

Verification & Reliability of Dependable Systems

Introduction to the course and exam procedures

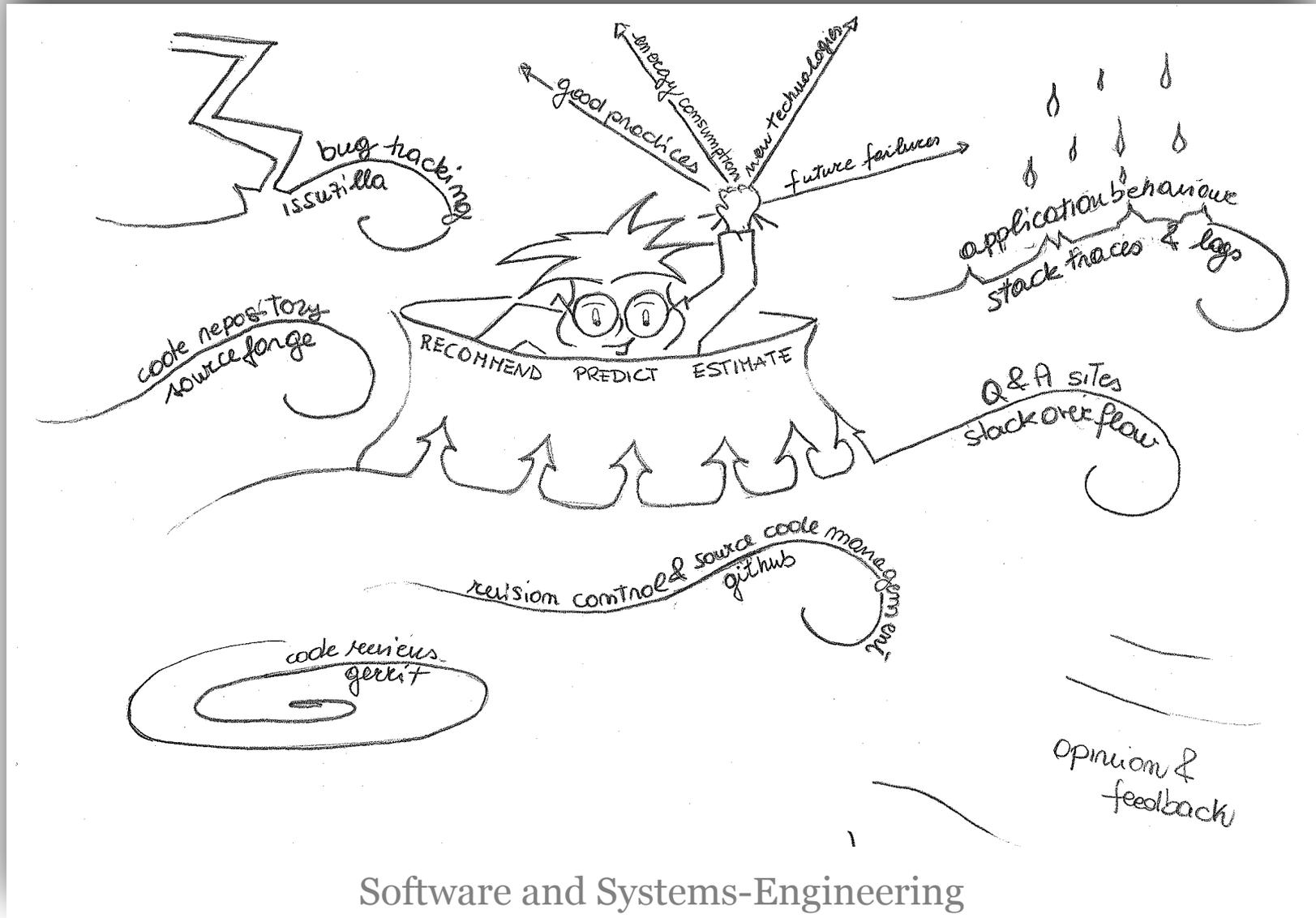
Barbara Russo

