

# COLLABORATIVE WORK AS A PATHWAY TO INNOVATION

By

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# Workshop Objectives

- How to network with colleagues with allied research interests?**
- How to stay abreast of latest news in your field**
- How to harness the strengths / expertise of team members**



## Workshop Objectives, Cont'd

- Links with training and networking platforms for researchers from developing countries**
- Organizing work / research groups**
- Developing mentor - mentee programmes**



# Workshop Outline

- ❑ Introduction**
- ❑ General and Gender-Specific Challenges**
- ❑ Overcoming the Challenges**
- ❑ Pathways to Innovation in Research**
- ❑ Successful Innovative Female Researchers**
- ❑ Case Studies of Research Collaborations:**
  - ❑ Lessons learnt**



# Introduction





# What Is Research?

**□ It is a systematic investigation about something in order to establish a fact or reach new conclusions.**

# What Is Innovation?

□ It is a new method, idea or product.

□ It means creating knowledge or using existing knowledge in a new way



# What is Collaboration?



**□ Collaboration means close cooperation or working relationships with groups.**



# What is Collaboration?



**What does collaboration  
mean to you?**

# What is Collaboration?, Cont'd



**□ Collaboration brings female researchers together to create a new knowledge or modify existing ones.**

# What is Collaboration?, Cont'd



- Women and men collaborate.**
- It means harnessing ideas, techniques from different disciplines to solve problems**

# What is Collaboration?, Cont'd



- **Little blocks build a mighty structure.**
- **Collaboration can be inter-university, inter-faculty, inter-dept. and intra-dept.**

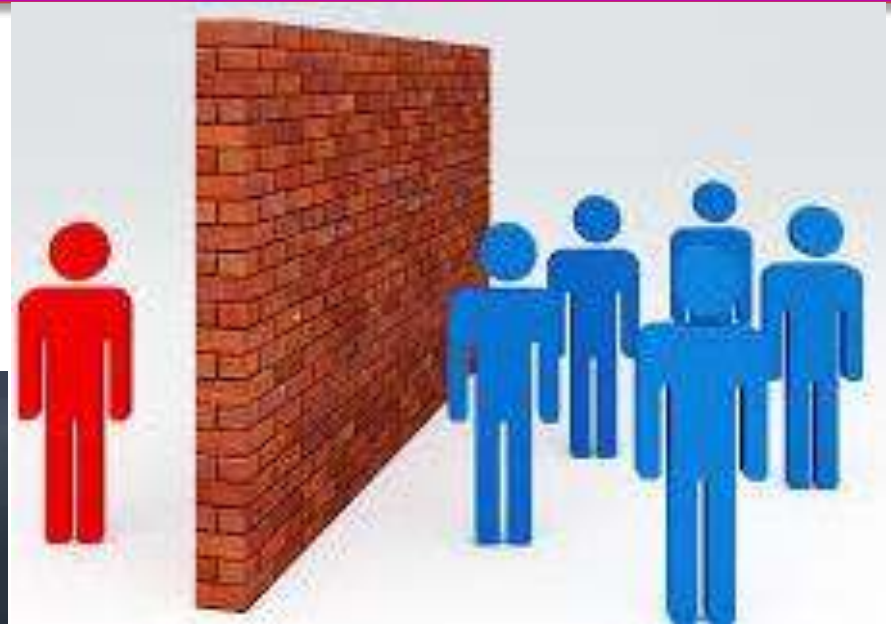
# Advantages of Collaboration

- ❑ **Two heads are better than one.**
- ❑ **Data is shared among group members and later integrated.**

# Advantages of Collaboration, Cont'd

- Innovation becomes possible with collaboration.**
- Research activity will be shared. Each person brings his expertise.**

# Challenges



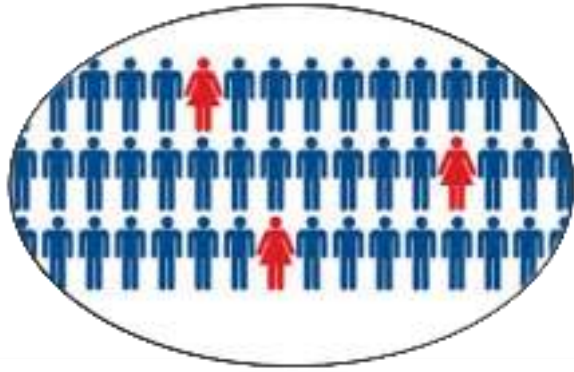
## Barriers to Collaboration



# General Challenges

- Leadership ability**
- Competence**
- Lack of facilities  
/infrastructures**





## General Challenges, Cont'd

- ❑ **Non-transparent method of appointments/nominations**
- ❑ **Problem of trust**



