

Scientific misconduct from a research funding organization (RFO) perspective

1. Some key factors
2. What can be done?
3. Additional items

Scientific Fraud: How it is done, why it is done, what can be done about it ? Brussels, 29 November 2012

- **Why are researchers sometimes compelled to manipulate their data or plagiarize the work of their colleagues?**
- What do we know about the **scale of academic fraud** in modern universities?
- Is it true that **academic institutions** are eager to combat plagiarism among their students but **reluctant** to do the same among their staff?
- **Why** do some academics feel compelled to cheat?
- Is **achievement pressure** detrimental?
- Do we need to **lower academic achievement standards** or can we mitigate potentially fraudulent tendencies by introducing **more codes of conduct and regulations**?
- Perhaps what we need most of all is a thorough **change of mentality within our research communities**?

1. RESEARCH INTEGRITY: some key factors

from the point of view of a research funding organization (RFO)

1. « Active » stakeholders in misconduct process

- ⇒ **Actors: scientists/researchers**
- ⇒ **Funders: research funding agencies**, politics, industries
- ⇒ Host institutions: universities, research institutions
- ⇒ Publishers

2. **RFO objectives**: to ensure the proper application of its resources on people capable of increasing knowledge

3. **Misconducts affect the quality and the impact of RFO activities** (not only the quality of science...)

1. RESEARCH INTEGRITY: some key factors

from the point of view of a (basic) research funding organization (RFO)

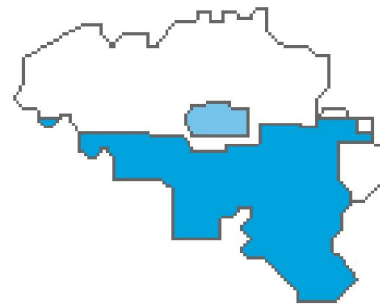
➤ Misconducts that affect the quality and the impact of RFO activities

WHO	MISCONDUCT	IMPACT
Researchers as peer reviewers	Confidentiality Col	Quality of selection process Credibility of selection process Protection of ideas
Researchers as publication engineers	(self)-plagiarism, salami slicing, autorship	Investment in undeserving people and projects
Researchers as researchers	Falsification or invention of data, methodologies	Investment in undeserving people and projects <i>(credibility of research public funding for society)</i>
Researchers as promoters	Harassment Poor mentoring Inadequate leadership	Failure in research/ethic training and PhD funding
	Redundant funding	Improper use of resources

2. RESEARCH INTEGRITY: what can be done?

possible actions of F.R.S.-FNRS as a funding organization

F.R.S.-FNRS is the key player in basic research in Wallonia Brussels Federation



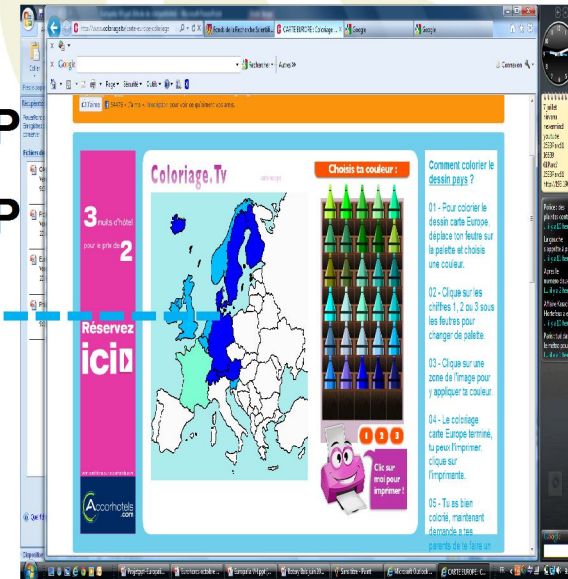
> 2,8 % GDP



2% - 2.8% GDP



1.8 % - 2% GDP



- WBF: ~4,5 Mi0 inhabitants, **6 Universities**
- **Mission:** to develop basic research in WBF (as ERC at European level) within a range of funding instruments, bottom-up, all fields of science (selection based on scientific excellence)
- **F.R.S.-FNRS** = employer of ~ 2.500 researchers
Universities = host institutions
- **Strong link with universities** (rectors on board)

