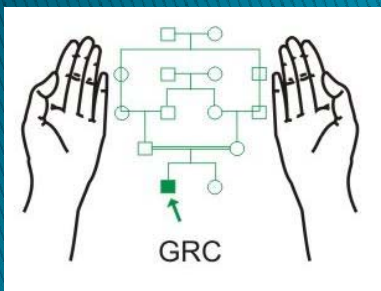


# Choosing the Research Question

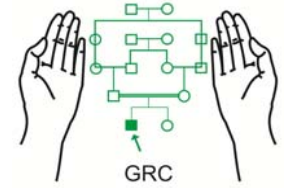
Maj Gen (R) Suhaib Ahmed, HI (M)  
MBBS; MCPS; FCPS; PhD (London)

Genetics Resource Centre (GRC)

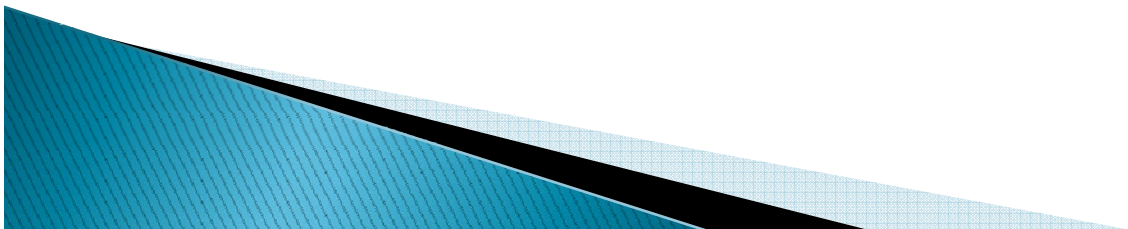


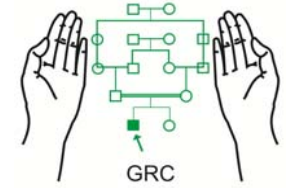
[www.grcpk.com](http://www.grcpk.com)

# Research



- ▶ “Work undertaken on a systematic basis in order to increase the stock of knowledge and the use of this knowledge to devise new applications”

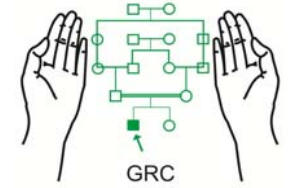




# Quantitative Research

- ▶ Systematic empirical investigation of quantitative properties and phenomena and their relationships.
- ▶ Asking a narrow question and collecting numerical data to analyze utilizing statistical methods.
- ▶ Designs include observational, experimental, and correlational.

