

# Preventing Research Misconduct through an Ecosystem Approach

The BEYOND Guidelines for Preventing and Addressing Research Misconduct

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**BEYOND  
Guidelines for  
Preventing  
and  
Addressing  
Research  
Misconduct**

**BEYOND  
Best  
Practices  
Manual**

**2030 Roadmap for  
Improving  
Institutional  
Research Cultures**

**The BEYOND  
Policy  
Recommendations  
on Institutional  
Research Ethics  
and Research  
Integrity Culture**

**BEYOND  
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Brief**

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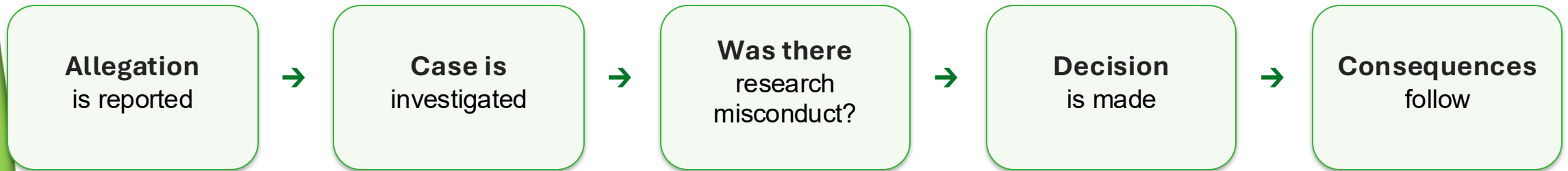
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## Imagine a typical case...

A postdoctoral researcher in a laboratory is found to have fabricated or falsified data.

**How would your institution respond?**

# What typically happens?



*And perhaps... “Were there any systemic factors?”*

**But have we prevented anything?**

The researcher has been dealt with.

**But tomorrow, another researcher enters the same laboratory.**

Pressure to publish

Unrealistic  
expectations

Inadequate  
supervision

Poor data systems

Power relationships

Career insecurity

Culture around  
mistakes

**Have we reduced the risk of it happening again?**

# RM cases in Norway

- 12 Norwegian research misconduct/research integrity cases were reviewed, involving UiO, NTNU, OUS and NIH, spanning approximately 2011–2024.
- Decisions largely focused on individual conduct: whether misconduct had occurred, who was responsible, and what consequences or corrections were required.
- Several cases nevertheless pointed to broader factors, including inadequate supervision, power relations, working conditions, leadership and institutional oversight.
- Only rarely were these factors explicitly examined as systemic contributors to misconduct or translated into recommendations for institutional or research-environment change.

## Key observation:

- The cases often contained signs of systemic problems, but the decisions predominantly addressed the individual case rather than asking what in the research environment may have enabled the misconduct.