2. RESEARCH INTEGRITY: what can be done?

possible actions of F.R.S.-FNRS as a funding organization

1. **Research integrity policy**

- ⇒ Guidelines of good practices
- ⇒ Misconduct code and procedures
- ⇒ Employment contracts (penalties in case of misconduct)
- ⇒ Responsibility for detection and investigation in host institutions + feed back to the governing body of the F.R.S.-FNRS (adjudication)

2. **Peer review**

- ⇒ Achievements standards (bibliometric indicators; focus on quality of publications + DFG)
- ⇒ Experts misconduct code (Col, confidentiality)

3. **Open access/data policy**

4. **Ex-post**



Additional means of misconduct detection

5. **Transparent communication to the scientific community** 📣 on policy/codes and evaluation procedures

6. **Support to international policies** : 📣 Science Europe, Global Research Council, Global Science Forum (OECD), ... (Hot topic)

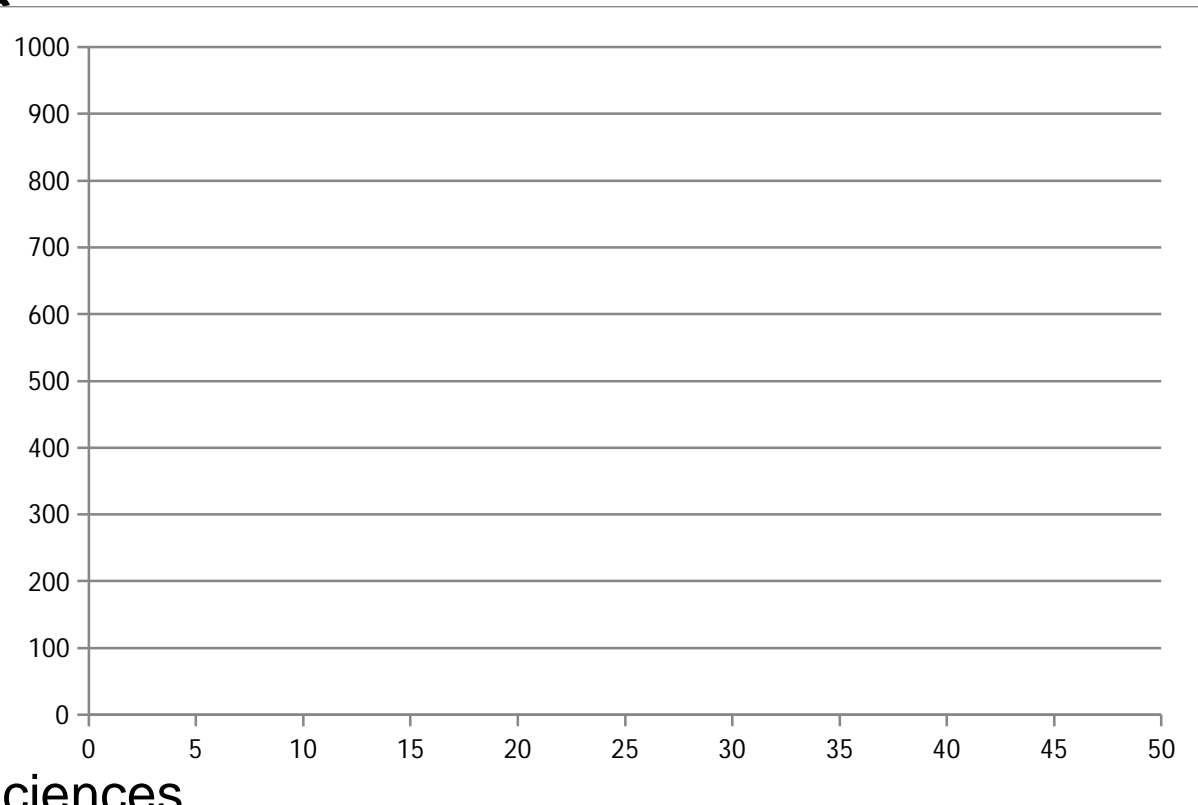
2. RESEARCH INTEGRITY: what can be done?

