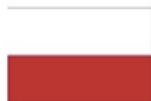




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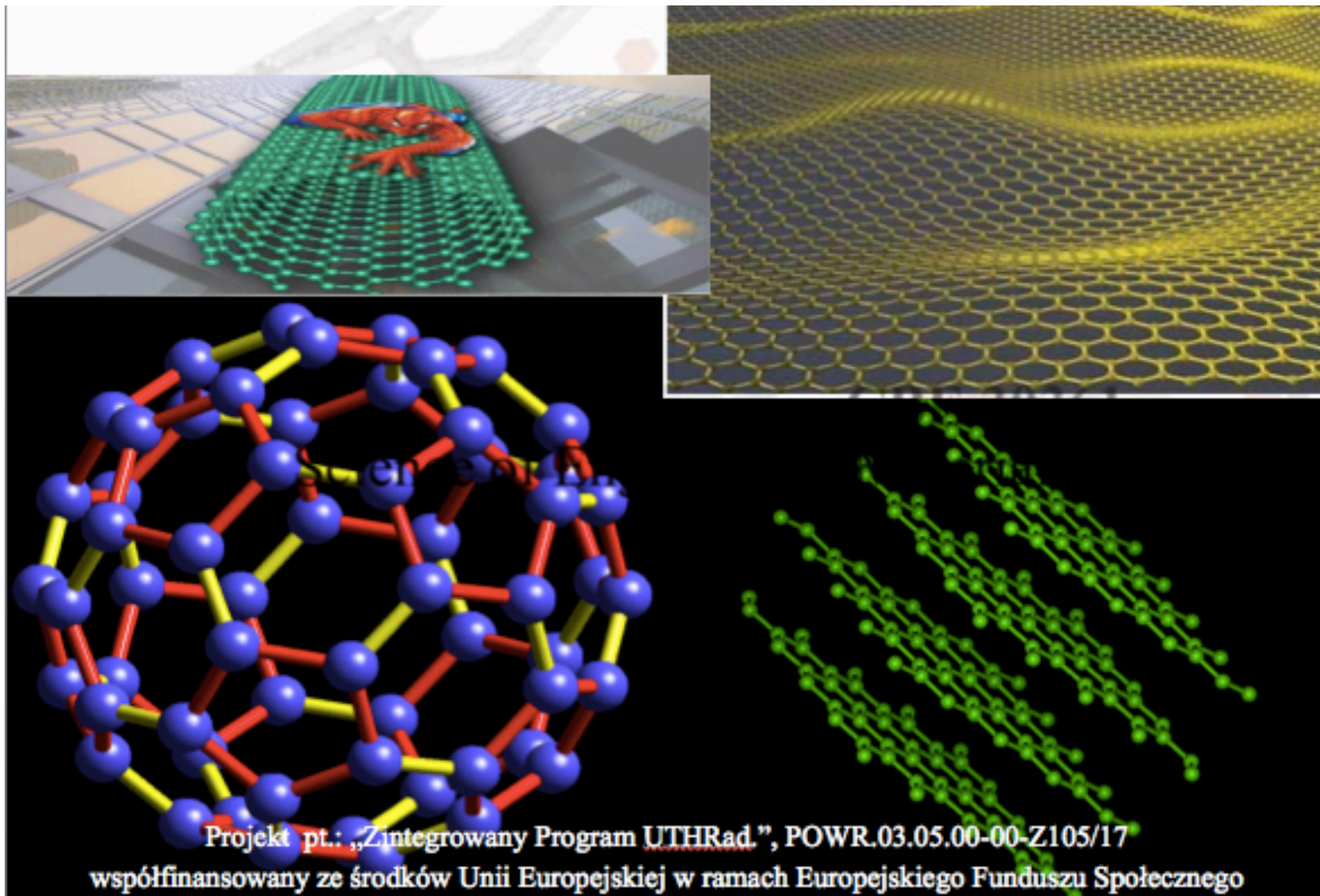


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TECHNOLOGICZNO-HUMANISTYCZNY
im. Kazimierza Pułaskiego w Radomiu

