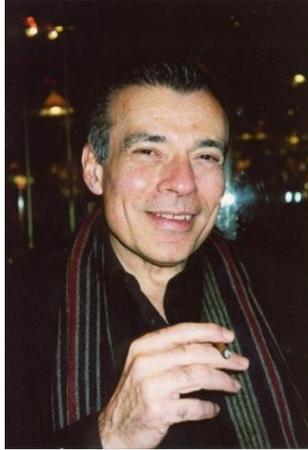


LECTURES & SPEAKERS

SCIENCE & ART 2012

CATALOGUE COMENIUS / GRUNDTVING Ref ES- 2011-284-00 sesion 1



Miller, Arthur. London, England.

www.arthurimiller.com

VISUALISING THE INVISIBLE DRAWING AND THE SCIENTIFIC IMAGINATION

Artists and scientists alike seek out visual images of worlds both visible and invisible. They attempt to 'read' nature in very similar ways: artists make drawings as they work towards the finished canvas while scientists use mathematics as a tool to work towards a scientific theory. I will explore this fascinating realm of highly speculative thought and look into some fundamental questions: Are there similarities in the creative processes of artists and scientists? If so, what are they? And how can cognitive science help us understand the nature of creativity?

ARTHUR I. MILLER is emeritus professor of history and philosophy of science at University College London. He is fascinated by the nature of creative thinking and, in particular, in creativity in art (on the one hand) and science (on the other). What are the similarities, what are the differences? An experienced broadcaster, lecturer and biographer, he is noted for being able to write engagingly about complex social and intellectual dramas, weaving the personal with the scientific to produce page-turners that read like novels.

His latest book is *Deciphering the Cosmic Number: The Strange Friendship of Wolfgang Pauli and Carl Jung* (W.W. Norton, 2009). The paperback version is *137: Jung, Pauli, and the Pursuit of a Scientific Obsession* (W.W. Norton, 2010). Among his other books are *Empire of the Stars* (Little Brown, 2005), which was shortlisted for the 2006 Aventis Prize for Science Books, and *Einstein, Picasso* (Basic Books, 2001), which was nominated for the Pulitzer Prize

Presently he is writing a book with the tentative title, *The Creative Revolution* and also co-curated the show *Art & Science: Merging Art & Science to Make a Revolutionary New Art Movement* at GV Art gallery in London. For more see the e-catalogue at



Marta de Menezes. Portugal
www.martademenezes.com

MAKING ART WITH BIOLOGY: AN EXPERIMENTAL HISTORY, lecture.

The lecture will give a broad view of the field of art and biology with emphasis on the experimental side of the genre. She will then give a closer description of her own methods as researcher with examples from her work and offer the opportunity to the participants of experimenting with 1 or 2 types of bacteria.

MARTA DE MENEZES is a Portuguese artist (b. Lisbon, 1975) with a degree in Fine Arts by the University in Lisbon, and a MSt in History of Art and Visual Culture by the University of Oxford. In recent years, she has been exploring the interaction between Art and Biology, working in research laboratories demonstrating that new biological technologies can be used as new art medium, and proving that laboratories can be art studios. Besides researching into new ways to create art, Marta de Menezes is also an accomplished artist using traditional media, with paintings frequently representing insights from scientific research.

She is currently Artist-in-Residence at the MRC – Clinical Sciences Centre, Imperial College of Science, Technology and Medicine in London.



Wolfgang Trettnak. Austria.

www.trettnak.com

LUMEN LUMINIS, lecture.

OCEAN OF IDEAS, lecture.

PECES ELECTRÓNICOS. Exhibition painting.

Marine animals have shown to be an abundant source of inspiration not only for scientists and for technical developments in a variety of areas, but also for artists...

WOLFGANG TRETTNAK was born in Graz (Austria) in 1962. He studied chemistry at the University of Graz, where he obtained a doctor's degree in 1989. Subsequently, he was working in the field of applied research for more than 10 years at the Joanneum Research centre in Graz until 2002. This period was interrupted only by a one-year post doctorate stage in 1992 at the University of Florence (Italy).

Besides his scientific work, Wolfgang Trettnak has been active in the fields of painting and graphics as an autodidact for almost 30 years. He has participated at numerous national and international artistic workshops, seminars and courses. In his artistic work he is employing various techniques with the main focus being on painting with acrylics. Several personal exhibitions took place in Austria (Graz, the province of Styria), Italy (Florence), Czechia (Southern Bohemia) and Spain (Galicia). He is currently living and working as an artist in Werndorf south of Graz.



Marilena Streit-Bianchi. Switzerland
www.nairucu-arts.org

**FROM DESCRIBING TO REINVENTING REALITY, A NEVER ENDING
FASCINATING STORY, lecture.**

A small travel in time to show how artists got inspired by science or are using science concepts in their art work.

WORKSHOP 1 & 2: Art & Science a way to promote understanding, knowledge and creativity at school.

How to make science topics more attractive to students and create synergies between teachers and students

Definition of a project and exhibition.

