



Erasmus+ Traineeship

EMPLOYER INFORMATION	
Name of Organization	University of Murcia
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UMU Address	Departamento de Genética y Microbiología, Facultad de Biología, Campus de Espinardo.
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ENTERPRISE JOB DESCRIPTION	
Name of enterprise	CYTOKINESIS SAFEGUARD MECHANISMS REGULATED BY ENVIRONMENTAL CUES
Duration	From 6 to 12 months
Working Hours	~30 hours/week
Project Description	Accurate cell multiplication requires the replication and segregation of the genome followed by cytokinesis, a mechanism that regulates the partitioning of the cell contents into two daughter cells. The principle driving force for cytokinesis in metazoa and fungi is an actomyosin based contractile ring (CAR), which establishes the plane for cell division and the subsequent construction of a physical barrier that draws in the plasma membrane until daughter cells become fully separated. Therefore, cytokinesis is one of the most stressful events during a cell lifetime that requires a sophisticated interplay between cytoskeletal, cell cycle, and regulatory pathways. The main objective of this project will pursue to identify novel mechanisms of cytokinesis control by the environment that safeguard cell integrity and ensure adequate growth upon stress removal. This will be accomplished by using as a model organism the fission yeast <i>Schizosaccharomyces pombe</i> , since the molecular mechanisms regulating assembly, constriction and disassembly of the CAR are known better in this organism than in any other eukaryote, and are shared to a large extent with animal cells.



Tasks of the Erasmus intern	<p>The selected candidate/intern will investigate the role of both cAMP-PKA signalling and the Cell Integrity Pathway MAPK pathways as putative modulators of cytokinesis.</p> <p>To this end, he/she will carry out a multidisciplinary approach combining genetics, proteomics, cell biology, and high end microscopy techniques.</p>
Requirements	<p>The applicant should have a good background in biochemistry, microbiology, cell biology and molecular biology.</p> <p>Basic laboratory skills and a good level of English language are also desirable.</p>
What do we offer	<ul style="list-style-type: none">- Incorporation into a very active research group currently supported by national competitive funding.-Our research group is composed by several Professors, Post-docs, and PhD students, that will teach, supervise and guide the student during his/her stay in our laboratories.- Access to modern equipment and core research facilities. The student will acquire expertise in molecular, biochemical and cellular biology techniques, including advanced microscopy (Confocal and Widefield time-lapse and super-resolution microscopy)-The possibility to thrive in a highly multidisciplinary, friendly and collaborative environment.
Website	<p>https://www.um.es/en/web/fisiologia-microbiana/contenido</p>