



TRAINING PLAN 2021

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TRAINING PLAN 2021 FOR RESEARCHERS AND PhD STUDENTS

TRAINING AREA:

Languages

ÀMBIT FORMATIU: Idiomes

Modalitat: Determinar

ENGLISH FOR RESEARCH

Descripció:

English lessons to improve speaking and writing skills.
Courses will be adapted to the group requirements.

Dates, horaris i lloc:

On demand

Continguts:

The aim is that the training will be based on lectures and those will include practical exercises, understanding of texts, presentations and discussion. Finally, the trainer will very much adapt to the needs and requirements of the group.

The total length of the course can be adapted to the requirements, minimum of 25 hours course will be required. Classes once a week and the schedule will be depending on the requirements of the groups.

Objectius:

The aim of this training is to improve the skills of professionals that work on research. Such as presenting results, writing papers and improving the use of technical vocabulary.

Centre formatiu / Docent:

To be determinate depending on the group/centre

TRAINING AREA: **Personal soft skills**

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: A determinar

Destinatari: Caps i Responsables

COACHING SESSIONS

Descripció:

Coaching session to improve competences on personal and leadership skills.

Dates, horaris i lloc:

On demand

Continguts:

Sessions will convene personal meetings and on-line follow up. All sessions will be adapted to personal requirements.

Objectius:

Personalised session that builds up leadership based on a competence analysis and works towards improving the exiting competences and providing strategies for team management.

Centre formatiu / Docent:

To be determined

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència/Presencial

Destinatari: Last year PhD students

CAREER MANAGEMENT AND NETWORKING

Descripció:

This workshop aims to provide assessment to the last year PhD students when looking for the next career step. Practical exercises and case studies will be proposed to help identify skills and value them.

Dates, horaris i lloc:

Several sessions throughout the year

Duration: 8h split in 2 sessions

Continguts:

The workshop is very interactive and based in practical cases where attendants can put in practise the new concepts and work on their CV and their network so to move on the professional goals.

Outline:

What can I do after my PhD?

CV conditioning

Networking skills

Social networks

Types of interviews

Plan ahead

Objectius:

This workshop aims to provide assessment to the last year PhD students when looking for the next career step.

Centre formatiu / Docent:

IRTA (Anna Casadellà)

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència

Destinatari: Researchers

PERSONAL EFFECTIVENESS

Descripció:

This course aims to provide tools to attendants to enhance productivity, time management and effectiveness skills

Dates, horaris i lloc:

On demand

Duration: 3 sessions of 4 hours over 3 consecutive weeks

Continguts

- Your time management issues – An introductory activity to raise awareness about each individual's current issues
- Productivity – What productivity means to the participants and exploring the science behind the myths.
- The big picture – The importance of setting long and medium-term goals and how to turn them into reality to ensure a satisfying life. The concept of rocks and pebbles.
- Prioritisation – How to categorize tasks according to importance and urgency.
- The Pareto Principle – Understanding how to be more effective by concentrating on those tasks which bring the greatest return.
- Effective to-do lists – Best practices of to-do lists. How to break 'stuff' into doable tasks – 'What's the next action?' Designing a personalized list that works for you
- Procrastination - Activities to help participants recognize where they procrastinate, why they do it and how to manage it.
- Being assertive – The definition of assertiveness and why we need it to have a satisfying and successful life. You assertiveness rights and improving your self-esteem.
- Practicing assertive communication.
- How to manage interruptions – Identifying a pattern with interruptions and setting up systems to manage them better. Learning how to deal assertively with people who frequently interrupt
- Our mind-set – How our mind-set can get in the way of success and plans.
- Utilising Carol Dweck's work, a chance to reflect on our own mindsets when we're building new work habits.

Centre formatiu / Docent:

Janice Haywood (www.businesslearningsolutions.es)

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència

Destinatari: Researchers

THE CREATIVE PROCESS AND BRAINSTORMING

Descripció:

This course aims to provide tools to attendants to broaden their creative skills and brainstorming processes individually and in a group.