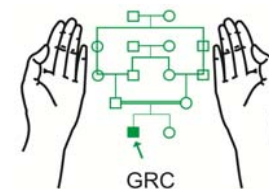
<http://en.wikipedia.org/wiki/Research>



# Qualitative Research

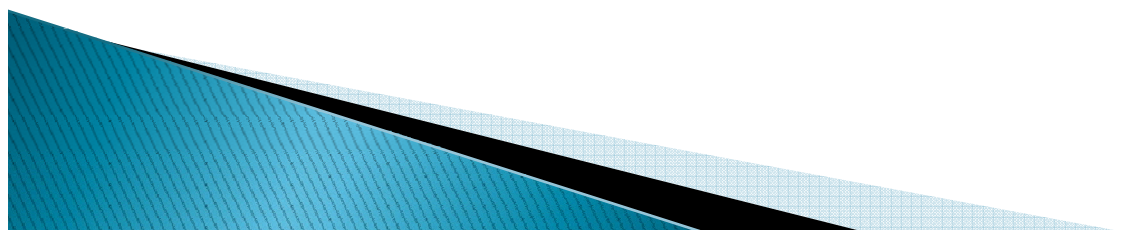
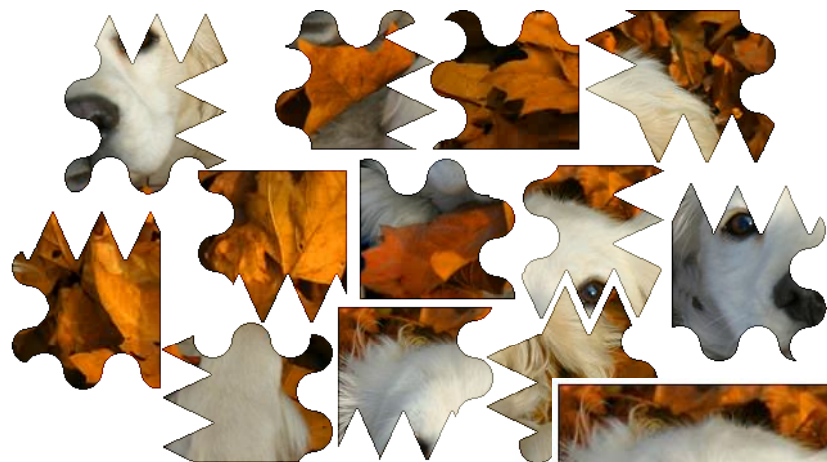
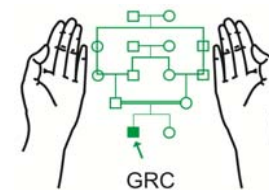
- ▶ Understanding of human behavior and the reasons that govern such behavior.
- ▶ Asking a broad question and collecting data in the form of words, images, video etc. that is analyzed and searching for themes.
- ▶ Aims to investigate a question without attempting to quantifiably measure variables or look to potential relationships between variables.

<http://en.wikipedia.org/wiki/Research>

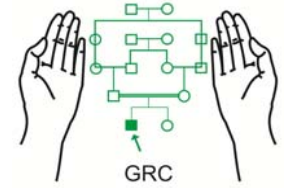


**You can find the answer  
only when there is a  
Question!!**

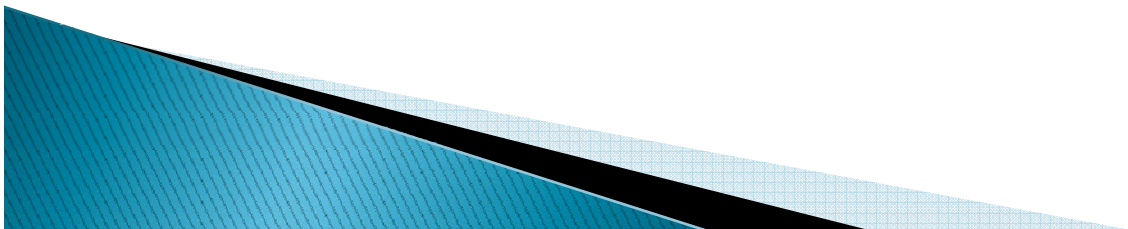




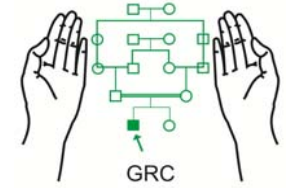
# The Importance....



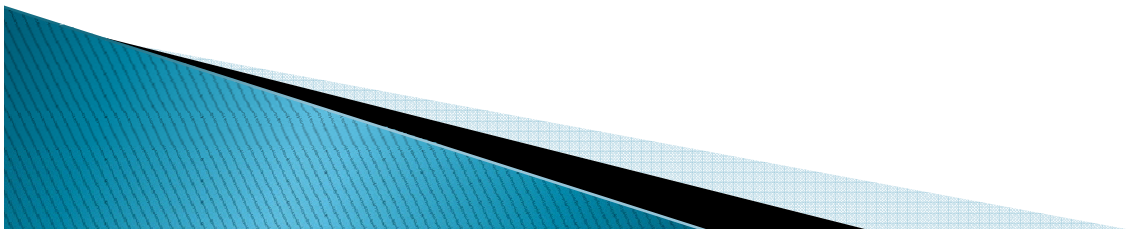
- ▶ Of all the decisions you'll make as an emerging scientist, none is more important than identifying the right research area, and in particular, the right research question.



