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## The first edition

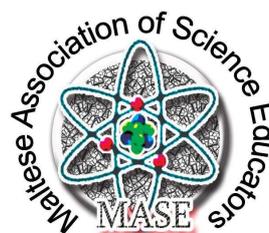
During the 1st general meeting of the MASE on the 13th of November 2007, at St. Aloysius College, B'Kara, it was suggested that the publication of an electronic newsletter for the members of MASE would enhance the communication between the steering committee and the members. So here we are with the first issue!

The primary scope of this newsletter is the same as the guiding principles of MASE. These are to:

- Provide and expand professional development to support science education.
- Serve as a voice for

excellence and innovation in science teaching and learning, curriculum and instruction, and assessment.

- Promote interest and



MASE logo

support for science education, collaboratively and proactively throughout the Maltese society.

This electronic newsletter

will only succeed with the participation and contribution of all the MASE members. Members may contribute by providing articles related to science education to be published in this newsletter. These may include a summary of best practices in school, reports about science activities held, promotion for future events, a summary of one's thesis work, a review of an interesting website, a visit to a science related industry, etc., etc., etc.

We are sure that MASE members will take up this opportunity to promote their hard work and the school in which they teach.

## Message by Dario Pirotta (president of MASE)

Dear members,  
Welcome to the second year of MASE. During the last general meeting it was concluded that though in its initial stages, MASE's first year was a truly successful one. This was very rewarding for the previous

committee and encouraging, yet at the same time challenging for the one that has just been formed.

Throughout the coming year, we intend to continue doing our utmost to build on what has already been achieved. We have new

ideas in the pipeline, but we are still open for suggestions and ideas. May I remind you that this association belongs to you all and its success ultimately depends on your contributions.

Dario

# Xperimania

FROM MOLECULES TO MATERIALS



Drawing by  
Charlotte, Lily of  
the Valley  
Secondary School

## Project background

Attracting young talent has become a major challenge for the chemical industry and the petrochemical industry in particular. However, numerous studies on science teaching have shown that teachers should revise the way that science is taught in schools, and promote pedagogical practices based on inquiry-based methods. Xperimania is a project aimed to help

students in lower and secondary school classes and their teachers to understand the wide variety of applications of petrochemistry. Students are invited to participate in a variety of activities and a competition:

### Timeline of everyday

**objects:** investigate a discovery

### Hands on experiments:

set up an easy and fun

experiment and upload lab reports on this website.

**Online chats with experts** on specific topics related to petrochemistry.

The Xperimania project is coordinated by [European Schoolnet](#). More information is available at [www.xperimania.net/www/en/pub/xperimania/homepage.htm](http://www.xperimania.net/www/en/pub/xperimania/homepage.htm)

*“At the beginning of the 21<sup>st</sup> century, scientific literacy may likely determine whether or not a democratic society will survive.”*

*(L. M. Lederman,  
Nobel Laureate)*

## FuturEnergia

ENERGY IS OUR FUTURE



## Energy is our Future

On behalf of [PlasticsEurope](#), [European Schoolnet](#) invites students ages 11-18 to take part in the “Energy is our Future” poster and slogan

competition. Competition entries should represent individual student’s views on energy saving and renewable energy solutions.

The three winners of each category, a total of 12, together with their coordinating teachers, will be rewarded with a trip to

Brussels to attend the “Energy is our Future” Awards ceremony.

More information is available at <http://www.futurenergia.org/www/en/pub/futurenergial/competition/competition.htm>

## Renewal of MASE membership

For your convenience, membership in MASE can be renewed during a forthcoming seminar to be organized shortly. The steering committee of MASE is pleased to

announce that this year a new membership card will be issued. We are currently working on obtaining discounts from a number of leading outlets which

will be offered on presentation of the new membership card. The membership fee is the same as last year’s € 6.99 / Lm 3.

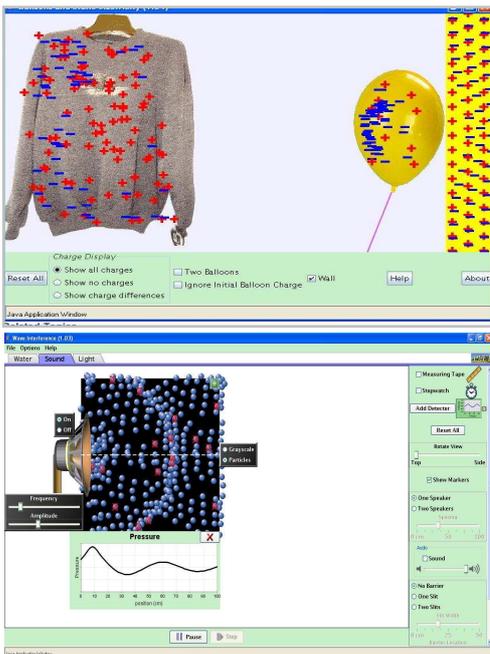
# Website Review: Physics Education Technology



Computer simulations are quickly becoming accepted as an effective educational tool and although these may not replace completely the conventional hands-on experience, well designed interactive simulations (sims) may definitely provide a powerful technique for teaching and learning science.