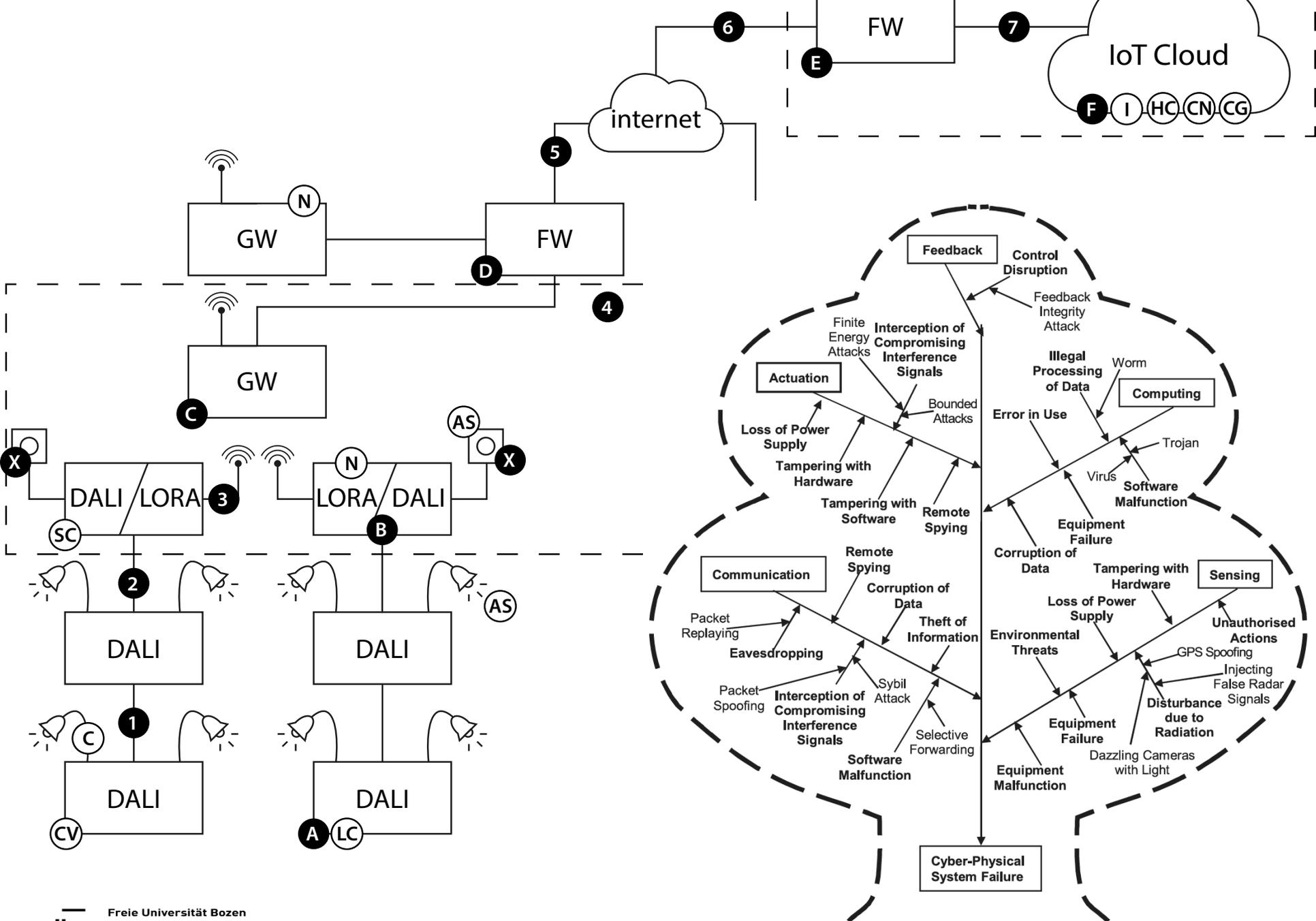
SwSE - Software and Systems Engineering

Course instructors

- Barbara Russo (Lectures)
- Matteo Camilli (Lab)

