



Research Integrity Risks and Management

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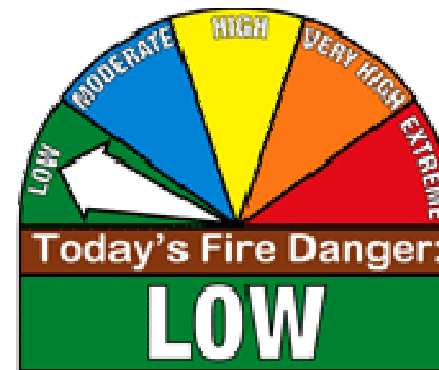
Conflicts of Interest



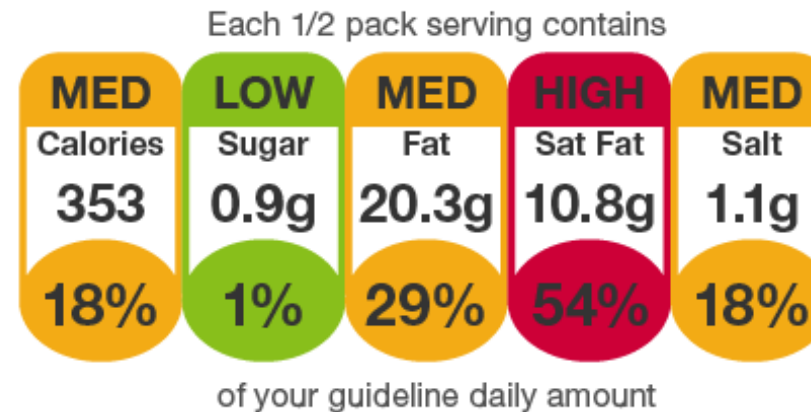
Society manages many risks



Terrorism



Fire



Healthy Food

◆ Misconduct poses risks for research:



Schoen



Hwang

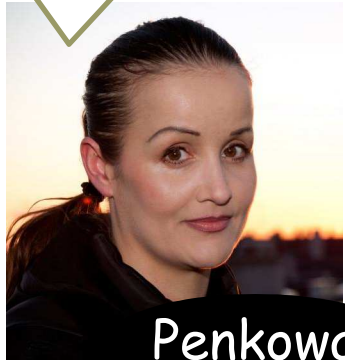


Thompson

Jan Hendrik Schön
US/Germany
Falsified semiconductor research
13 papers retracted in Nature & Science
Case has political implications



