UZH Zentrum
Hörsaal KOL-F. 101
Rämistrasse 71
8006 - Zürich

Anreise: Ab Hauptbahnhof / Tramlinien 6 (Richtung Zoo) oder 10 (Richtung Oerlikon)
Ab Bellevue / Tramlinie 9 (Richtung Hirzenbach)
Ab Central / Polybahn

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Universität Zürich[UZH]

Einladung
Invitation

Einttrit frei
Free entrance

Mittwoch **29. Februar 2012,**
17:15 - 19:00 Uhr
Universität Zürich
Hörsaal KOL-F. 101
UZH Zentrum
(Rämistrasse 71, 8006 - Zürich)

7 FILME ÜBER KUNST & WISSENSCHAFT
7 FILMS ABOUT ART & SCIENCE

European Commission

SCIENCE ART ISWA

Universität Zürich[UZH]

FRACTALS
NANOTECHNOLOGIES
OSCILLATIONS & WAVES
CRYSTALS
RELATIVITY
PHYSICS
STEM CELLS

17:15 Movie Premiere

‘Let’s save the Professor’

Directed by Italo Moscati
text by Mario Stefanon and Prof. Franco Rustichelli

Local organizer: Prof. Dr. Thimios Mitsiadis (ZZM, UZH).

This show is part of the European Project Immersion in the Science Worlds through Arts (ISWA).

Prof. Franco Rustichelli (Università Politecnica delle Marche, Italy) will be present and lead an open discussion after the projection of the movie.

1-FRACTALS Order, Chaos and Beauty

Snow crystals, the skyline of a mountain or the branches of a tree can be described as fractals: they are characterized by a pattern which repeats itself in ever-smaller sizes, so that a detail is similar to the whole. Besides natural fractals there are also fascinating mathematical fractals created with a computer. Science brings into evidence the magic threads connecting the concept of a fractal with Order and Chaos in Nature, suggesting a relationship they may have with our conception of beauty.

2- NANOTECHNOLOGIES An adventure from small to even smaller

In recent years great progress has been made in the study of small and even smaller objects. With electron and atomic force microscopes one can observe nanometer sizes i.e. the dimensions of a few atoms. Modern technology allows us to operate on objects of this order of magnitude and opens a new frontier of possible applications. Incredible possibilities are expected as well as new knowledge of that microscopic world bordering on the mysteries of chemical catalysts and the miracle of life.

3- OSCILLATIONS AND WAVES In the magic steps of Pythagoras and Galileo

Waves are very common things. Everybody knows what a sea or sound wave is. But the role that waves play in our speech or singing, and in the structure of atoms is not usually considered. The magic role of waves and harmonic ratios in nature is underlined as being the common principle of very different phenomena, and of the permanent features of matter. The ideas of old philosophers like Pythagoras and Epicurus are deemed to fit the modern concept of nature.

4- CRYSTALS, LIQUID CRYSTALS AND PHOTONIC CRYSTALS From diamonds to butterflies

Starting from these different crystal categories, it is shown how nature uses the different properties of ordered atom arrays, from the hardness of solid crystals to the amazing properties of liquid and photonic crystals. From the wonderful colours of peacocks’ tails or butterflies’ wings we learn how photonic crystals can increase the speed of computers. A mysterious, hidden role of the rules of Nature appears to be shared by animals and things.

5- THE RELATIVITY THEORY Everything started with a young boy’s dream

The curiosity and the fantasy of a boy enabled him to imagine a kind of space, different from that of our common sense: this was the leading idea of the Relativity Theory. The strange predictions of this theory about space and time at high velocities are compared with our common experience of how an object appears to change according to the observation point. This shows the magic role that geometry plays in our lives, as well as in the cosmos.

6- THE HUGE MACHINES OF PHYSICS Charmed by the unknown

The European synchrotron of Grenoble and the Large Hadron Collider of Geneva are taken as examples of the two-fold nature of science: the use of knowledge for practical purposes or the improvement of knowledge to discover the mysteries of nature. An overview is given of different applications, fascinating researches, and also the kind of life that researchers lead in such centres, leaving open the question of how far it is possible to push the frontiers of knowledge.

7- STEM CELLS The dance of life

Recent developments in regenerative medicine and modern biology are going to have an enormous impact on our lives. Also the way itself we face the problem of sickness, aging and death changes as the hope (or the illusion?) grows that we always can fight and delay them. Stem cell research is in fact changing our knowledge of the fundamental mechanisms of life and feeding the idea that we can increasingly contrast the cruel natural selection rules which make us fall ill, grow old and die.