



**Serbian Ceramic Society Conference
ADVANCED CERAMICS AND APPLICATION V
New Frontiers in Multifunctional Material Science and Processing**

**Serbian Ceramic Society
Institute of Technical Sciences of SASA
Institute for Testing of Materials
Institute of Chemistry Technology and Metallurgy
Institute for Technology of Nuclear and Other Raw Mineral Materials
School of Electrical Engineering and Computer Science of Applied Studies**

PROGRAM AND THE BOOK OF ABSTRACTS

**Serbian Academy of Sciences and Arts, Knez Mihailova 35
Serbia, Belgrade, 21st-23rd September 2016.**

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P31

New materials and technologies in aero and space research

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Space technology plays an integral and indispensable role in our daily lives. Whether we are talking about live broadcasts of World Cup matches, satellite-assisted emergency management efforts, or the nightly weather forecast, one thing is true: our lives would be very different without satellite images or satellite-based communication and navigation systems. Space technology is key to our modern, knowledge-based society. Today space makes a vital contribution when it comes to promoting research and development, education and innovation, economic growth, providing highly qualified jobs, improving our quality of life, protecting the Earth, ensuring our security and defence and furthering international cooperation. Military platforms—such as ships, aircraft, and ground vehicles—rely on advanced materials to make them lighter, stronger, and more resistant to harsh environmental conditions. Currently, the process for developing new materials frequently takes longer than a decade. This lengthy process often means that developers of new military platforms are forced to rely on decades-old, mature materials, because potentially more advanced materials are still being developed and tested and are considered too large a risk to be implemented into platform designs. Al alloys have been the primary material for the structural parts of aircraft because of their well known performance, well established design methods, manufacturing and reliable inspection techniques. Fiber reinforced polymer composites have been increasingly used in aerospace. Fiber Metal Laminate (FML) is a new kind of hybrid composite. Materials used to construct spacecraft and protective gear—including the International Space Station and space suits for astronauts—must be lightweight yet strong enough to guard against cosmic dust that travels at hypervelocity.

P32

On the use of ceramic materials for the degradation of chemical warfare agents and their simulants

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Chemical warfare agents (CWA) are present in everyday life regardless to their war related usage. There are large amounts of non-neutralized leftovers of CWA dumped into the sea waters and, after the prohibition of such a disposal, there are various stockpiles of CWA on the ground. Additionally, the use of CWA for the cancer cell treatment and high interest in research on mechanisms behind reactions between CWA and different materials make them present in everyday laboratory life also. This contribution presents a literature survey of the use of ce-