

# II BRISPE

Second Brazilian Meeting on Research Integrity,  
Science and Publication Ethics

IBqM/UFRJ & COOPE • FIOCRUZ • USP • PUCRS

Rio de Janeiro, São Paulo, Porto Alegre (May 28 - June 1, 2012)



**Science, Technology, Innovation,  
Collaborative Research and Research  
Integrity: Current Challenges at Brazilian  
Institutions.**

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**Programa de Engenharia Química / COPPE  
Universidade Federal do Rio de Janeiro  
Rio de Janeiro - Brasil**



## **Acknowledgments**

**Organizers:** Special thanks to Dr. Rosemary Shinkai, Dr. Carla Bonan and Dr. Sonia Vasconcelos.

**Collaborators:** Dra. Sonia Vasconcelos e Dr. Edson Watanabe

**Funding:** CNPq, CAPES, FAPERJ

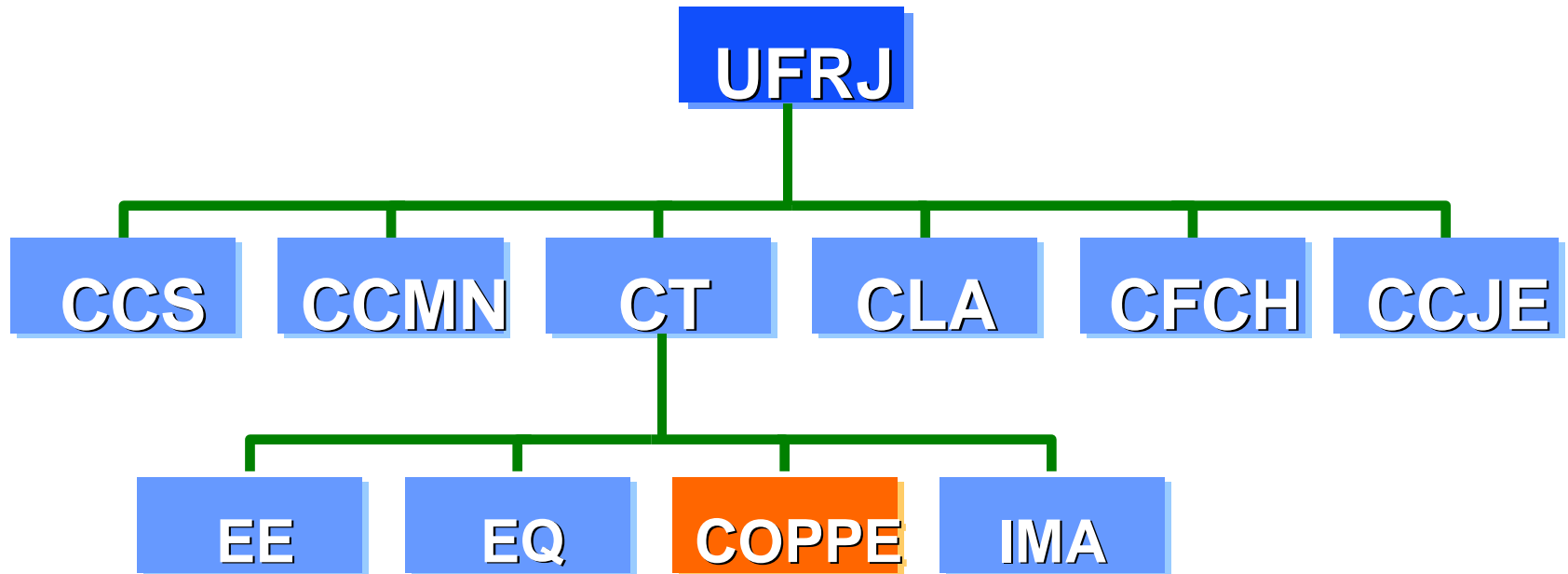
# Outline

1. Introduction
2. Motivation at COPPE/UFRJ
3. Initiatives at COPPE/UFRJ
4. A Bibliometric Study
5. Collaborative Practices (?)
6. Concluding Remarks

