



THE STRING THEORY UNIVERSE

COST ACTION MP1210

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STRUCTURE OF THE ACTION

- **Aim** : coordinate European research on string theory
by workshops, conferences, PhD schools, short/mid-term visits
- **Duration**: 2013 - 2017
- **Chair**: Prof. Silvia Penati, University of Milano Bicocca
- **Countries**: Austria, Belgium, Bulgaria, Denmark, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Malta Netherlands, Portugal, Slovenia, Spain, Sweden, UK, Turkey, Australia, South Africa, United States
- **Structure**: organized in Working Groups
 - 1: Gauge/Gravity duality
 - 2: String Phenomenology
 - 3: Cosmology and Quantum Gravity
 - 4: Knowledge transfer
 - 5: **Gender issues and outreach**



WHY GENDER AND WHY AN ACTION?

- String Theory is not a girl-thing:
 - very few women scientists, around 10%
 - women are not well represented in decision making processes
 - women have more difficulties in accessing top positions
 - possible motivations
 - very competitive and time-demanding field
 - the post-doc period is long and uncertain
 - hard to match with a family life
 - dual career problem



The action

- idea of a group of **mid-career women** in string theories
- build on the **tradition of networks** and add a gender dimension
- the first proposal was drafted uniquely by women
- the whole community took part in drafting the final proposal
 - the project has **no gender bias**
 - strictly based on **scientific excellence**
- main **goals**
 - perform **frontier research** in String Theory, by exploiting and promoting complementary expertise of different groups in Europe
 - foster **cooperation** with **other areas in Physics** to which String Theory has provided crucial applications
 - promote actions for **redressing gender imbalance** in the field



CONCRETE MEASURES

- The *String Theory Universe* is
 - the **first COST Action** in **Theoretical Physics** and the
 - first to include a **strong commitment** towards the **gender issues**
- Actions about gender
 - **outside** the string community
 - outreach activities in high schools
 - role model women scientists
 - **inside** the string community
 - **raise awareness** on gender issues
 - **monitoring**
 - **increase visibility** and recognition of women in the field



Raise awareness

- **Learn** about relevant studies on gender
 - participating into **gender conferences** (Gender Summit...)
- **Bring** gender to the attention of the **whole community**
 - **discussion sessions** led by women scientists and gender experts in all main events of the Action
 - *Workshops on String Theory and Gender* (Valencia 2015, Paris 2016, Southampton 2017)
 - scientists and gender experts meet
 - half string theory and half gender studies talks
 - a **play** (Milano final COST conference, February 2017)
 - by a professional writer based on **episodes of micro-sexism** experienced by women in the Action during their careers
 - **confront our colleagues** with typical experiences of women in their work environments.



Increase visibility

- High number of women in the Action's management
 - the Chair, the vice-Chair and four out of the five working group leaders were women
 - Guarantee a fair representation of women
 - in organising and scientific committees
 - as speakers
- for all conferences organised or funded by the action



