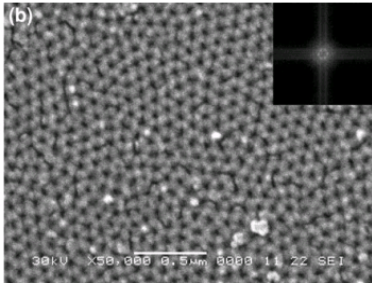

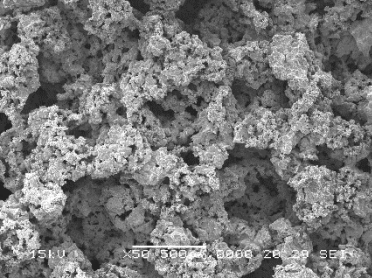


## THE POROUS MATERIALS AND COMPOSITES RESEARCH GROUP

### Contact details

Name	The Porous Materials And Composites Research Group	
Acronym	COMPOR	
Logo	 Materiale compozite și poroase	
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### Areas of expertise

**Field: Materials Science and Engineering**

**Expertise in Powder Metallurgy**

- Sintered porous materials, cellular materials (metallic foams)
- Material metal and ceramic matrix composites produced by powder metallurgy.

### Team

Lect. Dr. Eng. Gyorgy Thalmaier, Prof. Dr. Eng. Ioan Vida-Simiti , Lect. Dr. Eng. Niculina Sechel,

### Representative projects

**MATAVSUD: "Innovative Research on development of new materials for welding and other production processes"**  
 - CEEEX Contract no. 8/2005-2008

**BRONZINV 'Fundamental and applied research on 12-15% tin bronzes for obtaining anti-friction layers "**\_ CEEEX Contract No. 11/2005-2008

**"Manufacturing Aluminium - Graphite composites by casting and sintering"**, Contract CEEEX Nr.2/2005-2008

**NANOGRAD "Advanced research on the development of nanostructured graded composite materials for excessive wear applications "** Contract CEEEX Nr.91/2006: -2008

**ELSUD "Multi-layered electrodes for electrical resistance spot and line welding"** Program 4 Partnerships in priority areas, PNCDI 2 - 2007-2009

**ELMOD – "Innovative technologies for the development of modular manufacture of forming tools"**, Program 4 Partnerships in priority areas, PNCDI 2, 2007-2009

**"Exploratory research projects. Studies and research on obtaining structurally graded materials by controlled sedimentation of metallic and ceramic powders"** Program Ideas ID\_214, no. 749 / 19.01.2009

**"Development and support of multidisciplinary postdoctoral programs in priority technical areas of the national strategy for research - development - innovation 4D-postdoc"** Postdoctoral research fellowship funded by the Managing Authority for Sectorial Operational Programme Human Resources Development under the project Contract Code: POSDRU/89/1.5/S/52603

## Significant results

[Obtaining and characterisation of thermoelectric Mg<sub>2</sub>Si compound via wet and dry mechanical alloying and spark plasma sintering](#)

V Cebotari, F Popa, TF Marinca, BV Neamtu, NA Sechel, M Galatanu, ...  
Journal of Materials Research and Technology 26, 8904-8914

[Superalloy/Al<sub>2</sub>O<sub>3</sub> type composite compacts obtained by spark plasma sintering from mechanically alloyed powders](#)

CV Prică, NA Sechel, BV Neamtu, TF Marinca, F Popa, HF Chicinaş, ...  
Science of Sintering 54 (3), 335-347

[Micron porous copper powder through vacuum dealloying](#)

G Thalmaier, NA Sechel, I Vida-Simiti, M Nasui, N Cobîrzan  
Materials Today: Proceedings 72, 560-564

[Influence of Fe<sub>2</sub>O<sub>3</sub>, MgO and Molarity of NaOH Solution on the Mechanical Properties of Fly Ash-Based Geopolymers](#)

BA Ionescu, M Chira, H Vermeşan, A Hegyi, AV Lăzărescu, G Thalmaier, ...  
Materials 15 (19), 6965, 2022

[Aluminum Perlite Syntactic Foams](#)

G Thalmaier, NA Sechel, A Csapai, CO Popa, G Batin, A Gábora, ...  
Materials 15 (15), 5446, 2022

[Assessment of limestone waste addition for fired clay bricks](#)

G Thalmaier, N Cobîrzan, AA Balog, H Constantinescu, A Ceclan, ...  
Materials 15 (12), 4263, 2022

[Recycling of mining waste in the production of masonry units](#)

N Cobîrzan, R Muntean, G Thalmaier, RA Felseghi  
Materials 15 (2), 594, 2022

[Approach of the Circular Economy in the Field of Precast Elements and Buildings. Limits, Trends, and Perspective](#)

N Cobîrzan, R Muntean, G Thalmaier, RA Felseghi  
Clean Technologies and Sustainable Development in Civil Engineering, 1-18, 2022

[Volcanic tuff as secondary raw material in the production of clay bricks](#)

N Cobîrzan, G Thalmaier, AA Balog, H Constantinescu, A Ceclan, ...  
Materials 14 (22), 6872, 2021

[Syntactic aluminum foam from recycled sawing chips](#)

G Thalmaier, NA Sechel, I Vida-Simiti  
Jom 72, 3377-3382, 2020

[Influence of sawdust particle size on fired clay brick properties](#)

G Thalmaier, N Cobîrzan, AA Balog, H Constantinescu, M Streza, M Nasui, ...  
Materiales de Construcción 70 (338), e215-e215

[Influence of sawdust particle size on fired clay brick properties](#)

G Thalmaier, N Cobîrzan, AA Balog, H Constantinescu, M Streza, M Nasui, ...  
Materiales de Construcción 70 (338), e215-e215

[Heat transfer enhancement of paraffin phase change composite material using recycled aluminum sawing chips](#)

G Thalmaier, NA Sechel, I Vida-Simiti Jom 71, 1049-1055

## The offer addressed to the economic environment

Research & development	Fundamental research on the process of sedimentation metallic and ceramic powders for achieving gradual sintered porous structures Obtaining sintered porous media with porosity gradient for manufacturing filters for microfiltration; Preparation and characterization of metal matrix composites and ceramics for various applications.
Consulting	Dimensioning filtering elements
Training	Powder metallurgy

Last update on February 2024