Title: PhD Toolkit on Transparent, Open, and Reproducible Research
Catalyst: Ada Gonzalez-Torres (EUI)
Co-taught with: Michele Belot (EUI), Julia Schulte-Cloos (EUI)
Location: European University Institute (EUI), Florence, Italy
Dates: Thursday October 11 and Monday October 15
Funding: This event is funded by the Berkeley Initiative for Transparency in the Social Sciences (BITSS) Catalyst Program

Abstract:
This project is an effort to share with graduate students in Economics and Political and Social sciences at the European University Institute a toolkit with the main methods for transparent, open and reproducible research. The course will give an essential overview on ethical considerations in social science research; pre-registration methods and pre-analysis plans; data mining and p-hacking; meta-analysis; reproducible workflows and open research materials and replication.

Syllabus:

1. Overview of the main statistical problem
2. Transparency & Ethics in Experimental research
   - Pre-registration & Pre-analysis Plans (PAP)
   - Protection of human subjects (IRB)
3. Transparency in Non-experimental research
   - Observational Pre-Analysis Plans
   - Multiple Inference Correction
   - Meta-Analysis
   - Replication
4. Ethical considerations
5. Open data & Data de-identification
6. Reproductive workflows
### Schedule:

<table>
<thead>
<tr>
<th>Time</th>
<th>Thursday, October 11</th>
<th>Monday, October 15</th>
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<tbody>
<tr>
<td>9.00h - 10.45h</td>
<td>Overview of the main statistical problem (Ada Gonzalez-Torres)</td>
<td>9.00h - 10.45h</td>
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<td>Ethical considerations Open data &amp; Data de-identification (Ada Gonzalez-Torres)</td>
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<tr>
<td>11.00h - 13.00h</td>
<td>Pre-registration (PAP) Protection of human subjects (IRB) (Michèle Belot)</td>
<td>11.00h - 13.30h</td>
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<td>Reproducible work-flows R-Markdown (Julia Schulte-Cloos)</td>
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<tr>
<td>14.30h - 16.30h</td>
<td>Transparency in non-experimental research (Ada Gonzalez-Torres)</td>
<td>14.30h - 16.00h</td>
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<td>Reproducible work-flows R-Markdown – Hands-On (Julia Schulte-Cloos)</td>
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<td>16.00 - 16.30h</td>
<td>Closing, Questions, Feedback</td>
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</tbody>
</table>
References

1. Overview of the main statistical problem

Main Readings:


Extended Readings:


Ioannidis, John P.A. (2005). "Why most published research findings are false", PLoS Medicine, 2(8), e124. Link


2. Transparency & Ethics in experimental research - Prof. Michèle Belot

- **Pre-registration & Pre-analysis Plans (PAP)**


Humphreys, Macartan, Raul Sanchez de la Sierra, and Peter van der Windt. (2013). “Fishing, commitment, and communication: A proposal for comprehensive nonbinding research registration”, Political Analysis, 21, 1-20.


- **Protection of human subjects (IRB)**


3. Transparency in non-experimental research

- **Observational Pre-Analysis Plans**


- **Multiple Inference Correction**


- **Meta-Analysis**


- **Replication**


4. Ethical considerations


5. Open data & Data de-identification


6. Reproductive workflows


R Markdown Reference Guide [Link]