

SINTERIZATION OF NOVEL STRUCTURES FOR ALLOYS WITH INCREASED FUNCTIONALITY (SINS), PN-III-P3-3.1-PM-RO-CN-2018-0027

Goal of the project

The SINS collaborative research project was based on the complementary experience of the two groups aims to design and manufacture sintered materials (including porous or with gradient) belonging to the intelligent materials class of materials, with the primary focus on NiTi based alloys.

Short description of the project

- The objectives of the project are related to the fabrication and characterization of complex metallic powders and to the production of sintered materials by spark plasma and by laser additive method.
- The collaboration used both the experience of the research groups in Romania and China, as well as the scientific research infrastructure in the partner's institutions for the development of new technologies in order to manufacture high-performance intelligent materials, with wide potential use, ranging from the biomedical to the automotive industry.

Project implemented by

- Politehnica University Timișoara
- University of Science and Technology Beijing

Implementation period

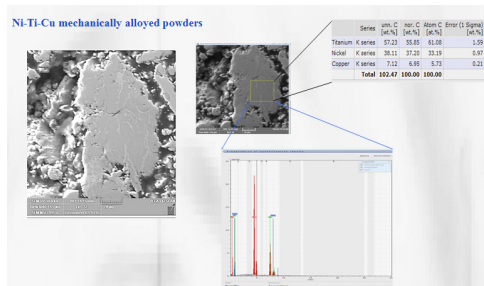
2018-2019

Main activities

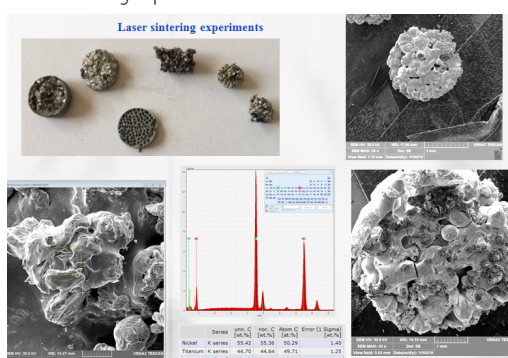
- Preparation and characterization of complex metal powders
- Identification of the compatibility between components for porous structures
- Design of technologies for producing the sintered materials
- Fabrication and characterization of sintered materials
- Dissemination

Results

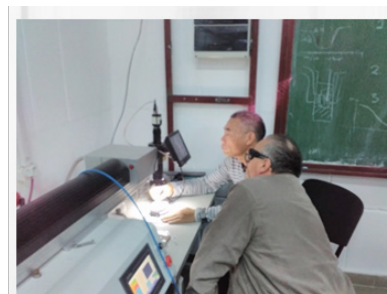
- Mechanical alloying experiments



Laser sintering experiments



Collaborations



Applicability and transferability of the results

- The materials developed have the potential to be used in medical applications.
- A solid transfer of knowledge occurred during the collaboration between the partners involved in the research.

Financed through/by

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Research Centre

- Smart Materials and Structures Laboratory

Research team

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