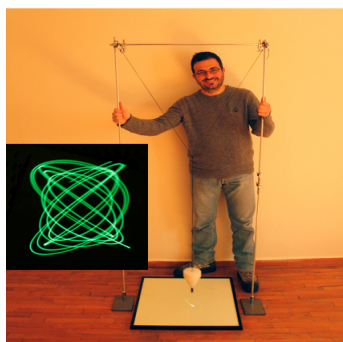
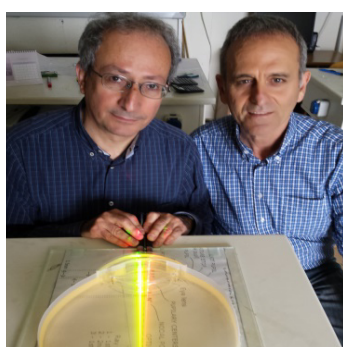


## The Greek Delegation for the Science on Stage Festival in London 2015:



### **Project of Panagiotis LAZOS: RECORDING TRACKS WITH LIGHT. LISSAJOUS PATTERNS, HARMONIC OSCILLATION AND BEATS. THREE APPLICATIONS OF PHOSPHORESCENCE IN MECHANICS.**

When laser light with a wavelength of 405nm hits a phosphorescent surface it creates a trace which remains visible for a very long time. Our project includes three designs innovatively using this effect in mechanics and specifically in Lissajous patterns, simple harmonic oscillation and beats.



### **Project of Antonis MARGARITIS and George MARAKIS: THE OPTICAL SYSTEM OF THE HUMAN EYE**

The aim of our project is to understand the way the human eye functions as an optical system. The proposed design presents a 28cm axial length cross section of the eye. For the simulation of the optical components of the eye, appropriate refractive index hydrogels are used. In this dynamic construction of the eye, the crystalline lens accommodation, the main refractive errors (myopia, hyperopia) and also the corrections of them are presented.



### **Project of Aristomenis NIKOLAIDIS: WHEN THE PHANTOM OF THE OPERA PASSED THROUGH THE GATE OF SAND. A TOUR AT THE WONDERFUL WORLD OF GRANULAR MATERIALS.**

Strange properties of granular materials may display many phenomena that are 'forbidden' by the laws of equilibrium statistical mechanics. We can see this on the 'Maxwell-Demon' experiment, on granular clock at the axial segregation, the radial stratification and on avalanche stratification.



### **Project of Evdokia PATSILINAKOU and Ioannis GATSIOS: CHEMISTRY WONDERLAND**

Chemistry Wonderland is a board game about the fundamental knowledge areas of chemistry. The prize is a tour through the history of light, performing experiments with everyday materials. The objectives of this project focus on inspiring students with the culture of creativity, the development of cooperation

through understanding both basic and advanced concepts in a pleasant and inventive way.



**Project of Theodoros PIERRATOS: 'OBERPFAFFENHOFEN, WE HAVE A PROBLEM!' AN INQUIRY BASED INVESTIGATION OF EMISSION, PROPAGATION AND RECEPTION OF ELECTROMAGNETIC WAVES USING A VCR AND AN ANALOG TV**

Utilizing a football game video recording to catch students' interest, the teacher guides them to an inquiry based investigation of reflection, refraction, polarization and interference of the EM waves, and introduces satellite communication and space weather effects.



**Project of Evgenia POTIRIADOU: FUKUSHIMA - ATHENS: MISS AIMI'S JACKET**

The aim of the project is to provide an interactive inquiry into the topic of radioactivity in a completely safe and enjoyable way. The experiments are performed in accordance with the principles and the rationale of Inquiry Learning (Inquiry-based Science Education in Europe, IBSE).



**Project of Petros POUTOS and Paraskevas ADRIANOS: STUDY, DESIGN AND BUILD OF A REMOTELY OPERATED UNDERWATER VEHICLE (R.O.V).**

This project aims to offer students the opportunity to understand the applications of physics and to acquire special skills. They use real world engineering to construct a professional structure themselves which was designed by the teachers.



**Project of Angeliki SAMANTA: WAS VELAZQUEZ A GOOD SCIENCE STUDENT?**

Our project combines science education and art. We interpret and analyse in our own way Velazquez's famous painting "Las meninas". We try to find in the painting all the hidden science concepts and phenomena like light sources, shadows, reflection and straight light lines.



**Project of Vasileios TSITSIMPIS and Georgios PANTAZIS:  
PHYSIC THEORY OF MUSIC. THE MUSICAL INTERVALS OF  
INTEGERS NUMBERS OF PYTHAGORAS AND THE NON  
INTEGERS INTERVALS OF EUROPEAN MUSIC**

Our project aims to illuminate the science behind music. We study how sounds are produced and we investigate the evolution of musical intervals from ancient years (Pythagoras) to modern times (the temperament or intonation). In order to understand these, we construct, with our students, improvised musical instruments where we explore concepts of music and physics.