KEY ASPECTS OF RESEARCH METHODOLOGY

Induction 2022
DEDICATED TO LATE Dr. B. SHIVAKUMARASWAMY
THE FOLLOWING ARE TRUE OBSERVATIONS ???

• Doing PhD needs lot of Intelligence
• A doctorate is a chance to invent GREAT IDEAS and reveal your brilliance
• A masterpiece PhD dissertation is enough to ensure a great academic career
• Grades in Ph.D matter much for your future
• Your PhD thesis should include “Something that no one has ever done before”
THE FOLLOWING ARE TRUE OBSERVATIONS ???

• Having a PhD is enough to secure a professional career

• PhD students have long holidays unlike undergraduate or graduate students

• Doing PhD is a Boring Job
My Guide

• Name: Prof. A.R. SANTHAKUMAR
• Past : Dean, Anna University & IIT Madras
• Current : Retired & Structural Consultant
• PhD from : University of Canterbury, New Zealand
• Supervisor : Prof. PAULAY
• Area : Earthquake Engineering
My Student

• Name: Dr.T.Ch.MADHAVI
• Past : Faculty, Hindustan University
• Current : Head, Civil Engg. SRM University Ramapuram
• PhD from : Anna University
• Supervisor : Prof.M.SEKAR
• Area : BRIDGES- BOX GIRDER
My Friend

• Name: Dr. R. PANNEER SELVAM
• Past: ALUMNUS OF CEG
• Current: Director of Computational Mechanics Lab
• University of Arkansas, USA

• PhD from: Texas Tech at Lubbock, USA
• Supervisor: Prof. KISHORE MEHTA
• Area: Boundary Element Method
OUR NOTABLE STUDENTS

• Name: Dr. SADDAM M. AHMED & Dr. IKHLAS S. SHEET
• Current: Faculty in Mosul University, Iraq
• Ph.D from: Anna University
• Supervisor: Dr. C. UMARANI, Director Centre for Research, AU

• Area:
  • Experimental Behaviour of Beam-column joint and Floor slab under Cyclic loading
  • Experimental investigation of CFT column to steel beam connections under cyclic loading
WHAT IS RESEARCH?

• NEW
• CONTRIBUTING
• SEARCH
• DISCOVER
• THINK
• LEARN
• POSTULATE
• VALIDATE
WHAT IS RESEARCH?

• CANNOT BE SIMILAR TO ANOTHER WORK
• QUALITATIVELY DIFFERENT
• OPEN ENDED
• ASK QUESTIONS AND YOU TRY TO OBTAIN ANSWERS BY YOUR INDEPENDENT WORK
• INCREMENTAL RESEARCH
• PATH BREAKING RESEARCH
HOW TO CHOOSE A TOPIC FOR RESEARCH?

• YOUR INTEREST
• YOUR STRENGTH
• YOUR PASSION
• GAPS IN ALREADY EXISTING KNOWLEDGE
• IMPACT ON SOCIETY/MANKIND
• AVAILABLE FACILITIES TO DO RESEARCH
• Supervisor’s Directions
HOW TO CHOOSE SUPERVISOR FOR RESEARCH?

• TECHNICAL CAPABILITY
• EXPERIENCE
• MATCHING STYLE OF WORKING
• MENTAL COMPATIBILITY
• PROFILE
• PUBLICATION RECORDS
• YOUR OWN INTUTION
HOW TO CARRY ON THE RESEARCH?

- EXPLORE YOURSELF PERIODICALLY
- TAKE NOTES ON ALL THE EVENTS AND OUTCOMES HOWEVER SMALL THEY ARE
- ALWAYS TAKE THE SUPERVISOR IN TO CONFIDENCE
- PERIODICAL MEETING WITH THE SUPERVISOR
- DISCUSSION AND SHARING THE PROGRESS
- TAKE FEED BACK
- CONFIDENCE FOR MOVING FORWARD
HOW TO CARRY ON THE RESEARCH ?

• KEEP LONG TERM OBJECTIVES
• BUT ACHIEVE INCREMENTAL PROGRESS
• BREAK YOUR WORK INTO PARTS AND CARRY OUT IN A PHASED MANNER
• FOLLOW A WORK FLOW FOR THE RESEARCH
• BE AWARE THAT IN ANY RESEARCH WORK, A MINIMUM OF 20% WILL BE EXCITING AND SHOWING RESULTS AND CLING ON TO THAT AND MOVE
• IF NEEDED IN THE INITIAL DURATION, FEEL FREE TO CHANGE DIRECTION
HOW TO CARRY ON THE RESEARCH?

• BE AWARE OF THE ASSUMPTIONS OF YOUR WORK
• VALUE YOUR ASSUMPTIONS BASED ON THE RESULTS
• BE OPEN TO REJECTIONS OF LARGE NUMBER OF SAMPLES
• FACE THE FAILURES GRACEFULLY AND COURAGEOUSLY
• TALK WITH YOUR PEER GROUP OPENLY ABOUT YOUR FAILURES
• BE PERSISTENT, REGULAR IN YOUR WORK AND DISCIPLINED
• ALWAYS LIVE WITH YOUR TOPIC - MEETINGS, CONFERENCES, DISCUSSIONS, OTHER Ph.D SEMINARS AND VIVA VOCE EXAMINATIONS BE AT IT ALWAYS
MOTIVATION FOR RESEARCH?

- THE HIGHEST ACADEMIC DEGREE EARNED BY TIME BOUND WORK
- MASTERY
- WORKING WITH A PURPOSE
- ACHIEVEMENT OF AUTONOMY
- BETTERMENT OF THE SOCIETY
- SIGHTING A PROPER DIRECTION IN YOUR KNOWLEDGE PATH
- UNIVERSAL RECOGNITION
WITH ALL THE ABOVE ?????

• I AM SORRY THAT I CANNOT DISCOUNT THE FOLLOWING FACTOR

• L U C K
•WISH YOU GOOD LUCK

•&

•THANK YOU