# **1. Introduction**

# COPPE

## 1. Introduction



### 12 Departments for Graduated Courses (Master and Doctor)

- Biomedical Engineering
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Nuclear Engineering
- Metallurgical and Material Engineering
- Oceanic Engineering
- Energy Planning
- Production Engineering
- Chemical Engineering
- Systems and Computation Engineering
- Transport Engineering

# COPPE

## 1. Introduction



**325 Teaching Staff**

**2.765 Students**

1644 Master (608 with Scholarship)

1.121 Doctor (480 with Scholarship)

**335 Technician and Administrative**



**348 MSc Theses**

**191 PhD Theses**

**1,842 Papers In Journals and Conferences**



# COPPE

## 1. Introduction

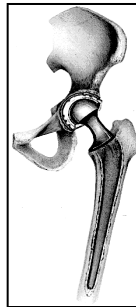
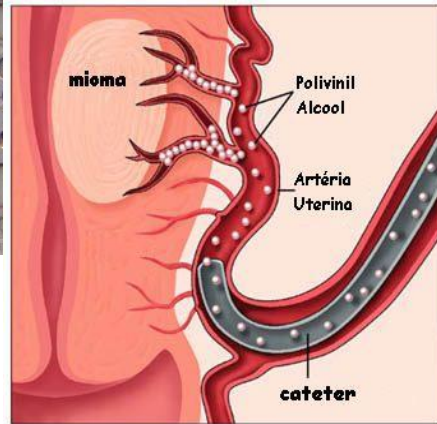
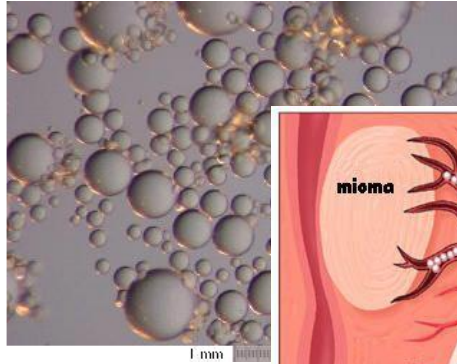


**Executive Director**  
José Carlos Pinto

- Interface between COPPE and Companies
- Professional Support
- Flexible Management of Projects
- COPPE IDEA: New Companies

# The Group

## 1. Introduction



- Bone cements
- Vascular embolizers
- Artificial skin (tissue engineering)
- Artificial organs
- Ultrasound techniques
- Image analyses

# The Group

## 1. Introduction

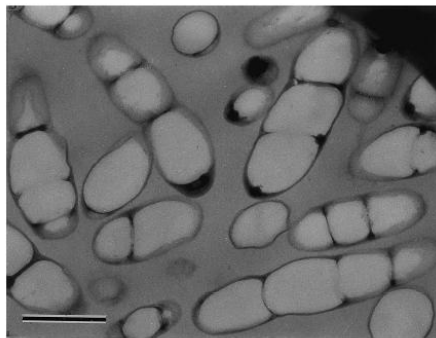
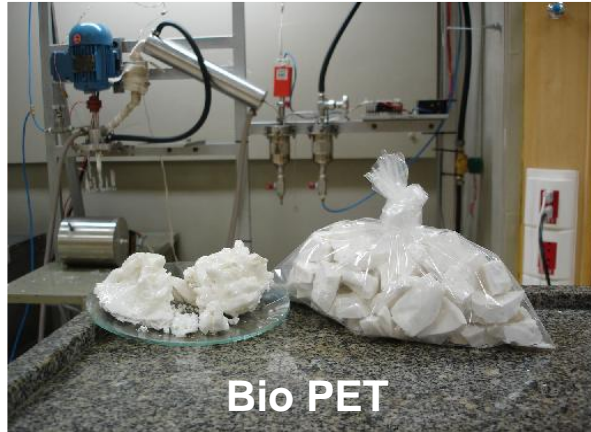
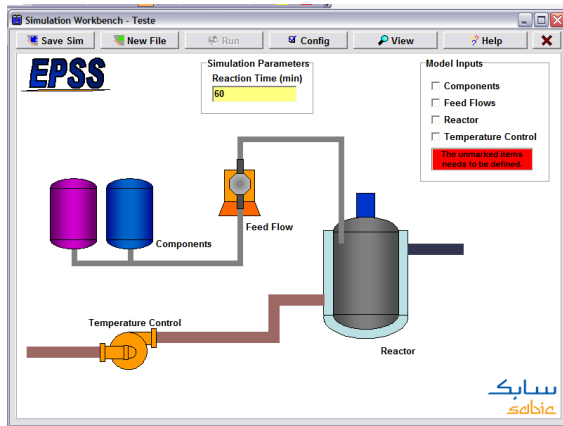