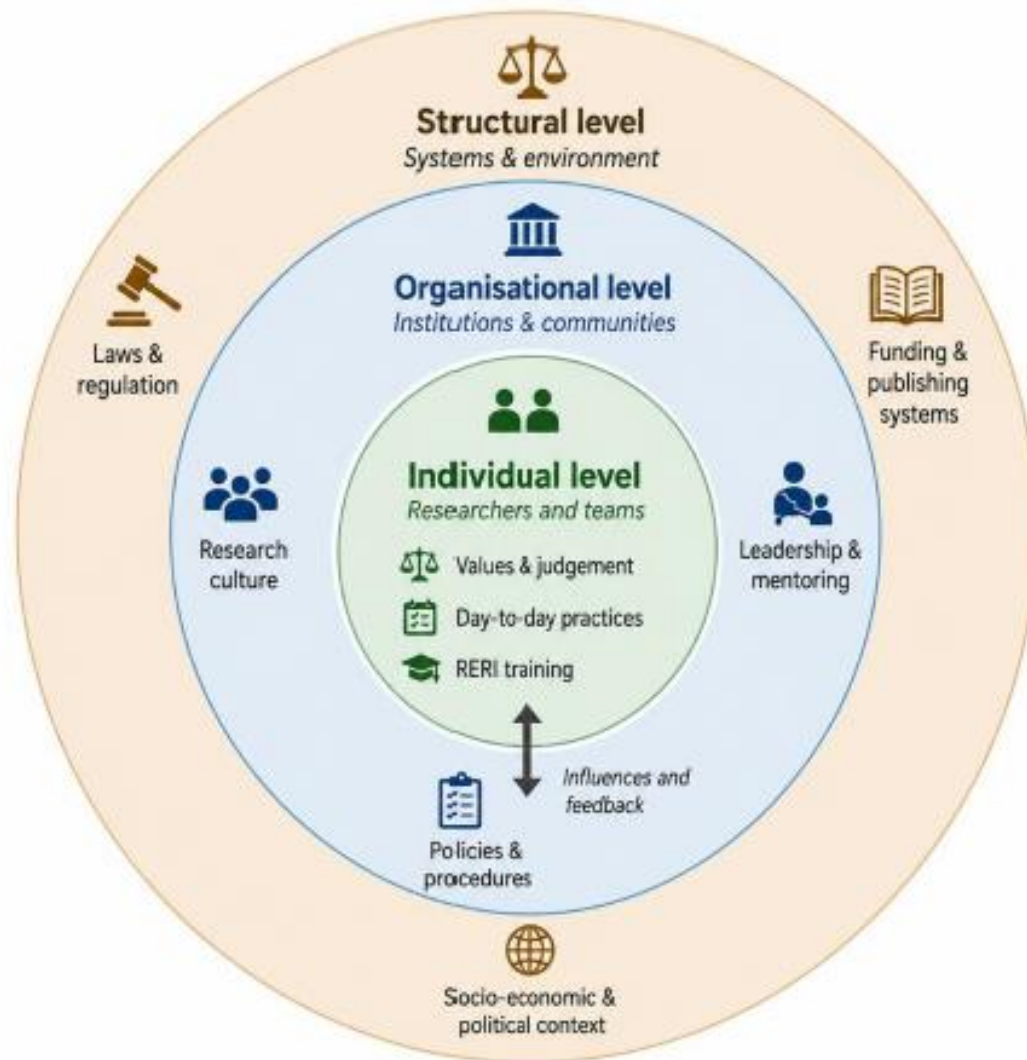


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- **Research misconduct is not simply a “bad apple” problem.**

Individual responsibility remains; however, individual behavior occurs within a research ecosystem.

