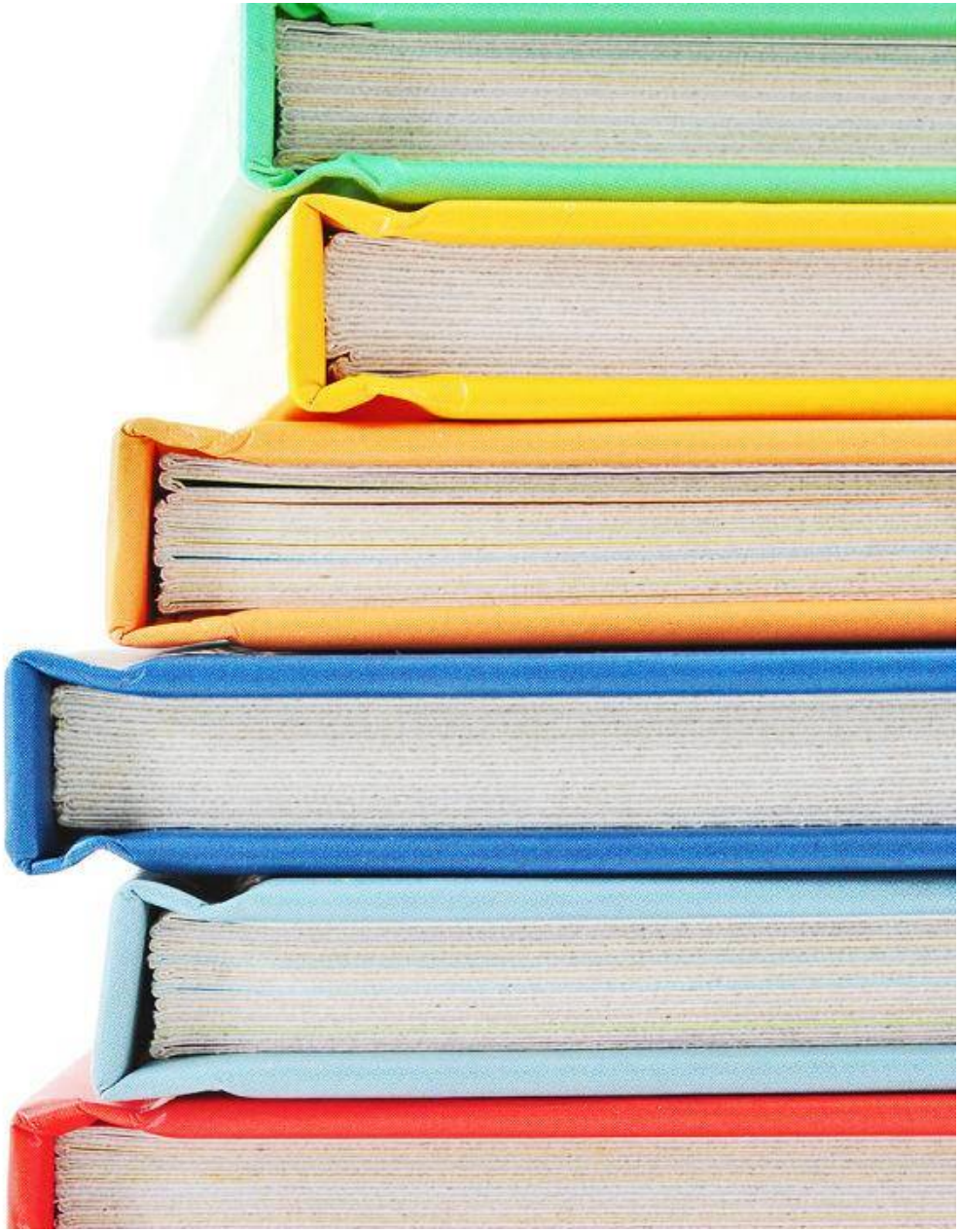


RESEARCHER PROFILE SITES



What are my research tools?

- **Turnitin – similarity checks**
- **EndNote / Mendeley / Etc – referencing/ bibliography**
- **Origin - Graph**
- **Online Database – Expertise profiling and research networking tools, e.g. ResearchGate, Google Scholar, Academia, etc.**
- **Dropbox/ Google Drive – Cloud storage. Backup your data!**



INTERNET AS A TOOL - GOOGLE SCHOLAR

Zahriladha Zakaria

FOLLOWING

Associate Professor, Universiti Teknikal Malaysia Melaka (UTeM)
Verified email at utem.edu.my

Microwave Engineering Antenna and Propagation Wireless Communications
Energy Harvesting Electronic & Electrical Engi...

TITLE	CITED BY	YEAR
Hybrid Microstrip Diplexer Design for Multi-band WiMAX Application in 2.3 and 3.5 GHz Bands MA Sazali, NA Shairi, Z Zakaria International Journal of Electrical and Computer Engineering (IJECE) 8 (1)		2018
The Fundamental of Leaky wave Antenna MK Mohsen, MSM Isa, AAM Isa, M Zin, S Saat, Z Zakaria, IM Ibrahim, ... Journal of Telecommunication, Electronic and Computer Engineering (JTEC) 10 ...		2018
UWB Filtenna with Electronically Reconfigurable Band Notch using Defected Microstrip Structure A Alhegazi, Z Zakaria, NA Shairi, T Sutikno, S Ahmed Indonesian Journal of Electrical Engineering and Computer Science 8 (2), 302-307		2017
Efficient feeding geometries for rectenna design at 2.45 GHz S Ahmed, Z Zakaria, MN Husain, IM Ibrahim, A Alhegazi Electronics Letters 53 (24), 1585-1587		2017

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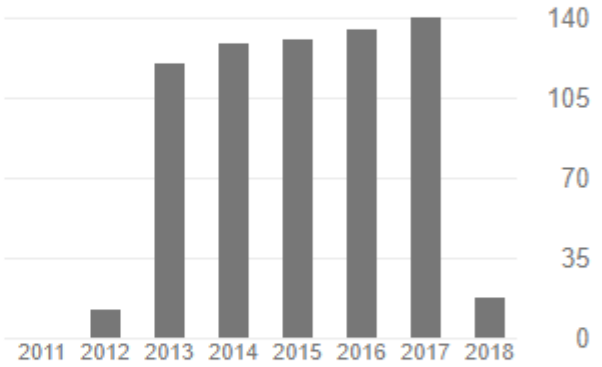
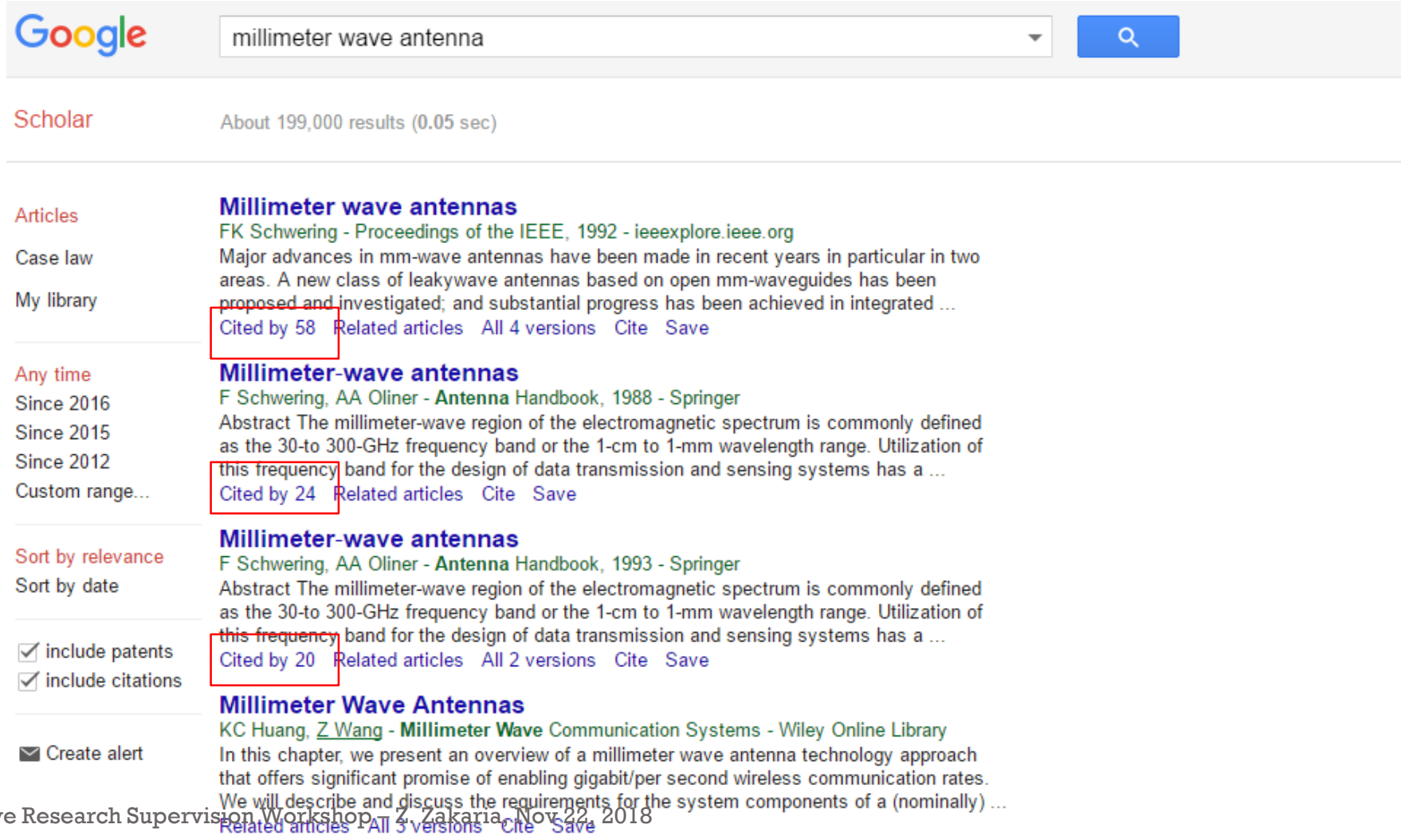


Co-authors EDIT

No co-authors

INTERNET AS A TOOL - GOOGLE SCHOLAR



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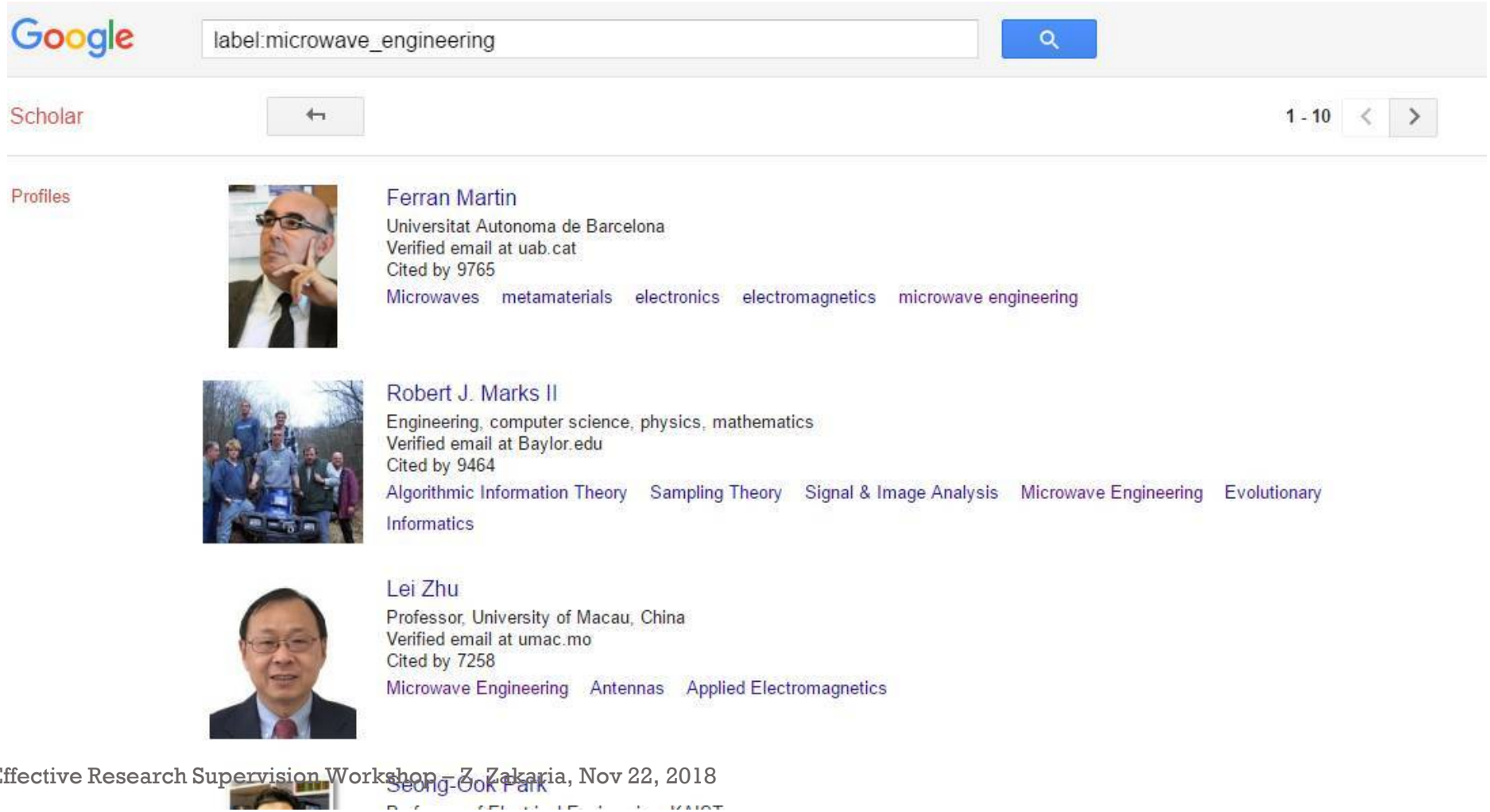
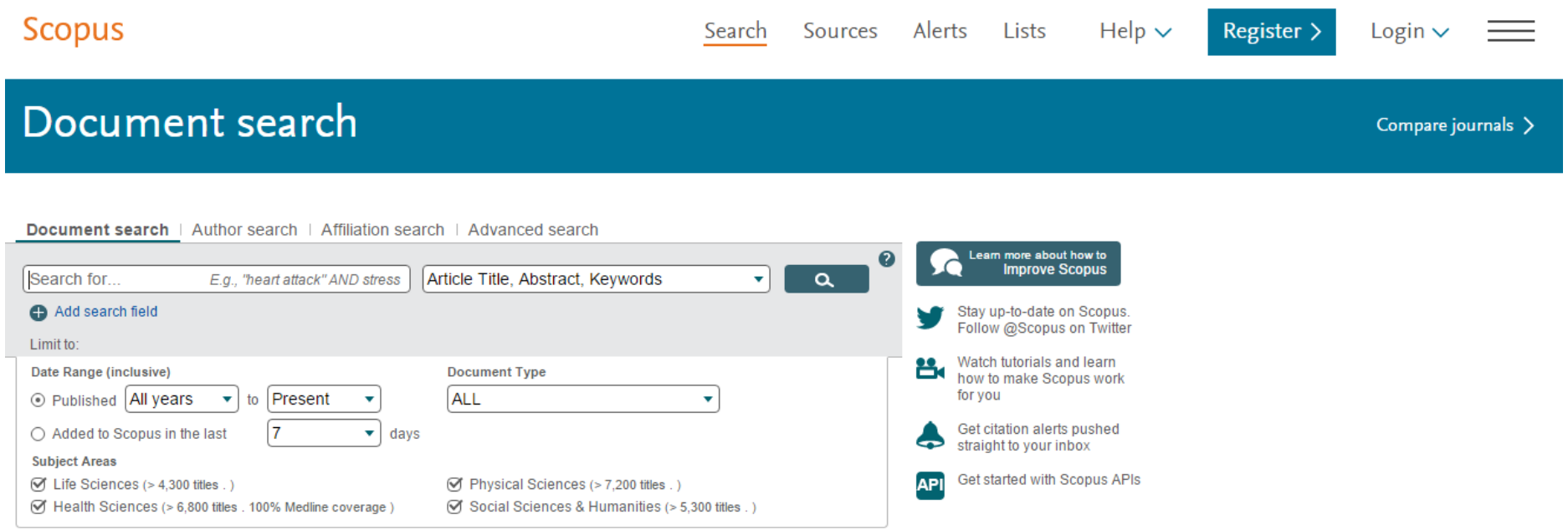


