

Science & Art: so different, so similar!

Lectures & speakers

Paulus Gerdes

Mozambique

www.stores.lulu.com/pgerdes

LUNDA-DESIGNS WHERE ART MEETS CULTURE AND MATHEMATICS.

Lecture

Lunda-designs where Art meets Culture and Mathematics" Lunda-geometry is a new form of geometry. Its invention was stimulated by the mathematical study of traditional illustrations of story tellers in the Lunda region of Northeast Angola. Lunda-designs have interesting mathematical properties like local and global symmetries which make them particularly attractive to the human mind.

Paulus Gerdes has been a professor of mathematics and ethnomathematics at the Eduardo Mondlane University, and the 'Universidade Pedagógica' in Mozambique. He has served as Head of the Department of Mathematics and Physics (1981-1983), as Dean of the Faculty of Education (1983-1987), and of the Faculty of Mathematics (1987-1989) of the Eduardo Mondlane University. He was President (Rector) of the 'Universidade Pedagógica' (1989-1996). He was a visiting professor at the University of Georgia from 1996 to 1998 (Athens, USA). From 1998 to 2007 he was director of the Research Centre for Mathematics, Culture and Education in Maputo. From 2000 to 2004 he was also senior advisor to the Minister of Education. In 2006-2007 he was president of the founding commission of the Lurio University, Mozambique's third public university established in Nampula. At this moment he is director of the Centre for Mozambican Studies and Ethnoscience. Among his international functions may be mentioned that Dr. Paulus Gerdes has been chair of the international Commission for the History of Mathematics in Africa (since 1986) and President of the International Association for Science and Cultural Diversity (2001-2005). In 2000, he succeeded the Brazilian Ubiratan D'Ambrosio as President of the International Study Group for Ethnomathematics. He is a fellow of the International Academy for the History of Science, and was elected, in 2005, Vice-President of the African Academy of Sciences, responsible for the Southern African region.

Paolo Manzelli

Italy

www.edscuola.it/lre.html

THE NEW WAVE OF CREATIVITY IN SCIENCE & ART

Lecture.

New aesthetic expression of Art and new modes of Science in the telematic systems era, improve a paradigm shift in cultural and emotional relationships of space/time..

Paolo Mancelli born in Terni in 1937. Degree in Chemistry-Physics Firenze University 1967.

Researcher in Physical Chemistry at the University of Florence since May 1967. Professor of Chemistry at the University of Physics Florence since 1970. Now retired since 2004, and again Volunteer Researcher of Dip.Chimica.

Volunteering in the development of the University 'Somaliland in Africa (1971) and then Professor of Physical Chemistry from January from May to September 1974 and after : Prof . of General Chemistry from January to June 1981 at the University of Somaliland

After from 1985 till now is the Director of the Laboratory for Educational Research (LRE) of the Dept. of Chemitry of the the University of Florence .

The "LRE " was the organized the "International Biannual Award for a Creative Future", with the contribution to DG XII of the European Union; First Award in FLORENCE 1990, Madrid 1992, Moscow 1994, Island of Kos 1996; Oasi di Troina Enna 1998.

From 1997 Paolo Manzelli is President of the Telematics international scientific research association EGOCREANET, Expansion of Global Observatory on Creativity, focused in developing the "Knowledge Society"

He participated in different European Projects, Leonardo, Socrates, Minerva, and others in Africa and America

Recently Paolo Manzelli was the winner of the AGAPE Prize 2009 , received the award for the Dissemination of Science See

Marilena Streit-Bianchi

Switzerland

www.nairucu-arts.org

FROM DESCRIBING TO REINVENTING REALITY, A NEVER ENDING FASCINATING STORY

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

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.

Paul O'Leary

Austria

THE BEAUTY OF MATHEMATICAL IMAGE TRANSFORMATIONS

Lecture

This presentation will investigate integral transformations and their application to images. In particular, Gram polynomial approximation and Radon transformations will be explained and the results of applying them to pictures are shown. The results, which in themselves esthetically satisfying reveal the structure of the original image. It is also explained how the results should be "read".