Dates, horaris i lloc:

On demand

Duration: 2 sessions of 3 hours over 2 consecutive weeks

Continguts

The course will provide tools to understand and apply the creative process as well as techniques for brainstorming to come up with out of the box solutions and ideas. The content of the course will consist on:

- Basic concepts about the creative process
- Workflow of brainstorming
- Out of the box thinking
- Engagement with my own new perspectives
- Process of sharing and receiving perspectives
- Benefits of the perspectives of my colleagues

Centre formatiu / Docent:

David Jorba (www.davidjorba.com/) + IRTA

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Presencial

Destinataris: PhD students

FIND YOUR MOTIVATION AND KEEP IT

Descripció:

This course aims to provide tools to attendants to find their motivation in moments of uncertainty and frustration.

Dates, horaris i lloc:

On demand

Duration: 6h

Continguts

- Concepts on motivation
- The Golden Circle by Simon Sinek on identifying motivation and acting upon it
- Identification of motivating objectives
- Positive psychology as a changing factor
- Establishment of personal goals
- Resilience and tolerance to frustration

Centre formatiu / Docent:

David Jorba (www.davidjorba.com/) + IRTA

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència

Destinataris: Researchers and PhD students

Presentation skills: Structure your presentation according to the audience

Descripció:

The aim is to improve the communication skills and structuring presentation to reach as many people as the audience as possible.

Dates, horaris i lloc:

On demand

Duration: 2h

Continguts:

- Improve the structure of your presentations (each person will have to prepare a presentation)
- How to communicate clearly, with start and end
- Add intrigue or impact on your presentations
- Improve your stage performance with visual aids

The session will be of a very reduced number of attendants and highly interactive. Feedback will be given to all attendants after putting in practise the skills.

Centre formatiu / Docent:

Institut 5 fars (www.laisladelos5faros.com)

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència

Destinatari: Personal que parla en mitjans de comunicació

Presentation skills: TV statements

Descripció:

The session will be based on working and developing skills to make statements on TV.

Dates, horaris i lloc:

On demand

Duration: 6h

Continguts:

Preparation by the attendants of a TV statement given criteria and its later performance. Feedback will be granted and the issues to be improved will be rehearsed.

Centre formatiu / Docent:

Institut 5 fars (www.laisladelos5faros.com)

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: A determinar

Destinatari: Personal que parla en públic habitualment

Presentation skills: individual advising in public communication

Descripció:

The session will consist on providing individual on-line training to improve the oral communication skills of the attendant.

Dates, horaris i lloc:

On demand
Duration: 40min

Continguts:

- Preparation beforehand of a 5 min video by the attendant
- Prior assessment by the trainer
- Provision of feedback in the session by the trainer

Centre formatiu / Docent:

Institut 5 fars (www.laisladelos5faros.com)

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència

Destinataris: Personal que parla en públic habitualment

Presentation skills: Virtual communication

Descripció:

The session will consist of the usage of scenic skills to achieve a more efficient virtual communication. This course is carried out individually.

Dates, horaris i lloc:

On demand

Duration: 40min

Continguts:

- Concepts will be provided prior to the session
- The attendant will provide a video to the trainer prior to the session
- Prior assessment by the trainer
- Provision of feedback in the session by the trainer
- Work on the communication skills during the session

Centre formatiu / Docent:

Institut 5 fars (www.laisladelos5faros.com)

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència

Destinataris: Researchers and PhD students

Presentation skills: Elevator Pitch

Descripció:

The session will consist of developing skills to transfer a message within 1-5min by giving the relevant details and catching the audience's attention.

Dates, horaris i lloc:

On demand

Duration: 2h 30min

Continguts:

Participants will prepare beforehand a short presentation including all information they consider relevant to present and they will rehearse it during the course. Feedback and work on the presentation will be provided.

Centre formatiu / Docent:

Institut 5 fars (www.laisladelos5faros.com)

ÀMBIT FORMATIU: **Habilitats i competències personals**

Modalitat: Videoconferència/Presencial

Destinatari: Researchers and PhD students

SOCIAL MEDIA FOR RESEARCHERS

Descripció:

The aim of this course is to address any reservations you might have about engaging with journalists and show you how to turn your communications into opportunities that will advance your own career and interests.