INTERNET AS A TOOL - SCOPUS



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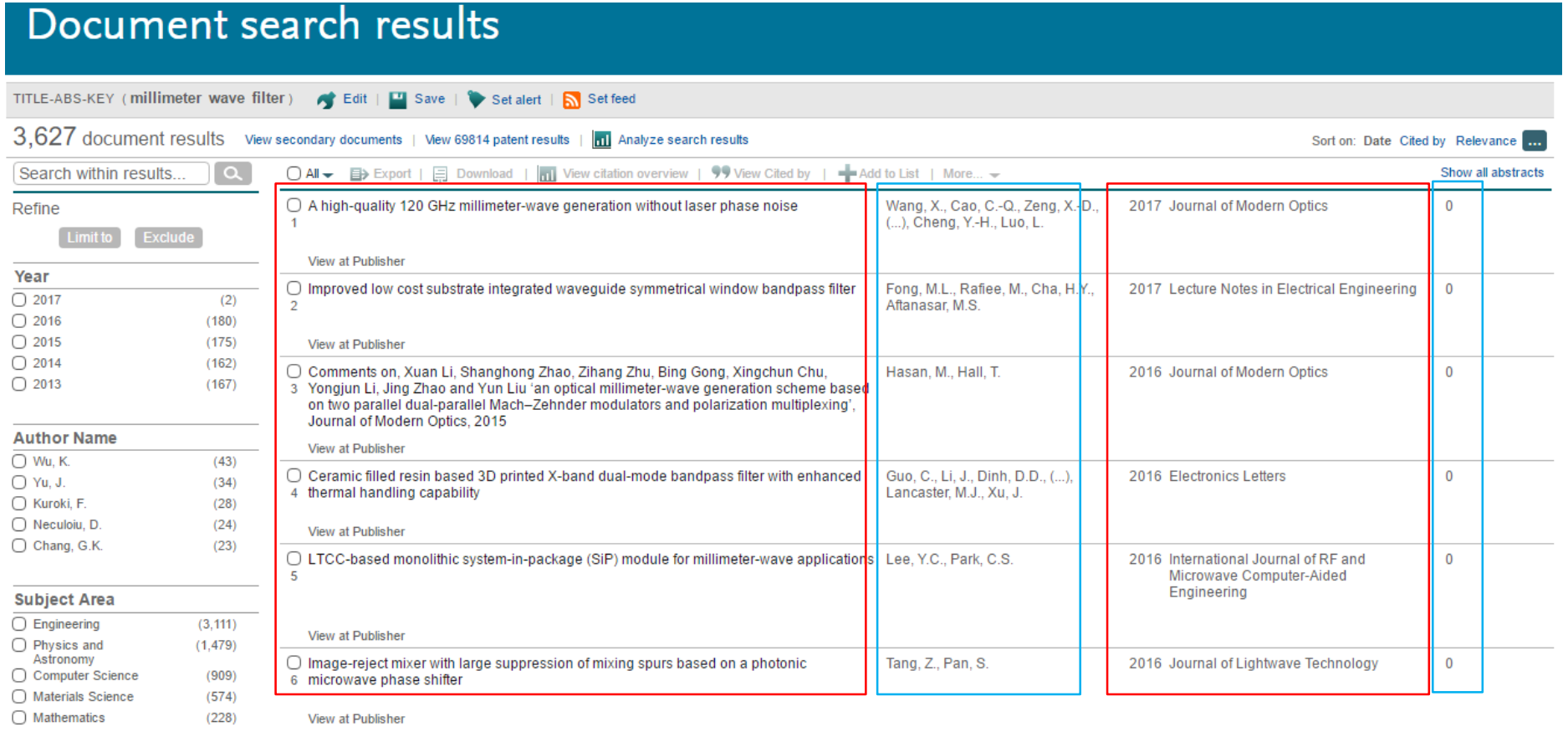

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- 2015 (175)
- 2014 (162)
- 2013 (167)

Author Name

- Wu, K. (43)
- Yu, J. (34)
- Kuroki, F. (28)
- Neculoiu, D. (24)
- Chang, G.K. (23)

Subject Area

- Engineering (3,111)
- Physics and Astronomy (1,479)
- Computer Science (909)
- Materials Science (574)
- Mathematics (228)

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1	A high-quality 120 GHz millimeter-wave generation without laser phase noise View at Publisher	Wang, X., Cao, C.-Q., Zeng, X.-D., (...), Cheng, Y.-H., Luo, L.	2017 Journal of Modern Optics	0
2	Improved low cost substrate integrated waveguide symmetrical window bandpass filter View at Publisher	Fong, M.L., Rafiee, M., Cha, H.Y., Aftanasar, M.S.	2017 Lecture Notes in Electrical Engineering	0
3	Comments on, Xuan Li, Shanghong Zhao, Zihang Zhu, Bing Gong, Xingchun Chu, Yongjun Li, Jing Zhao and Yun Liu 'an optical millimeter-wave generation scheme based on two parallel dual-parallel Mach–Zehnder modulators and polarization multiplexing', Journal of Modern Optics, 2015 View at Publisher	Hasan, M., Hall, T.	2016 Journal of Modern Optics	0
4	Ceramic filled resin based 3D printed X-band dual-mode bandpass filter with enhanced thermal handling capability View at Publisher	Guo, C., Li, J., Dinh, D.D., (...), Lancaster, M.J., Xu, J.	2016 Electronics Letters	0
5	LTCC-based monolithic system-in-package (SiP) module for millimeter-wave applications View at Publisher	Lee, Y.C., Park, C.S.	2016 International Journal of RF and Microwave Computer-Aided Engineering	0
6	Image-reject mixer with large suppression of mixing spurs based on a photonic microwave phase shifter View at Publisher	Tang, Z., Pan, S.	2016 Journal of Lightwave Technology	0

INTERNET AS A TOOL - SCOPUS

Journal Homepage

Microwave and Optical Technology Letters

Subject Area: Atomic and Molecular Physics, and Optics
Condensed Matter Physics
Electrical and Electronic Engineering
Electronic, Optical and Magnetic Materials
Publisher: John Wiley and Sons Inc.
ISSN: 0895-2477
E-ISSN: 1098-2760
Scopus Coverage Years: from 1988 to Present

Journal Metrics

Scopus Journal Metrics offer the value of context with their citation measuring tools. The metrics below allow for direct comparison of journals, independent of their subject classification. To learn more, visit: www.journalmetrics.com.

SJR (SCImago Journal Rank) **(2015) :** 0.372
IPP (Impact per Publication) **(2015) :** 0.586
SNIP (Source Normalized Impact per Paper) **(2015) :** 0.518

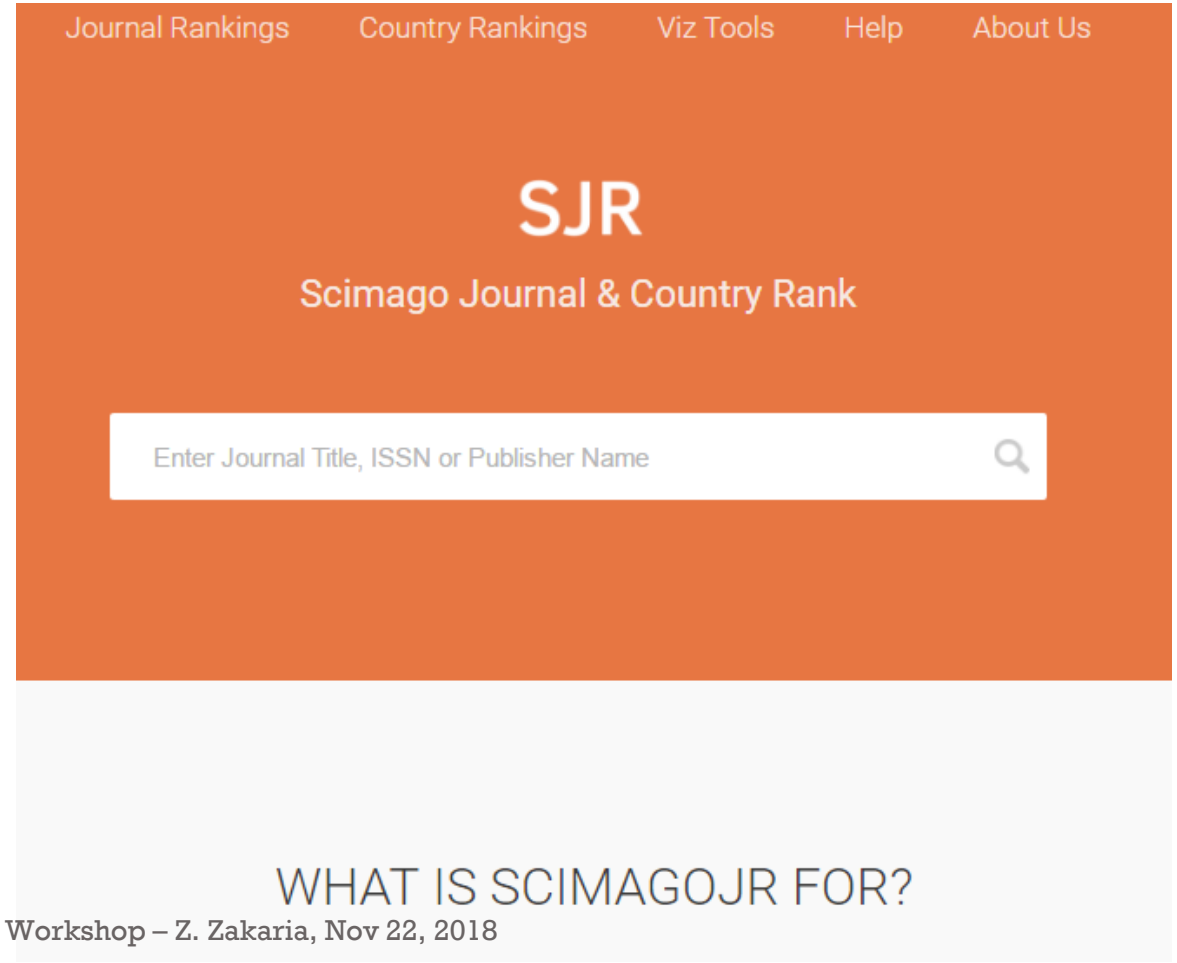
Compare with other journals

Documents available from

Latest issue:	**Volume 58, Issue 12 (December 2016)**
2016	724 documents
2015	714 documents
2014	758 documents
2013	780 documents

INTERNET AS A TOOL - SCOPUS

http://www.scimagojr.com/



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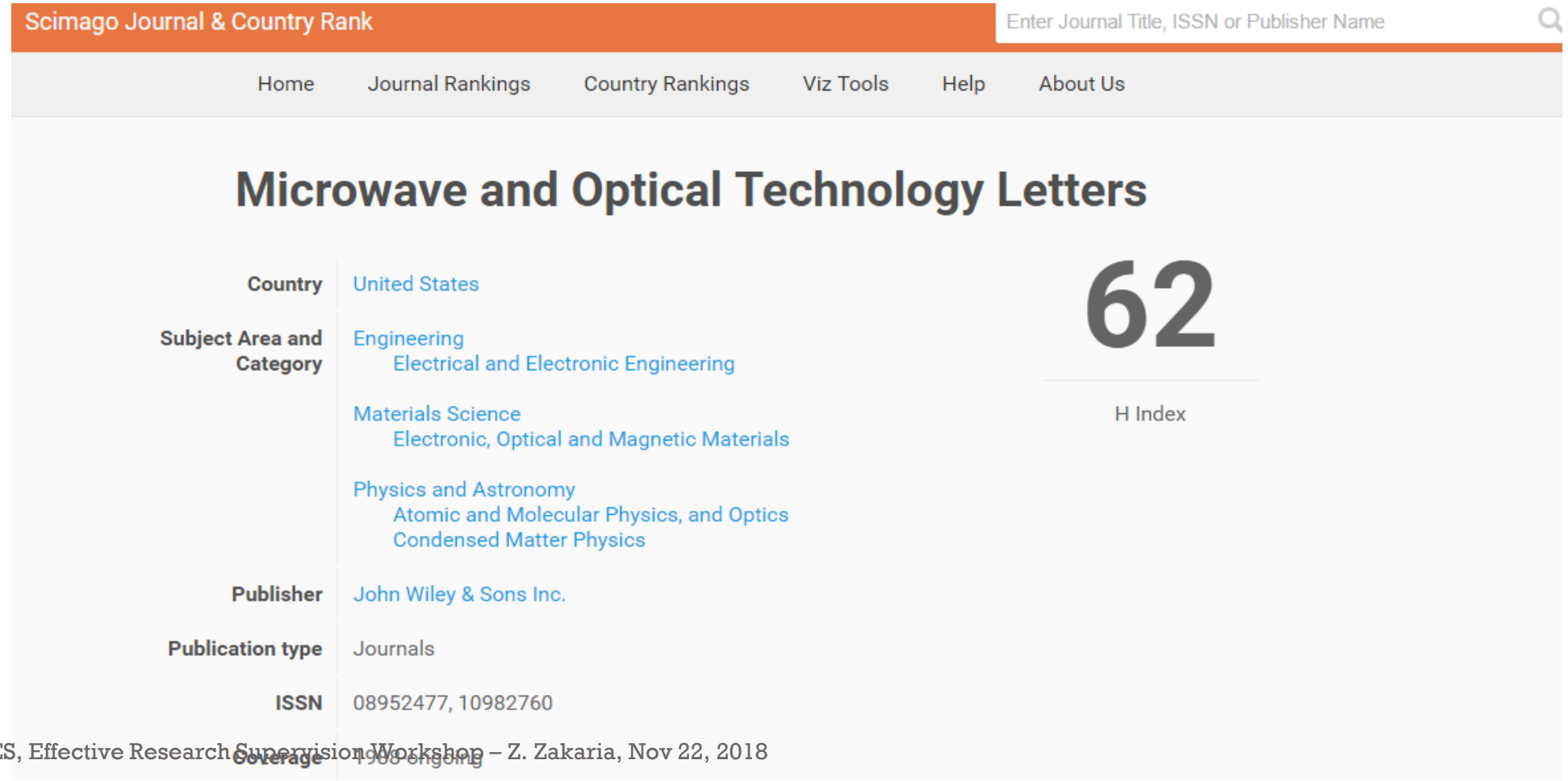

