

**2<sup>ND</sup> WORLD  
CONFERENCE  
ON RESEARCH  
INTEGRITY**

PAN PACIFIC HOTEL SINGAPORE  
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# Developing, Sharing and Promoting Best Practices KEJUJURAN

Plenary III, 23 July 9:00 a.m. – 10:30 a.m. Room: “Pacific 3”

**John C. Galland, Ph.D.**

Director, Division of Education and Integrity  
Office of Research Integrity

United States Department of Health and Human Services



# ORI's Mission

To promote the integrity of PHS-supported extramural and intramural research programs

## Institutional Assurances & ORI Responsibilities:

- Respond effectively to allegations of research misconduct (FFP)
- Promote responsible conduct of research (RCR)
  - ORI has been providing these resources on responsible practices for more than two decades

# RCR Core Instructional Areas

1

~~Research misconduct~~

2

Human Subjects

3

Animal Welfare

4

Mentor/  
Trainee  
Responsibilities

5

Data  
Acquisition,  
Management,  
Sharing, &  
Ownership

6

Publication  
Practices &  
Responsible  
Authorship

7

Peer Review

8

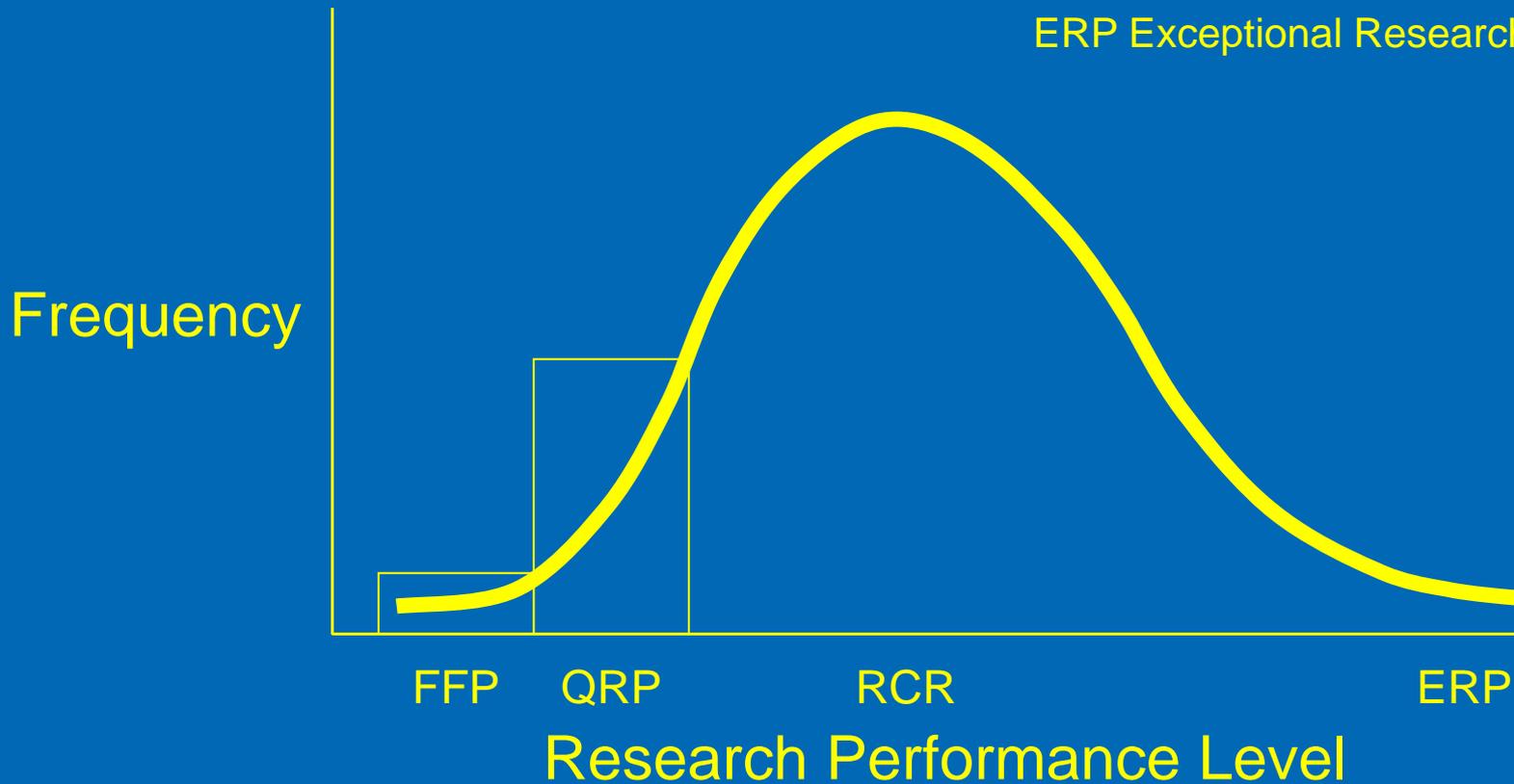
Conflict of  
Interest and  
Commitment

9

Collaborative  
Science

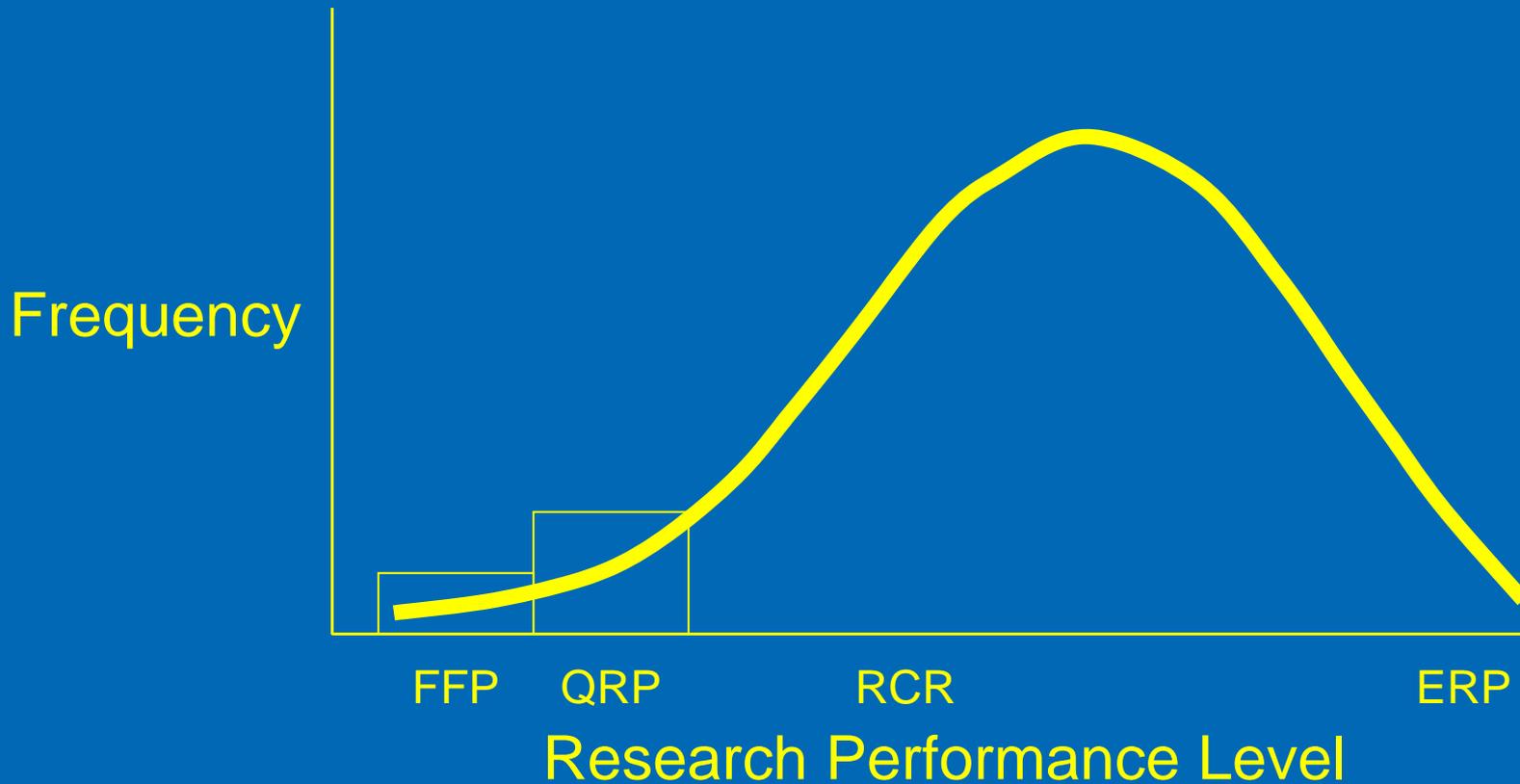
# Questionable Research Practices?

