Coordinator: Giulia F. Mancini

Year: A.A. 2022/2023

Hours: 20 (Giulia Fulvia Mancini) + 4 (Giacomo Prando) hours of frontal lectures

Language: English

Learning Objectives:

The course is aimed to foster the development of Young Researchers' professional soft skills. It will examine key aspects of management of the candidates' own research plan & career (either in academia or industry), team-work, writing skills (for grant/job application and for research papers), and it shall provide, for each topic, tips & tricks and practical guidelines.

The course is divided into two main branches:

- Frontal lectures focused on shaping the professional CV and online presence for job applications industry & academia, with mock interviews. Invited lectures are planned with: (i) a Human Resources specialist; (ii) R&D experts in companies holding a PhD degree in Physics and Photonics.
- Frontal lectures focusing on the development of writing skills, organized as:
  o Lectures focused on scientific writing for grant application. From concept to content: goals, relevance, impact, tasks, milestones, deliverables, risk assessment, timelines.
  o Lectures focused on publishing scientific manuscripts in scholarly journals: the structure of scientific articles, effective scientific writing, tips about good practices in language style.

Program and contents:

1. CV & LinkedIn profile shaping in industry & academia:
    - Theory, best practices, Q&A
    - Group activities, report-out of results supervised by the instructor/s
2. Apply for a job in industry & academia
    - Where and how: marketing plan to job search
    - Elevator speech, the interview - with mock interviews
    - Professional development through networking: trainings, mentorship, coaching
3. Research grant proposal:
    - Your breakthrough idea in 3 lines
    - Develop your work plan: tasks, milestones, deliverables
    - Planning, writing, time management
    - Creating your own budget
    - Diversity & inclusion: Gender Equality strategy in Research and Innovation
4. Publish your scientific results:
    - Overview of the editorial and peer-review processes
    - The structure of scientific articles and on effective scientific writing - tips about good practices in language style.
    - Practice efficient writing and look for the elements of a good style.

Expected results:

- Development of the soft skills and the professional management capabilities (time, tasks, deliverables) of the participants, fostered by the direct interaction with figures from both the academic and industrial sectors.
- Development of writing skills, for both grant applications and scientific articles.

Teaching Methods:

- Interactive lectures & excercises
- Group activities in the classroom
- Homework

Learning verification methods:

- LinkedIn & CV content: shaping & implementation. For academia or industry, at the candidates' choice.
- Design of the candidates' research plan, with tasks, milestones and deliverables.
- Writing a synthetic research project with workplan and budget.
- Analysis of a scientific article and rewriting of its abstract

Additional Information:

This course complements the training offered by the *Presentation & Communication Skills* course, held by Prof. Alessandro Bacchetta. The two Soft-Skills courses shall be activated every other year.