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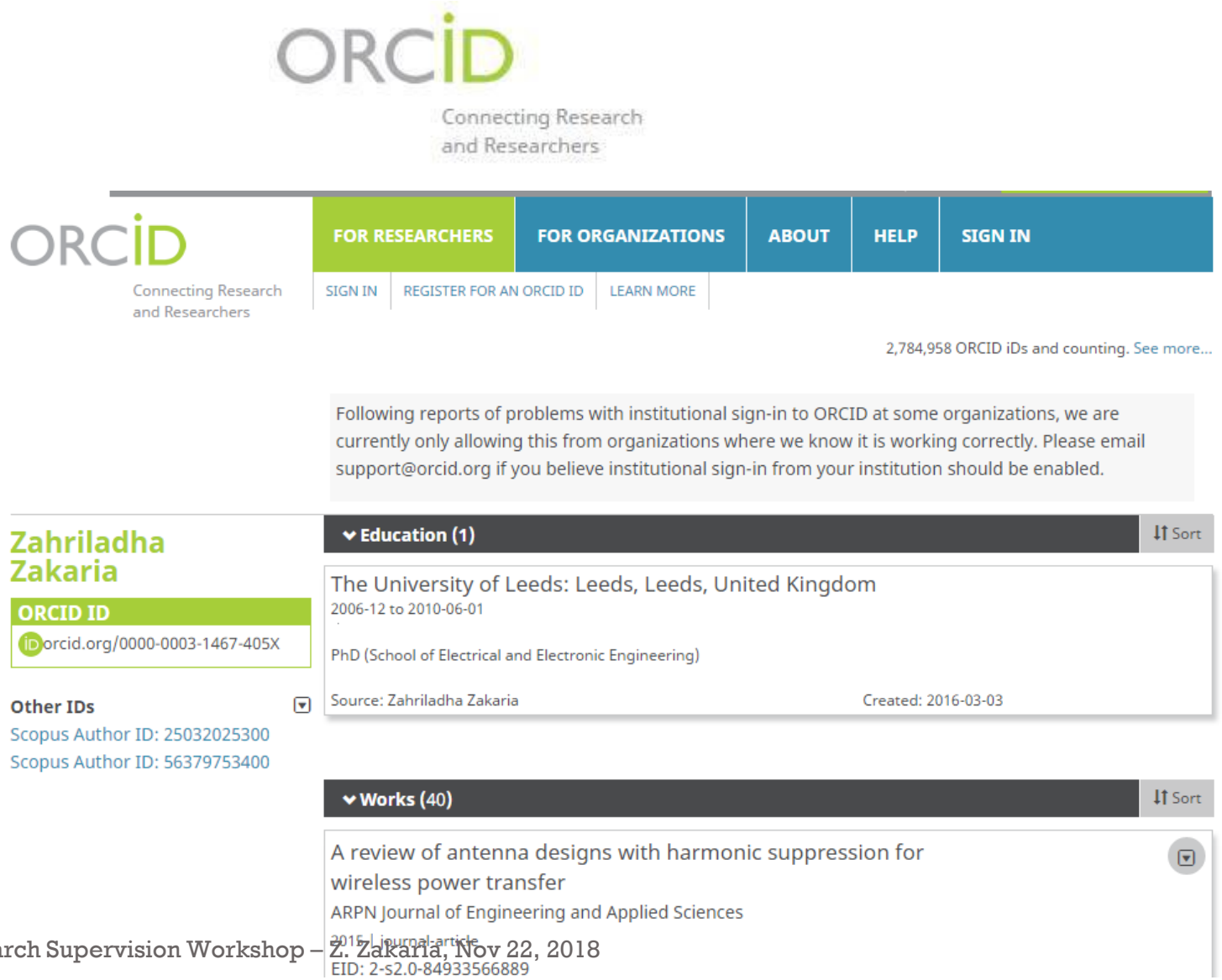
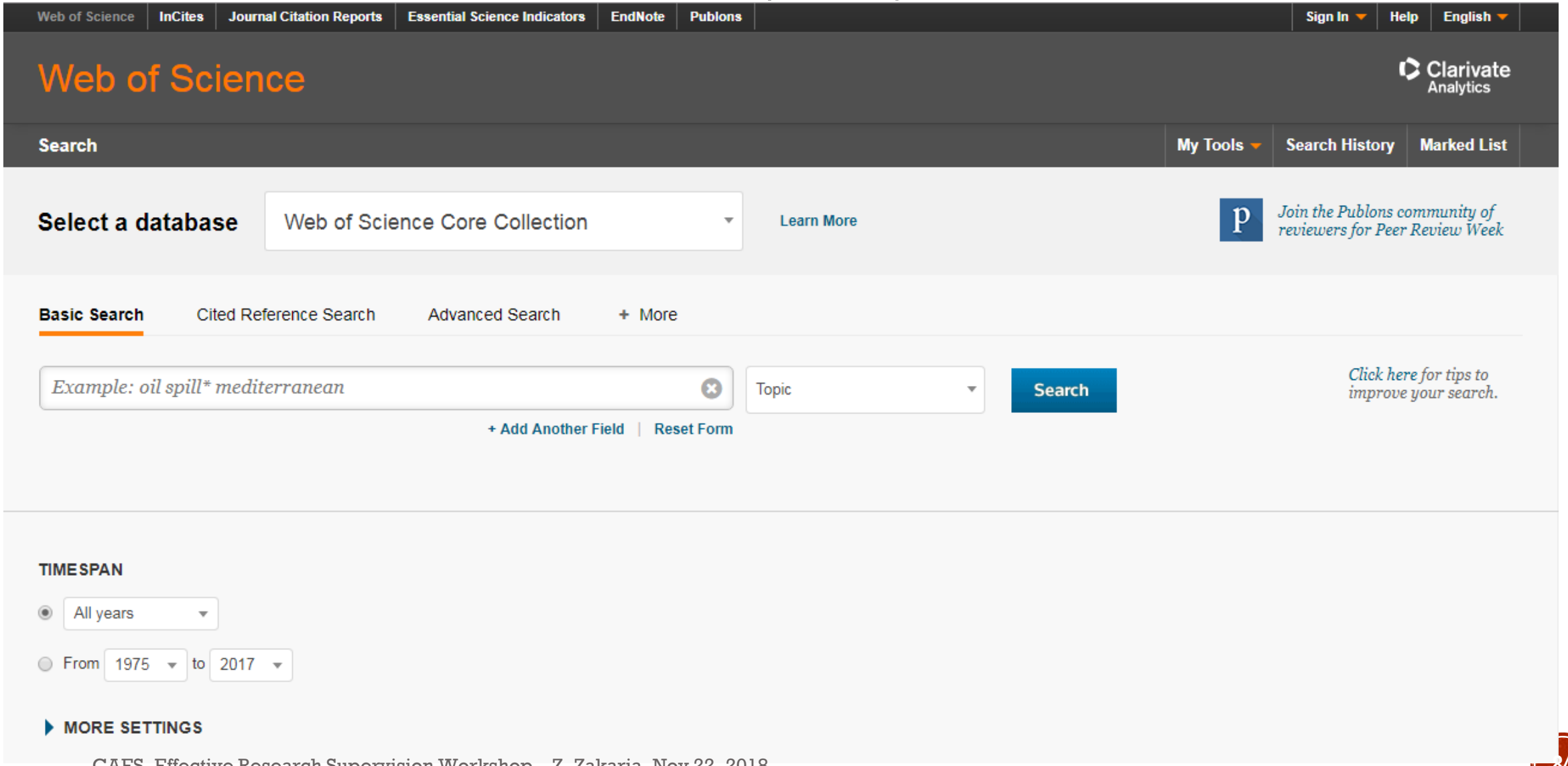
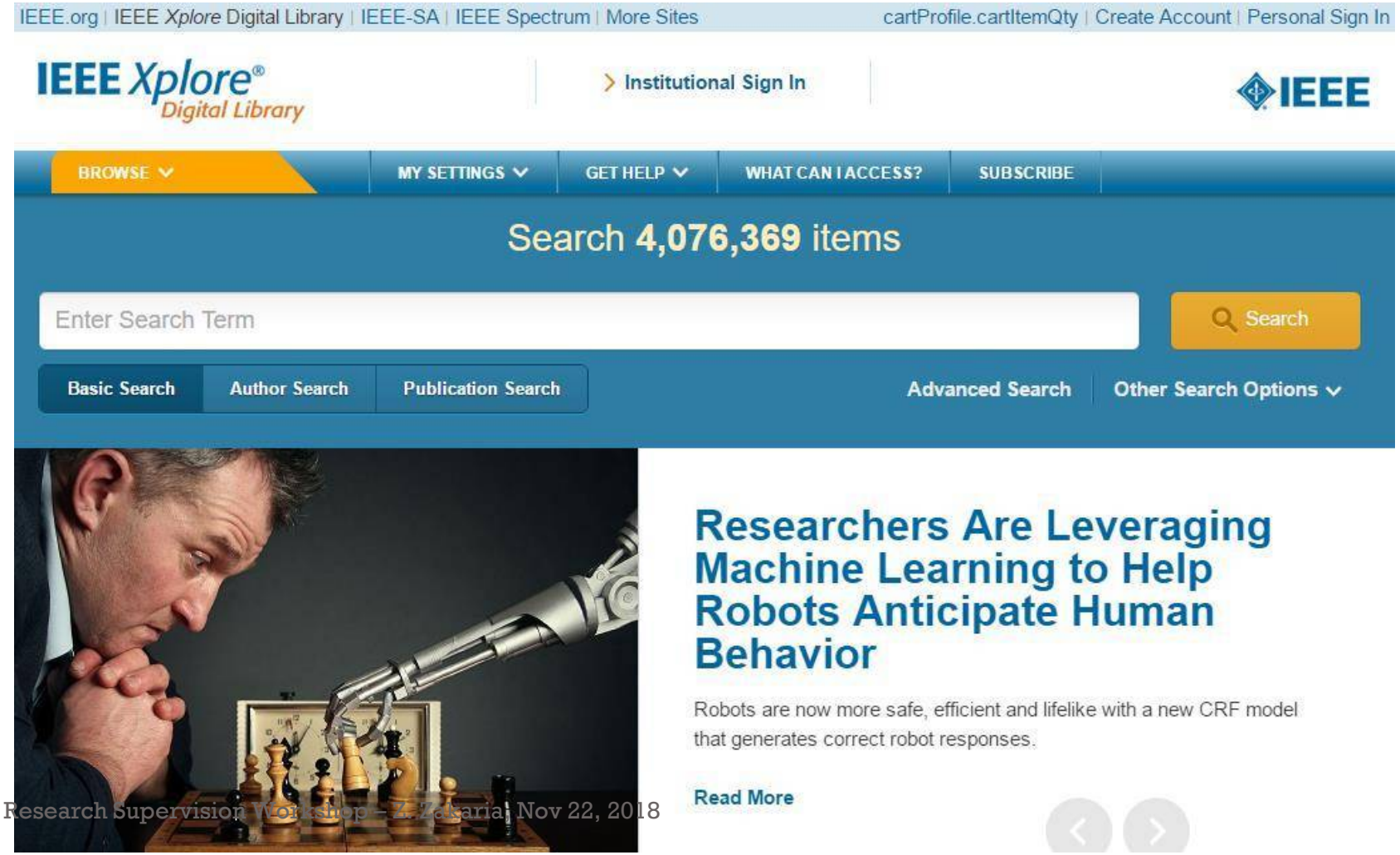


INTERNET AS A TOOL – WEB OF SCIENCE (WOS)



INTERNET AS A TOOL – IEEEXPLORE

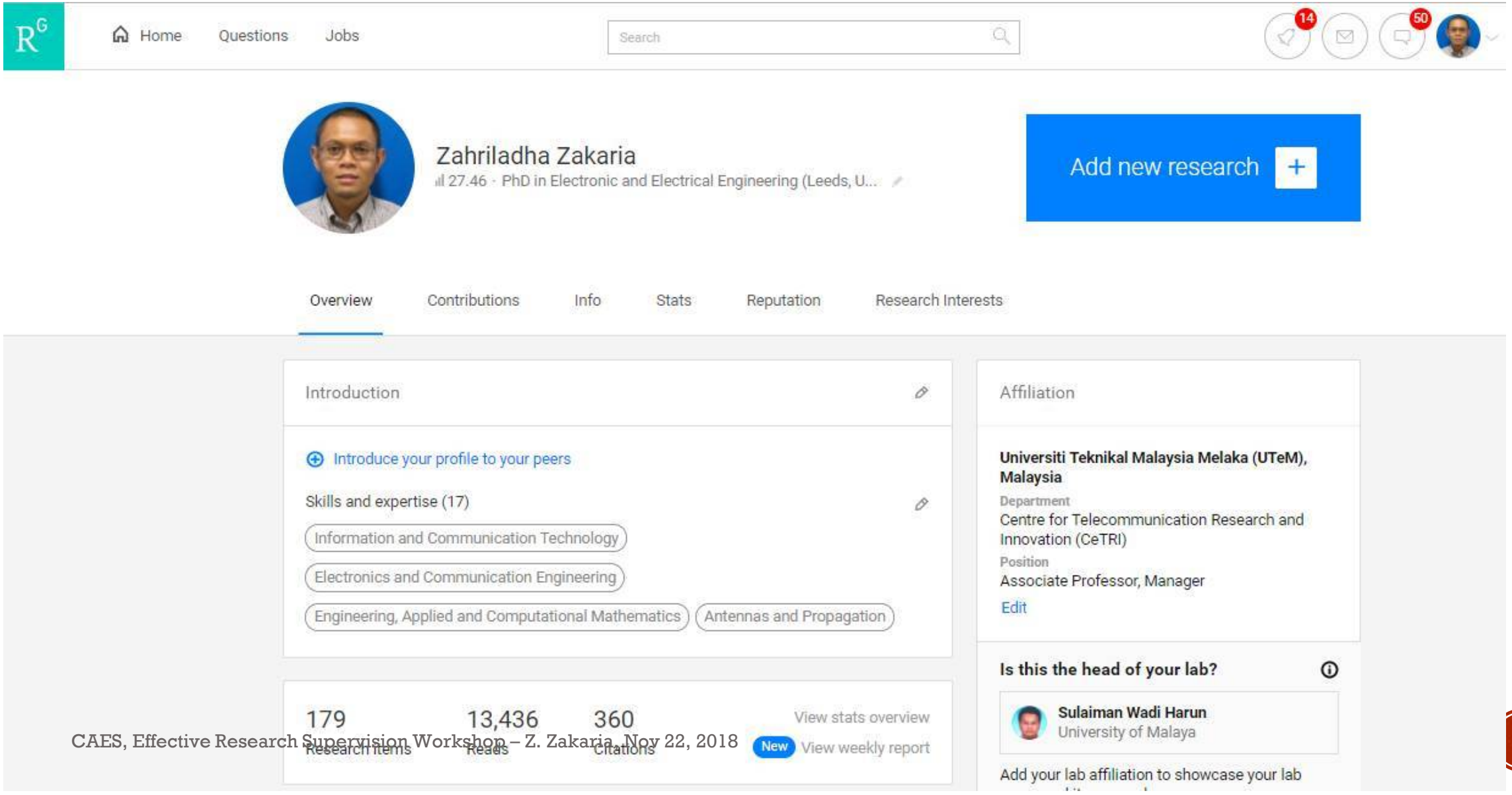


VISIBILITY, NETWORKING & SUPPORT

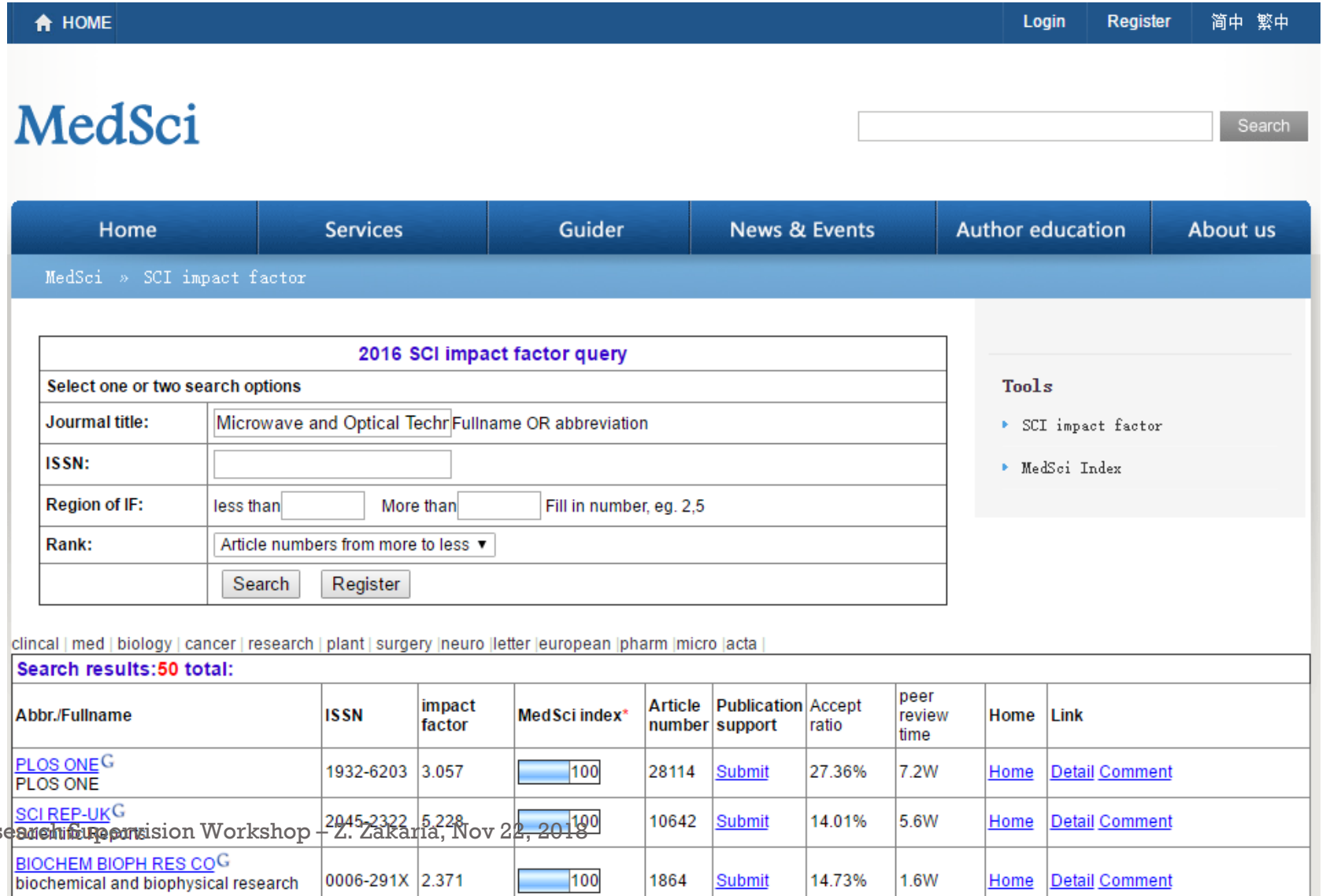
ResearchGate

LinkedIn

INTERNET AS A TOOL – RESEARCH GATE



INTERNET AS A TOOL – OTHERS



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MedSci

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MedSci » SCI impact factor

2016 SCI impact factor query

Select one or two search options	
Journal title:	Microwave and Optical Techr Fullname OR abbreviation
ISSN:	
Region of IF:	less than More than Fill in number, eg. 2,5
Rank:	Article numbers from more to less ▼
	Search Register

