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## PhD in Biology - Molecular Genetics

Research Area: Molecular Genetics

**Title:** Towards understanding of genetic susceptibility linking preterm birth and periodontal disease

Preterm birth (PTB) is a major clinical and public health challenge and is considered one of the leading health indicators of a nation. In industrialized countries PTB accounts for 70% of neonatal deaths and up to 75% of neonatal morbidity which often extends to later life, resulting in enormous physical, psychological and economic costs. Although some risk factors for PTB have already been described, its aetiology is still uncertain. Several inflammatory diseases have been associated to PTB. Among them, periodontal disease (PD), a complex chronic inflammatory pathology, which is the sixth most prevalent disease worldwide. The relationship between PTB and PD is still not completely understood, despite the proposed links. In addition, these conditions were associated with a genetic predisposition, and relevant variations were found, for both cases, in genes associated with the inflammatory system. The present study has the purpose to find common genetic alterations underlying PTB and PD occurrence. The hypothesis of this study is that both conditions are consequences of a common genetic predisposition for an exaggerated inflammatory response. As both conditions are considered two major public health issues, any scientific effort to better understand their aetiology will have a positive social impact. Moreover, having a better understanding of the genetics underlying PTB and PD is paramount to develop a preventive tool to reduce these conditions.

**Keywords:** Genetic predisposition; Preterm birth; Periodontal disease; Inflammatory system

### Publications

<http://doi.org/10.1093/femsyr/foz042>

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