**What's PhET?** <http://phet.colorado.edu>

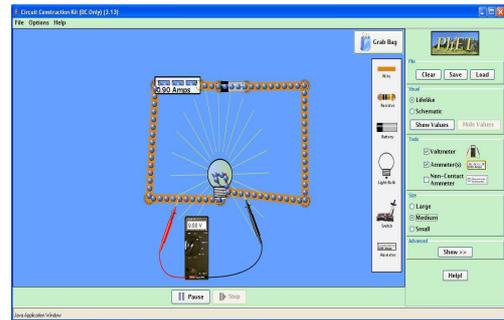
The PhET website currently contains more than 65 Java and Flash interactive simulations, developed and maintained by a team of science educators, software engineers and scientists headed by the Nobel-price physicist Carl Weiman. The simulations presented on the PhET website create a game-like environment through which the visual and conceptual model of expert scientists is made more accessible for students, frequently by making the invisible - such as atoms, electrons and electric fields – visible. Hence the classical demonstrations we usually use to set the students thinking, such as rubbing a balloon on a jersey or using a speaker to generate a sound become much more explicit since the imperceptible electric charges or air particles become lively animated.



The PhET website won first prize in the 2007 Science and Engineering Visualisation Challenge for Interactive Multimedia organised by 'Science magazine'.

## Interactivity.

User interaction is encouraged by PhET's engaging graphics, intuitive controls and convenient measuring instruments that may even provide the opportunity for quantitative exploration. Interactivity is also enhanced by the innumerable situations one can develop through more elaborate simulations such as the 'Circuit Construction Kit'.



In this simulation, virtual components can be arranged to construct arbitrary circuits, while voltmeters and ammeters may be adopted to take immediate measurements.

## Can I use it in my classroom?

The simulations cover a range of Physics related topics but some applets may also match the interest of Chemistry students and teachers. The topics covered are 'Motion', 'Work, Energy & Power', 'Sound & Waves', 'Heat & Thermodynamics', 'Electricity, Magnets & Circuits', 'Light & Radiation', 'Quantum Phenomena', 'Maths tools' and 'Cutting edge research'. Due to their versatility, the interactive simulations can be easily used with students of different ages and abilities; from students taking Integrated Science to Post-secondary students. Its functionality is further enhanced by the fact that each sim is accompanied by lesson plans and tips how the specific application may be used. The simulations can be either used online or can be downloaded for free and installed on a separate machine, provided it has JAVA and Flash plug-ins installed. I personally use this second option and manage to present them using a laptop connected to a larger monitor or projector. An alternative way how the applets may be used is by engaging the students in activities where they go through a set of guided questions prepared by their teacher. In this case the students may control the simulated environment themselves and can eventually experiment and try out their ideas within the set context.

**Researched and written by Mr Michel Spagnol, Physics teacher at St. Ignatius College Boys Secondary School, Handaq Qormi.**

## Maltese Association of Science Educators

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## MASE Mission Statement:

“To encourage excellence in Science education through leadership and service”

## Guiding Principles

- Provide and expand professional development to support science education
- Serve as a voice for excellence and innovation in science teaching and learning, curriculum and instruction, and assessment
- Promote interest and support for science education, collaboratively and proactively throughout the Maltese society.

[www.masemalta.com](http://www.masemalta.com)

# New Steering Committee for MASE

During the general meeting, held on the 13th of November 2007, at St. Aloysius College, a new steering committee for the coming year was elected. We thank Ms Marissa Galea for her input in the first committee and welcome Ms Sheryl Green as a new member of this committee. The members are:

**President:** Mr Dario Pirotta—Physics teacher at St. Aloysius College, Birkirkara  
[dariopirota@hotmail.com](mailto:dariopirota@hotmail.com)

**Vice-President:** Mr Elton Micallef - Physics teacher at St. Joseph Convent School, Blata l-Bajda  
[emicallef@yahoo.com](mailto:emicallef@yahoo.com)

**Secretary:** Ms Charlotte Camilleri Spiteri - Physics teacher at St Ignatius College, Qormi  
[charlcam@onvol.net](mailto:charlcam@onvol.net)

**Treasurer:** Ms Elaine Germani - Physics teacher at Erin Serracino Inglott Girls' Secondary School, Cospicua  
[elainegermani@gmail.com](mailto:elainegermani@gmail.com)

**PRO:** Ms Sheryl Green - Biology teacher at the Lily of the Valley Girls' Secondary School, Mosta.  
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