Stapel

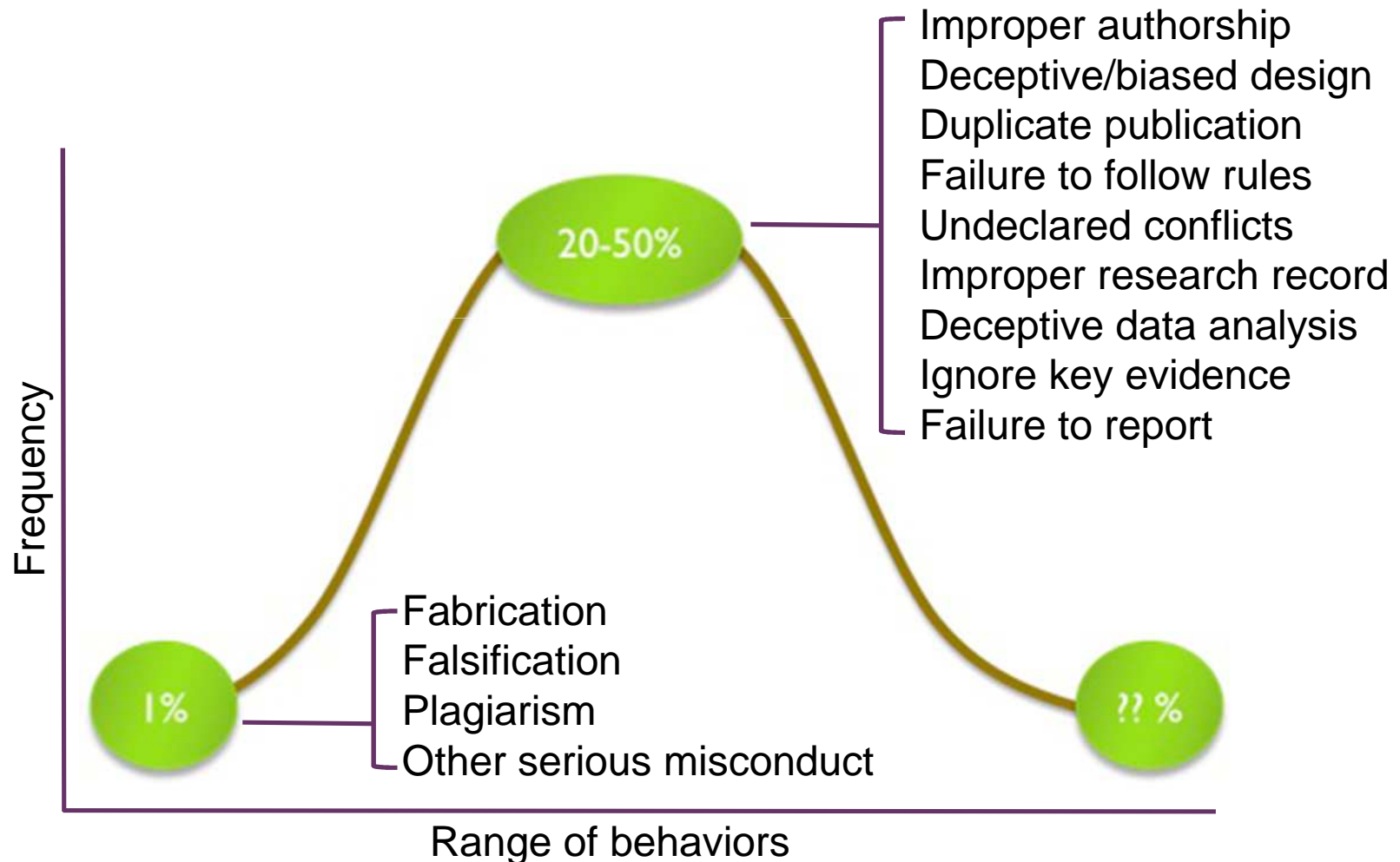


Penkova



Sudbo

Range and frequency of risks



Serious integrity issues to address:

- Most serious misconduct is not reported or detected:
 - US closed cases less than 1% of anticipated misconduct
 - 40% of researchers do not report suspected misconduct
- 80,000 cases of suspected duplicate publication not investigated (<http://dejavu.vbi.vt.edu/dejavu/>)
- Half of open-access, online journals may be conducting poor or no peer review (*Science*, 4 October 2013, Vol. 342)
- J. P. Ioannidis, Why most published research findings are false. *PLoS Med* 2, e124 (Aug, 2005)
 - “Simulations show that for most study designs and settings, it is more likely for a research claim to be false than true.”
 - “[F]or many current scientific fields, claimed research findings may often be simply accurate measures of the prevailing bias.”



How is research managing its integrity risks?

Reports & Codes
Misconduct/Integrity Policies
Improved Training



Reports and Codes

7

■ Examples

- 1990 US NAS...Responsible Science
- 2007 ff, WC on Research Integrity
 - Singapore Statement; Montreal Statement
- 2012, IPA, Responsible Conduct in the Global Research Enterprise
- 2013, GRF, Statement of Principles for Research Integrity



■ Strengths:

- **Set standards; recommend and encourage action**



■ Shortcomings:

- **Accountability: will anyone follow?**
- **Limited impact on the day-to-day practice of research**





Misconduct policies

- Objective: to define research misbehavior & response
 - US, narrow definition: fabrication, falsification and plagiarism
 - Canada/Australia: failure to follow best practice
- Strengths:
 - Countries and governments are taking misconduct seriously
- Shortcomings:
 - Inconsistent definitions and policies
 - Weak accountability
 - Most misconduct is not addressed