Tools

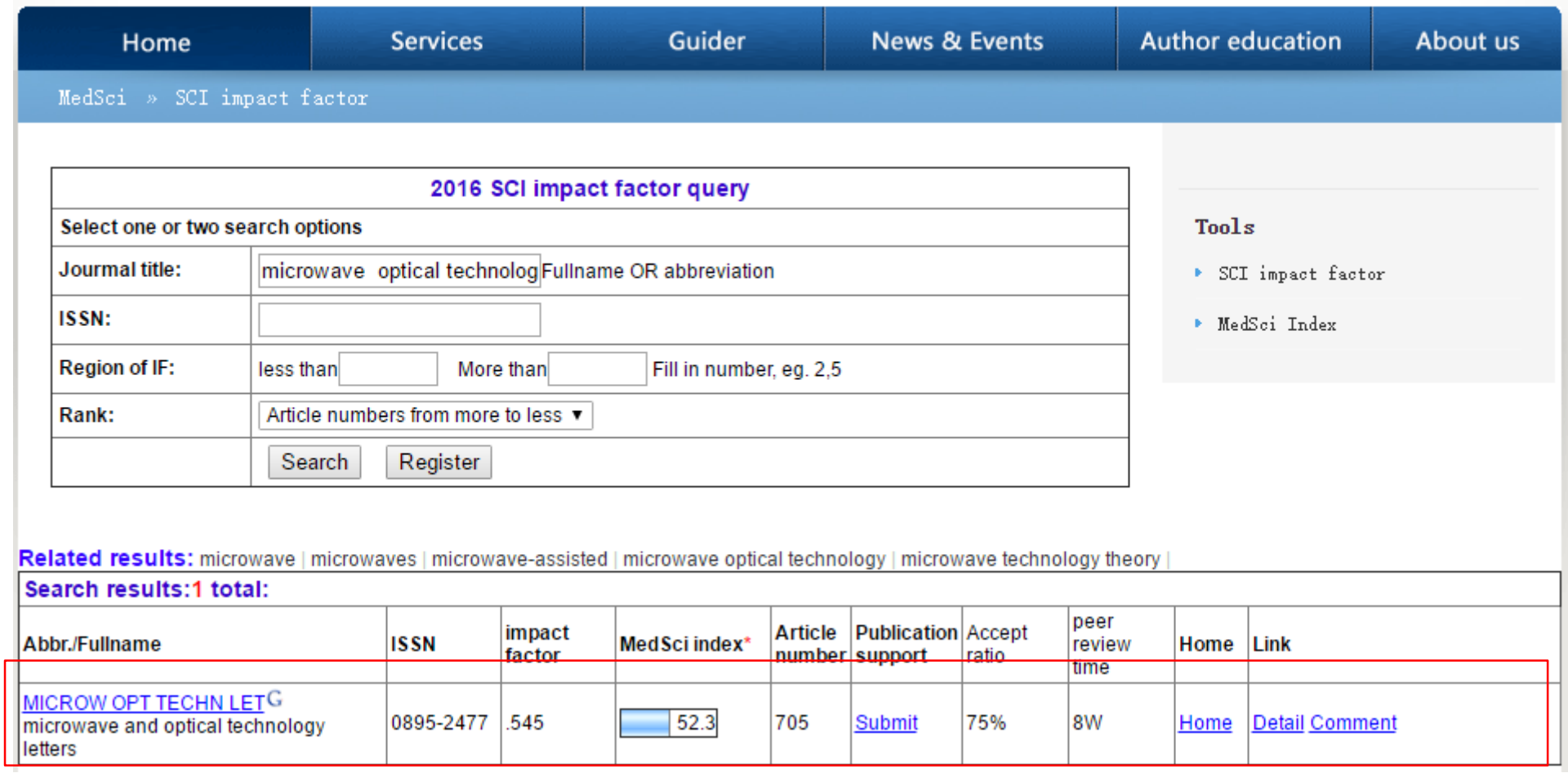
- SCI impact factor
- MedSci Index

clincal | med | biology | cancer | research | plant | surgery | neuro | letter | european | pharm | micro | acta |

Search results:50 total:

Abbr./Fullname	ISSN	impact factor	MedSci index*	Article number	Publication support	Accept ratio	peer review time	Home	Link
PLOS ONE G PLOS ONE	1932-6203	3.057	100	28114	Submit	27.36%	7.2W	Home	Detail Comment
SCI REP-UK G Scientific reports	2045-2322	5.228	100	10642	Submit	14.01%	5.6W	Home	Detail Comment
BIOCHEM BIOPH RES CO G biochemical and biophysical research	0006-291X	2.371	100	1864	Submit	14.73%	1.6W	Home	Detail Comment

INTERNET AS A TOOL – OTHERS



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MedSci » SCI impact factor

2016 SCI impact factor query

Select one or two search options

Journal title:	microwave optical technolog Fullname OR abbreviation
ISSN:	
Region of IF:	less than More than Fill in number, eg. 2,5
Rank:	Article numbers from more to less ▼
	Search Register

Tools

- SCI impact factor
- MedSci Index

Related results: microwave | microwaves | microwave-assisted | microwave optical technology | microwave technology theory |

Search results:1 total:

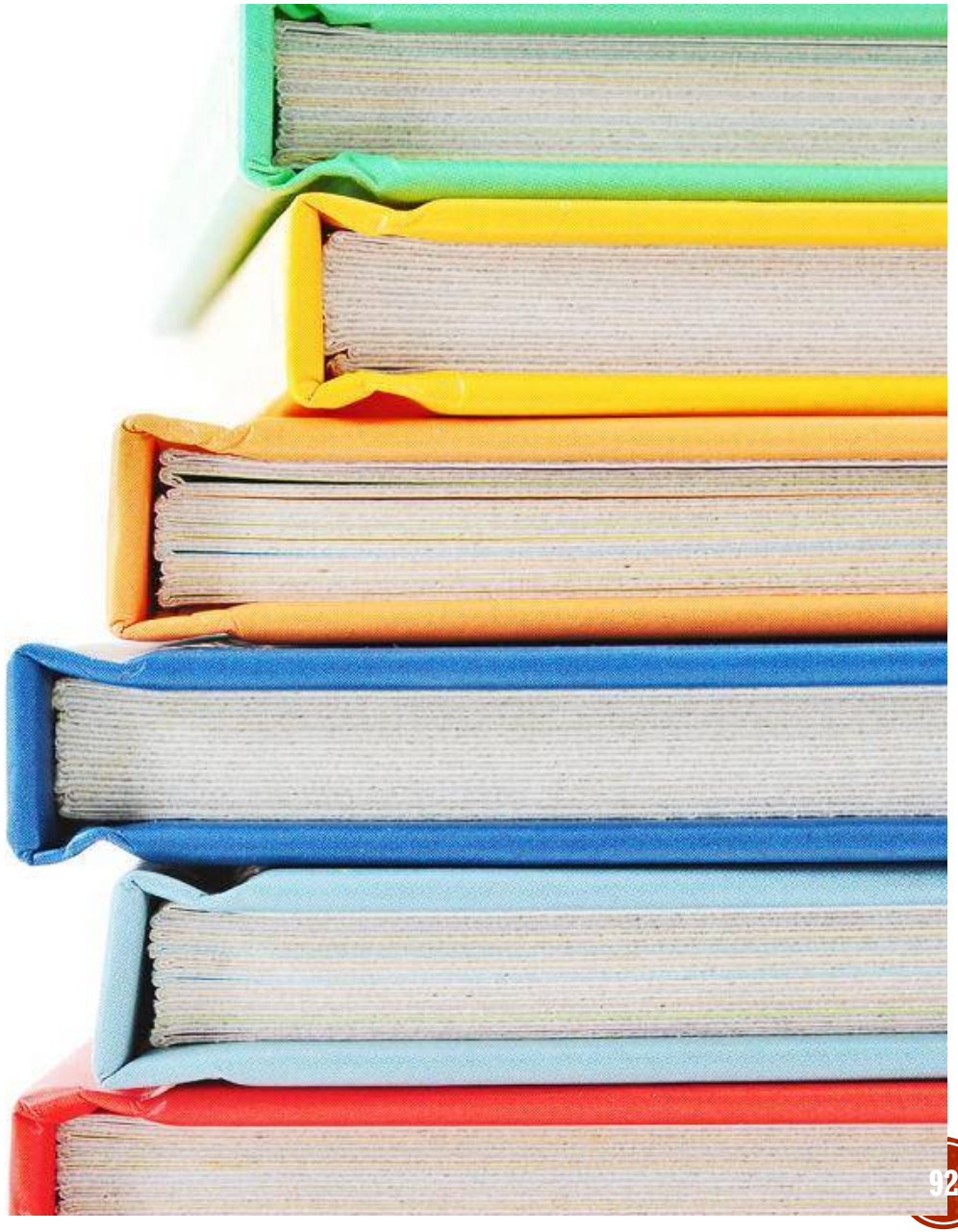
Abbr./Fullname	ISSN	impact factor	MedSci index*	Article number	Publication support	Accept ratio	peer review time	Home	Link
MICROW OPT TECHN LETG microwave and optical technology letters	0895-2477	.545	52.3	705	Submit	75%	8W	Home	Detail Comment

PART 4

ACADEMIC ARTICLES AND THESIS PREPARATION

NOW I AM A RESEARCH SUPERVISOR

Why & Where do we publish?



KEYS TO ACADEMIC SUCCESS

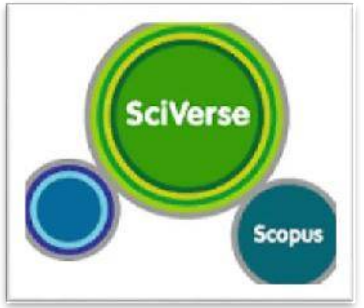
Journal & Proceeding Articles

Journal Submission Target

Web of Science, WoS (Clarivate Analytics)

