

OBTAINING AND CHARACTERIZATION OF BULK AMORPHOUS ALLOYS WITH BIOCOMPATIBLE PROPERTIES

Goal of the project

The goal of the project is to propose new chemical composition and processing methods in order to obtain bulk amorphous alloys with biocompatible properties.

Short description of the project

The project's purpose is to develop new amorphous structured materials for biomedical devices.

Implementation period

01.02.2019 - 31.07.2020

Budget

47.600 RON (10000 EUR)

Main activities

During this project, the research team was focused on the following activities:

- Optimizing of a chemical composition that ensures high amorphization capacity;
- Processing of bulk amorphous alloys (rods and discs);
- Characterization of the obtained alloys regarding their structure and properties (DTA analysis, X-Ray diffraction, hardness testing, wear and corrosion resistance).

Results

Estimated results include:

- processing of a bulk amorphous alloy, with a chemical composition that ensures high biocompatibility and amorphization capacity;
- casting and processing technology of bulk amorphous alloys for biomedical devices (fixing plates rods);
- obtaining high quality new bulk amorphous alloys with applicability in the field of medical engineering.

Applicability and transferability of the results:

- The success of the research will open the way to obtain new materials with amorphous structure and improved properties, usable to produce different parts in the field of medical engineering.

Research team

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