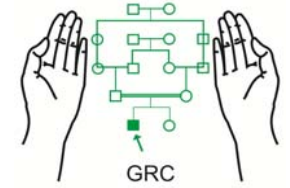
# Searching for the Subject



- ▶ Internet
- ▶ Journals
- ▶ Library
- ▶ Text Books
- ▶ Discussions

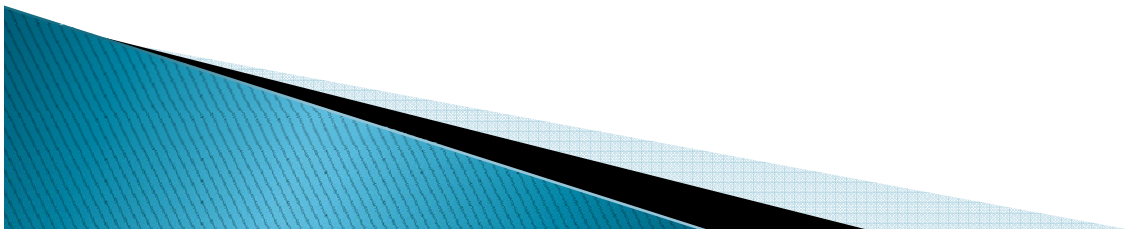


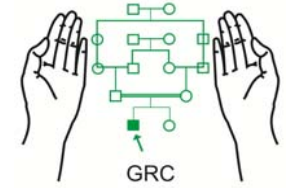




# The beginning.....

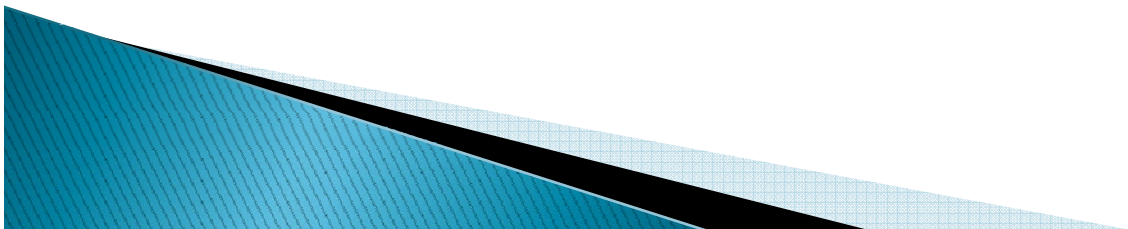
- ▶ Overwhelmed by the amount of published research that already exists
- ▶ Hope of discovering something new
- ▶ Opportunity to learn rather than a drudgery
- ▶ Chance to dive more deeply into the less frequently encountered pools of knowledge



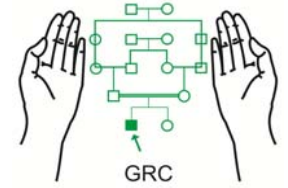


# Choosing the Subject of Research

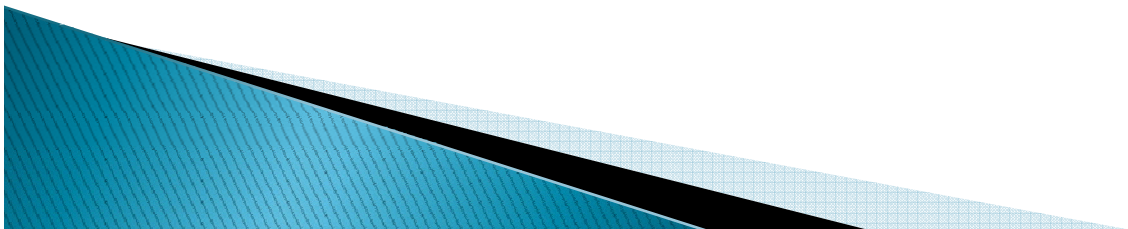
- ▶ Institutional guidelines
- ▶ Your interest and capability
- ▶ Your supervisor's interest and capability
- ▶ Is the research basic or applied
- ▶ Is the subject compelling?
- ▶ Potential for making an original contribution
- ▶ Will the research lead to other research questions?
- ▶ Significance of the subject
  - Local
  - National
  - International

