

Special Mobility Strand
Sassari May - July 2019

Supervisor	Student	Traineeship title	Detailed programme of the traineeship	Knowledge, skills and competences to be acquired by the end of the traineeship (expected Learning Outcomes):	Monitoring plan	Evaluation plan
Maria Grazia Scarpa (Horticulture/ protected crops/officinal plants)	Ahmed Sayed Ibrahim Abdelnaby (ZU)	Evaluation of ornamental and medicinal plants using in landscape gardening	Collection of spontaneous medicinal plants suitable for the use in landscape gardening Study of plant origin environment Examples of use Potential of species associations 20 hour Italian and 40 hour english courses Statistical analysis using R softwar course	Selection of the most suitable medicinal plants for landscape gardening Experience of spontaneous plants multiplication R software Communication skills	Trainee and supervisor will meet once a week, to review work done and program the work to the next week	Trainee will present a report at the end of period.
Maria Grazia Scarpa	Gehad ElSayed ElSayed ElSherbiny (UNIAL); Nouran Ahmed (ZU)	Effect of antibiotics on fungi	in vitro test on the control of fungi from extracts of medicinal plants Selection of the most suitable medicinal plants with antibiotic effect 20 hour Italian and 40 hour english courses	In vitro culture In vitro control of bacteria and/or fungi extraction of active principles Communication skills	Trainee and supervisor will meet once a week, to review work done and program the work to the next week	Trainee will present a report at the end of period.
Paola Castaldi (Agricultural biochemistry, soil chemistry)	Mohamed Abd elMoneim Qasim Emara (IGSER)	Use of certain plants for phytoremediation of soil contaminated by trace metals	The traineeship period will be divided in two phases: 1st phase, evaluation of the growth ability, at the mesocosm scale, of target plants on soil samples polluted by heavy metals and metalloids; 2nd phase determination, at the end of the growth phase, of biomass production and concentration of metal(loid)s in plant tissues. Further activities will be aimed to the chemical characterisation of polluted soil in which plant growth occurred. (loid)s 20 hour Italian and 40 hour english courses Statistical analysis using R softwar course	the student will acquire knowledge on the evaluation of the suitability of plant species in phytoremediation programs with particular emphasis on the significance and practical use of the bioaccumulation and translocation factors, mineralomass and plant yield in contaminated soils. The student will acquire basic skills related to the quantification of trace metals in soil and plant materials Communication skills R software	During the laboratory work, the degree of independence in the chemistry laboratory will be assessed. Trainee will be evaluated on his ability to autonomously set up and carry out selected soil-plant analyses and process the data output.	Final test will be to write a short report including the main parameters useful for the selection and evaluation of plant species for phytoremediation programs

Andrea Lentini (general and applied entomology)	Eslam Salah Fathalla Mahgoub (IGSER)	Biological control of key insect pests in the Mediterranean basin: case studies in forest and vineyard systems.	<p>The program of the traineeship will be:</p> <ul style="list-style-type: none"> - Evaluation of different microbiological formulations against the gypsy moth (<i>Lymantria dispar</i>) in cork oak forests through monitoring of the larval density before and after treatment applications and lab tests. - Evaluation of biological and pheromone mediated control strategies against the vine mealybug <i>Planococcus ficus</i>. Field trials will be carried out in an organic vineyard protected with the release of the parasitoid <i>Anagyrus pseudococci</i> or by mating disruption. <p>20 hour Italian and 40 hour english courses Statistical analysis using R software course</p>	<p>Improved skills in monitoring techniques of target insects; Knowledge on biology and rearing techniques of target insects; Analysis and evaluation of different solutions to be adopted to optimize the pest control Communication skills R software</p>	Frequent laboratory meetings between trainee and supervisor will be done to review the work done and program the next steps of the work	Trainee will present a report at the end of period. This report will be presented and discussed with a professor jury
Luigi Ledda ((agronomy and herbaceous crops)	Eslam Ayman El-Sayed Ramadan (CU), Ahmed Mohamed Zaki Gouda (IGSER); Roaya Mansour Ezzeldin Abdoun (CU)	Integration of photovoltaic energy generation for protected horticultural systems in greenhouses	<p>The program of the traineeship will be:</p> <ul style="list-style-type: none"> - Literature survey on photovoltaic greenhouses - Elaboration of agronomi, physiological and micro-climate data of experimental trials on French bean, conducted inside and experimental photovoltaic greenhouse; - Impact of the photovoltaic panels on the yield, growth and development of the crop - Calculation of solar radiation at row level inside the photovoltaic greenhouse; - 20 hour Italian and 40 hour english courses - Statistical analysis using R software course 	<ul style="list-style-type: none"> - Updated scientific background on photovoltaic greenhouses and related issues - Improved data elaboration skills of agronomic trials - Experimental design skills - R software - Communication skills 	Trainee and supervisor will meet once a week, to review work done and program the work to the next week. Also, the sending institution will follow up the student with a biweekly skype meeting and receiving a brief monthly report from the supervisor	Trainee will present a report at the end of period. This report will be presented and discussed with a professor jury
Simone Mereu (General Arboriculture) – Filippo Giadrossich (hydraulics and hydraulic forestry arrangements) – Giovanni Garau (Agricultural Chemistry)	WALAA GAMAL ABDELWAHED, SHEROUK SAMIR ALY (AL), TASNEEM ABDELAZIZ MOHARAM HASSAN ABOGABAL (CU); Mohamed Abdelfattah Abdelmaged Abdelmohsin Shokr (AL)	laboratory of species and species interaction on ecophysiology, soil chemistry and soil water dynamics	<p>The traineeship will be divided in three phases of approximately 1 month each. 1st phase: Data collection. The relevance of species interactions will be explained as well as the experimental design. Trainees will be thought how to measure a number of variables of eco-physiological interest as: leaf level gas exchange, leaf and stem hydraulic potential, soil nutrient content and soil structure, functional traits, soil infiltration. Data collection will be performed at the IDENT-Macomer site which is part of a global network of experiments for research on biodiversity effects on ecosystem functions (http://www.treedivnet.ugent.be/ExpIDENT.html). 2nd phase: Data analysis. The collected data will be analysed with R software to determine key species-specific eco-physiological parameters, soil chemical-physical characteristics, and the correlation between them. 3rd phase: Final report. Statistical analysis of the biodiversity effects on ecosystem functions using R software and short final report with conclusions. Students will be followed by three professors. 20 hour Italian and 40 hour english courses</p>	Sampling design, notions on main instruments for eco-physiology, data analysis, communication skills	during the field work, the degree of independence in data collection of the trainees will be assessed. Trainees will be asked to autonomously collect a number of data in a given time. Score will be evaluated by: number of measurements performed and quality of the data. Test will be repeated up to three times. During the analysis phase, trainees will be asked to analyse the collected data to provide statistics and values for a number of variables of eco-physiological interest on the study species as well as species response to soil chemical and physical properties.	Final test will be to write a short report including a comparison of species and their interaction on the eco-physiology, soil chemical and physical properties, and soil water dynamics.