possible actions of F.R.S.-FNRS as a funding organization

5. Transparent communication to the scientific community: on the evaluation procedure

Selection of qualified researchers not « proportional » to bibliometric scores (data 2011)

citations



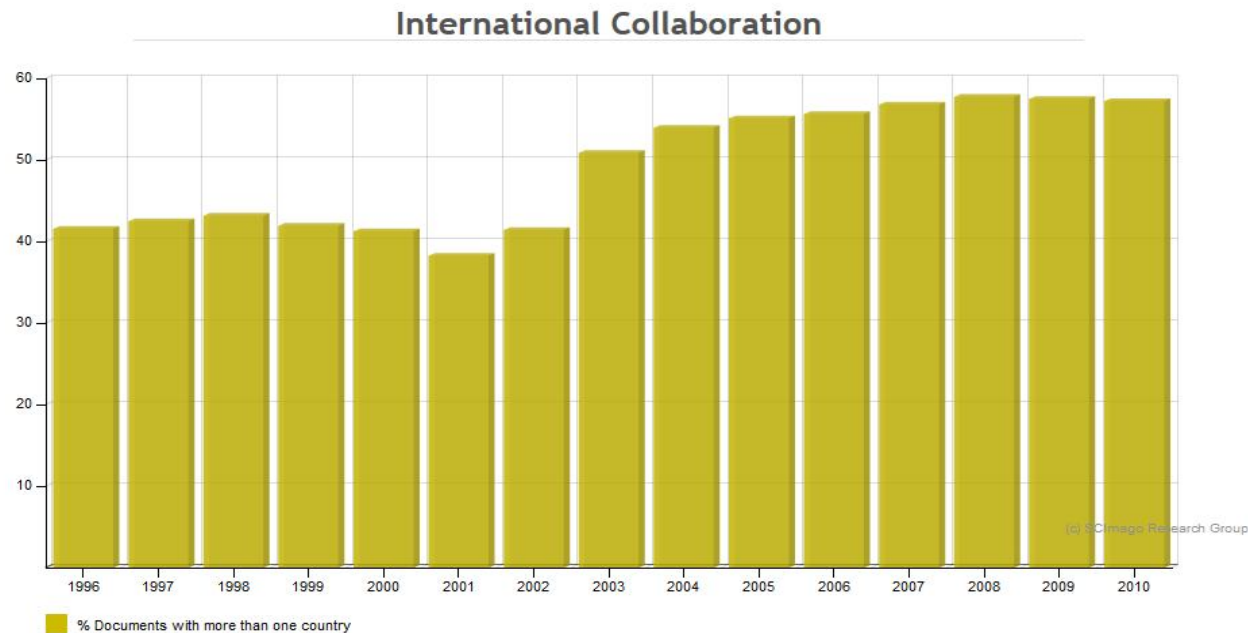
- ◆ Life sciences
- ◆ Exact and natural sciences
- ◆ Humanities and social sciences