# Gender-Specific Challenges

- Unwillingness to cooperate after work hours due to family responsibilities**
  
- Combining home and career**



## Gender-Specific Challenges, Cont'd

- ❑ Lack of encouragement from other women**
- ❑ Criticism of equality by males to devalue females**
- ❑ Excuses for not meeting deadlines**

**Have you faced any challenges  
in collaborative research?**



# Overcoming Challenges



**WE DON'T GROW WHEN  
THINGS ARE EASY,  
WE GROW WHEN WE  
FACE CHALLENGES.**

- Learn to trust.**
- Delegate duties.**
- Be confident and determined.**
- Mentoring of young female academics by older ones.**



**□ Be confident and determined.**

**□ Mentoring of young female academics by older ones.**

# **Comments, Suggestions...**



# Pathways to Innovation



Pathways

# How To Achieve Innovation

**❑ Innovation comes with trial and error.**

**❑ Be Observant.**

**❑ Discuss with others on how to make things better.**



# How To Achieve Innovation, Cont'd

Be Confident



**□ Ask questions anyhow. Don't be afraid to ask questions.**

# Personal Development



**□ Invest in yourself: training**

**□ Search for mentors in allied research areas**

# Personal Development, Cont'd

- Attend meetings and interact with other women**
- Search for mentors that challenge you**
- Develop your brain – seminars, cohort meetings**

# Personal Development, Cont'd

**□ Have a complimentary card that specifies your research interests / focus.**

**□ Attend workshops / conferences**



**□ Acquire social networking skills**

## **Class Contributions**

# Personal Development, Cont'd

□ Move out of your 'comfort zone'.



□ See what others are doing both nationally and internationally.

□ Subscribe to 'content alerts' of top journals in your field.



# Personal Development, Cont'd

**□ Identify current researches, take note of authors and their affiliations, contact such for potential research collaborations**

# Personal Development, Cont'd

## **Examples:**

**□ WAFIRA Programme**

**□ Collaboration**

**Prof Olayinka – Peak of her career**

**Dr Omotayo – Middle level**

**Dr Sogbanmu – Early Career**

# Team Building



**TEAM  
BUILDING**



- ❑ **Don't listen to one view alone**
- ❑ **Identify people that can be in your team or you can be in theirs**
- ❑ **Team capacity building**

# Team Building, Cont'd

- ❑ Don't give up on your dream**
- ❑ Identify the strengths of each female academic**
- ❑ Put female academics in support teams to build their research capacity and boost publications**

# Team Building, Cont'd

- Team members should encourage each other and not pull each other down.**
- Search, identify and research on the needs or innovations required in industry or society relating to your expertise.**

# Team Building, Cont'd

- Be a good role model to other women.**
- Share information with one another.**

# Team Building, Cont'd

**Questions, Comments,  
Discussions**

# Dissemination of Research Outputs



- ❑ **Post your publications online**
- ❑ **Have online research profiles for you as an individual and your research group(s).**



# Dissemination of Research Outputs



**Albert Einstein**  
Institute of Advanced Studies, Princeton  
Physics  
No verified email

**Google Scholar**

Citation index	All	Since 2002
Citations	86312	28107
h-Index	103	67
i10-index	352	197

**Title:** 1 - 20

Cited by	Year
12724	1935

Can quantum-mechanical description of physical reality be considered complete?  
A Einstein, B Podolsky, N Rosen  
Physical review 47 (10), 777



Year	Citation Index
2006	~10
2007	~12
2008	~15
2009	~18
2010	~22
2011	~28
2012	~35
2013	~45
2014	~55

## Examples;

Researchgate



Google Scholar

Orcid



# Dissemination of Research Outputs, Cont'd

❑ **ResearcherID**



❑ **Academia.edu**



**Academia.edu**  
share research

❑ **Linkedin**

# Dissemination of Research Outputs, Cont'd

## **Class Discussion / Comments**

# Innovation Through Collaboration

CONSORTIUM



Imagine ...

*How we can make a difference!*

# Case Study 1

- ❑ Dr Rose has an **idea of a research / project** and has been on it for some years.
- ❑ She has **papers in high IF journals** and is happy about her contributions to Science.
- ❑ However, She realises that she could do better with the project if she was part of a bigger group or **collaborated with others**.
- ❑ She has been thinking of collaborating with a group **of experts from different fields**.