Scopus

http://www.scopus.com/



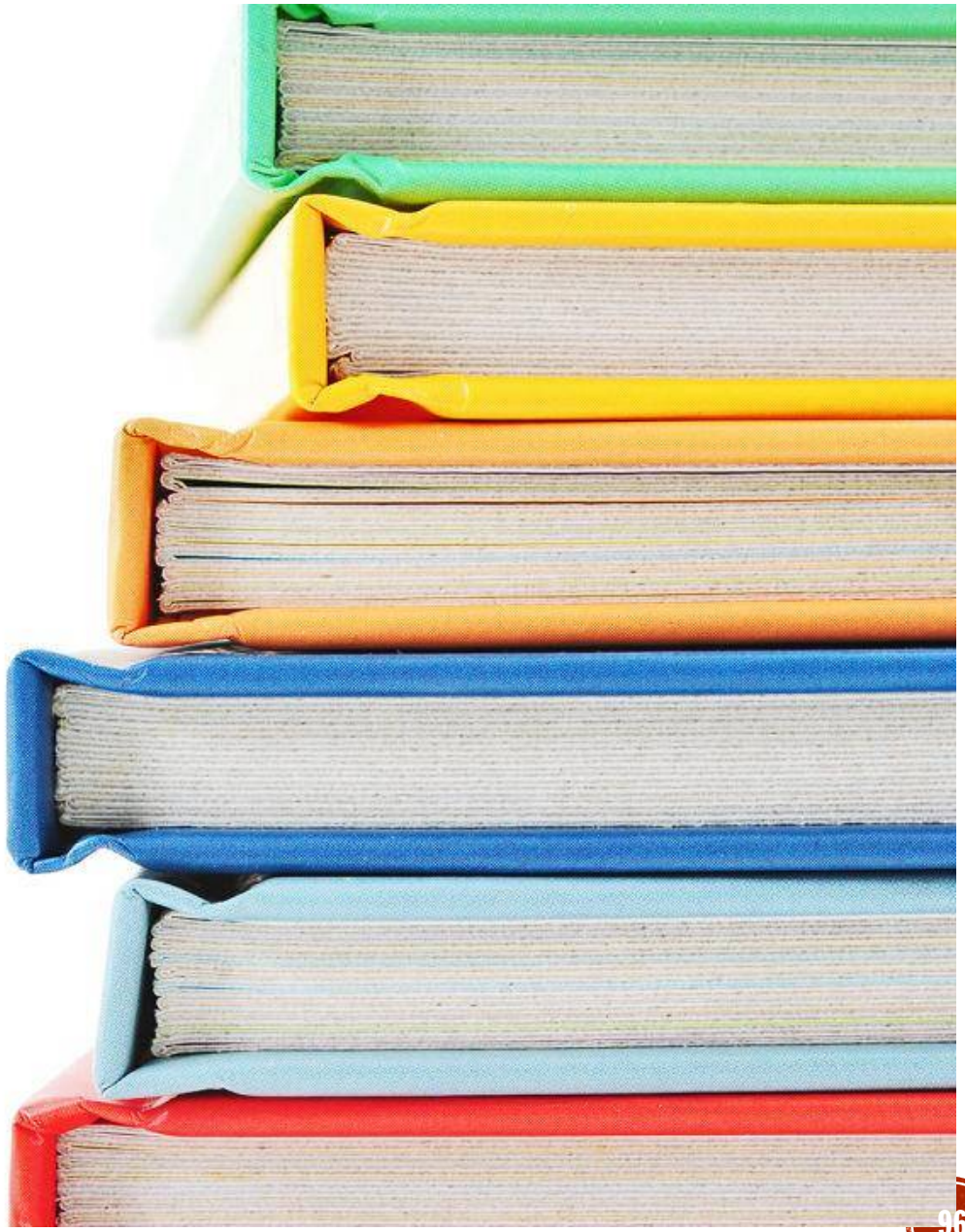
REFEREED & PEER REVIEW

ICFAI/e-LEARNING/IN-HOUSE UTeM Journals/Professional Associations

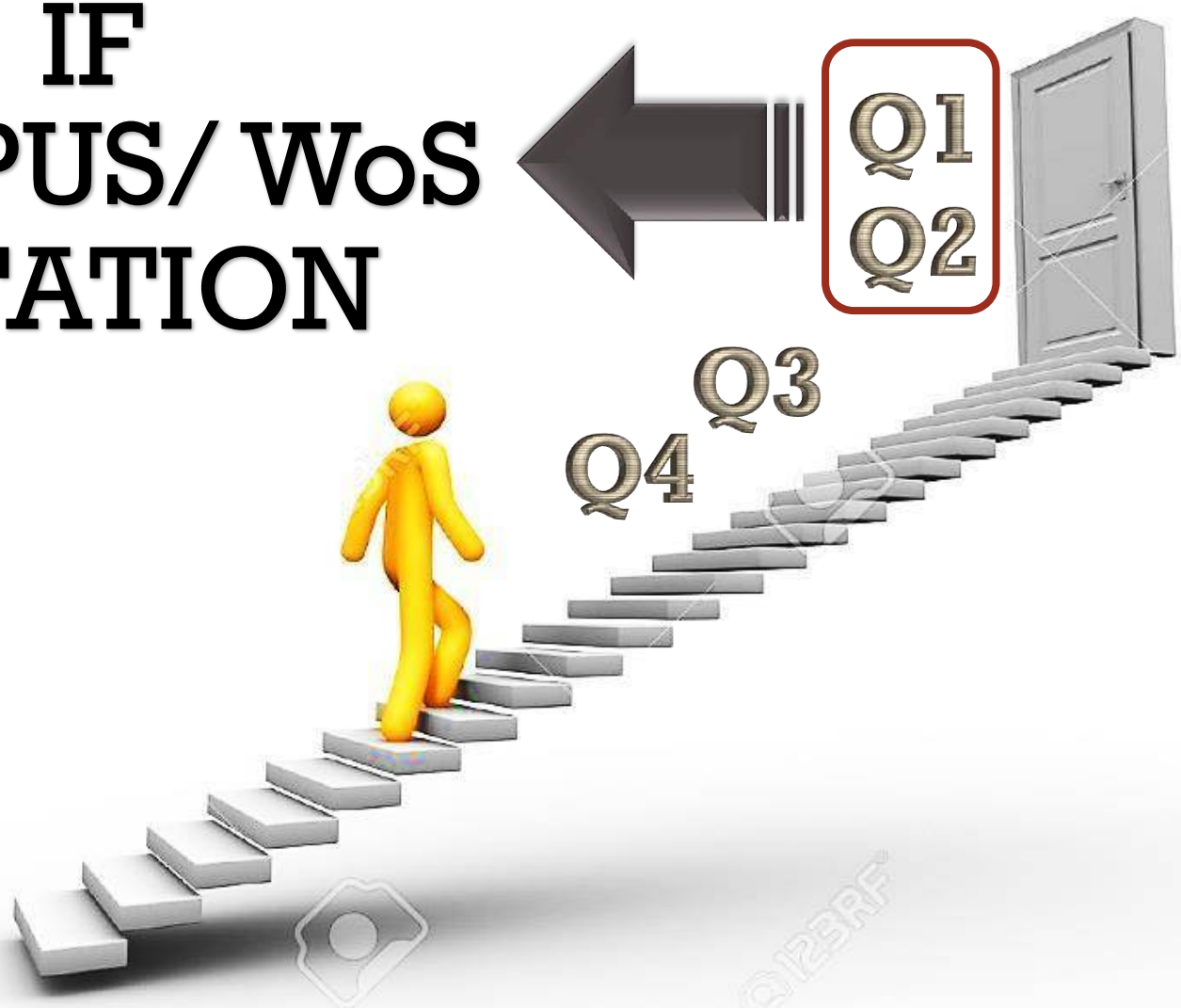
OTHER CITATION NON-SCOPUS/WOS

Why use SCOPUS (or WoS/ ISI)?

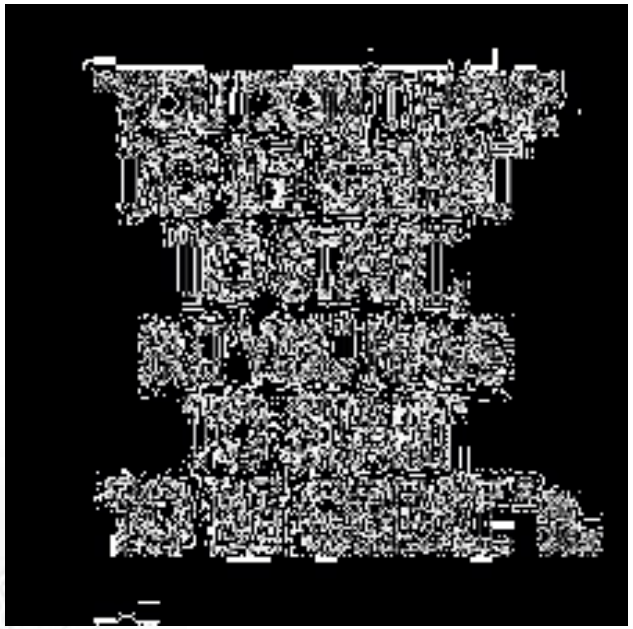
- **Credibility**
- **Recognition**



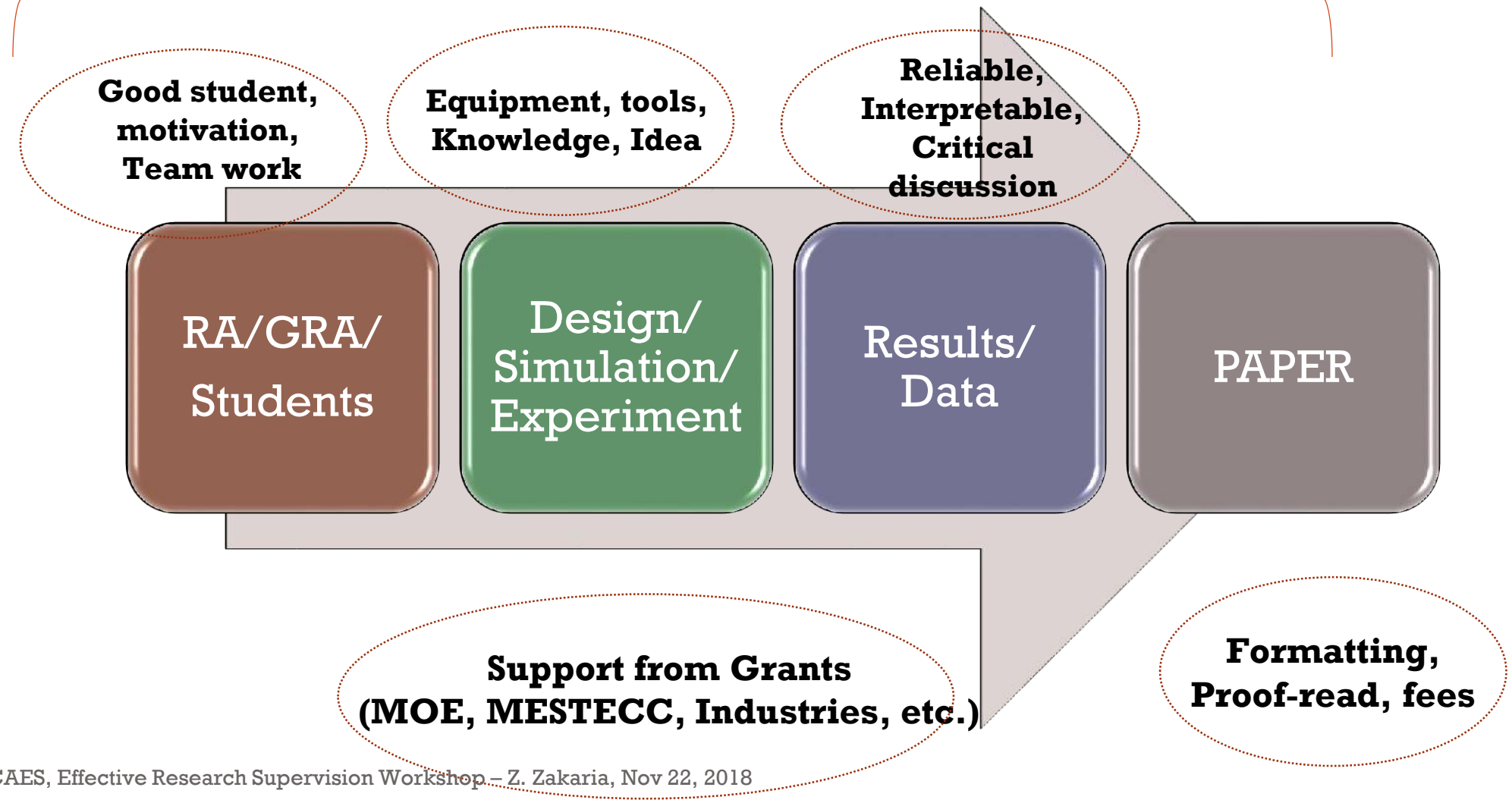
- IF
- SCOPUS/ WoS
- CITATION



HIGH QUALITY
HIGH IMPACT



Managing Journal Paper



For (Research) Students!

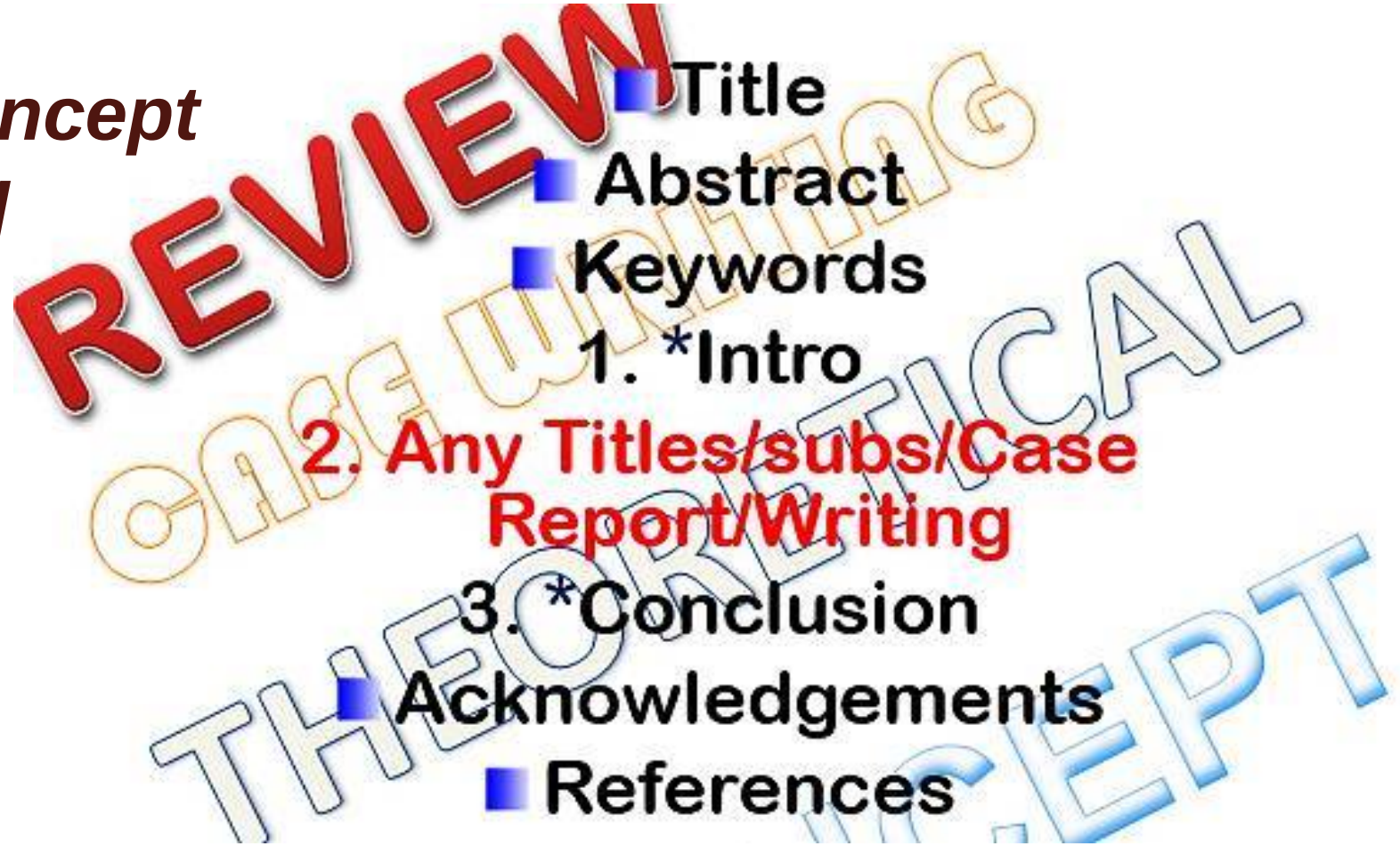
- **Target (Min); MSc 3 – 4 papers, PhD 6 – 8 papers (incl Proceeding)**
- **Set roadmap/ timeline**
- **Strategy (example):**
  1. **Start with Review paper**
  2. **Design/Work Package 1 (simulation or modeling)**
  3. **Design/ Work Package 1 (+ validation (experimental works/ measurement)**
  4. **Design/ Work Package 2 (simulation or modeling)**
  5. **Design/ Work Package 2 (+ validation (experimental works/ measurement)**
  6. **Compile Design 1 & 2 (Comparative analysis, comprehensive analysis, etc)**

RESEARCH ARTICLES

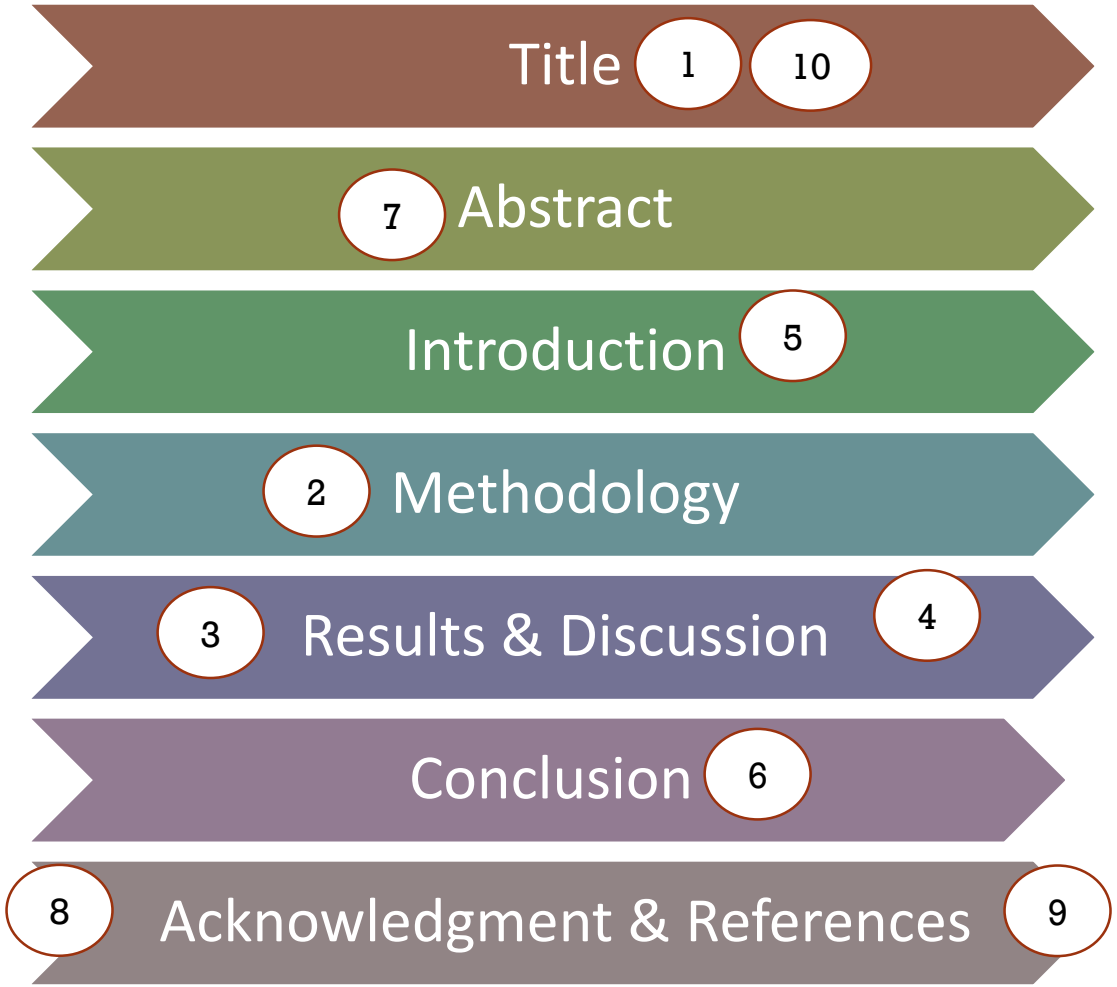
- ***Research/ empirical***
- ***Technical note***
- ***Experiments***