Giovanni Garau (agricultural chemistry)	Asmaa Mohamed Moustafa Mohamed (UNIAL)	Laboratory of tree species and tree species interaction: influence on ecophysiology and soil chemical and biological features	the traineeship will be divided in three phases of approximately 1 month each. 1st phase: Data collection. The relevance of tree species diversity, and tree species interactions, will be explained as well as the experimental design. Trainees will be thought how to measure a number of soil and plant variables of eco-physiological interest, e.g. leaf level gas exchange, leaf and stem hydraulic potential, soil respiration, soil nutrient content, soil microbial carbon, soil community level physiological profile. Data collection will be performed at the IDENT- Macomer site, which is part of a global network of experiments for research on biodiversity effects on ecosystem functions (http://www.treedivnet.ugent.be/ExpIDENT.html), and at the soil chemistry laboratory of the “Dipartimento di Agraria” of the University of Sassari. 2nd phase: Data analysis. The collected data will be analysed with R software (or others) to determine key species-specific eco-physiological parameters, soil chemical, biochemical and physical characteristics, and the correlation between them. 3rd phase: Final report. Statistical analysis of the biodiversity effects on soil chemical and microbial features and ecosystem functions using R software (or others) and short final report with conclusions.	sampling design, notions on main instruments for eco-physiology and protocols for soil chemical and biochemical analysis, data analysis.	during the field work, the degree of independence in data collection of the trainee will be assessed. Likewise, the degree of independence of the trainee in the soil chemistry laboratory will be also assessed. Trainee will be asked to autonomously collect a number of field data in a given time and to follow laboratory protocols to determine selected soil features. Score will be evaluated by: number of measurements/laboratory analyses performed and quality of the data. Test will be repeated up to three times. During the processing phase, trainees will be asked to analyse the collected data to provide statistics and values for a number of variables of soil and eco-physiological interest	Final test will consist of a short report including the influence of tree species, and their interaction, on the eco- physiology, soil chemical, biochemical and physical properties as well as soil water dynamics.
Alberto Stanislao Atzori (Nutrition and animal feeding)	Mohamed Mohamed Ahmed Abo-Elkerem (ZU)	Training on Forage quality to improve feed efficiency in sheep production	Experimental trials on sheep to measure diet digestibility and methane emissions using (comparing diets with different NDF levels); in vitro fermentations of forages and agroindustrial byproducts; field trials on haylage production and estimation of forage quality. 20 hour Italian and 40 hour english courses Statistical analysis using R software	The trainee is expected to familiarize with several aspects of feed analyses and experimental trials - feed quality and feeding practices, - milk quality and milking practices in small ruminants - methane measurements in vivo and in vitro - forage production for haulage and high quality hays - Communication skills - R software	The traineeship activity will be monitored by the researchers and PhD students of the Animal Science Section for the department of Agriculture. Weekly meetings will be scheduled to summarize ongoing activities.	The student will produce a final report of the activities at the end of the traineeship
Luciano Gutierrez (Agricultural Economics)	Dalia Samir ElSayed Hussein Ahmed (ZU) - Tasnim Gamal Abd Elmed Mohamed Abd Elgawad (IGSER)	Traning on agricultural economics and policies	Literature review over the theme of the traineeship focused on water and land management Short essay on the theme of the traineeship Oral presentation of the essay during a seminar 20 hour Italian and 40 hour english courses Statistical analysis using R software	Improved communication skills Improved research organisational skills Improved statistical analysis skills R software	Weekly Evaluation and catch-up meetings with the tutor	Final written assessment over the activities done during the period of traineeship