Fig. 2. Transmission electron micrograph of thin sections of recombinant *R. eutropha* PHB<sup>-4</sup> cells containing large amounts (90% of the dry cell weight) of P(3HB-co-5 mol% 3HHx). Bar represents 0.5  $\mu$ m.

- Ethanol Chemistry (Sugar cane)
- Glycerol Chemistry (Biodiesel)
- Biomass Gas (Urban and industrial wastes)
- Sustainable Bioplastics
  - from bacteria (polyesters)
  - from renewable resources

# The Group

## 1. Introduction



- Pilot plant and industrial scale production of polymer specialties
- Scaling-up of polymer production processes
- Production of biomedical materials (up to 200 kg per lot)

# The Group

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## 1. Introduction

- 5 Professors
- 30 graduate students
- 20 undergraduate students
- 20-30 papers per year
- 10-20 projects per year

# The Group

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## 1. Introduction

**Do we control our production ?**

**Do we educate our researchers ?**

**Do we follow all recommended  
ethical guidelines ?**

# The Group

## 1. Introduction

**Do we control our production ? No !**

**Is control possible ?**

**Do we educate our researchers ?**

**I am not sure!**

**Do we follow all recommended  
ethical guidelines ?**

**We do not control our production ...**

## **2. Motivation at COPPE/UFRJ**



# Case 01

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## 2. Motivation

One MSc Thesis and One Student.

Students need education.

Institution needs protection.

# Case 02

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## 2. Motivation

One Paper and One Professor.

Professors need education.

Institution needs protection.

# Case 03

## 2. Motivation

One Project, One Company and One Professor.

Professors need education.

Companies need education.

Institution needs protection.

Society needs protection.

# Case 04

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## 2. Motivation

**Internationalization and Collaboration.**

# Case 04

## 2. Motivation



# The Group

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## 1. Introduction

**Do we share the same points of view ?**

**Do we have the same needs ?**

**Do we follow the same set of recommended  
ethical guidelines ?**

# The Group

## 1. Introduction

**Do we share the same points of view ?**

**No !!! Definition of research.**

**Do we have the same needs ?**

**No !!! Safety, for example ...**

**Do we follow the same set of recommended  
ethical guidelines ?**

**No !!! Who is the author ?**

# Case 04

## 2. Motivation





# Case 04

## 2. Motivation

**What should we request ? (Money, partnership, more ?)**

**What do we need ? (Money, partnership, more ?)**

**What should we offer ? (Money, partnership, more ?)**

### **3. Initiatives at COPPE**

# Initiative 01

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## 3. Initiatives

**One Resolution and one Statement.**

# Initiative 01

## 3. Initiatives

Resolução CPGP/COPPE Nº 02, de 27 de novembro de 2007

"Dispõe sobre a declaração de não violação de direitos autorais de terceiros"

