



# Sustainability efforts in European Universities

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# Rafael Capilla

- Professor for software engineering (+20 y. of experience)
- **Research topics:**
  - Software architecture, Architecture knowledge
  - Product line engineering & software variability
  - Quality & Technical debt
  - Industry 4.0 architectures and processes
  - **Software sustainability** (since 2013)



# Our research network

- **Germany:** Stefanie Betz, Vlad Coroama
- **Finland:** Jari Porras, Shola Oyedeji
- **Netherlands:** Patricia Lago, Roberto Verdecchia, Vasilios Andrikopoulos
- **Norway:** Rogardt Heldal, Ngoc-Thanh Nguyen
- **Portugal:** Ana Moreira, Joao Fernades
- **Spain:** Rafael Capilla, Leticia Duboc
- **Sweden:** Birgit Penzenstadler, Anne-Katrin Peters, Ola Leifler
- **UK:** Colin Venters, Ian Brooks, Tom Crick, Steve Crouch
- **Other countries:** Brazil (Elisa Yumi Nakagawa)

# Our research topics

- Mapping topics to some people
- **Software/technical sustainability metrics:** Rafael Capilla, Colin Venters, Ian Brooks, Elisa Nakagawa
- **Sustainability requirements:** Colin Venters, Leticia Duboc
- **Education:** Anne-Katrin Peters, Jari Porras, Patricia Lago, Ana Moreira, Joao Fernades, Ola Leifler
- **Sustainability and wellbeing:** Birgit Penzenstadler
- **Green ICT (environmental sustainability):** Patricia Lago
- **Sustainability in industry:** Vlad Coroama, Rogardt Heldal, Rafael Capilla, many more...

# Outcomes

- A significant number of conference and journal papers over the past 10 years
- Two ongoing journal submissions under major revision
- A tentative ongoing book between Spain and Finland
- We applied for an ITN Marie-Curie network but we didn't succeed. We will try one more time
- Some universities like URJC have a Green office with several sustainability initiatives about energy, transportation, etc.
- URJC is planning to introduce a sustainability course in all CS studies and maybe extend it to all other studies
- We are engaged to sustainability workshops and conferences (GREENS, ICT4S, etc.)

# Our near future plans

- Extend our research network with more researchers and people interested in any sustainability dimension to build up community
- Push to include sustainable programs in education
- Provide more metrics to estimate all sustainability dimensions (e.g. social and individual sustainability lack in many cases of such metrics)
- Prove the economic value of sustainability
- Engage companies and identify case studies according to the law of each country and other sustainability requirements

**Please contact us for collaborations  
([rafael.capilla@urjc.es](mailto:rafael.capilla@urjc.es))**

**Sorry for not being here  
but take a look to the slides**