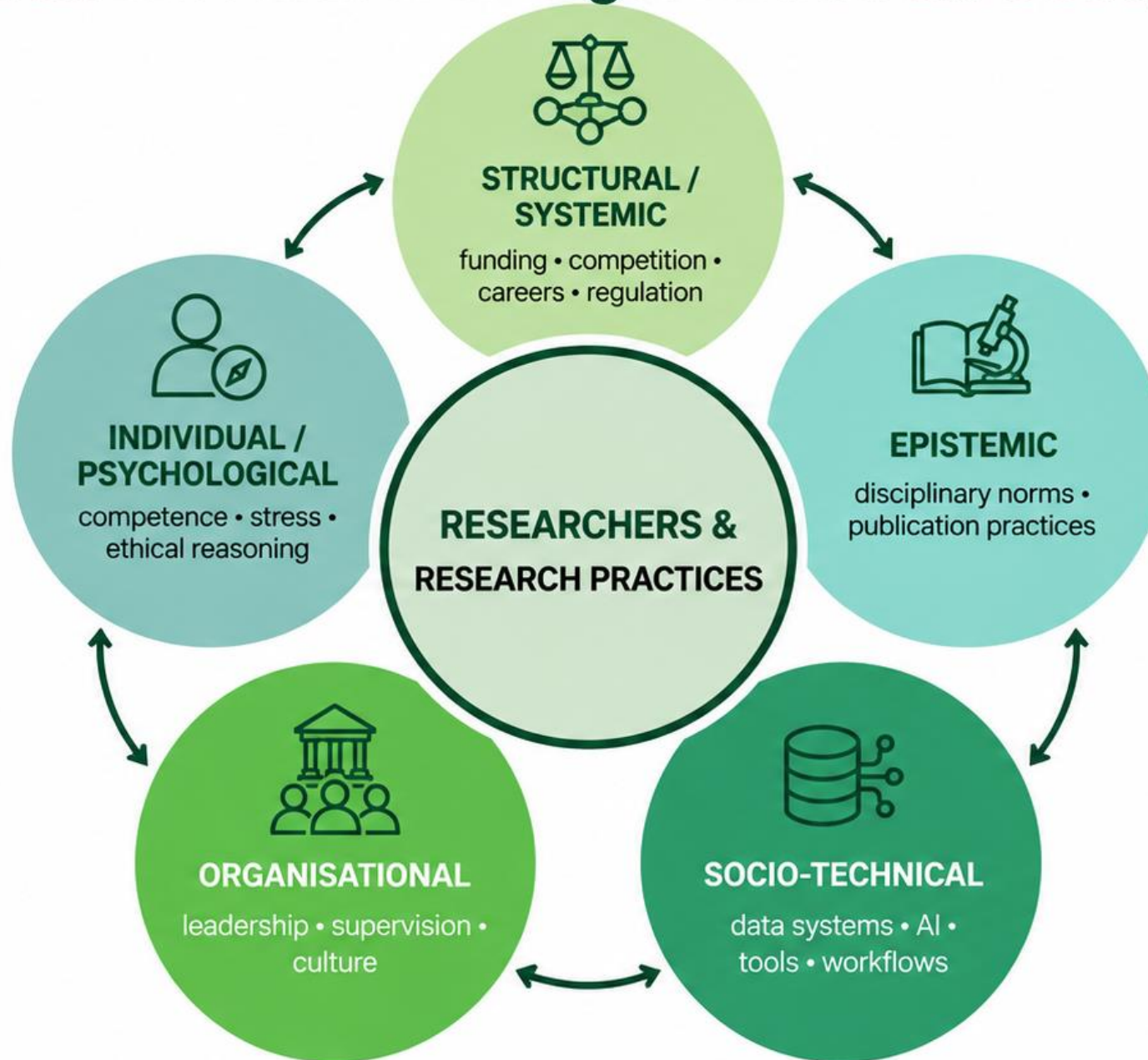


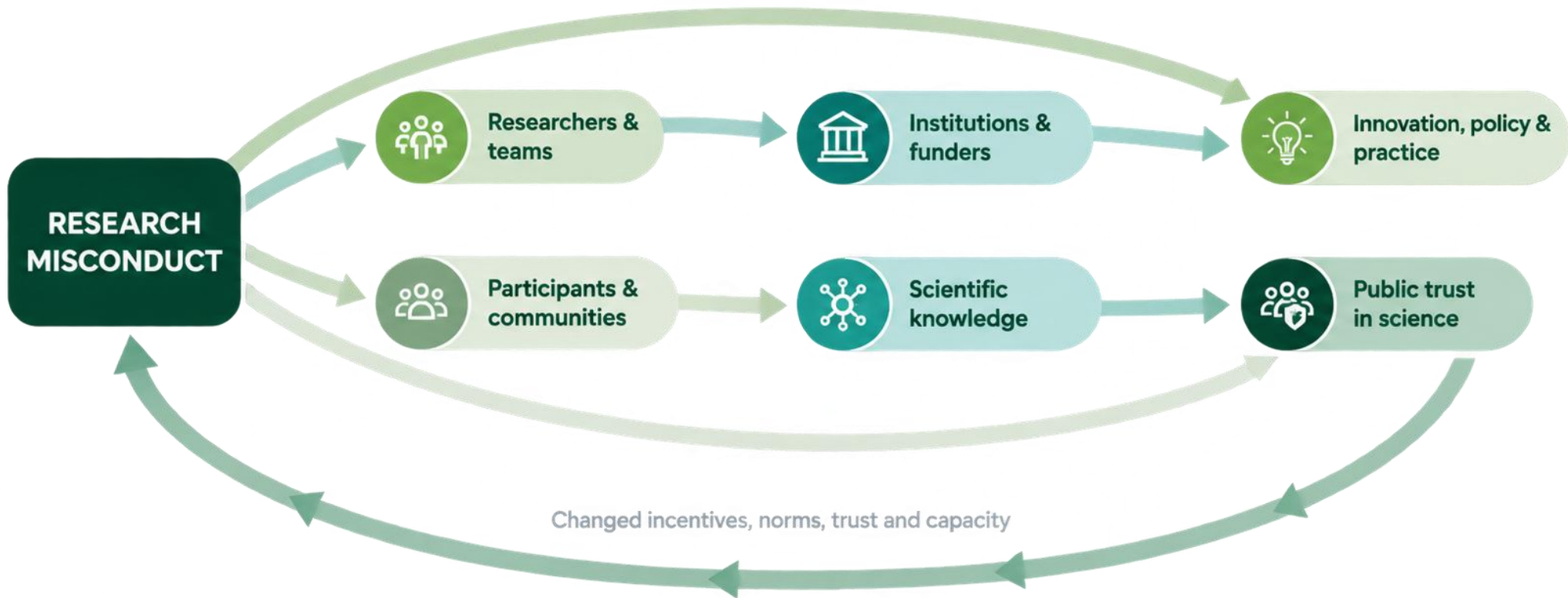
*BEYOND Ecosystem Approach: research misconduct and research integrity are shaped by interactions between individual, organizational, and structural levels.*



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# Research misconduct emerges within an ecosystem





**The consequences feed back into the research environment.**



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- If the causes (and effects!) of research misconduct are distributed across the ecosystem...