FFP Falsification, Fabrication, Plagiarism  
QRP Questionable Research Practices  
RCR Responsible Conduct of Research  
ERP Exceptional Research Practices



Questionable research practices far more common than outright misconduct

# A Desirable Shift in the Curve?



Questionable research practices far more common than outright misconduct

# Reasons for RCR Instruction

- To Prevent *scientific misconduct (FFP)*
- To reduce *questionable research practices (QRP)*
- Required for trainees and human-subject researchers in US
- Required for NSF funded students & scholars
- To enhance compliance with regulations
- To reduced litigation costs
- To reduce sanctions
- To earn and maintain the public trust



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Help researchers  
do better research

# Importance of Researchers

**The vitality of our world's people and economy depends on researchers who are innovative and act responsibly.**

**Yet**

# Research Landscape Changing

- Research becoming more collaborative
  - Community-Based Participatory Research Teams
  - Private-Public Partnerships
  - International Research Teams
  - Mentoring Relationships
  - Research Teams in Times of Crisis
- Research is changing our world at phenomenal pace requiring attention to new ethical issues
  - Dual Use threats
  - Environmental crises
  - Personalized Medicine ethics
  - Drug Development Controversies
  - Community Based-Participatory Research

What new professional practices are needed?

Where, how, and by whom will they be taught?

# Research Enterprise



# Guardians of the Trust

all members of the entire research enterprise

- Researchers (their training, conscience and internalized values of research)
- Study panels/Peer review (grant proposals, manuscripts)
- Whistleblowers
- Funding Agencies/sponsors (NIH, NSF)
- Institutions and Institutional Officials:
  - Attorneys, Auditors/Accountants, Contract analysts
  - Chairs, Deans, Mentors
  - Institutional Research Integrity Officers (RIO's)
  - IRB/IACUC/HR/H&S/GLP Codes of Conduct
- Professional Societies
- Journal editors and publishers
- Public/Congress
- Press
- Regulators



# Institutional Best Practices?

- Institutions have the responsibility to support the individual researcher's ability to function at the leading edge of professional integrity
  - Integrity in Scientific Research: Creating an Environment that Promotes Responsible Conduct, National Academies of Science (2002)
- Institutions should establish procedures to identify and defuse stressors on researchers

# Questions about Best Practices

- What are best practices?
- For what outcomes?
- For whom?
- At what level of detail?
- Over what scope of range (trans-continental, trans-institutions, trans-disciplines)?
- Who develops them and with authority?
- When are they changed?
- How is consensus reached? Is it necessary?
- What are the consequences of less than best practices?  
Who defines and enforces these consequences?

# Best Practices for What Outcome?

- To be competent technically?
- To act responsibly?
- To be innovative?
- To be socially responsible?
- To be productive?
- To help researchers flourish?

# Frameworks for Best Practices?

Best practices linked to:

- Established rules
- Values
- Topics commonly associated with RCR
- Acceptable risks of causing present and future harm
- Professional responsibilities of scientific inquiry (e.g., the scientific method)
- Societal responsibilities
- Survival skills

# Example Broad-Scope Best” Practices

- Do no harm
- Maintain the integrity of your research
  - Minimize introduction of unwanted variation into research results
  - Enhance technique/competency
- Behave honorably (maintain trust)
- Report misconduct
  - Duty to profession and public; an honor code (“**We Will Not Lie, Steal Or Cheat, Nor Tolerate Among Us Anyone Who Does**“ )  
-U.S. Air Force Academy Honor Code
- Be good stewards of public resources
- Speak openly (courageous conversations- a duty in the culture of science? To have a voice in important decisions that affect research outcomes)

# Challenges to Developing, Sharing, and Fostering Best Practices

- Definitions
- Global applicability/
- Relevance/Stability/Timeliness (changing landscape)
- Agreement/Consensus
- Cross-boundaries (disciplines/languages/nations)
- Status quo
- infrastructural
- incentives
- Benchmarking (knowing what others are doing and when)
- Cognitive
- Motivational
- Resources (time, people, funding)
- Political
- The tension between visionaries and pragmatists