Dates, horaris i lloc:

On demand

Continguts:

Do you want to take control when communicating with journalists? In this course we'll show you how! Though this course will include some media theory, it will be mainly practical. You will get to know how the mass media work, and understand the dynamics of a press office and the journalists' needs. This will improve your communication with journalists and guarantee that the information released in the media is trustworthy and understandable.

Centre formatiu / Docent:

IRTA – Àngels Codina (Cap de Comunicació)

TRAINING AREA:
Technical and management
knowledge

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: Videoconferència

Destinataris: PhD students

HOW TO WRITE A SCIENTIFIC ARTICLE

Descripció:

This course for beginning researchers focuses on the IMRD structure of the research article and the steps of the publication process.

Dates, horaris i lloc:

On demand
Duration: 2 sessions of 2.5 hours over 2 consecutive weeks

Continguts:

Participants will bring to the session a recent research article in their field (not review articles or other formats) that they enjoyed reading and that appeared in high impact, English-medium journals. The article should not be from the participants' own research group.

Participants will:

- a) Review and enhance their understanding of the structure of scientific articles
- b) Learn about the publication process and how to interact with journals
- c) Implement their new learning in a series of in-class activities
- d) Engage in peer feedback
- e) Practice oral English through group activities and class discussion

Course recommended for 1st and 2nd year PhD students.

Objectius:

The aim of the course is to focus on the mechanics of scientific writing in English, at the levels of the paragraph and the sentence. It is addressed to beginning, midcareer and senior researchers with a high level of written English.

Centre formatiu / Docent:

Susan E. Frekko (www.susanfrekko.com)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: Videoconferència

Destinatari: Researchers and PhD students

SCIENTIFIC WRITING

Descripció:

The course will focus on the mechanics of written English, at the levels of the paragraph and the sentence, using a practical approach that combines the analysis of examples with in-class exercises.

Dates, horaris i lloc:

On demand
Duration: 2 sessions of 2.5 hours
over 2 consecutive weeks

Continguts:

Topics include conciseness, clarity, cohesion and flow, storytelling through characters, topic sentences, dummy subjects, active and passive voice, the first person and language recycling. Participants will bring to the session a recent research article in their field (not review articles or other formats) that they enjoyed reading and that appeared in high-impact, English-medium journals. The articles should not be from the participants' own research group.

Participants will:

- a) Define “good” scientific writing
- b) Learn a set of practical guidelines for improving their paragraphs and sentences in English
- c) Implement their new learning in a series of in-class activities
- d) Practice oral and written English through group activities and class discussion

Centre formatiu / Docent:

Susan E. Frekko (www.susanfrekko.com)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: Videoconferència

Destinataris: Researchers

INDUSTRIAL PROPERTY RIGHTS (IPR) FOR RESEARCHERS – LEVEL I

Descripció:

Basic concepts that a researcher should know and manage when developing new technologies, methods and processes that could be exploited in the market. The training includes how to manage different modalities of intellectual property rights in research organizations like patents, industrial secrets, trademarks, microorganisms, etc.

Dates, horaris i lloc:

On demand

Continguts:

- When IPR are to be considered in your daily life as a researcher?
- When should you consider applying for a patent, an industrial secret, a trademark, a microorganism registration, etc...?
- The basic concepts behind a patent, an industrial secret, a trademark, a microorganism registration, a copyright and other less frequent forms of industrial property.
- IRTA policy on IPR: what it is, where to find it and when and how should I take it into account

Objectius:

Provide attendees the knowledge on how to initiate an IPR process in IRTA, making them capable to identify which part of their work could be subjected to exploitation and/or protection and encouraging them to dedicate the adequate efforts to increase the impact of their job in our society.

Centre formatiu / Docent:

Agustí Fonts – Oficina de Valorització (IRTA)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: Videoconferència

Destinataris: Researchers and PhD students

DESIGN OF GRAPHICAL ABSTRACTS

Descripció:

The course will provide knowledge on how to create a graphical abstract that includes all relevant information in a clear, attractive and catchy fashion.