About my research





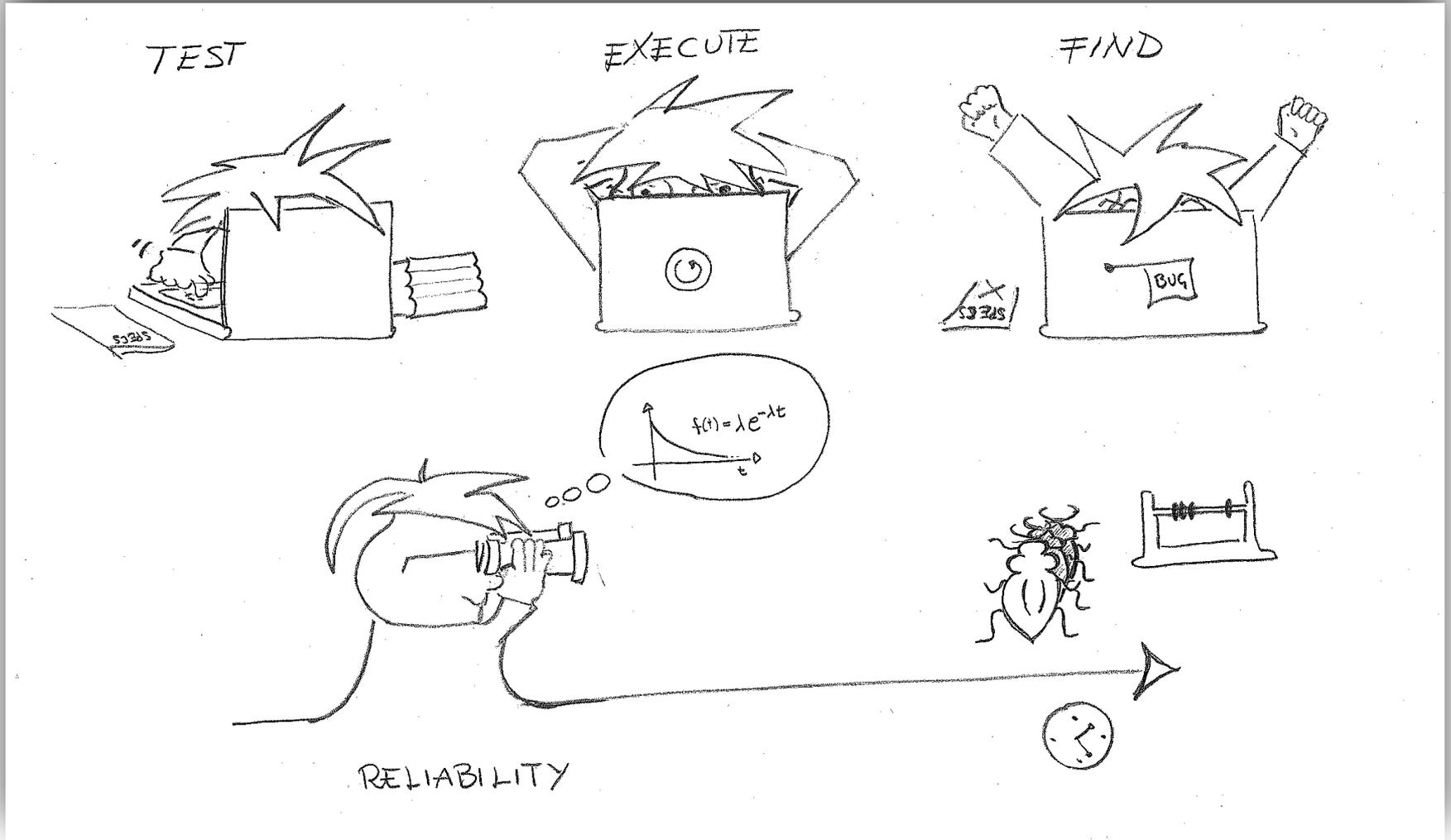
Research topics - system level

- **System Behavioural analysis**
 - Log mining
 - Identify system behaviour through log mining
 - Pattern recognition and recommendations in system (mis-)behaviour
- **System performance and scalability**
 - Load testing with or w/o attacks
 - Performance and scalability anti-patterns
- **Attacks, Testing, Technical debt**
 - Software / Systems
 - Cyber Physical Systems

Research topics - code level

- **Code of low quality**
 - Feature back-porting
 - Identify code that smells now but worked in the past
 - (SA-)Technical debt and relation to code quality
- **Motifs evolution to recommend refactoring**
 - Evolution micro-architectures (motifs) (as in biological networks) to predict architectural refactoring
- **Weaknesses, Vulnerability, attacks**
 - MITRE repository mining
 - Recommend code and patches for weak code

About this course



My office hours

- Office hours: Tuesdays 14:00 - 16:00
- Send an email for appointment

Exam and assessment

- Exam
 - Project at lab with incremental assignments
 - Written exam

- Assessment:
 - Lab (50%) - written exam (50%)

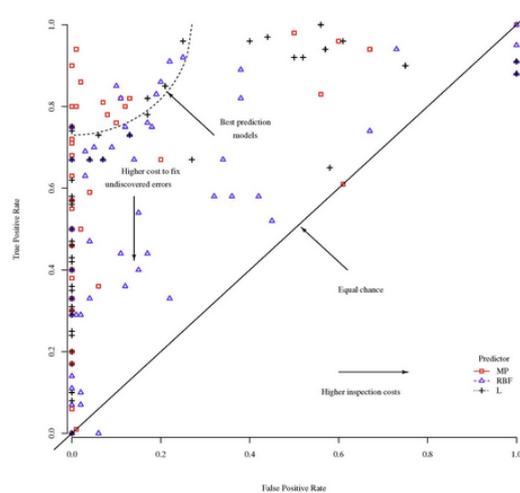
Assessment

- To access to the written exam, you must have passed the project work with **18 or greater**