Was born 1960 in Limerick, Ireland. He studied at Trinity College where he completed a B.A. in Mathematics and a B.A.I. in Electronic Engineering in 1982. He then moved to the Netherlands to study at the Philips International Institute, Eindhoven, where he completed a Masters of Electronic Engineering. He did his Ph.D. with Prof. Maloberti at the University of Pavia, Italy. Mr O'Leary worked from 1984 till 1987 for ITT Intermetall, In Freiburg Germany on the design of integrated circuits. In 1987 he moved to Austria to work at Austria Micro Systems. He founded the Institute for Chemical and Optical Sensors within Joanneum Research in 1990, he remained director of the Institute till 1995. In autumn 1995 Mr O'Leary received the chair of Automation at the University of Leoben, he founded and was in charge of the Christian Doppler Laboratory for Sensor and Measurement Systems from 1997 till 2002. The company Hot Vision Research was founded by Mr. O'Leary and a colleague, as was the company Tonhauser Data Engineering. His main area of research is on mathematical methods for metric vision, i.e. extracting measurement information from digital images.

Wolfgang Trettnak

Austria

www.trettnak.com

FISHES, BIONICS, ELECTRONICS AND ART

Lecture

PECES ELECTRÓNICOS. Exhibition painting. Aquarium Finisterrae, A Coruña.

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.

Susana Mataix

Spain

LITERARY FICTION AND SCIENCE.

Literary lecture.

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 Matematico", "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.

Antón Labraña

Spain

THE AVERAGE WHICH AROSE FROM THE WALL.

Atelier visit and lecture

Looking at the Old Wall of Santiago will show us the meaning of the Average

Antón Labraña was born in Cedeira, A Coruña.

Graduated and doctorate in Mathematical Sciences at the University of Santiago de Compostela, working as a teacher of Mathematics in different Secondary Schools in Galicia.

He is at present teaching at the IES San Clemente, Santiago, and at the Education Faculty of the University of Santiago de Compostela.

In parallel with his teaching activity, he has carried out different studies and has done courses connected with teacher training and doctorate programs in Galiza and Portugal.

He also writes in a mathematical magazine.

Victor Blanco

Spain

MUSIC, MATHEMATICS IN GALILEO TIMES.

Music and lecture.

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).

Victor Blanco was born in Mugardos, A Coruña.

He is graduated in Classic Philology: Latín & Greek at the University of Santiago de Compostela

He worked as a teacher of Music in different Secondary Schools in Galicia. He is at present teaching at the IES Pontepedriña in Santiago.

He has made different studies/courses about Music and he is music half degree

He plays the following instruments: Classic guitar, renaissance and baroque guitar, vihuela and ghotic harp.

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 favour 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 Lugrís 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 & Art: Particle Physics I

Science & Art: Particle Physics II

Investigadoras Galegas

Science & Art: ENCIGA/CERN

Ciencia EX AEQUO

which have an artistic, spreading and didactic nature.

José Facal

Spain

THE RAYS WHICH NEVER EXISTED.

A small trip until the basis of the scientific knowledge.

Born in 1959, Carballo, A Coruña.

Chemist.

High School Teacher: 20 Years teaching Secondary School.

1 Course of Technology for teachers.

2 years teaching adults.

Teacher of children with serious disabilities.

1985-89: President of Cinema Club.

1991-2003: Vice president of Galicia Cinema Club Association.

2002-08: President of ENCIGA (Science Teacher Association).

199-2005: Supervisor of 3 Comenius Projects: The Sea, Introspection and Introspection-Iasi.

Science magazine writer, specialized in pseudoscience: Piltdown' man, Citizenship Education, Blondot' Rays, Irrational Believers, Harrisburg' Syndrome.

Some articles about Technology Curricula.