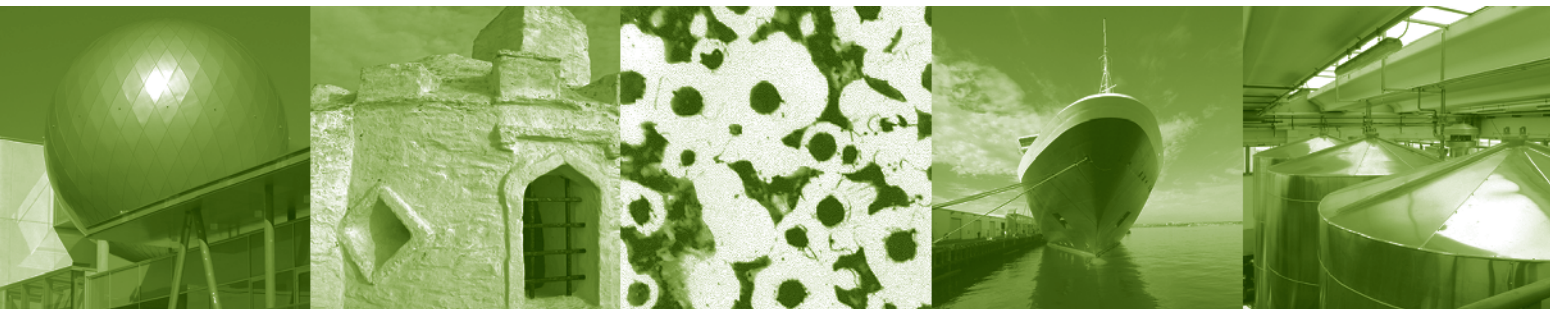




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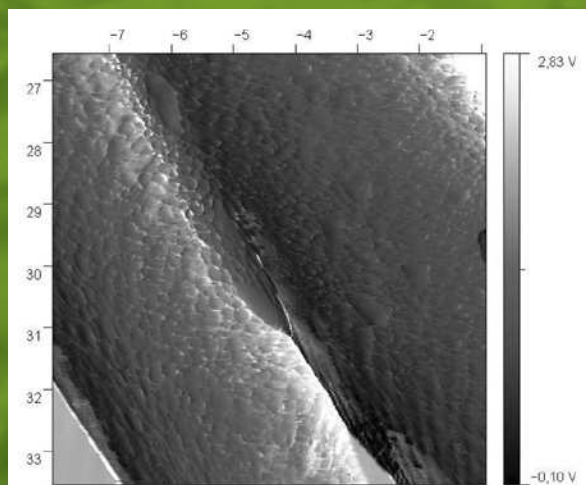
## Professor

Leszek A. Dobrzanski M Dr hc  
Editor-in-Chief of the AMSE  
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Dear Readers,

The next issue of Archives of Materials Science and Engineering is handed over to PT Readers. As usual, we have tried to collect engaging scientific papers. We hope that they will be interesting for you. I would like to announce that on 23<sup>rd</sup>-26<sup>th</sup> June 2013 the 21<sup>st</sup> International Scientific Conference on "Achievements in Mechanical and Materials Engineering" AMME'2013 will be organised by the World Academy of Materials and Manufacturing Engineering WAMME in Cracow, Poland. In the Conference which will be accompanied by various other scientific events the participation of over 200 delegates is foreseen. We invite all the persons who are interested with the hope of nicely and usefully spent time in one of the most beautiful European cities, full of historical monuments and at present one of the main scientific centres in Poland. I do recommend a scientific paper presented below. I wish a nice reading and as always encourage PT Authors to publish their papers in next issues of our journal. I also invite to take part in AMME2013 Conference.



Authors: K. Naplocha, K. Granat, J.W. Kaczmar in the paper entitled "Dry sliding wear behaviour of Cu based composite materials reinforced with alumina fibers" on a page 53 present new manufacturing route of copper casting reinforced with alumina fibers. Nowadays among various methods of manufacturing, various composite materials casting processes are intensively developed. In the study pure Cu was reinforced with alumina fibers using squeeze casting method for which proper parameters were elaborated. A considerable attention was paid to determine a reinforcing effect of fibers and the wear mechanism. Manufacturing of composite materials involves two stages, preparation of porous preforms and next their infiltration with molten Cu. Preforms exhibits semi-oriented arrangement of fibers and their open porosity makes possible the production of composite materials with 10 and 20% by volume of Al<sub>2</sub>O<sub>3</sub> fibers (Saffil). Reinforcing of pure Cu with ceramic fibers results in the significant increase of hardness both by reducing the grain size and creating high level of residual stresses due to thermal mismatch of composite components. Locally reinforced copper, exhibit high hardness and wear resistance under applied pressures. Production of electronic devices where simultaneously the high thermal and electric conductivity and good wear resistance are required can be potential area of future applications.