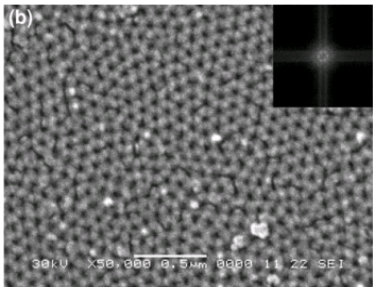
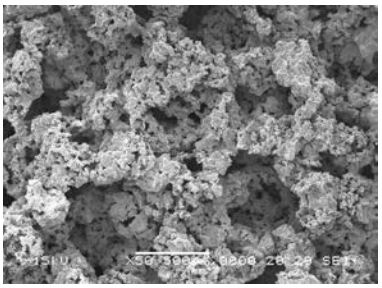
THE POROUS MATERIALS AND COMPOSITES RESEARCH GROUP

Contact details

Name	**The Porous Materials And Composites Research Group**	
Acronym	**COMPOR**	
Logo	COMPOR Materiale compozite şi poroase	
Address	103 –105, Muncii Av., 400641, Cluj-Napoca, Romania	
Faculty Department	**Faculty of Materials and Environmental Engineering Materials Science and Engineering Department**	
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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

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

Representative projects

MATAVSUD: "**Innovative Research on development of new materials for welding and other production processes**" - CEEX Contract no. 8/2005-2008
BRONZINV 'Fundamental and applied research on 12-15% tin bronzes for obtaining anti-friction layers "_ CEEX Contract No. 11/2005-2008
"**Manufacturing Aluminium - Graphite composites by casting and sintering**", Contract CEEX Nr.2/2005-2008
NANOGRAD "**Advanced research on the development of nanostructured graded composite materials for excessive wear applications** " Contract CEEX 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

The most representative publications of the past 5 years:

1. G. GHERASIM, SPUME SINTERIZATE DIN MATERIALE METALICE USOARE, Teza de doctorat, Universitatea Tehnica din Cluj-Napoca, 2015
2. S. Şuta, G. Gherasim, G. Thalmaier, N. Sechel, I.Vida – Simiti, Ti-Al membranes for microfiltration, Conferinta international, Advanced Materials and Structures 16-17 October 2015, Timişoara, Romania
3. Gy. Thalmaier, N.A.Sechel, I. Vida-Simiti, Metalurgia pulberilor - aplicații practice, Editura UTPress, 2015, ISBN 978-606-737-032-4
4. Gherasim, G., Thalmaier, Gy, Sechel, N, Cziple, F, Petrescu, V, Vida-Simiti, I, Open cell Al-Si foams by a sintering and dissolution process, Solid State Phenomena, (2014), Vol. 216, p. 249-254,
5. I. Vida-Simiti, N. Jumate, G. Thalmaier, N.Sechel, V. Moldovan, "Study of Porous Membranes obtained by Powder Sedimentation", *Journal of Porous Materials*, Vol.19, no.1, 2012, p.21-27.
6. I. Vida-Simiti, N. Jumate, V. Moldovan, Gy. Thalmaier, N. Sechel, "Characterization of Gradual Porous Ceramic Structures Obtained by Powder Sedimentation", *J. Mater. Sci. Tech*., 2012, 28(4), p. 362-366.
7. I. Vida-Simiti, N. Jumate, G. Thalmaier, V. Moldovan, "Sintering of sedimented nickel powder gradual porous structures", *Powder Metallurgy*, 2012, Vol. 55, No. 2, p. 154-161.
8. I. Vida-Simiti, D. Nemeş, N. Jumate, G. Thalmaier, N. Sechel, "Self-Ordered Nanoporous Alumina Templates Formed by Anodization of Aluminium in Oxalic Acid", *JOM Journal of the Minerals, Metals and Materials Society*, (2012),Vol. 64. no.10, p. 1143-1147.
9. IE. Bruj, N. Jumate, I. Vida-Simiti, V. Moldovan, D. Nemes, "Study on the phisical and mechanical properties of Ni-based sintered metallic foams", *Journal of Optoelectronics and Advanced Materials*, vol. 13. no. 7, 2011, p. 866- 869.
10. I. Vida-Simiti, N. Jumate, V. Moldovan, G. Thalmaier, N. Sechel, "Gradualism in sintered porous materials obtained by powders sedimentation", *Journal of Optoelectronics and Advanced Materials*, vol. 13. no. 9, 2011, p. 1201-1204.
11. Ioan Vida-Simiti, Nicolaie Jumate, Gyorgy Thalmaier, Niculina Sechel, Valentin Moldovan, "Metallic Membranes Obtained with Graded Structure for Microfiltration", *Environmental Engineering and Management Journal*, 2011, Vol. 10, p. 1439-1444.

Patents:

1. I. Vida-Simiti, C. Ciupan, Procedeu de obţinere a tuburilor poroase prin rulare cu strat elastic a tablelor sinterizate. RO 123245 B1/29.04.2011.
2. H. Binchiciu, V. Geantă, I. Voiculescu, A. Binchiciu, R. Stefănoiu, E. Binchiciu, R. Negriu, I. Vida-Simiti, Electrod din bronz cu înveliş gros pentru încărcare prin sudare, RO 125855 B1/2012.

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