Considerando a necessidade de a Coordenação dos Programas de Pós-graduação de Engenharia - COPPE zelar pela qualidade acadêmica e legitimidade dos trabalhos de conclusão de seus alunos;

a Comissão de Pós-Graduação e Pesquisa (CPGP) da COPPE, no uso das atribuições que lhe conferem o artigo 98 do Estatuto da UFRJ, Parágrafo único, o artigo 49 da Regulamentação Geral da Pós-Graduação *Strictu Sensu* da UFRJ e as normas da própria Comissão de Pós-Graduação e Pesquisa da COPPE,

RESOLVE:

**Art. 1º** Tornar obrigatória a todos os alunos dos cursos de mestrado e doutorado da COPPE a entrega de "Declaração de não Violação de Direitos Autorais de Terceiros" devidamente preenchida e assinada.

**Parágrafo 1º** Aprovar, na forma em anexo, modelo de "Declaração de não Violação de Direitos Autorais de Terceiros".

**Parágrafo 2º.** Esta declaração deverá ser entregue à Seção de Registro da COPPE juntamente com o original da tese ou dissertação anteriormente ao ato de defesa.

**Art. 2º** Determinar a entrada em vigor desta Resolução na data de sua publicação.

Comissão de Pós-Graduação e Pesquisa da COPPE, 27 de novembro de 2007

1. Education or Protection ?
2. A Priori or a Posteriori ?

# Initiative 01

## 3. Initiatives

Anexo da Resolução CPGP/COPPE, N° 02, de 27 de novembro de 2007

Declaração de não Violação de Direitos Autorais de Terceiros  
(PRENCHIDO, ASSINADO E ENTREGUE NA SEÇÃO DE REGISTRO/COPPE/UFRJ, JUNTO COM O ORIGINAL DA  
TESE/DISSERTAÇÃO)

Eu, \_\_\_\_\_,  
(NOME COMPLETO DO ALUNO)  
CPF: \_\_\_\_\_, DRE: \_\_\_\_\_,  
aluno do Curso de \_\_\_\_\_, do Programa de \_\_\_\_\_  
(MESTRADO / DOUTORADO), declaro para os devidos fins:

a) que a ( ☐ ) Tese / ( ☐ ) Dissertação com título:  
"\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_", de minha autoria, não viola os direitos  
autorais de terceiros, sejam eles pessoas físicas ou jurídicas;

b) que a ( ☐ ) Tese / ( ☐ ) Dissertação não se constitui em reprodução de obra alheia,  
ainda com direitos autorais protegidos ou já em domínio público;

c) que em havendo textos, tabelas e figuras transcritos de obras de terceiros com  
direitos autorais protegidos ou de domínio público tal como idéias e conceitos de  
terceiros, mesmo que sejam encontrados na *Internet*, os mesmos estão com os  
devidos créditos aos autores originais e estão incluídas apenas com o intuito de  
deixar o trabalho autocontido;

d) que os originais das autorizações para inclusão dos materiais do item c) emitidas  
pelos proprietários dos direitos autorais, se for o caso, estão em meu poder;

e) que tenho ciência dos Artigos 297 e 298 do Código Penal Brasileiro.

Rio de Janeiro, \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Assinatura: \_\_\_\_\_

Ciente, \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Orientador: \_\_\_\_\_  
(Nome)

\_\_\_\_\_  
(Assinatura)