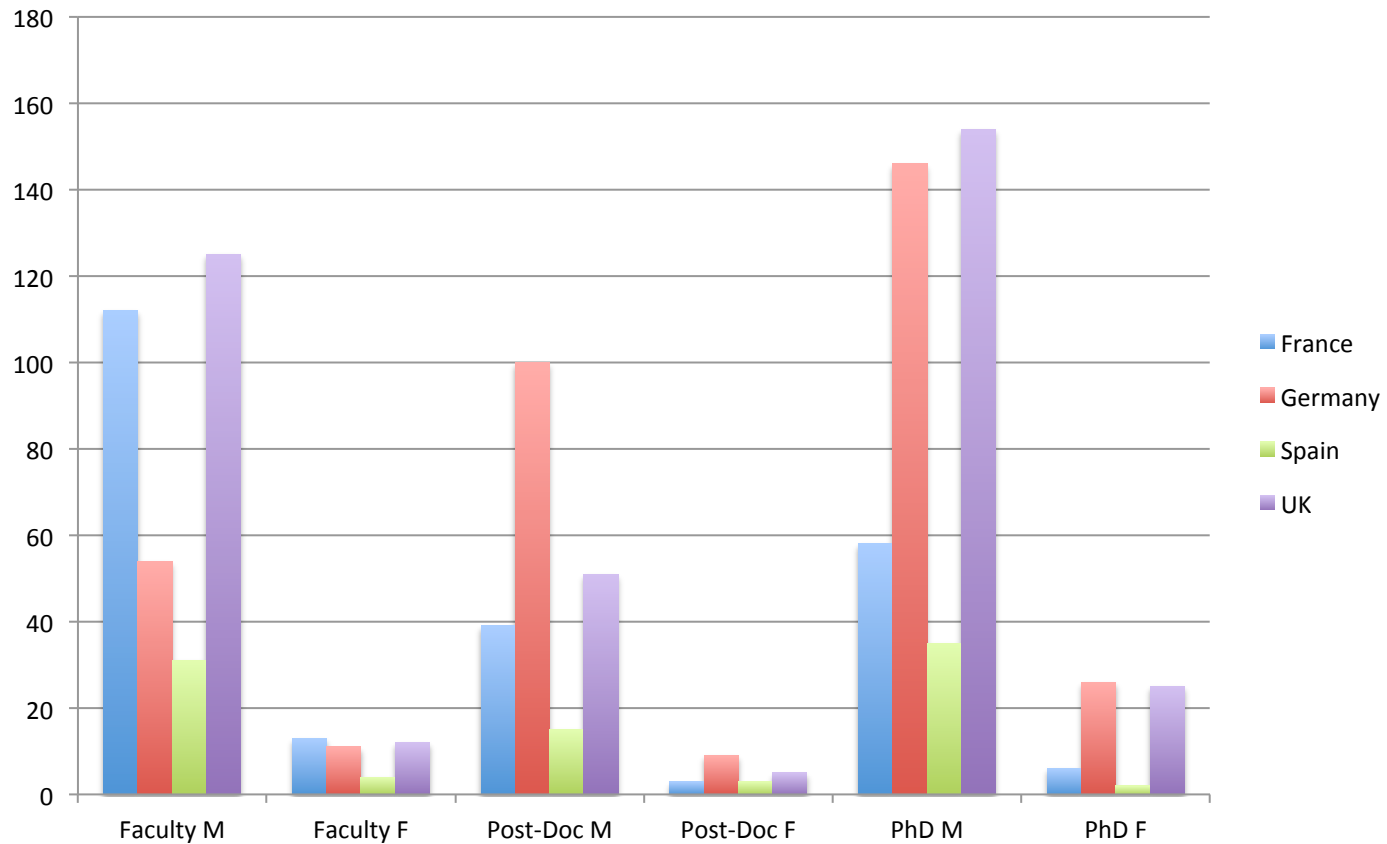
Monitoring: post-docs

- Post-doc recruitment in string theory
 - tradition of **European networks** since the mid-eighties (Science, FP6, FP7)
 - a **Joint Postdoctoral Recruitment** process (coordinated by Leuven University): **statistics** on postdoctoral applications
 - percentage of women applicants stable about 10%.
 - average rate of success of about 10%, slightly less for women (with a high variability)



Monitoring: statistics

- Statistics in [hep-th](#) and [gr-qg](#) for 2017



presented at [String 2017](#) by M. Taylor



Monitoring: gender survey

- Anonymous, online [survey](#) in [2017](#) to test
 - the opinions on gender imbalance in the field,
 - the possible measures that could be taken
 - the impact of the various activities organized by the COST community.
- 172 participants (112 M, 50 W, 1 'other' and 9 'prefer not to say')
- Five groups of questions
 - equal opportunities
 - family and caring responsibilities,
 - gender and work modalities,
 - gender within the COST Action
 - gender equality in the future



Monitoring: gender survey

- Qualitative results
 - the majority of the respondents are aware of gender inequalities in our field
 - men and women have a different perception
 - women are more prone to agree that there is a problem concerning gender equality in their professional environments.
 - women face difficulties about child care, frequent travel, relocations and so on, more often than men



RESULTS

- The Action succeeded in raising awareness on the gender issues in a community that considered it a minor or private issue.
- It set a model for other Actions and grants to include gender issues among their goals.



WHAT'S NEXT?

- *GenHET: Working group on women in high energy theory:*
it will be hosted by Theoretical Physics Department at [CERN](#)
to continue the missions of the Action
 - Improve the visibility of women in the high energy theory community
 - Increasing awareness of gender issues within the theory community
 - Provide networking, support and mentoring for women, particularly in early career
 - Increase the representation of women as speakers in conferences, in organizing committees, as editors of leading journals and in decision making roles
 - Creation of a Web site on Gender and Diversity in Physics



WHAT'S NEXT?

- More general questions
 - Unconscious bias is still very strong
 - Gender is a middle career thing
 - Are quotas good?
 - Reach outside university: the problem starts at primary school
 - Can women in power really propose an alternative model?