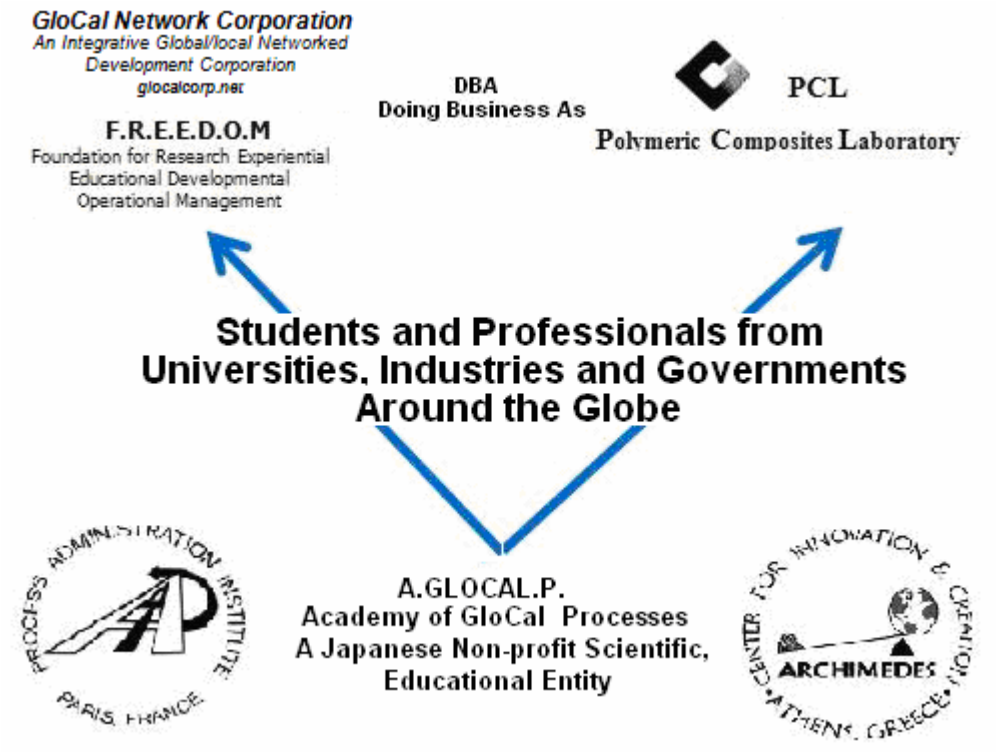
Polymeric Composites Laboratory Scientists Were Accepted in the Zero G Flight Competition Organized by the European Space Agency (E.S.A.).

A BEDR Accomplishment



Team Name: Space Composite Busters

Team Members: Carmen Ancuta, Vassilis Drakonakis

Endorsing Professor: Dr. James C. Seferis

Background:

Carmen Ancuta, a native Romanian, is a student of the European Master in Design and Technology of Advanced Vehicle Systems, studying both in the Linköping University, Sweden and in the Ecole Supérieure des Techniques Aéronautiques et de Construction Automobile in France.

Vassilis Drakonakis a graduate of University of Patras, Greece is currently a PhD student at the University of Cyprus.

Current Support:

Carmen is supported by the Institut d' Administration des Processus (I.A.P.) /Process Administration Institute (P.A.I.) a French Non-profit Association for her master thesis and Vassilis is supported by Archimedes Center for Innovation and Creation a Greek Non-profit Association for his PhD research. They are both supervised by Dr. James C. Seferis

Both students are currently interning at the Polymeric Composites Laboratory, formerly at the University of Washington and now part of a profit (GloCal Network Corporation) and non profit F.R.E.E.D.O.M. (Foundation for Research Experiential Educational Developmental Operational Management) organization.

*The Evaluation Board for ESA Education's "Fly your Thesis!" announced us that our project "**Polymeric Composite Processing and Repair**" was selected for the next phase.*

Brief Project Summary and Next Phase Development:

Weight reduction is currently in demand for polymeric composite aerospace structure applications. Many efforts have been made to investigate innovative lighter polymers that will maintain mechanical and thermal properties similar to the conventional ones. One of the few commercially available lighter materials is the epoxy foaming adhesive. A deeper understanding of the polymeric curing process of the commonly used impregnated composite materials as well as the foam adhesives can be obtained by researching the percentage of curing, the viscosity variation and the degradation due to volatiles release. Curing process in the space environment starting from a zero g condition will provide information for the behaviour of the polymeric composite materials through the investigation of the above critical parameters. By curing epoxy foam adhesives in weightless condition, the possibility of creating more and smaller sized foam bubbles increases and this could lead to even lighter materials that can be used also in earth applications.

Having been accepted in the first phase, they will now ask us to conceive in details what our experiment will consist of. We will need to send them a Scientific Proposal giving all the scientific details of our project. The deadline for the second phase is about a month from now. By the beginning of December, we will also attend a workshop to present our Scientific Proposal.