**...prevention must also be distributed across the ecosystem.**

Recognizing these interactions allows institutions to prevent RM by improving research environments, not only by sanctioning individuals.



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- It is a serious ethical problem if we think that the RM committed by one or few persons must be addressed immediately but do not extend that sense of urgency or level of importance on the ecosystemic factors which expose other researchers to the same risk.



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# Ecosystem Approach on RI and RM

**1.3 Research Integrity (RI)** refers to the shared responsibility across the research ecosystem to conduct and support research in ways that uphold responsible research practice and promote trust and confidence in the research process. It is guided by the principles of reliability, honesty, respect, and accountability across all stages of the research process and depends on research environments that promote responsible practice and effectively address misconduct. RI is grounded in research ethics, which provides the moral principles and values that inform what responsible research behaviour ought to be.

Research ethics provides the normative foundation for research integrity, which operationalises these ethical commitments into standards and practices for trustworthy and responsible research.



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# Ecosystem Approach on RI and RM

*encompasses enabling, funding, governing, assessing, publishing, regulating, and providing infrastructure—not only performing studies.*

*Locus of responsibility is the ecosystem*

1.3 **Research Integrity (RI)** refers to the **shared responsibility across the research ecosystem to conduct and support research** in ways that uphold responsible research practice and promote trust and confidence in the research process. It is guided by the principles of reliability, honesty, respect, and accountability across all stages of the research process and **depends on research environments that promote responsible practice and effectively address misconduct**. RI is **grounded in research ethics**, which provides the moral principles and values that inform what responsible research behaviour ought to be.

*Environment is constitutive*

*Normative foundation*

Research ethics provides the normative foundation for research integrity, which operationalises these ethical commitments into standards and practices for trustworthy and responsible research.



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- BEFORE RM: Prevention and culture
- DURING A RM CASE: procedures and protection
- AFTER A CASE: learning and reintegration



- **BEFORE RM: Prevention and culture**
- DURING A RM CASE: procedures and protection
- AFTER A CASE: learning and reintegration



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# **How Can Research Performing Organizations Promote Research Integrity and Prevent Research Misconduct?**



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1. **Foster a Culture of Responsible Research**
2. **Ensure Supportive and Safe Research Environments**
3. **Build ethical competence through continuous RE/RI education**
4. **Design research environments that make responsible choices easier**



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# **1. Foster a Culture of Responsible Research**



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5.1. RPOs should actively foster a research culture that supports open discussion and shared understanding of RE/RI and RM. This includes creating opportunities for researchers at all career stages to engage in dialogue about ethical issues, uncertainties, and the interpretation of RI principles.



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- What opportunities currently exist for researchers to openly discuss RE/RI questions and uncertainties?
- Are these sufficient and accessible opportunities available to researchers at all career stages, or mainly through formal training for early-career researchers?
- Is there a clearly identifiable person, office or forum researchers can approach when they encounter an RE/RI grey area?
- Are there regular spaces for discussing difficult cases, dilemmas and different interpretations of RI principles, and not only after something has gone wrong?
- Are researchers encouraged to raise uncertainties and concerns without fear of negative consequences?
- Does your institution have mechanisms for learning from previous RE/RI problems, cases or near misses?



- 5.4. Changing the incentive structures within RPOs can have a profound impact on promoting best practices. These institutions should consider revising their research assessment practices, moving away from solely quantitative metrics such as “publish or perish” and incorporating evaluations that recognise ethical research practices.



- What does your institution currently reward when recruiting, promoting or assessing researchers?
- How heavily do publication numbers, journal prestige, citations and grant income influence these decisions?
- Are responsible research practices explicitly recognized and rewarded in research assessment?
- Does your institution recognize practices such as data sharing, open science, reproducibility, responsible authorship, mentoring and good supervision?
- Could any of your institution's current incentives unintentionally encourage contestable research practices or excessive pressure to publish?
- Are researchers ever disadvantaged for taking the time needed to conduct research responsibly, for example, for replication, careful data management or addressing ethical concerns?





