

## MÁSTER EN INVESTIGACIÓN BIOMÉDICA Research Project Proposal

Academic year 2025-2026

| Project № 36   |
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| <b>Title:</b> Functionalization of mimetic periostium for bone regeneration estrategies  |
| Department/ Laboratory Biomedical Engineering Program, CIMA  |
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| This master's thesis focuses on the functionalization of 3D-printed polycaprolactone membranes to develop a mimetic periosteum designed for the sustained and controlled release of the BMP-2 morphogen.   |
| In this project, membranes will be fabricated using 3D printing with polycaprolactone and subsequently functionalized through chemical reactions to enable the controlled release of BMP-2. Their biocompatibility will be evaluated through cell culture, aiming for application in bone regeneration strategies. |
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| yes  |
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| no   |
| Does the project include the possibility of supervised animal manipulation to complete the training for  |

animal manipulator?