

MSCA CAREER DEVELOPMENT PLAN

Name of fellow: Margarita Lopez-Fernandez

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Name of Supervisor: Mohamed L. Merroun

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1. SELF-ASSESSMENT

- Skills: managing, developing new ideas, innovating, hard worker, teaching, mentoring, networking
- Values: autonomy, systematic, punctual, efficient, organization.
- Interest: working in the laboratory, managing, innovating, networking
- Personality: open-minded, cheerful, analytical, disciplined, enjoy working with people, tenacious.

2. EXPLORATION

- Education (teaching): teaching in universities or high schools
- Public sector: roles within the Civil Service, government agencies and local government
- Industry research and development: research in commercial and industrial environments
- Entrepreneurial activities: developing a spin-off or doing something completely new
- Education (administrative and professional roles): non-teaching roles in universities and other educational institutions

3. SKILLS DEVELOPMENT

- Discipline-specific conceptual knowledge professionalism
- Research skill development leadership and management skills
- Communication skills Responsible Conduct of Research

4. ACTION PLAN

Career Development Plan-Year 1

Brief overview of research project and major accomplishments expected.

The ground-breaking nature of MicroBent will study the indigenous microorganisms under *in situ* repository conditions, to ensure the safety of Deep Geological Repositories (DGR) of nuclear waste. To do so, compacted bentonites are being incubated for 14 months in contact with fracture natural groundwaters under *in situ* DGR conditions at Äspö Hard Rock Laboratory, Sweden. The following Research and Innovation Objectives (RIOs) will be carried out. RIO1: To characterize the mineralogical and geochemical composition of the bentonite before and after the incubation time (work package (WP) 3); RIO2: To determine the microbial diversity of the compacted bentonite after the *in situ* incubation (WP4); RIO3: To determine the microbial activity of the compacted bentonite after the *in situ* incubation (WP5).

During the first year the major accomplishments expected are to prepare a Data Management Plan (Deliverable (D) 1.1), this Career Development Plan (D2.1), a MSCA project website active (D6.1), plus a Dissemination, Exploitation, Communication, Outreach activities Plan (D6.3). In addition, it is crucial to obtain good quality nucleic acids to identify the microbial composition (Milestone (M) 4.1: Good quality-DNA products) and the active community (M5.1: Good quality-RNA products).

In terms of research management and training, the fellow will apply for funding to regional, national and international calls, plus attend to several courses to improve her leadership skills as well as research, project and financial management.

Long-Term Career Objectives (over 5 years):

Goals:

- 1) Start a new research line
- 2) Gain a permanent position at the university.

What further research activity or other training is needed to attain these goals?

- 1) Training in specific new areas for the new research line
- 2) Course to improve Communication skills
- 3) Course on Project and financial management
- 4) Course on Research dissemination

Short-Term Objectives (1-2 years):

Research results

- Anticipated publications: Two or three publications in high impact factor journals such as The ISME Journal, Nature Communications or Journal of Hazardous Materials.

- Anticipated conferences: Congress of European Microbiologist, International Society of Subsurface Microbiology, Goldschmidt Conference

Research Skills and techniques

- Training in RNA-seq data analysis
- Training in Advanced biostatistics

Research management

- Apply for regional funding: call “Ayudas a la I+D+i, en el ámbito del Plan Andaluz de Investigación, Desarrollo e Innovación (PAIDI 2020): Programa de ayudas a proyectos de I+D+i.”
- Apply for national funding: call “Proyectos de I+D+i de Generación de Conocimiento: Investigación No Orientada y Orientada (Plan Estatal - Ministerio de Ciencia e Innovación).”
- Apply for national funding: call “Ayudas para contratos Ramón y Cajal, Ministerio de Ciencia e Innovación.”
- Apply for international funding: call “Community Science Program (CSP) Annual Call (Joint Genome Institute).

Other professional training (course work, teaching activity)

- Dissemination plan to improve a research project course
- Participation in daily management course
- Design thinking and visual thinking course
- Course from Women Equality Office

Anticipated networking opportunities

- Annual meeting project
- attending national and international conferences
- Workshops organized by the university/research group

Other activities with professional relevance

- Participation in Marie Curie Open Day
- Participation in Project Open Doors and European Researcher’s Night
- Participation in Centro Mediterráneo-UGR Summer Courses
- Press releases in local (Ideal), national (El País) media
- Clip using the scientific divulgation program of the UGR: ACIENCIACERCA
- Podcasts at the UGR radio channel



19/06/2023 Mohamed L. Merroun

Date & Signature of fellow

Date & Signature of supervisor