# Case Study 1, Cont'd

- ❑ Albeit, Dr Rose is hesitant as she finds that **people don't give out much information** during weekly meetings in her lab group.
- ❑ They are reluctant to give details about their experiments.
- ❑ Sometimes, they make **derogatory remarks of each other** and she has to settle bitter arguments between lab members over authorship of data.

# Case Study 1, Questions

- Why were things going wrong in Dr Rose's small group?**
- What can she do about it?**
- Can she apply what she has learnt from her small group to a larger group with a bigger project?**
- What are the challenges and hurdles that can slow, delay or even prevent a collaborative effort from succeeding?**

# Case Study 1, Questions Cont'd

- Are there cultural issues to be considered in forming a group for collaboration on research projects?
- How can Dr Rose ensure that every group member is properly rewarded / recognised for their contributions to the project? Ex. Who is the 1<sup>st</sup> author in papers?
- Can she allow the younger group members to take leadership of the group? Are there inherent dangers?
- When should the more senior members take a back seat?



# Case Study 1 – Lessons Learnt

- ❑ Collaborative work is not easy**
- ❑ It requires patience from the leader and ability to listen to every member.**
- ❑ Members must be trusted and valued.**
- ❑ An atmosphere of support must be created**
- ❑ There should be a recognition of each group member's strength or expertise.**

# Case Study 2

- A Senior colleague from a different department approached Dr. Dorcas about an aspect of a project she was currently carrying out with her students.**
- Dr. Dorcas had studied and previously published an article on this area of research.**

# Case Study 2, Cont'd

- Unfortunately, during the course of their collaboration, Dr. Dorcas ended up contributing over 95% of her resources and intellectual capability towards the completion of the project (both her aspect of the work and her colleague's aspect).**
- She also wrote the manuscript for publication.**

# Case Study 2 Questions

- Based on her contributions, can Dr. Dorcas be the sole author of the publication?**
- If the answer to (1) above is No, whose name should come first?**
- Who takes the lead role as team coordinator in a collaborative research?**

# Case Study 2 Ques., Cont'd

- Who should be the first author in a publication?**
- Who bears the financial responsibilities?**
- What are the advantages to the Senior colleagues' name being first (if any).**
- What kind of challenges do you envisage from their collaboration?**

# Case Study 2, Lessons Learnt

- ❑ **The terms of reference for every collaborative research must be determined/specified at the onset of the research, based on the following.**
- ❑ **In the event that the level of commitment and responsibilities taken up by individuals in the team shifts, the reward system should be defined.**

# Case Study 3



- **Dr Sarah is an early career academic interested in expanding the frontiers of knowledge in her area of specialization.**
- **She looks out for research grants and was able to apply for the International Foundation of Science Collaborative Research Grant.**

# Case Study 3, Cont'd

- ❑ She was shortlisted and the next phase involved an online forum where various researchers that have been shortlisted would have to form a group/team of 5 from at least 3 countries to prepare a research proposal.**
- ❑ She was excited about this and was able to identify fellow researchers with allied interest from certain countries.**
- ❑ However, as the discussions continued, certain issues began to surface.**



# Case Study 3 Questions

- ❑ **What types of issues/challenges do you think She can face in putting up or being part of a research team?**
- **Male dominance by proposed team members?**
- **Being an international collaboration, problem of time zone, internet facility, where research should be domiciled, who will lead the team?**
- **Lack of experience with such collaborations?**

# Case Study 3 Questions

- How can she overcome these challenges?**
- What should she do to successfully submit a proposal and get the grant?**

# Case Study 3, Lessons Learnt

- ❑ You must search for team members carefully.**
- ❑ As an early career academic, it is best to search for a senior scientist who will provide leadership and mentorship for the team.**
- ❑ You must develop a team spirit that should not be discouraged by lack of experience or support from others.**

# Case Study 3, Lessons Learnt

- ❑ She should consider the profiles and experience of members of the proposed team she would join in order to be sure of the competence and capability of team members.**
- ❑ Always work with and stick to deadlines.**
- ❑ Have team meetings: short and precise.**
- ❑ Be ready to sacrifice time, money, emotions, ...**

# Successful Innovative Female Researchers



**Prof. Folashade  
Ogunsola**

**Provost,  
College of Medicine,  
University of Lagos.**

# Successful Innovative Female Researchers, Cont'd

**Prof. Ogunlesi**