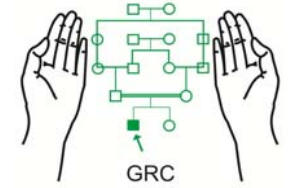


# Is the subject manageable?



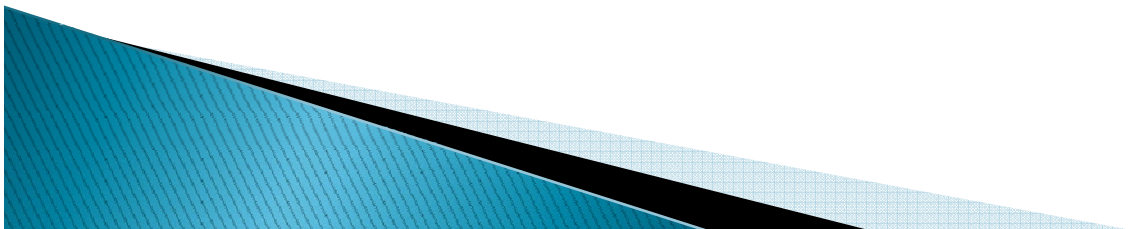
- ▶ Resources available
- ▶ Infrastructure
- ▶ Funding
- ▶ Timeframe



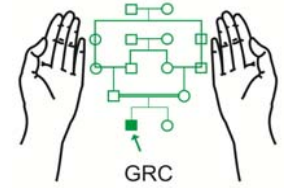


# Steps in choosing the Subject

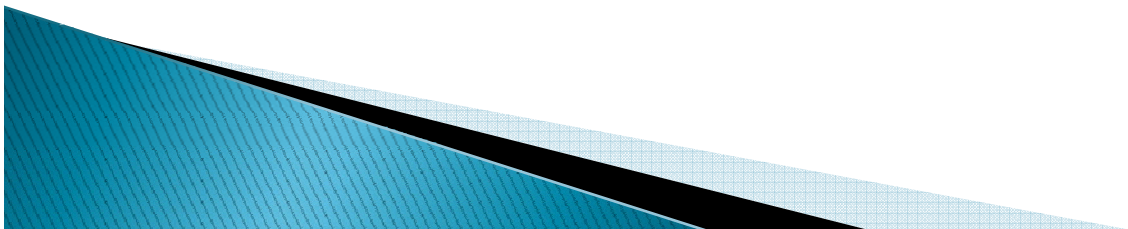
- ▶ Choose any topic or topics in the universe. – "e.g., something about viral diseases"
- ▶ Be a little more specific – "e.g., rapid diagnosis of viral diseases"
- ▶ Be a lot more specific – "e.g., PCR based diagnosis of viral diseases"
- ▶ Be highly specific – "e.g., PCR based diagnosis of Dengue"



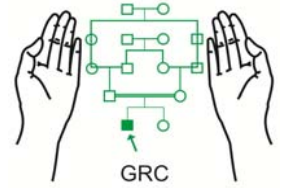
# PCR based diagnosis of Dengue



- ▶ Turning the topic into a sentence
  - “Evaluation of PCR based method for rapid diagnosis of Dengue fever”
- ▶ Turning into a thesis statement
  - “PCR based diagnosis of Dengue is a sensitive and specific method for rapid diagnosis of Dengue fever”



# Research in the Developing Countries



Low-cost solutions  
for common problems!!!