Unia Europejska
Europejski Fundusz Społeczny



Course Number:1

Course Title: Science of Engineering Materials

Lecture №02

Metal and ceramic powders obtaining methods

Instructor: Dr.prof.Edwin Gevorkyan

Office: UkrSUT

E-mail: cermet-u@mail.com;

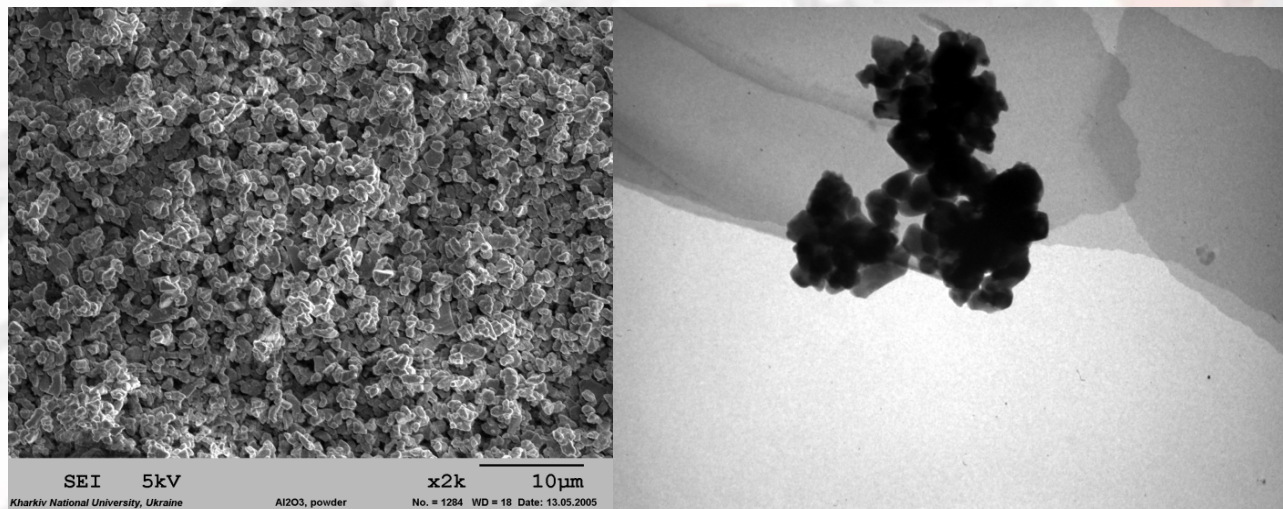
Website: www.cermet-u.com.ua

Website: <http://kart.edu.ua/ru>

Office hours: to be discussed

Device for powder sedimentation





Powder Al₂O₃ 600 μm (left) and nanoscale 50÷80 nm

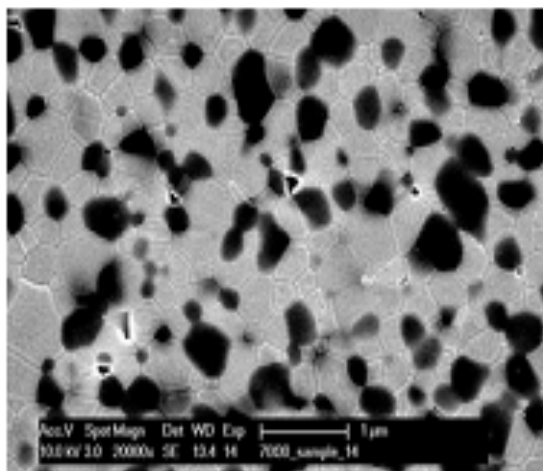