publications

2. RESEARCH INTEGRITY: what can be done?

possible actions of F.R.S.-FNRS as a funding organization

% of Belgian publications with international co-author ship



55%

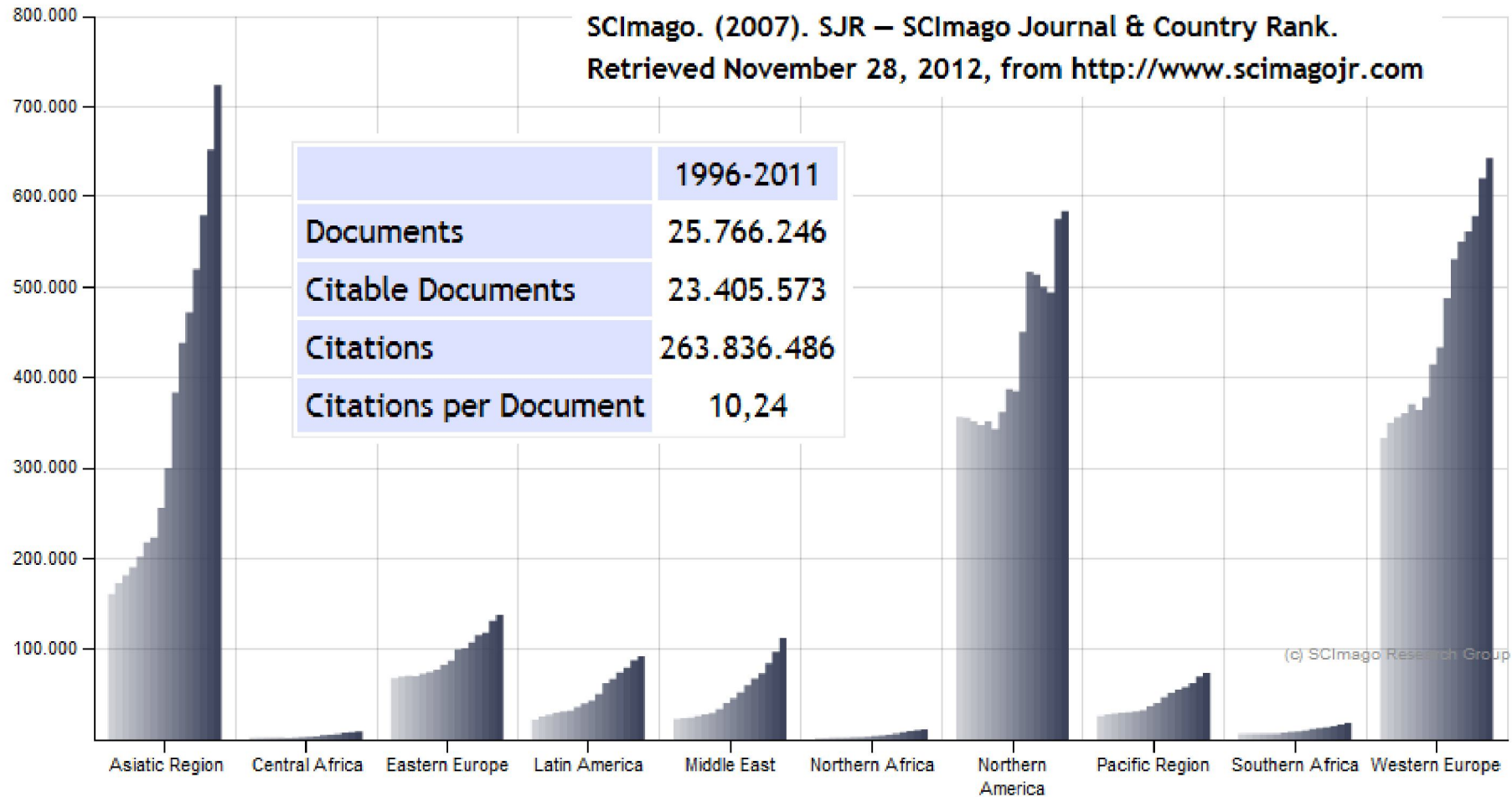
🕒 Interactions with other countries (not only national level)

3. RESEARCH INTEGRITY: additionnal items

a change in culture...?

- Publish or perish, bibliometric indicators... ✳ need to focus on quality

Total Documents per Year



3. RESEARCH INTEGRITY: additionnal items

a change in culture

➤ Publication of **negative results**?

- ⇒ To avoid a results-driven research ✱ less pressure on researchers and therefore less misconduct?
- ⇒ More available data ✱ easier detection of falsification or invention of data

But....

- 🕒 Increase of the peer review workload (peer review needed for the credibility)