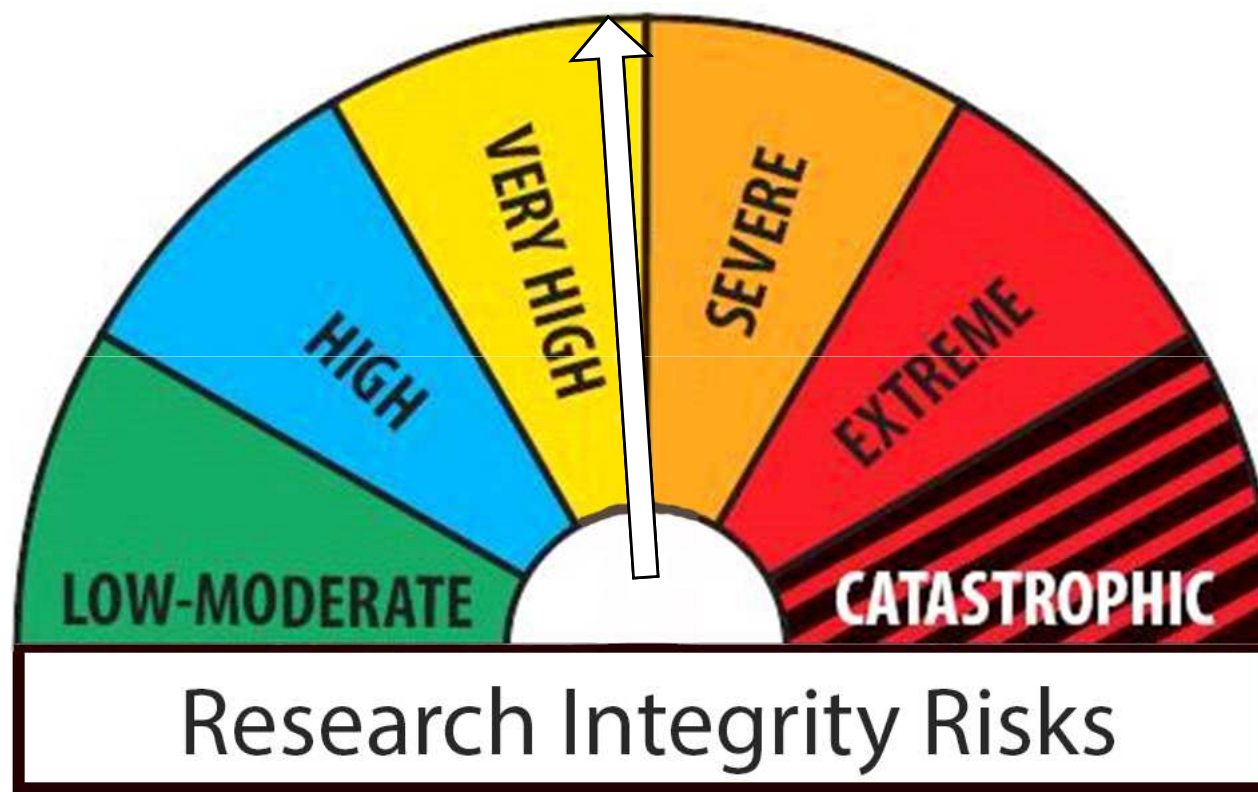


Training

- Objectives:
 - Satisfy requirements
 - Make researchers aware of best practices
 - Foster ethical and moral reasoning
- Strengths:
 - More widely recognized as important
- Shortcomings:
 - Do not know what type of training is needed
 - No training is available in many countries
 - Institutional support is weak



Effectiveness of responses?



- Risk is high and increasing



What needs to be done?

1. Greater effort to harmonize policies
 - Global documents with global support are essential
2. Greater commitment on the part of leadership
 - Research leaders must be visible and provide real support
3. Increased resources
 - Globally, promoting integrity is not included in research budgets
4. Take steps to reduce pressure and incentives to cheat
 - Base rewards on 3-5 best publication/year, not number
 - Reduce the number of PhD students in most fields



Why are integrity risks important?

Undermine the reliability of the research record

Loss of confidence

Loss of support

Without integrity, science will have no future to invent!



Thanks for time and attention

- Questions and more information

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