1. Is the student aware of the law ?  
(Inaugural class topic.)

2. Is a reference sufficient ?

3. Does responsibility belong to  
the student or the Institute ?

# Initiative 02

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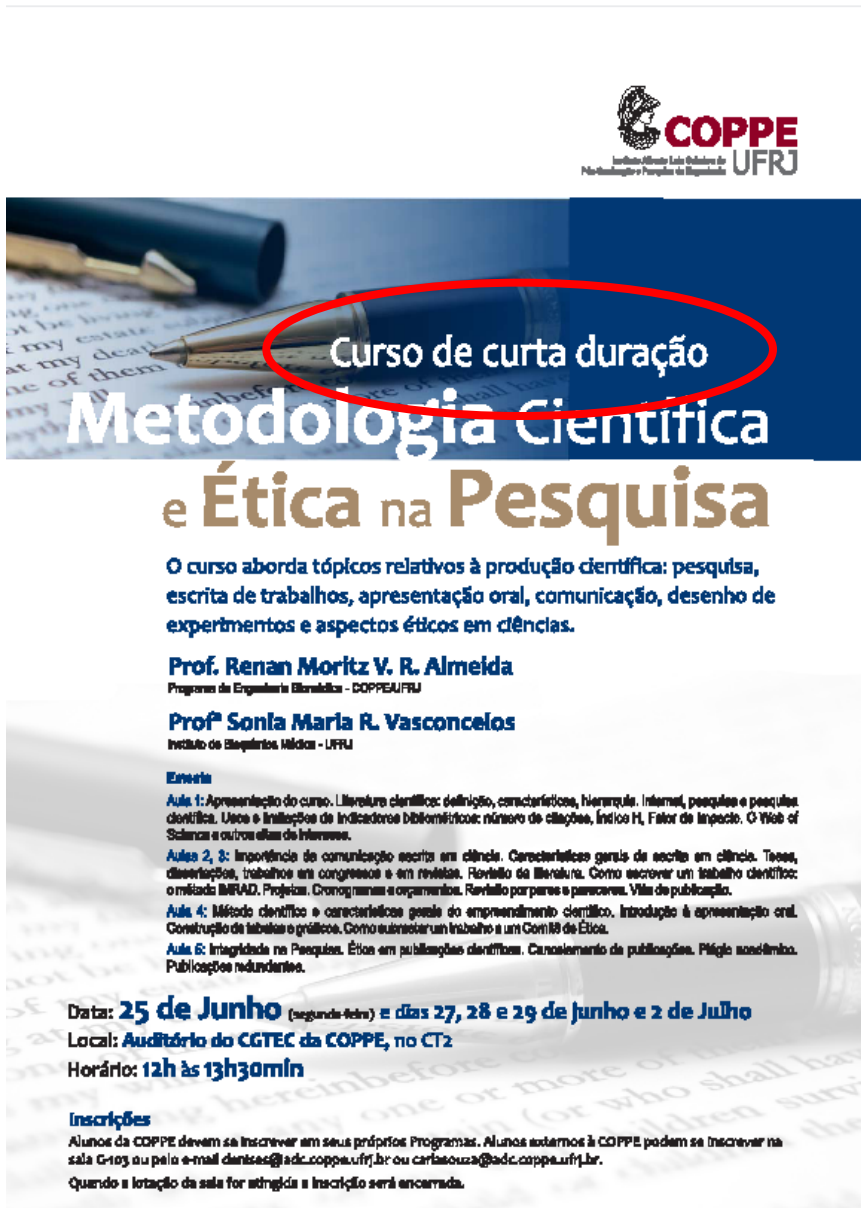
## 3. Initiatives

**One Course.**

# Initiative 02

## 3. Initiatives

1. Short or Long Course ?
2. Mandatory or Optional ?



**COPPE**  
Instituto Alberto Luis Coimbra de  
Pós-Graduação e Pesquisa de Engenharia UFRJ

Curso de curta duração

# Metodologia Científica e Ética na Pesquisa

O curso aborda tópicos relativos à produção científica: pesquisa, escrita de trabalhos, apresentação oral, comunicação, desenho de experimentos e aspectos éticos em ciências.