- In case the project work is positive, **the project grade is kept for all three regular exam sessions (July, October, February)**

Resources

- Notes of the course, books and references in the public web site: <http://www.inf.unibz.it/~russo/>

Barbara Russo
Associate Professor - Free University of Bolzano
Research ▾ Teaching ▾ Tools and Stuff



I am associate professor at the Faculty of Computer Science of the Free University of Bozen-Bolzano, Italy. I was visiting researcher at the Max-Planck Institut für Mathematik in Bonn, Germany and Marie-Curie fellow at the University of Liverpool, United Kingdom.

Tweets

Follow



Gabriele Bavota @gbavota 9 Sep
SE UNIBZ Summer School -
@andrianmarcus ready to start with slide
design inspired by @lanzamichele 's
tutorial pic.twitter.com/z9xXb0f0pR
↻ Retweeted by Barbara Russo



Expand



Barbara Russo @brusso1234 31 Jul
The @EMSE master
inf.unibz.it/emse-dokuwiki/ has been just
funded by the Erasmus Mundus
programme. 43 scholarships for students
from 2017-2018.
Expand



Barbara Russo @brusso1234 28 Jul
@MathJobs1 Position: Free University of
Bozen-Bolzano, Italy, professorship in
Probability and Statistics. Info:
hirinoCS@unibz.it

Resources

- Ole for non-public communication and material - please register!
- <https://ole.unibz.it/course/view.php?id=8809>
- Gitlab for project work - please register at your first lab
- https://gitlab.inf.unibz.it/vrds/2021_2022