Dates, horaris i lloc:

On demand

Duration: 6h

Continguts:

1. Introduction:
Concepts to perceive a graphical abstract as a communication tool to summarize information and how to do it.
2. Information gathering:
The first step is to gather key information and sort this information into key elements for the creation of the design.
3. Draft:
Bases on how to arrange information, select key points, and place them in a visual order according to what we want to communicate.
4. Design
Introduction of free imagine and font banks and open-access software to develop the design with readily available resources.

Centre formatiu / Docent:

KAMON (www.kamon.cat)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: Videoconferència

Destinataris: Researchers and PhD students

WORKSHOP ON ENDNOTE

Descripció:

The course will provide basic knowledge on how to manage citations and libraries for scientific publications with EndNote.

Dates, horaris i lloc:

On demand

Duration: 2h

Continguts:

- *How to obtain citations*
- *How to create a private and shared library*
- *How to include citations in a document*
- *How to modify the citations style according to the journal*

Centre formatiu / Docent:

Xantal Romaguera – Scientific Documentation IRTA

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: E-learning

Destinatari: PhD students

BASIC STATISTICS

Descripció:

Understanding statistics is essential to understand research in the social and behavioural sciences. In this course you will learn the basics of statistics; not just how to calculate them, but also how to evaluate them.

Dates, horaris i lloc:

On demand

Duration: 27h

Continguts:

In the first part of the course you will discuss methods of descriptive statistics. You will learn what cases and variables are and how you can compute measures of central tendency (mean, median and mode) and dispersion (standard deviation and variance). Next, it is discussed how to assess relationships between variables, and we introduce the concepts correlation and regression.

The second part of the course is concerned with the basics of probability: calculating probabilities, probability distributions and sampling distributions. You need to know about these things to understand how inferential statistics work.

The third part of the course consists of an introduction to methods of inferential statistics - methods that help us decide whether the patterns we see in our data are strong enough to draw conclusions about the underlying population we are interested in. You will discuss confidence intervals and significance tests.

You will not only learn about all these statistical concepts, you will also be trained to calculate and generate these statistics yourself using freely available statistical software.

Centre formatiu / Docent:

Coursera (<https://www.coursera.org/learn/basic-statistics>)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: E-learning

Destinatari: Researchers and PhD students

PROGRAMMING IN R

Descripció:

In this course you will learn how to program in R and how to use R for effective data analysis. You will learn how to install and configure software necessary for a statistical programming environment and describe generic programming language concepts as they are implemented in a high-level statistical language.

Dates, horaris i lloc:

On demand
Duration: 57h

Continguts:

The course covers practical issues in statistical computing which includes programming in R, reading data into R, accessing R packages, writing R functions, debugging, profiling R code, and organizing and commenting R code. Topics in statistical data analysis will provide working examples.

Centre formatiu / Docent:

Coursera (www.coursera.org/learn/r-programming)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: E-learning

Destinataris: PhD students

INTRODUCTION TO STATISTICAL ANALYSIS: HYPOTHESIS TESTING

Descripció:

This introductory course is for SAS software users who perform statistical analyses using SAS/STAT software. The focus is on t tests, ANOVA, and linear regression, and includes a brief introduction to logistic regression.

Dates, horaris i lloc:

On demand
Duration: 10h

Continguts:

The focus is on t tests, ANOVA, and linear regression, and includes a brief introduction to logistic regression.

Centre formatiu / Docent:

Coursea (www.coursera.org/learn/statistical-analysis-hypothesis-testing-sas#about)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: E-learning

Destinatari: PhD students

STATISTICS WITH R

Descripció:

Statistical strong knowledge of data analysis including inference, modelling, and Bayesian approaches.

Dates, horaris i lloc:

On demand
Duration: 85h

Continguts:

You will learn to analyse and visualize data in R and create reproducible data analysis reports, demonstrate a conceptual understanding of the unified nature of statistical inference, perform frequentist and Bayesian statistical inference and modelling to understand natural phenomena and make data-based decisions, communicate statistical results correctly, effectively, and in context without relying on statistical jargon, critique data-based claims and evaluated data-based decisions, and wrangle and visualize data with R packages for data analysis.