**Prof. Renan Moritz V. R. Almeida**  
Programa de Engenharia Elétrica - COPPE/UFRJ

**Profª Sonia Maria R. Vasconcelos**  
Instituto de Engenharia de Materiais - UFRJ

**Exercícios**

**Aula 1:** Apresentação do curso. Literatura científica: definição, características, hierarquia. Internal, pesquisa e pesquisa científica. Uso e limitações de indicadores bibliométricos: número de citações, Índice H, Fator de Impacto. O Web of Science e outros sites de interesse.

**Aulas 2, 3:** Importância da comunicação escrita em ciência. Características gerais de escrita em ciência. Teses, dissertações, trabalhos em congressos e em revistas. Revisão de literatura. Como escrever um trabalho científico: o método IMRAD. Projetos. Cronogramas e orçamentos. Revisão por pares e pareceres. Vias de publicação.

**Aula 4:** Método científico e características gerais do empreendimento científico. Introdução à apresentação oral. Construção de tabelas e gráficos. Como submeter um trabalho a um Comitê de Ética.

**Aula 6:** Integridade na Pesquisa. Ética em publicações científicas. Conhecimento de publicações. Plágio acadêmico. Publicações redundantes.

**Datas:** **25 de Junho** (segunda-feira) e dias **27, 28 e 29 de Junho e 2 de Julho**

**Local:** Auditório do CGTEC da COPPE, no CT2

**Horário:** 12h às 13h30min

**Inscrições**

Alunos da COPPE devem se inscrever em seus próprios Programas. Alunos externos à COPPE podem se inscrever na sala G-103 ou pelo e-mail [adac.coppe@ufrj.br](mailto:adac.coppe@ufrj.br) ou [carlasouza@adac.coppe@ufrj.br](mailto:carlasouza@adac.coppe@ufrj.br). Quando a lotação da sala for atingida a inscrição será encerrada.

**What about the Departments ?**

**Silence.**

**Courses on the Scientific Method.**



# Initiative 03

## 3. Initiatives

### **Committee of Ethics for analysis of projects with companies.**

**1. Education or Protection ?**

**2. Professors make pressure.**

**(Researchers and Institutes do not necessarily share the same interests)**

## Conflict of Interest:

*“A conflict of interest exists when an employee's financial interests or other obligations interfere, or appear to interfere, with the employee's obligations to act in the best interest of the University and without improper bias. The mere appearance of a conflict may be as serious and potentially damaging to the public trust as an actual conflict. Therefore, potential conflicts must be disclosed, evaluated, and managed with the same thoroughness as actual conflicts.”*

(Oregon Health&Science University)

## Conflict of Interest:

*“The NIH is committed to preserving the public’s trust that the research supported by us is conducted without bias and with the highest scientific and ethical standards. We believe that strengthening the existing regulations on managing financial conflicts of interest is key to assuring the public that NIH and the institutions we support are taking a rigorous approach to managing the essential relationships between the government, federally-funded research institutions, and the private sector.”*

(National Institutes of Health)

## **“Conflict of Interest” and “Research Integrity”**

43200 hits in Google.

Major issue !!

# Initiative 03 – Problem 01

## 3. Initiatives

**Companies want 100% of the intellectual property.**

**Is that reasonable ?  
Does this affect production ?**



**Do researchers communicate all findings ?**

# Initiative 03 – Problem 02

## 3. Initiatives

**Companies want to censor the scientific production.**

**Is that reasonable ? (Publish only good results.)**

**Does this affect the production ?**



**Do researchers communicate all findings ?**

**Are researchers impartial ?**

# Initiative 03 – Problem 03

## 3. Initiatives

**Companies are owned by researchers.**

**Is that ethical ?**

**Does this affect the production ?**



**Is it possible to hire yourself ?**

**Can service and research be performed simultaneously ?**

# Initiative 03 – Problem 04

## 3. Initiatives

**Companies owned by researchers commercialize scientific findings.**

**Is that an issue of scientific integrity ?  
Does this affect the production ?**



**Is it possible to be integrous without being fair ?  
Can researchers work for two bosses simultaneously  
(including themselves) ?**



