



## Biosurfaces

Visiting Professor: Prof. Dr. habil. Dieter Scharnweber (TU Dresden, Institute of Materials Science, Max Bergmann Center of biomaterials)

### Short description of the lecture:

Acquaintance with calculation and design methods of modern heat and mass exchangers for perspective industrial applications.

### Contents

The course aims to introduce to the students different methods for a defined design of biomaterials surface properties with special attention paid to

- the biological background,
- the methods to generate the surface property profile,
- the biologically wanted surface property as well as
- relevant results from cell biological experiments, animal testing, and clinical trials.

This includes (i) methods to create defined surface morphologies via physical and chemical processing, (ii) physical and chemical modifications of surface properties, (iii) inorganic coating systems, and (iv) the whole area of BioSurface Engineering, i.e. the biomimetic imitation of the native cellular microenvironment given by the properties of the native extracellular matrix (ECM).

This will enable students to design biomaterials surfaces from various substrates for biomedical applications in different areas such as tissue engineering and regenerative medicine for use in contact with different tissues.

### Key competences:



Ability to determine basic dimensions of heat exchangers. Selection of an appropriate type of heat exchanger to the problem. Knowledge of modern heat intensification techniques.

TERMINY WYKŁADÓW			
Data	Dzień tyg.	Godzina	Sala
2014-10-13	Pn	9.15-10.45 oraz 11.15-12.45	Biały Domek (Al. Zwycięstwa 27), sala konferencyjna na parterze
2014-10-14	Wt	9.15-10.45 oraz 11.15-12.45	Biały Domek (Al. Zwycięstwa 27), sala konferencyjna na parterze
2014-10-15	Śr	9.15-10.45 oraz 11.15-12.45	Biały Domek (Al. Zwycięstwa 27), sala konferencyjna na parterze
2014-10-16	Cz	9.15-10.45 oraz 14.15-16.30	Biały Domek (Al. Zwycięstwa 27), sala konferencyjna na parterze
2014-10-17	Pt	9.15-10.45	Biały Domek (Al. Zwycięstwa 27), sala konferencyjna na parterze

**UWAGA! Zmianie uległa sala, w której odbędą się zajęcia – zamiast sali 126 w budynku Żelbet będzie to sala konferencyjna w Białym Domku na parterze (przy Al. Zwyciestwa 27).**