You will produce a portfolio of data analysis projects from the Specialization that demonstrates mastery of statistical data analysis from exploratory analysis to inference modelling, suitable for applying for statistical analysis or data scientist positions.

Centre formatiu / Docent:

Coursera (www.coursera.org/specializations/statistics)

ÀMBIT FORMATIU: Coneixements tècnics i de gestió

Modalitat: E-learning

Destinatari: PhD students

ETHICS, TECHNOLOGY AND ENGINEERING

Descripció:

This course provides an introduction to ethics in engineering and technology. It helps engineers and students in engineering to acquire the competences mentioned in the ABET criteria or comparable criteria formulated in other countries.

Dates, horaris i lloc:

On demand

Duration: 31h

Continguts:

There is an increasing attention to ethics in engineering practice. Engineers are supposed not only to carry out their work competently and skilfully, but also to be aware of the broader ethical and social implications of engineering and to be able to reflect on these. This course helps engineers to acquire the following moral competencies:

- Moral sensibility: the ability to recognize social and ethical issues in engineering
- Moral analysis skills: the ability to analyse moral problems in terms of facts, values, stakeholders and their interests
- Moral creativity: the ability to think out different options for action in the light of (conflicting) moral values and the relevant facts
- Moral judgement skills: the ability to give a moral judgement on the basis of different ethical theories or frameworks including professional ethics and common sense morality
- Moral decision-making skills: the ability to reflect on different ethical theories and frameworks and to make a decision based on that reflection.

Centre formatiu / Docent:

Coursera (www.coursera.org/learn/ethics-technology-engineering)

Other trainings of interest

The following on-line training actions are suggested as interesting courses to follow. These courses are not included in the *Pla de Formació 2021* and expenses related are to be discussed within the Program.

Bioinformatic Methods I

Description: This course focuses on employing existing bioinformatic resources – mainly web-based programs and databases – to access the wealth of data to answer questions relevant to the average biologist, and is highly hands-on. Topics covered include multiple sequence alignments, phylogenetics, gene expression data analysis, and protein interaction networks, in two separate parts.

Link: [Bioinformatic Methods I | Coursera](#)

Genomic Data Science

Description: The course covers the concepts and tools to understand, analyse, and interpret data from next generation sequencing experiments. It teaches the most common tools used in genomic data science including how to use the command line, along with a variety of software implementation tools like Python, R, Bioconductor, and Galaxy.

Link: [Genomic Data Science | Coursera](#)

Publishing Visualizations in R with Shiny and flexdashboards

Description: This course is the fourth in the Specialization "Data Visualization and Dashboarding in R." Learners will come to this course with a strong background in making visualization in R using ggplot2. To build on those skills, this course covers creating interactive visualization using Shiny, as well as combining different kinds of figures made in R into interactive dashboards.

Link: [Publishing Visualizations in R with Shiny and flexdashboard | Coursera](#)

Introduction to Data Sciences in Python

Description: This course will introduce the learner to the basics of the python programming environment, including fundamental python programming techniques such as lambdas, reading and manipulating csv files, and the numpy library.

Link: [Introduction to Data Science in Python | Coursera](#)

The Arduino Platform and C Programming

Description: In this class you will learn how the Arduino platform works in terms of the physical board and libraries and the IDE (integrated development environment). You will also learn about shields, which are smaller boards that plug into the main Arduino board to perform other functions such as sensing light, heat, GPS tracking, or providing a user interface display.

Link: [The Arduino Platform and C Programming | Coursera](#)

Bonificació de les accions formatives

El Mòdul de Formació permet recollir les necessitats de formació i disposar d'un pla actualitzat i dinàmic.

En cas que sorgeixin noves propostes formatives individuals i/o grupals al llarg de l'any, es poden fer arribar a través dels diferents canals que ofereix el mòdul.

Les accions formatives estan finançades per l'IRTA i la Fundació Estatal per a la Formació del Treball (FUNDAE).



Caldes de Montbui, 19 de febrer 2021