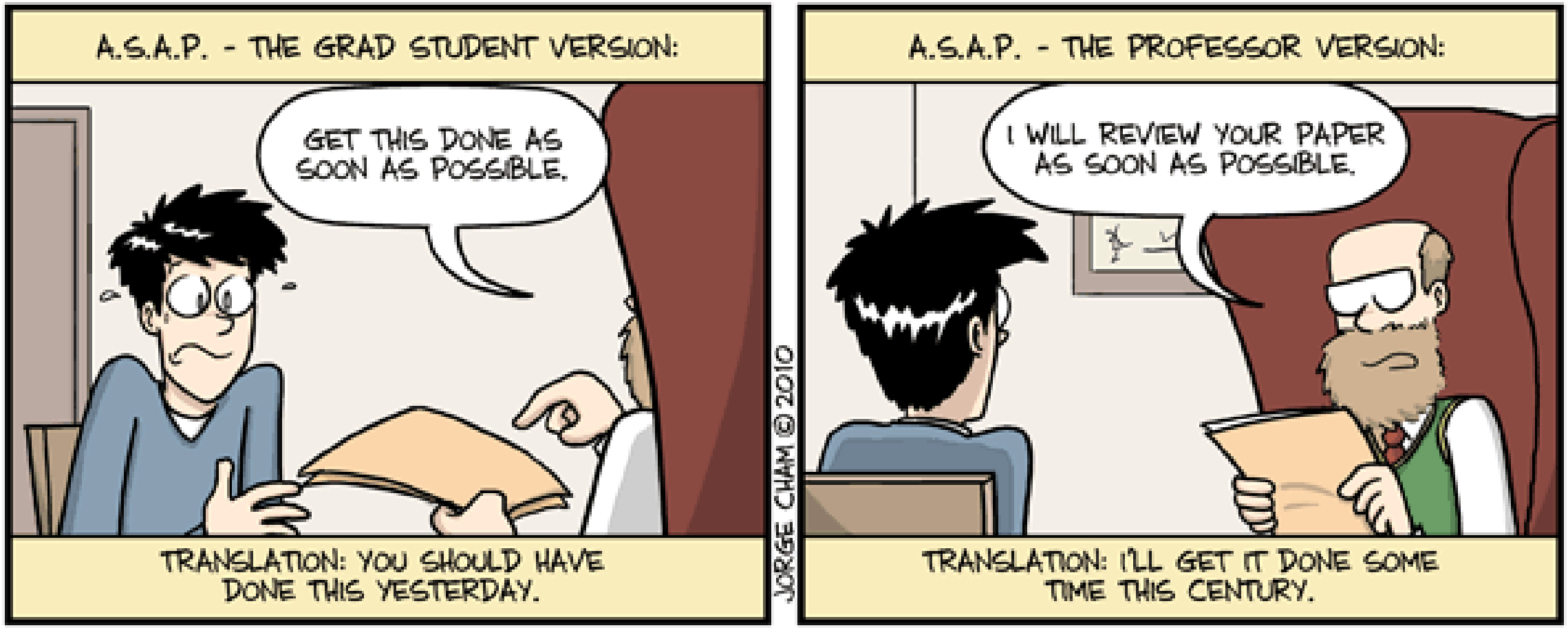
REVIEW ARTICLES

- *Review/ concept*
- *Theoretical*



Journal Paper Template
Where to start?




A.S.A.P. - THE GRAD STUDENT VERSION:
GET THIS DONE AS SOON AS POSSIBLE.
TRANSLATION: YOU SHOULD HAVE DONE THIS YESTERDAY.
JORGE CHAM © 2010
A.S.A.P. - THE PROFESSOR VERSION:
I WILL REVIEW YOUR PAPER AS SOON AS POSSIBLE.
TRANSLATION: I'LL GET IT DONE SOME TIME THIS CENTURY.
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TITLE & AFILIATIONS

- **Normally less than 12 WORDS** but law & mgmt journals can go more than 50 words!
- **Brief (short & sharp)** phrase describing / reflecting the contents of the paper.
- Print authors' full names and **affiliations**, the name of the corresponding author along with **HP/office phone (International Code), fax and email** information & complete current address.
- Be consistent with your own names for e-search databases / citation purposes.
- **Concise and informative**- titles are often used in information-retrieval system.
- Avoid abbreviations, prepositions and formulae where possible.

ABSTRACT

- **100-200 WORDS**, sometimes a max of 250 words
- Briefly present topic with 1-3 lines of **major/significant** info:
  - Introduction
  - Objectives
  - Experiments/methodology
  - Results/Findings (indicate next steps, practical implications (if applicable)- Applications to practice/'So what?' Social implications (if applicable)- Impact on society/policy/future work/suggestions/recommendations)
- **Originally/value**- Who could benefit from this and what is new about it?
- Sentences must be complete & **passive** verbs used. The **3rd. Person (He , She, They)** should not be used.
- Should be written in the **past** tense & standard nomenclature should be used and **NO abbreviations**
- **No literatures** be cited or quoted in the abstract since your abstract is your summary highlights of your own work / research.

KEYWORDS

- **Usually 3-8 WORDS (preferably five words)**
- **Reflect the content** of your article
- For the purpose of indexing / references. i.e. to enable searches in databases, include all the keywords of your research
- NOT necessarily represent all the words in your title
- Some journals, esp. submission through **Scholar One Manuscript Central** already specified the keywords in a particular chosen field.
- Try to avoid abbreviations expect standard ones.

INTRODUCTIONS

- **Normally 1-1.5 PAGEs** but more with business/management papers
- Should provide a **clear statement of the problem, the relevant literature** on the subject, and the proposed gap/approach or solution in **present** tense
- Lays the overview/groundwork for why the paper that follows is important-often includes the definition of relevant terms, a literature review, any hypotheses, and how this paper differs from others studies or papers on this topic
- Provides insights to the current or past problem
- Should cite **10-15 REFS** with most current literatures of 1-3 years back from the year of submission. Eg. 2017 submission must have 2016, 2015 & 2014 refs although your research has been conducted 5 years ago.
- May include research **questions & justifications** of study
- Outline how your work adds to knowledge/fills the gap
- **Objective** must appear in the last paragraph

METHODS & MATERIALS

- Should be **complete enough** to allow experiments to be replicated or reproduced.
- Only truly **new procedures** should be described in detail
- Previously published procedures should be cited, and important modifications of published procedures should be mentioned briefly
- Capitalize trade names and **include the manufacturer's** name and address (if applicable)
- Subheadings should be **used & consistent** with the order of methodology
- Other previous relevant research must be presented adequately
- Why did you use a particular questionnaire/ instrumentation & why was it selected? What is its validity? Describe the measure you used

RESULTS & DISCUSSION

- Clarity & Precision
- **In-line**/in order with your Methodology (in past tense)
- **Explain & discuss** why you get such results-may cite previous refs for comparisons. Be Crips!
- Better **illustrated** with Charts/Graphics/Tables(Charts/Graphs/Preferable than Tables)
- All Figures & Tables **must be referred** to as close as possible in Text (Past tense when describing findings in the authors' experiments ; Previously published findings should be written in the present tense)
- Be explained, but largely without referring to the literature, compared & discussed with previous literatures

CONCLUSION

- Must **fulfill** the study Objective/s (Eg. Two Conclusions For Two Objective Statements)
- Include how the paper advances research in your area of study. What is **unique** about it; the **contributions** or **novelty**
- Refers to Only Work Done in the study
- Should not be more than one-third of a page (or better still 1-2 paras)
- Include study **practical implications** that goes beyond the scope of your work or Malaysia
- Include **recommendations or future work** which must be in accordance with future study improvements for better accuracy to be conducted by future researchers

ACKNOWLEDGEMENT

Acknowledgements are optional. Use them to thank individuals or organizations that provided assistance in materials, expertise, or financing. The acknowledgements will appear at the end of the text and should be limited to one or two sentences.

REFERENCES

Responsibility for the accuracy of bibliographic citations lies entirely with the authors

Citations in the text

- Cite your own past relevant work, referees you like & journals you are going to submit
- Please ensure that every reference cited in the text is also present in the reference list (and vice versa).
- Avoid citation in the abstract.
- **Unpublished results and personal communications SHOULD NOT** be in the reference list, but may be mentioned in the text.
- Citation of a reference as 'in press' implies that the item has been accepted for publication.

REFERENCES

Citing and listing of web references

- As a minimum, the full URL should be given.

- Any further information, if known (author names, dates, reference to a source publication, etc.), should also be given.

- Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list, PENDING ON THE JOURNAL'S INSTRUCTIONS TO AUTHORS or GUIDELINES TO AUTHORS

REFERENCES

Listing of Authors

- References should be arranged first alphabetically and then further sorted chronologically, if necessary.
- More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication.
- If >= to 3 authors, use et. al. & italicize in the text but full listing in the References list

Zakaria, Z or Z. Zakaria or Zahriladha Zakaria?

SUBMISSIONS

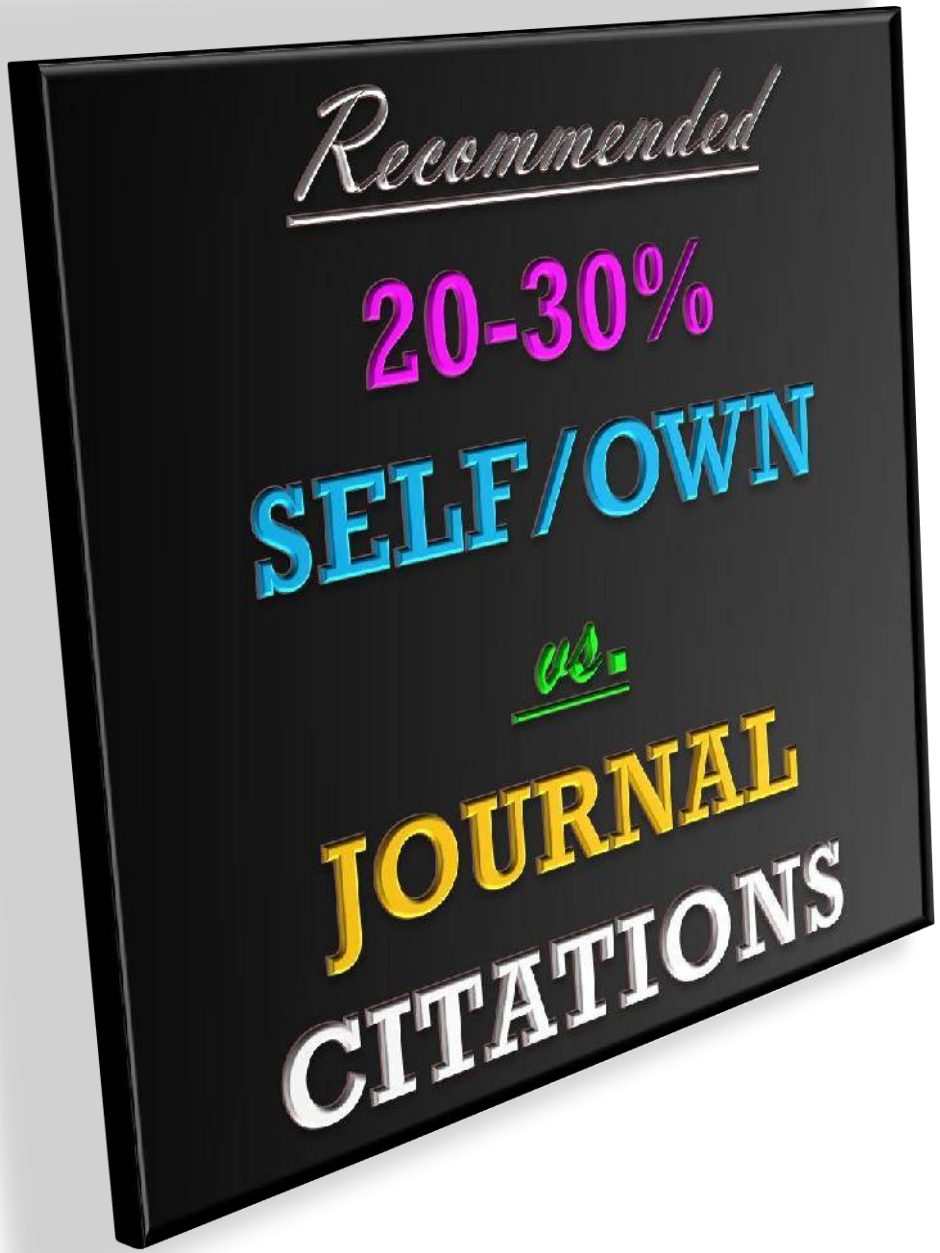
- Read aims/scope as well as notes to contributors diligently.
- Never send a paper to a journal without first looking through some recent issues to check if there are earlier related articles and whether it covers suitable fields and methods.
- Note the Chief Editor & Editorial Board Members of the selected journals. They may well become referees of your article. It is advised to include their names & articles in your references, even marginally related to your work.
- Know review period of response, preferences and biases of the journals
- Browse tables of contents (some journals may have too many articles in queue).

- English Grammar and Use is Unacceptable
- Extremely Difficult to Read
- Complete Re-writing to Improve The Level Of English.
- Find a Native English Speaker to Assist You In Preparing The Manuscript
- The Level Of English Throughout Your Manuscript Does Not Meet The Journal's Required Standard
- Strongly Advise You To Consult A Professional Language Editing Service
- Does Not Supply A Great Deal Of "New" Information Or A "Novel Approach" To The Field
- Methodology And Sampling Strategy Was Not Fully And Concisely Described
- Is Not A "Research" Oriented Work - It Is More Of A Case Study (Which We Do Publish As Well, As Feature Articles)

REASONS FOR REJECTION

- Failed The Initial Formal Technical Criteria Assessment
- We Do Not Feel That The Literature Review Or Data Provided In This Submission Fits Well With The Goals/Audience Of Our Journal
- The Work Is Too Under-developed To Be Ready For Publication In An International Research Journal
- The Article Reads As Though It Is A Very Early Report In What Will Be A Large And Continuing Project.
- This Article Doesn't Add Anything New To The Literature
- It Does Not Meet The Goals Of The Journal
- Does Not Fit Under the Aims and Scope of Journal/Marginally Related to the Journal's Scope