Sara Melito (Horticulture/Floriculture)	Khaled Abdelwanies Farag Moubarak (IGSER)	Potential of certain methods for salinity and soil contaminant tolerance in crop	evaluation on plant tolerance to salinity and contaminant using morphological (root, shoot, leaves development parameters) and chemical parameters (secondary methabolites, Chlorophyll content) in selected crop. 20 hour Italian and 40 hour english courses Statistical analysis using R software	Analytical, decision-making, strategic-organisational, teamwork initiative, adaptability. Learning of the cause-effects impact of abiotic stress condition in plant R software	Trainee and supervisor will meet twice a week, to explore the proceeding of the experimental activities, focusing on the positive results and to the overcome of the difficulties.	Brief report of performed activities
Gambella/Salvatore Madrau	Amal Shaaban Abdrabu Mohamed Youssef (ZU); Raghda Adel Elabd(CU)	Training in soil survey for remote sensing	The internship will be carried out under the tutorship of the Pedology section and the Mechanization and Plant Engineering section of the University of Sassari. He will be involved in soil survey and analysis to be used as basic information for the subsequent study phases. The student may therefore be involved in the data collection phase and their spatialization, both ex novo and from a bibliographic source. The Mechanization and Plant Engineering section will involve the student in activities related to "remote sensing" technologies using Unmanned Aerial Vehicles (drones) equipped with RGB and spectral cameras (NIR). The student will be able to learn the procedures necessary for the execution of monitoring flights in agriculture using the open-source Ground Station (DJI) programs for programming and execution of flights with autopilot (remote). The student will have the opportunity to learn the workflows used by the AGISOFT-Photoscan aerial photogrammetry software for the definition of digital models of the field (Orthophoto) in 2D and 3D. The student can interface with the researcher and be involved in the normal research activities conducted in the section. 20 hour Italian and 40 hour english courses	The student will enrich his skills in the survey of soils with particular reference to FAO-IUSS survey methods and on their use in specific database. He will learn open-source grund Station program and AGISOFT-Photoscan software Communication skills, R software	The student will interface with tutors and will be involved in the normal research activities conducted in the sections	The student will have to write a report on the activities carried out in the field and in the laboratory. As a final product he will have the task of preparing the field activity necessary for the execution of a remote flight and for the elaboration of the Ortofoto using the AGISOFT-Photoscan software.

Ilaria Mannazzu	FATMA SHAMS LOTFY ALI MAHMOUD (CU)	Biotechnological valorization of whey	Whey is the main by-product of the dairy industry in Sardinia. Due to its high BOD and COD it may represent and environmental problems in case of inappropriate disposal. On other side whey is a source of carbon and nitrogen and it can support microbial growth and biosynthesis of metabolites of interest for the production of functional and prebiotic products. In this context the objective of the programme is the implementation of a biotechnological process for the valorization of whey. In particular, whey will be utilized for cultivation of artificial microbial consortia for the biosynthesis of oligosaccharides and vitamins. The research activity will be articulated as follows: i) evaluation of the kinetics lactose consumption and lactate production during lactic acid bacteria cultivation in whey in bioreactor; ii) evaluation of the kinetics of lactate consumption by selected actinobacteria species sequentially inoculated; iii) quantification of functional products of interest. The student will attend 40 hour English course and 20 hour Italian course at the University of Sassari.	Bioreactor set up and utilization; Cultivation of selected lactic acid bacteria and actinobacteria in bioreactor, communication skills, R software	The student will work in team with a PhD student and postdoc who are involved in the research, under the supervision of the PI (prof. Ilaria Mannazzu). The experimental approaches and the results obtained will be monitored weekly during lab meeting. The results obtained will be the object of monthly reports to be presented to the student tutor in the sender University. Also, the sending institution will follow up the student by arranging a bi weekly skype meeting and receiving a brief monthly report from her supervisor	The achievement of the results expected will be assessed weekly on the bases of the evaluation of the accomplishment of each of the objectives of the project. During the lab meeting the student will briefly present the strategy utilized for each research activity and the results obtained and will discuss, with the other members of the research team, deviation from the objectives and the elaboration of adequate corrective actions.
-----------------	---------------------------------------	--	---	---	--	---

This document was created with Win2PDF available at <http://www.win2pdf.com>.
The unregistered version of Win2PDF is for evaluation or non-commercial use only.
This page will not be added after purchasing Win2PDF.