# Disturbing Questions

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## 3. Initiatives

**Can we extend the guidelines of scientific integrity to commercial contracts ?**

**If the answer is YES, are they the same ?**

**Is it obvious that we should be more flexible with commercial contracts and partnerships ?**

**Can contracts replace integrity ?**

## **4. A Bibliometric Study**

# Searching “Research Integrity”

## 4. Bibliometrics

**Table 1.** Hits in institutional webpages when the expression “integridade científica” was searched (April 30, 2012).

Institution	Hits	Comments
COPPE/UFRJ	1	Information about BRISPE.
UFRJ	20	Talks, information about BRISPE, <u>one paper about conflict of interest.</u>
USP	34	Talks, information about BRISPE, <u>ethical problems in research related to animals.</u>
UNICAMP <sup>1</sup>	0	
UFF	5	Information about BRISPE and <u>concerns about research quality.</u>
UFRGS	0	
PUCRS	2	<u>Information about editorial competence.</u>
CNPq	1	Documents related to the Committee for Research Integrity (Comissão de Integridade Científica). <sup>2</sup>
FIOCRUZ	8	<u>Launching of the Committee for Scientific Integrity.</u>
CAPES	0	
FINEP	0	
MCTI	2	Concerns about climate change studies.
MEC	0	
FAPERJ	2	Projects.
FAPESP	3	<u>Document related to good research practice.</u>

1- Webpage was offline on April 30, 2012. The website was searched on May 07, 2012.

2- A single report available, with some suggestions for good research practices.

# Searching “Scientific Methodology”

## 4. Bibliometrics

**Table 2.** Hits in institutional webpages when the expression “scientific methodology” was searched (April 30, 2012).

Institution	Hits	Comments
COPPE/UFRJ	10	Short course.
UFRJ	1470	Books, talks, short courses and disciplines.
USP	7940	Books, talks, short courses and disciplines.
UNICAMP <sup>1</sup>	553	Books, talks, short courses and disciplines.
UFF	912	Books, talks, short courses and disciplines.
UFRGS	4490	Books, talks, short courses and disciplines.
PUCRS	1660	Books, talks, short courses and disciplines.
FIOCRUZ	26	Talks, short courses and disciplines.
CNPq	0	
CAPES	34	Short courses, meetings and reports.
FINEP	4	Short courses and definitions.
MCTI	9	Short courses, meetings and reports.
MEC	0	
FAPERJ	75	Projects and scientific reports.
FAPESP	117	Short courses, projects and scientific reports.

1- Webpage was offline on April 30, 2012. The website was searched on May 07, 2012.

# Obvious Observations

## 4. Bibliometrics

1. Some concern about the scientific method of investigation, but not about the research integrity (quantity x quality ?).
2. Research integrity is not discussed in most courses about the scientific methods.
3. There are no organized official programs for fostering of research integrity in Brazilian Institutions.
4. Actions are isolated<sup>1</sup> and BRISPE has enormous relevance in this field.
5. NO INFORMATION AVAILABLE ABOUT COLLABORATIVE PROCEDURES AND ACTIONS.

1- Santana, C.C., Revista Bioética, 18(3), 637-644, 2010.

# Good News

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## 4. Bibliometrics

1. Guides of good research practices provided by FAPESP and UFF.
2. 2. A Committee of Scientific Integrity at FIOCRUZ.
3. Guides do not mention collaborative works.

## **5. Collaborative Practices (?)**

# A Disturbing Question

## 3. Initiatives

### Proposed Topic

### Collaborative Research and Research Integrity

**How can we talk about research integrity in collaborative work if we do not care much about it at home (at least formally) ?**



## **6. Concluding Remarks**

**Everything must be done !!!!!!!**

**BRISPE is the cornerstone in Brazil !!!!**

**I do not have answers – only questions !!!**

**Thanks for your attention !!!!**

**pinto@peq.coppe.ufrj.br**