REASONS FOR REJECTION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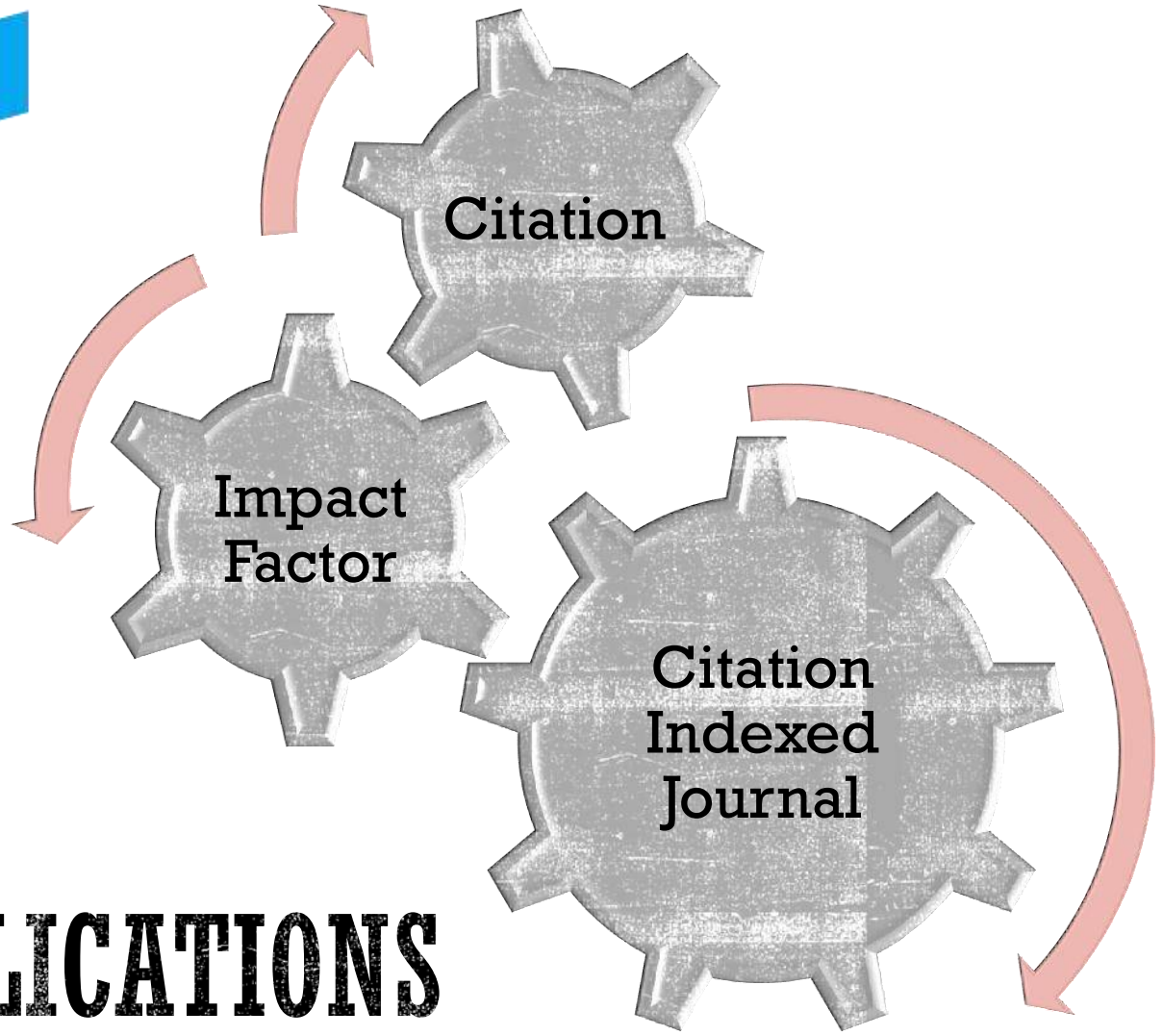
20-30%
SELF/OWN
vs.
JOURNAL
CITATIONS

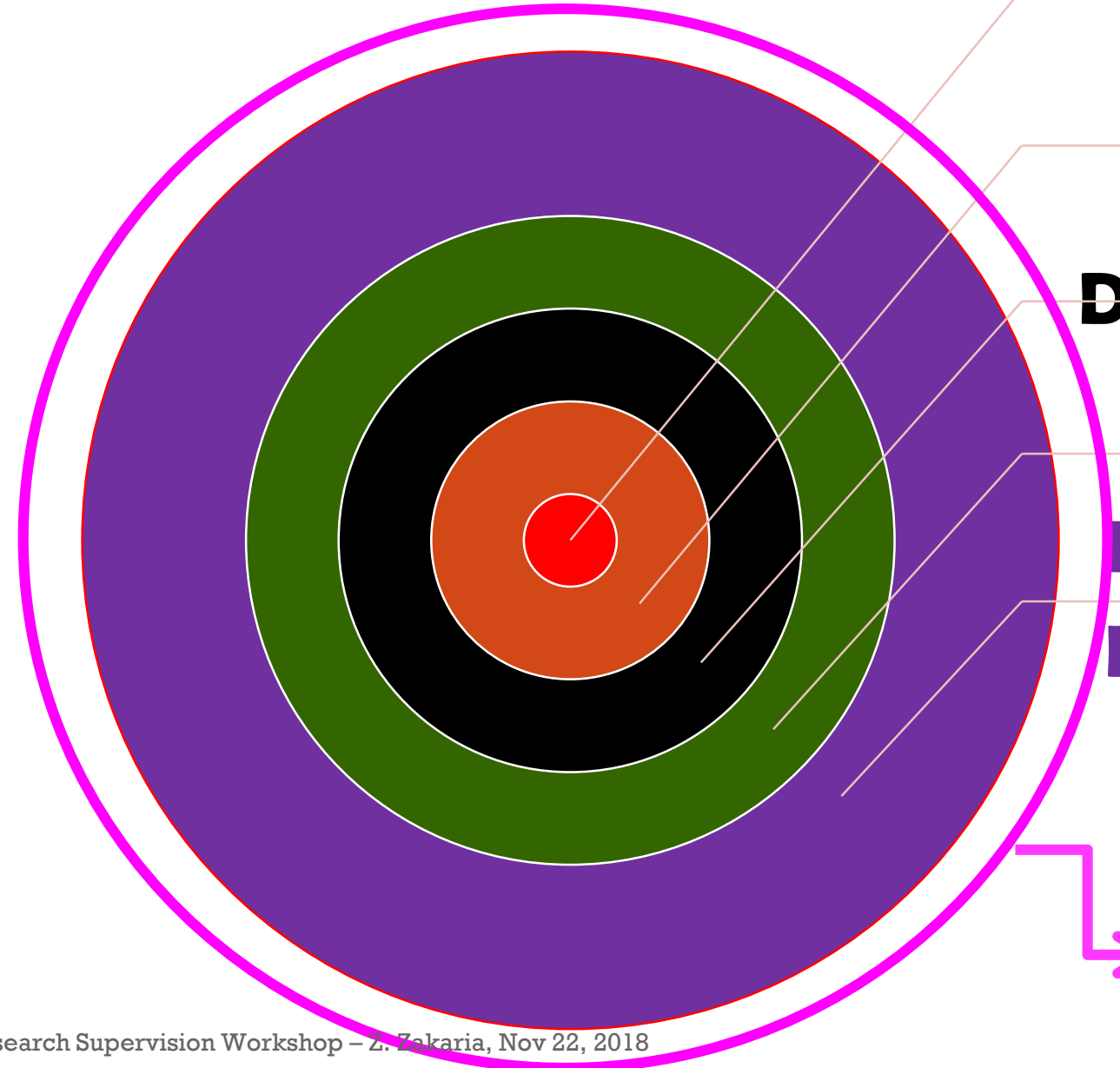


KEYWORDS - PUBLICATIONS

CITATIONS & H-INDEX

IS THIS THE LATEST TREND?
THEN WHY ISI-WoS /IF?

ZOOMING OF H-INDEX



JOURNAL

AUTHOR

DEPARTMENT

CENTER

FACULTY

INSTITUTE/CoE

INSTITUTION

HIGH QUALITY MANUSCRIPT

ACTIVITIES

- Log in into Web of Science/ Scopus
- Search for a specific journal in your field
- Search under different categories
- Determine how many categories
- Search details specific journal
- Determine total number journal listed
- Determine impact factor based on categories
- Check on your own profile (author's profile)
- Determine author's H-Index, Citation

Thesis/ Dissertation Preparation

THESIS/ DISSERTATION SUPERVISION CAN BECOME MORE SERIOUS

Oxford student killed himself hours after being told PhD thesis wasn't good enough

By DAILY MAIL REPORTER
UPDATED: 17:45 GMT, 25 February 2009

Share

View comments

An Oxford University student killed himself just hours after being told his PhD thesis needed to be improved, an inquest has heard.

A coroner was told how former Buddhist monk Juncnok Park hanged himself after what he saw was a colossal disappointment and an embarrassment.

The criticism was probably the first time the South Korean mature student had ever failed at anything in his life.

THESIS/ DISSERTATION PREPARATION

Follow the guideline/ policy set by PPS

- Notice of Thesis submission
- Number of words for MSc and PhD
- Format of Thesis – follow UTeM's style

THESIS/ DISSERTATION

Background:

- A roadmap or a blueprint or a monograph
- Introduces the main idea or claim, defines the problem, reviews existing approaches to the problem, identifies through critical analysis a clear gap for a possible novel academic contribution, and proposes solution to a problem

THESIS/ DISSERTATION

- First, a good thesis will help readers understand your work better.
- Second, the process of developing a clear, concise thesis will help you clarify your thinking and writing.
- Writing is a learning process, writers often discover what they really want to say as they write.

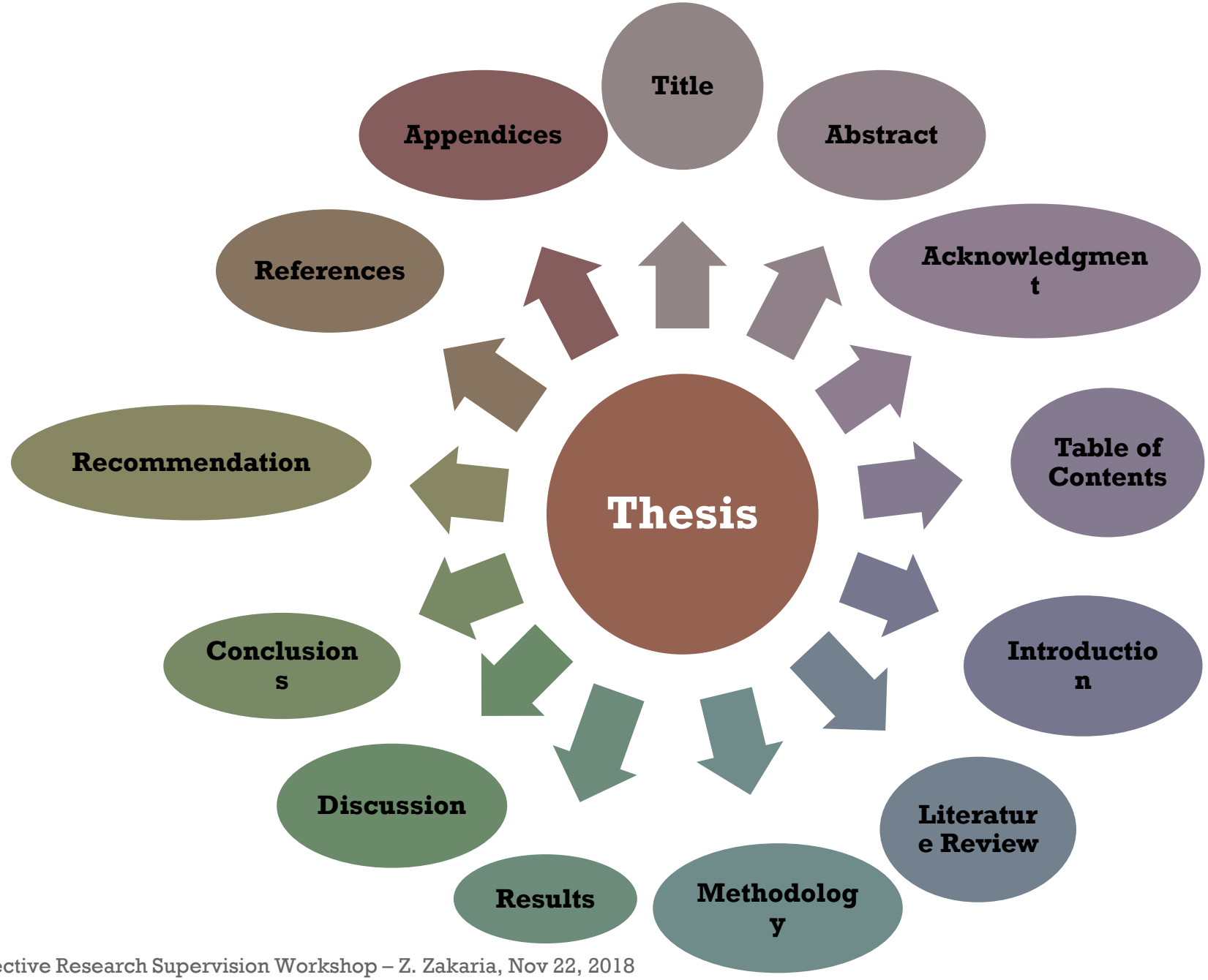
THESIS/ DISSERTATION

- Thesis content should be presented in a way that allows examiners without a first-hand experience of your field of study to understand the work.
- A thesis that is difficult to understand is also likely to be poorly written.
- Clear writing is an important part of a good thesis.
- Follow the presentation format of the dissertation dictated by institutional guidelines or regulations.

THESIS/ DISSERTATION

Overall, the evaluation criteria for a thesis are the following:

- overall excellence
- soundness of rationale
- context of research/evaluation of literature
- quality of interpretation of data
- logical and critical thought
- clarity and conciseness
- presentation


Thesis
Title
Abstract
Acknowledgment
Table of Contents
Introduction
Literature Review
Methodology
Results
Discussion
Conclusions
Recommendation
References
Appendices

TITLE

- Short / simple / concise and solid
  - May use catchy/bombastic words to attract attention to find out more about the research
- Must reflect the overall work that you would like to do
  - Give the impression as to the level of work/ intensiveness of work
  - Signify status of research that have been conducted
  - Signify the type of research, lab based, product based, fundamental etc.

ABSTRACT

- Explains in one line why this research is important. Then goes on to give a summary of your major results, preferably couched in numbers with error limits. The final sentences explain the major implications of your work.
- A good abstract is concise, readable, and quantitative.
- Generally 1 paragraph (some institutes set ~ 1-2 paragraphs, approx. 400 words).
- Abstracts generally do not have citations. Information in title should not be repeated.
- Be explicit.

ACKNOWLEDGEMENT

- Advisor(s) and anyone who helped you: technically (including materials, supplies)
- Intellectually (assistance, advice)
- Financially (for example: scholarship, departmental support, travel grants)
- Proofreaders
- Family

INTRODUCTION

- Overview / Background Study
- Problem statement
- Research objective
- Scope of study
- Original contribution*
- Organization of thesis

LITERATURE REVIEW

Information Seeking

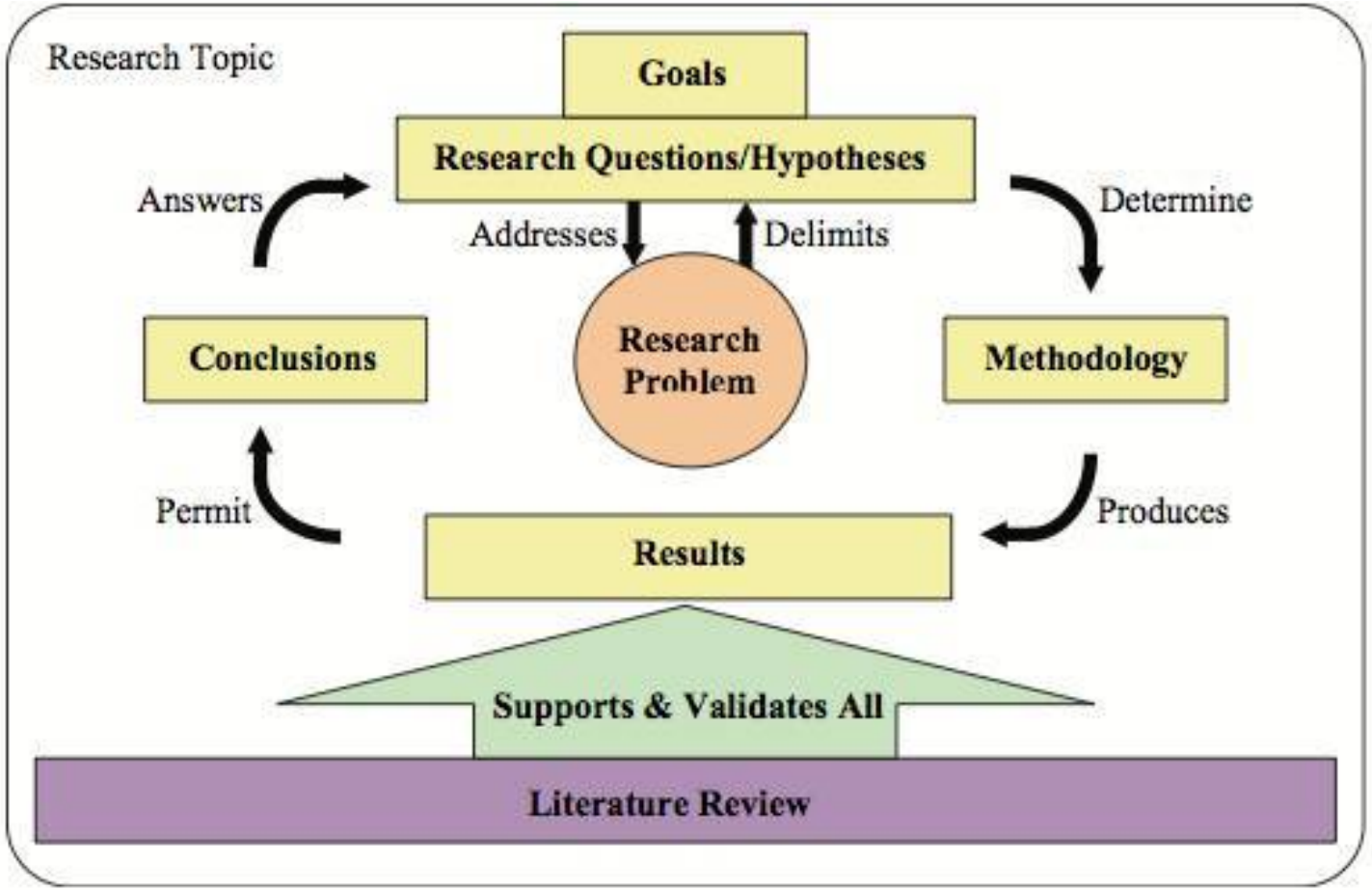
- Ability to scan the literature efficiently using manual or computerized methods to identify a set of potentially useful articles and books.

