

סמינריון

הנדך מוזמנות להרצאה סמינריונית של הפקולטה להנדסת מכונות שתקיים ביום ה' 2.07.2020
(י' בתמוז תש"פ), בשעה 13:30 באמצעות הזום : <https://technion.zoom.us/j/96221200978>

מרצה : זיו אהרוני

מנחה : פרופ' ענת פישר

על הנושא :

Microstructure design and analysis of bio-degradable bone scaffolds

The seminar will be given in Hebrew

תקציר ההרצאה :

Biodegradable bone scaffolds are an emerging topic in the field of tissue engineering. Stem cells are cultured upon a 3D printed scaffold and differentiated into bone tissue. The scaffold is then implanted into a patient where a new bone forms around the degrading polymer, leaving a newly grown bone. The aim of this project is to design a scaffold such as to enhance cell growth within the structure. This is achieved by numerical simulation of tissue growth within the structure and a subsequent optimization. Different structures were tested in this way, and structural parameters were modified in accord, resulting in a scaffold which provides optimal cell growth rates. Several optimization methods were applied and analyzed showing correspondence of results yet with different efficiency.

Another topic that will be discussed is the degradation of scaffold within the body. A similar simulation was developed, this time to study polymer degradation within the scaffold. This provided additional information on the structures' properties.

בברכה,

ד"ר/א"א איתי סאס

מרכז הסמינרים