## **2. Ensure Supportive and Safe Research Environments**



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- 3.5. RPOs should provide confidential mental health resources and promote a culture that fosters acceptance of help-seeking and prioritizes psychological safety. RPOs must actively promote empathy, openness, and responsibility through leadership, training, and regular assessment of workplace climate. A healthy research culture is essential to the prevention of RM and the protection of all researchers.



- Does your institution's actual definition of research excellence leave space for researchers' well-being and dignity?
- Does leadership clearly signal that well-being, dignity and psychological safety are integral to responsible research?
- Do researchers feel safe seeking help when experiencing stress, burnout, conflict or ethical pressure, without fear of stigma or negative career consequences?
- Do researchers know where and how to seek help, and are confidential support and mental-health resources accessible to researchers at all career stages?
- Does your institution assess whether its research environment is psychologically safe and healthy? How, and how often?
- Does your institution examine whether workload, competition, hierarchy, insecure employment or other organizational conditions are creating pressures that may undermine responsible research?



### **3. Build ethical competence through continuous RE/RI education**



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12.1. There is a notable need for continued education and training in RE/RI to foster ethical reasoning and awareness. Training should address knowledge, skills, values, and habits, and should be offered to everyone involved in research. RE/RI education should empower researchers to self-regulate behaviour, particularly in practices susceptible to ethical lapses, such as selective analysis.



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- Is RE/RI education systematically provided to everyone involved in research, not only students and early-career researchers?
- Is RE/RI education continuous throughout the research career, rather than limited to one-off or mandatory introductory training?
- Does training develop knowledge, practical skills, values and research habits, and not simply awareness of policies, rules and regulations?
- Does training engage researchers with realistic dilemmas, grey areas and pressures they are likely to encounter in research practice?
- Do researchers leave training better equipped to recognize ethical problems, reason through difficult situations and regulate their own behavior?
- Does your institution assess whether its RE/RI education actually changes competence and research practice, and not merely whether researchers attended it?





## **4. Design research environments that make responsible choices easier**



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- 11.1. Nudges are subtle, non-restrictive interventions that alter the research environment to encourage ethical choices. RPOs should recognise the strategic use of behavioural nudges as a preventive measure to foster responsible research. When thoughtfully designed, nudges can help researchers navigate complex decisions by prompting reflection and reinforcing integrity in practice.



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# INSTITUTIONAL NUDGES IN RESEARCH ENVIRONMENTS

| DIMENSION                                                                                                     |  GOOD NUDGES                                                                |  BAD NUDGES                                                                                             |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>AUTHORSHIP PRACTICES</b> |  Clear authorship contribution templates used in research groups.            |  No guidance on authorship, leaving decisions to power hierarchies in labs.                             |
|  <b>DATA MANAGEMENT</b>      |  Institutional tools and support for data documentation and reproducibility. |  Systems that reward fast publications but offer little support for data management or reproducibility. |
|  <b>REPORTING CONCERNS</b> |  Confidential reporting channels and independent ombudsperson services.    |  No trusted reporting channels or fear of retaliation for raising concerns.                           |

- Are responsible choices the easy choices in your organization, or do institutional processes sometimes make good research practice unnecessarily difficult?
- Are there points in the research process where small prompts, reminders or changes in defaults could prevent common RE/RI problems?
- Does your organization currently use behavioral nudges to promote responsible research, for example, prompts concerning authorship, data management, conflicts of interest, reporting or ethical reflection?
- Could existing institutional systems and workflows be redesigned to prompt reflection at the moment when researchers actually make ethically relevant decisions?
- Are nudges designed around known risks and behaviors in your particular research environment, rather than introduced simply because they seem useful?
- Does your organization evaluate whether its nudges actually influence research practice, and check for unintended effects?



# Prevention is shared responsibility

## RESEARCHERS

What practices can I change?

## SUPERVISORS

What environment am I creating?

## RECs / RE-RI BODIES

What risks and conditions are we seeing?

## INSTITUTIONS

What are our policies, incentives and systems encouraging?

## FUNDERS & POLICYMAKERS

What structural conditions are we creating?

**Did we change anything for the next researcher  
who enters that laboratory?**

Preventing research misconduct requires us to ask these questions:

**Who did something wrong?  
What in our research ecosystem made this more likely?  
what can we change?**

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