

# Tematy prac dyplomowych na rok akad. 2021/2022

## Prace magisterskie - Energy Systems in the Built Environment

Lp	Promotor	Temat pracy dyplomowej	Opis	Uwagi
1	Dr hab. inż. Dariusz Heim, prof. uczelni	<p><i>Tytuł zatwierdzony:</i> <b>Radiant Floor Systems to use all year round</b></p> <p><i>Tytuł po zmianie:</i> <b>Numerical simulation of radiant floor heating – the effect of phase change materials incorporation</b></p>	<p>The research activities proposed will focus on hydronic radiant heating and cooling floors based on water piping supply systems. Design aspects will be assessed and optimized to maximize the performance of the system through modelling. A first premise of the project is to make these systems all around the year operable. Commonly, these systems are mainly focused on heating purposes, which is limiting considering the physical installation of such an embedded system, therefore the cooling mode should be coupled to control growing overheating periods aggravated by the context of climate change. These systems, even though considered energy efficient, still have significant thermal losses, and the use of a blend of Phase Change Materials (PCMs) can improve significantly the role of some layers of the system, used in a layered system. A weighted combination of different PCM can add an initial thermal inertia for both heating and cooling modes, reducing energy consumption.</p>	<p>Konieczność doprecyzowani a tytułu, praca dyplomowa realizowana na Uniwersytecie w Aveiro</p>