Critical Appraisal

- Ability to apply principles of analysis to identify those studies which are unbiased and valid. Your readers want more just than a descriptive list of articles and books.

CRITICAL REVIEW OF THE LITERATURE

Because Literature Review supports and Validates ALL your research work



Conceptual Map

METHODOLOGY

What should belong here?

- Information to allow readers to assess the believability of your results.
- Information needed by another researcher to replicate your experiment (detailed steps of data gathering and analysis process).
- Description of your materials, theory, and procedure (why you choose and why it is the most appropriate),.
- Equipment and calibration plots.

METHODOLOGY

- Limitations, assumptions, and range of validity.
- Description of your analytical methods, including reference to any specialized statistical software.
- Citations in this section should be limited to data sources and references of where to find more complete descriptions of procedures.
- Do not include descriptions of results.

RESULTS

- The results are actual statements of observations, including statistics, tables and graphs.
- Indicate information on range of variation.
- Mention negative results as well as positive.
- Do not interpret results - save that for the discussion.
- Lay out the case as for a jury.
- Present sufficient details so that others can draw their own inferences and construct their own explanations.

DISCUSSION

- Start with a few sentences that summarize the most important results.
- The discussion section should be a brief essay in itself.
- This section should be rich in references to similar work and background needed to interpret results.

DISCUSSION

The following questions should be kept in mind:

- What are the major patterns in the observations?
- What are the relationships, trends and generalizations among the results?
- What are the exceptions to these patterns or generalizations?
- What are the likely causes (mechanisms) underlying these patterns resulting predictions?

DISCUSSION

- Is there agreement or disagreement with previous work?
- Interpret results in terms of background laid out in the introduction - what is the relationship of the present results to the original question?
- What is the implication of the present results for other unanswered questions?

DISCUSSION

- What are the things we now know or understand that we didn't know or understand before the present work?
- Include the evidence or line of reasoning supporting each interpretation.
- What is the significance of the present results: why should we care?

CONCLUSIONS

- Completion of your research objectives.
- What is the strongest and most important statement that you can make from your observations?
- Refer back to problem posed, and describe the conclusions that you reached from carrying out this investigation, summarize new observations, new interpretations, and new insights that have resulted from the present work.
- Include the broader implications of your results.
- Do not repeat word for word the abstract, introduction or discussion.
- Try to end with positive tone.

RECOMMENDATION

- Further research opportunity
- Remedial action to solve the problem.
- Directions for future investigations on this or related topics.
- Do not overshadow your significant contribution.
- Let the examiner appreciate your thesis.

RESEARCH OUTPUTS

- List of Publications (Journals, Proceedings, Book Chapters)
- List of Awards (Exhibitions, Incentive)
- Intellect Property Rights (IPR) such as patent, copyright, etc

REFERENCES

- Up-to-date
- Provide only relevant references
- Cite all ideas, concepts, text, data that are not your own
- If you make a statement, back it up with your own data or a reference
- All references cited in the text must be listed
- Always ensure you have fully absorbed material you are referencing

APPENDICES

- Include all your data in the appendix.
- Reference data/materials not easily available (theses are used as a resource by the department and other students).
- Tables (where more than 1-2 pages).
- Calculations/ Source codes (where more than 1-2 pages).
- You may include a key article as appendix.
- List of equipment used for an experiment or details of complicated procedures.

SUMMARY

- Do not expect your chair or committee members to copy edit your thesis or dissertation. Before turning in any drafts, you should carefully edit and spell check your work.

- Editing in two forms:
  - Micro level: correcting spelling and grammatical errors.
  - Macro level: assesses the overall structure of the thesis

SUMMARY

- Don’t write for yourself, but for other researchers.
- Throughout the report, especially in the introduction and discussion, always keep in mind the main questions and arguments. Don’t be tempted into excessive diversion from this main path.
- Be sure to tell the reader all, what he or she needs to know about your study.

Why proofread?

- It helps you to **CHECK** that you have included everything you wanted to say in any piece of writing
- To Avoid **misused** words, **missing** words, **incorrect** punctuation, **jumbled** grammar, **miss**pellings
- It gives you a **CHANCE** to review your work and **ADD** in anything you may have missed out
- It helps you **IRON OUT** any little, unnecessary errors you may have made
- Proofreading shows that you **TAKE PRIDE** in your work and that it is the **BEST** you can make it

PART 5

VIVA-VOCE PPREPARATION

VIVA PREPARATION

Follow the guideline/ policy set by PPS

- Thesis submission to PPS through Faculty
- Appointment of examiners
  - PhD: 2 external & 1 internal examiners
  - MSc: 1 external & 1 external examiners
- No conflict of interest with the examiners
- Recommended to appoint the examiners that are in the similar field

VIVA PREPARATION

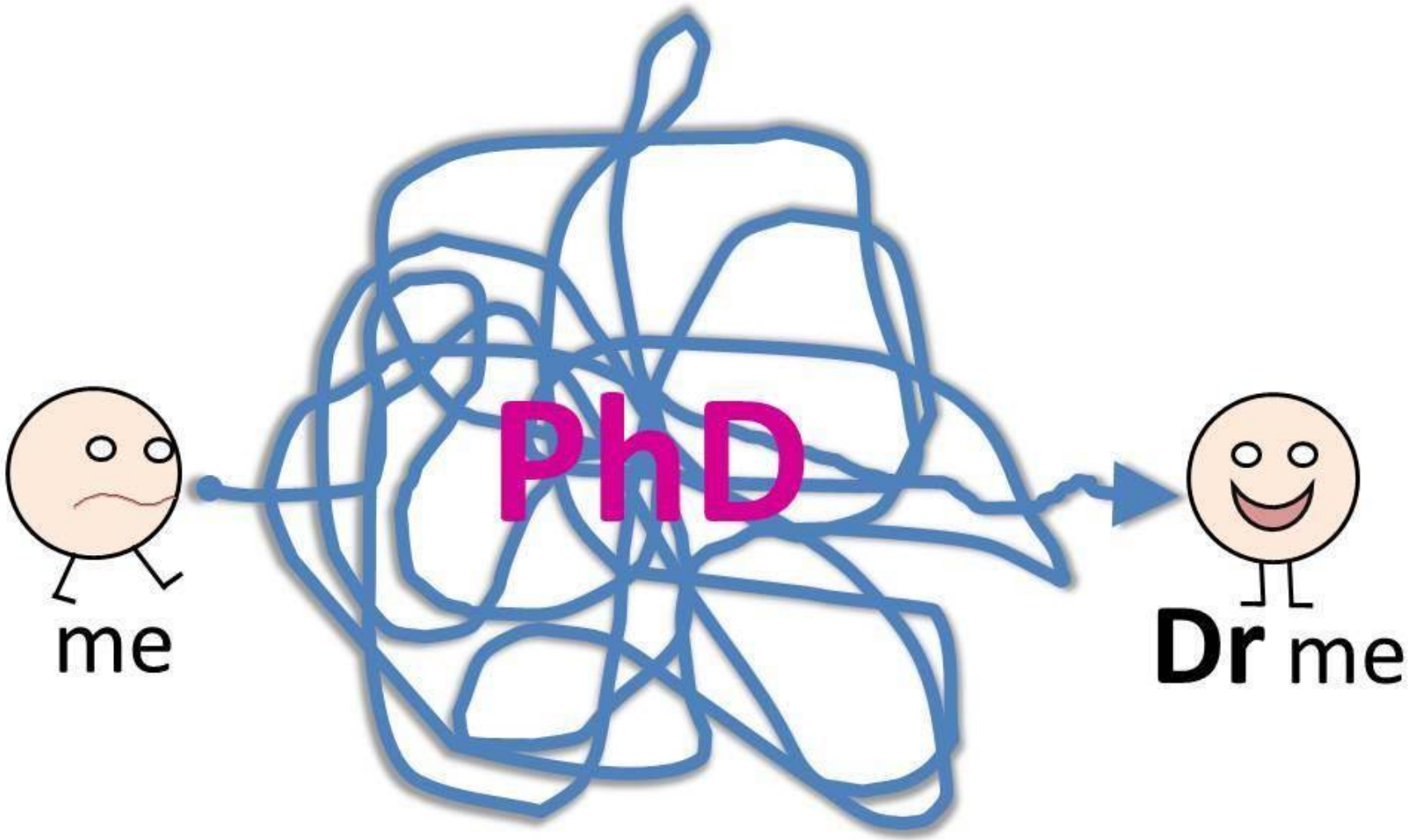
- Make sure you know exactly the research you are doing
- Re-read your thesis carefully. If you notice any mistakes, don't panic
- Make summary notes on the main points on each page
- Practise telling the story of the whole research in 2 minutes
- Practise telling the story of different chapters, each in 2 minutes
- Identify areas of weakness and make notes on each
- Identify the elements of originality in your thesis
- Identify your contribution to knowledge
- Identify the theoretical, research, and practical implications of your findings

VIVA PREPARATION

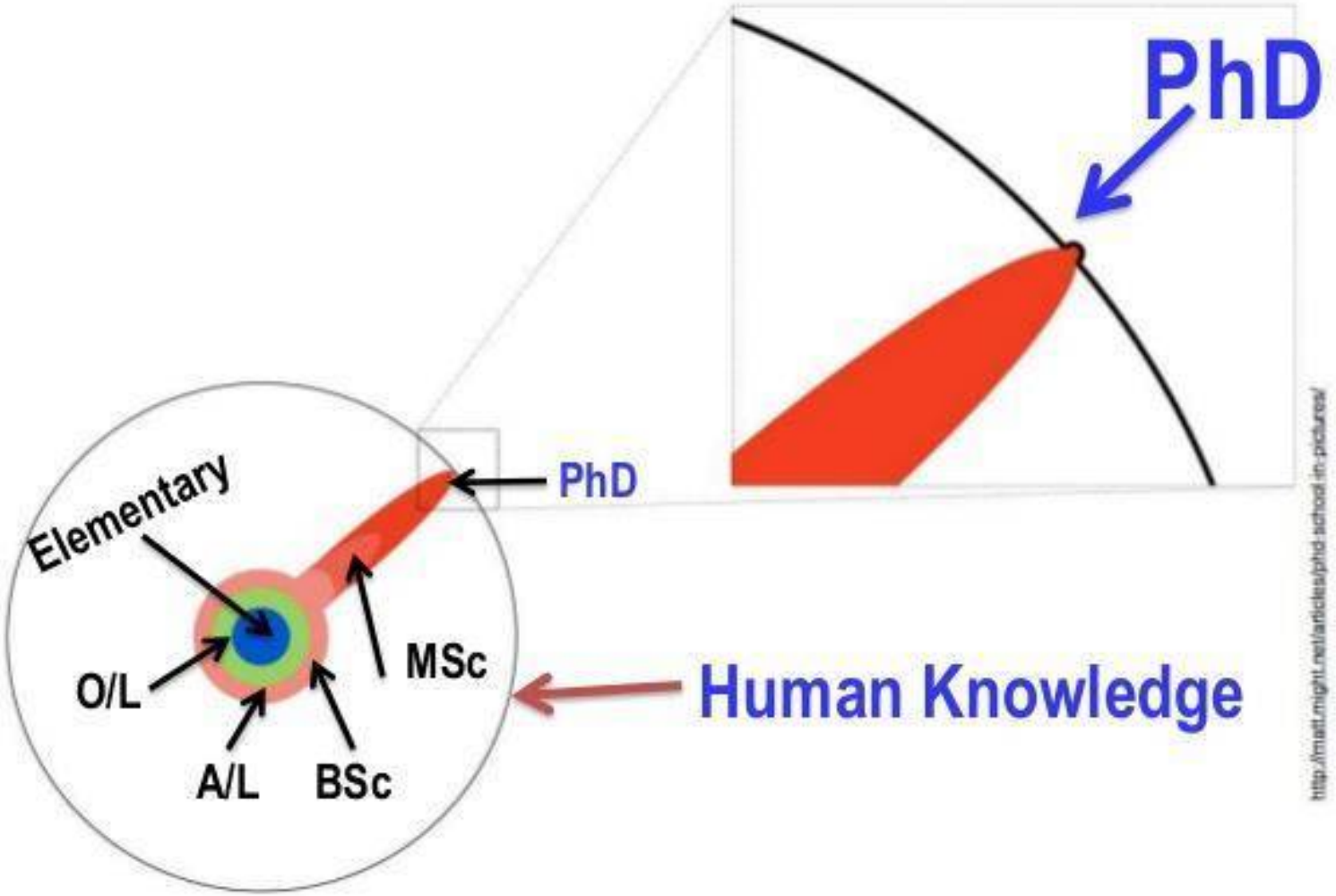
- Mini VIVA (Mock VIVA) to boost confident
- During the VIVA (UTeM's guideline)
  - Slide presentation for 20 minute, followed by Q & A
  - Depending on panel of examiners, normally they will start by asking questions based on your thesis, chapter-by-chapter, and guided by the Chairman.
  - The most important parts are i) Problem statement & objective of research, ii) Critical review, iii) Reliable methodology, iv) Novelty and contribution to the knowledge

VIVA PREPARATION

- The outcome of the VIVA
  - Immediate award of the degree without any changes being made to the thesis. Although this is possible, it is very rare. No further work needed
  - Award of the degree subject to minor amendments. This is a common result. Amendments to be made and submitted to the examiners (normally to internal) within 6 month
  - Award of the degree subject to major amendments. This is also a common result. Amendments to be made and submitted to the examiners (normally to internal) within 9 month
  - Revision of the thesis and a requirement to resubmit. You may feel disappointed with this result but it is not uncommon and the vast majority of students go on to resubmit successfully. You may be required to rewrite substantial parts of the thesis and submit within 1 year
  - Re-VIVA
  - Thesis failed with no right of resubmission


PhD
me
Dr me

What is a PhD?



5

EXTRAS


The Iceberg Illusion
Success is an iceberg
SUCCESS!
WHAT PEOPLE SEE
WHAT PEOPLE DON'T SEE
Persistence
Failure
FAIL
Sacrifice
THINGS I HAVE TO GIVE UP
1.
2.
3.
Disappointment
Dedication
GOAL
Hard work
Good habits
@sylviaduckworth

MENTOR & TEAMWORK

STUDENTS' ACHIEVEMENT

STUDENTS' ACHIEVEMENT

GOLD - ITEX 2016 & 2017

GOLD – SEOUL INNOVATION & INVENTION FAIR (SIIF 2013, 2016 & 2017)

LASTLY…

- Being a lecturer:

  Research Supervisor = Research Manager

- Work smart and hard
- Be good in what we do. Be nice to others
- Be an inspiring person
- Stay humble and be professional

LASTLY…

- Empathy and Compassion
- Display positive attitude
- Flexibility when possible
- Available when needed
- Be a mentor

MARRIAGE vs. The Ph.D.

Marriage

Ph.D.

Thank you

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