MARILENA STREIT-BIANCHI was born in 1945 in Rome, Italy. After obtaining the University degree on Biological Sciences at “Università degli Studi di Roma La Sapienza”, she has been working for 40 years at CERN, the European Organization for Nuclear Research in Geneva, Switzerland. She has carried out research on: Biomedical applications from High Energy Physics and Biological effects of Radiations / Economic benefits from Big-science collaboration with industry / Technological learning, innovation acquisition, social capital creation and market opening and internationalization / Knowledge acquisition and transfer.

She is the author or co-author of more than 55 Publications in International Science Journals, Conferences and Proceedings and has been the organizer of thematic conferences on Fundamental Science-Industry Relation, representing CERN at Innovation day exhibitions.

She has supervised many students during her career and occupied managerial positions. She has been the authors of several videos for safety training, and for presenting CERN and CERN personalities. She has always been interested in Art and Cinema.

She is one of the promoters of a non-profit Association called Nairucu-Arts, located in Rapale, Nampula, Mozambique. The aim of this association is to sustain and develop Makonde Art a cultural heritage from northern Mozambique, and to join cultural heritage with creative economy and education and invest on new talents. Since her retirement she is working as volunteer and is acting as communication and fund-raising officer. She has organized several exhibitions of the art work produced by the artist of the Nairucu-Arts Centre.



Susana Mataix. Spain.

LITERATURE & MATH. A rewarding alliance

Numbers, equations, formulas... Do they have something in common with literature? Scientist use them as a form of professional language but they also use them to expose their passions transforming their meanings into words, poems, pieces of theater or fiction. The analysis of some books shows how scientific culture is transmitted and the reciprocal and enriching influence between art and science.

SUSANA MATAIX graduated from University of Barcelona in Mathematical Sciences and has a Master in Business Administration from Instituto de Empresa (Madrid).

She has worked in the energy and telecommunications industries in France, USA and Spain and was the Director of the exposition “Process: culture and new technologies”, which inaugurated the Reina Sofía Museum of Modern Art.

Her main interests are the promotion of science and the relationship of mathematics with literature and art.

She is the author of three books: “*Duo Matemático*”, “*Matemática es nombre de mujer*” and “*Lee a Julio Verne: el amor en tiempos de criptografía*”.

She is a member of the technical committee of the Fundación Garcia Cabrerizo which awards several prizes to Spanish innovators.



Victor Blanco. Spain.



Nikoletta Alexakou. Greece.

FROM PITHAGORAS TO GALILEI, NUMBERS, MUSIC AND FEELINGS.

Relationship between mathematics-physics-music and the human mind. I'll do in a historic way by speaking and playing harp and vihuela (examples of intervals, chords, Greek music and from Vincenzo Galilei).

This talk deals with the relationship between music and different science branches, such as acoustics, mathematics and anthropology.

We will make a journey from Pythagoras and Galilei music theory and its anthropological implications to the contribution of group theory in music composition.

VICTOR BLANCO LÓPEZ has a degree in classic philology and is a music teacher in High School. Also, he is a baroque and renaissance guitar player, gothic & baroque harp, vihuela, etc and is a member of different ancient music ensembles such as 1500 or Silva de sons.

NIKOLETTA ALEXAKOU has a master degree in pure mathematics. She teaches maths in Senior High School and organises reading groups of students in which they study history of mathematics and other aspects of culture.



Caruncho, Marcos. Spain.

BIRDS IN THE GARDEN OF EARTHLY DELIGHTS

His lecture will be focused on "Birds in the Garden of Earthly Delights", the picture by Hieronymus Bosch. The main theme will be supplemented with certain aspects of the treatment of Animals in the Art of Painting and try tangentially other species in this table as well as Birds.

MARCOS CARUNCHO. Marcos Caruncho works as a director of Science documentaries, but as he says of himself: he is a camera operator specialized in Birds.

For 25 years he has been working in all main aspects of audiovisual. He has been a camera operator for Spanish TVE, video editor, 3D animator and 3D modeler, writer and columnist on the Popularization of Science.

During his career he has received twenty awards, primarily to his documentaries about Science, Wildlife, Habitats and Medicine.



Margarita Cimadevila. Spain.

www.cimadevila.tk

CIENCIA EX AEQUO. Exhibition painting and lecture.

This work is about scientist women who, having done a wonderful job and deserving to be acknowledged for their work, were ignored, forgotten or relegated to a less important status in favor of their male superiors, colleagues or competitors...

MARGARITA CIMADEVILA was born in Sada, A Coruña. She graduated in Chemistry at the University of Santiago de Compostela and worked as a teacher of Physics and Chemistry in different Secondary Schools in Galicia. She is at present teaching at the IES Urbano Lugo in A Coruña, being the headmistress of the school.

In parallel with her teaching activity, she has carried out different studies and done courses connected with art. Her early pictorial work was greatly influenced by the roots of her land, being seashells one of her recurrent themes and also showing interest in Galician petroglyphs and ancient cultures.

As a result of her participation in the HST03 school for teachers of the European Laboratory of Nuclear Research, CERN, in Geneva, her work undergoes a radical change and she focus on mixing her two worlds, offering an approach in which Science and Art merge and entwine as shown in the series:

Science and Art: Particle Physics I

Science and Art: Particle Physics II

Investigadoras Galegas

Science and Art: ENCIGA/CERN

Ciencia EX AEQUO

Which have an artistic, spreading and didactic nature.