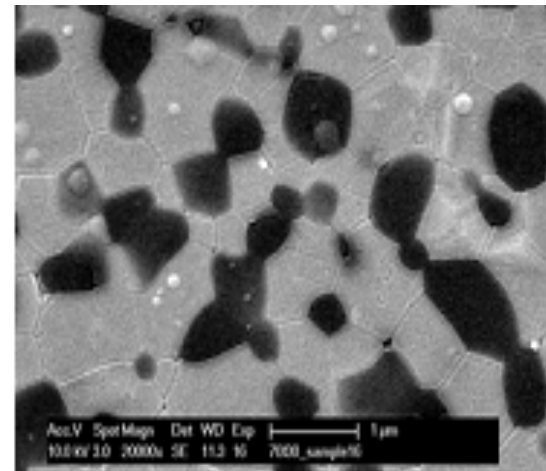
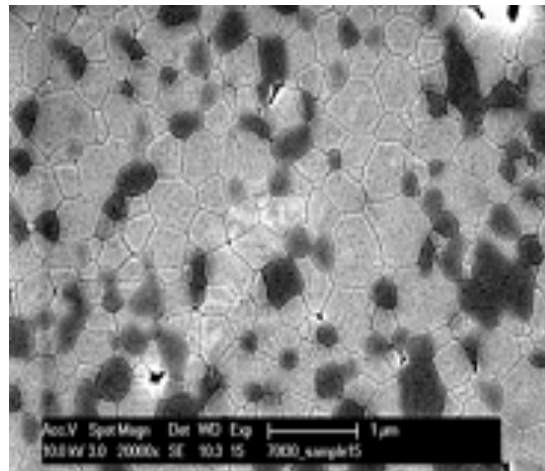
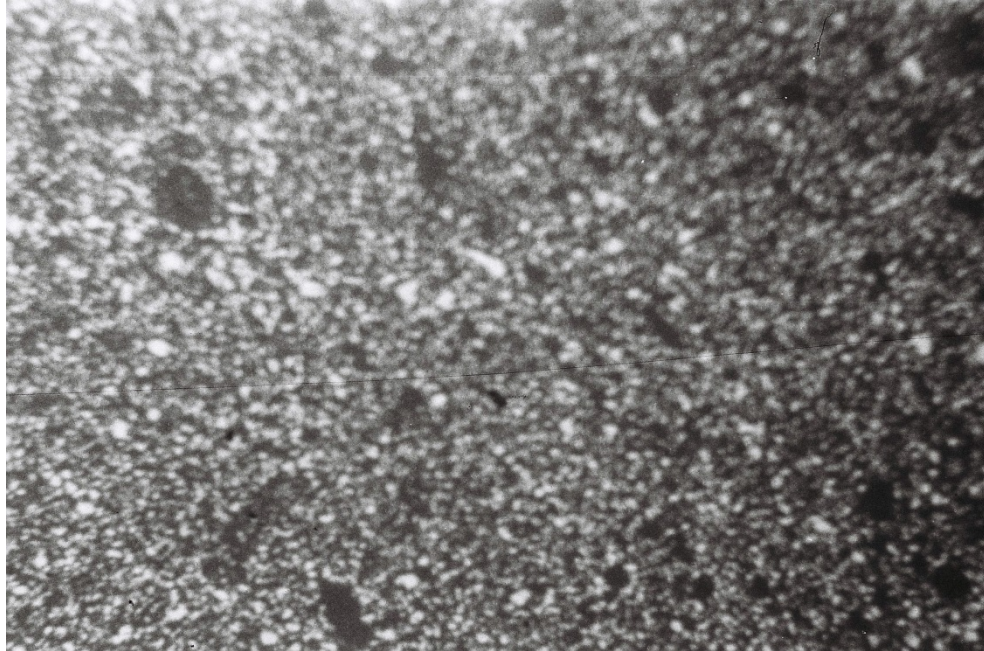


Fig. Structure ZrO_2 -30% Al_2O_3 ,
2 10 60 min.

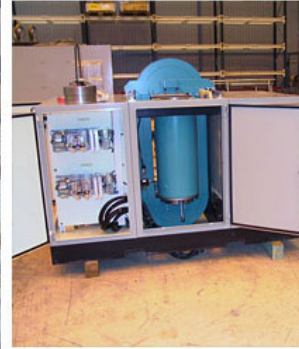


SPS technology, $T=1450^\circ\text{C}$ time

Nano composite Al_2O_3 – 50 wt% WC,
obtained by hot pressing at $T=1600^\circ\text{C}$



Hot isostatic pressing



Cold isostatic pressing





Composite parts obtained by hot isostatic pressing methods



Ceramic parts

Cold isostatic pressing methods

