

## Prof Joseph N Grima

Full-time Academic,  
Department of Chemistry  
University of Malta  
Speciality : Materials engineering



### Personal Profile

Joseph Grima studied **mathematics** and **chemistry** at the University of Malta. He then did his PhD in Exeter, UK and returned to Malta to take up a position at the University.

At 34 he is one of the and **more successful academics** at the University of Malta and leads a team of young enthusiastic researchers who are reading for PhD / MSc / BSc(Hons) degrees.

He is the proud father of two children, James and Elizabeth, and is also involved in running the *DegreePlus* programme at the University which provides students with an opportunity to expand their learning experience at the university through their involvement in extra-curricular activities and courses.

He is also the Editor of the Maltese Science journal *Xjenza*.

### Research Profile

Joseph's main research interest lies in the field of **advanced functional materials** and structures in particular materials having negative Poisson's ratios (auxetic) which become wider when stretched and thinner when compressed and materials with a negative thermal expansion coefficient which get smaller when heated and expand when cooled. His achievements in this field include the first report of negative Poisson's ratios in the zeolite class of materials and the discovery of a new reversible method for the manufacture of auxetic foams through a chemo-mechanical process.

Joseph's work has been featured in various prestigious publications such as the 'Breaking News' section of newscientist.com [<http://www.newscientist.com/article/dn11494-triangular-strut-system-shrinks-in-the-heat.html>], Advanced Materials and the Proceedings of the Royal Society. (The only other publication in this journal was the seminal publication of Prof Sir Themistocoles Zammit relating to his work which worked out the transmission of the disease *brucellosis melitensis* (Malta fever) through unpasteurized milk, almost 100 years ago.)

His work on foams made the front-cover of the July 2009 issue of **Advanced Functional Materials**, the journal of the German Materials Society, the French Materials Society and the Swiss Materials Federation.

has also been involved in a number of externally funded projects which include the European project CHISMACOMB and MCST projects on auxetic foams. The teams was involved in the writing of around fifty papers some of which have been highlighted as "hot papers".



*From (left to right)*

- 1. Daphne Attard who is studying towards a PhD in the field of auxetic materials and structures Gozitan*
- 2. Joseph's team.*
- 3. Ruben Gatt who is completing his PhD on negative materials*

## Other interests

Joseph loves spending time with his children like any proud father.



*Joseph with his children James and Elizabeth*

## Relevant Links or info

Further information about Joseph N Grima's research can be found at <http://www.auxetic.info/>

Xjenja journal can be accessed at <http://www.xjenja.com/>