UNIVERSITÉ DE GENÈVE

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CYCLE DE FORMATION 2002/2003

et

SÉMINAIRE ÉNERGIE ET ENVIRONNEMENT

Federico BUTERA
Polytechnicum de Milan (Italie)

sur

ENERGY, TECHNOLOGY AND DOMESTIC QUALITY OF LIFE : A Historical Outlook.

jeudi 6 février 2003 à 17h.15

Auditoire D 185 - Bâtiment D - Battelle
7, route de Drize
1227 Carouge

PROGRAMME DES SEMINAIRES

Jeudi 13 mars 2003 à 17h.15
Quelques réalisations exemplaires (titre à préciser), D. Chuard, Sorane SA, Lausanne.
Jeudi 27 mars 2003 à 17h.15
Bâtiments à basse consommation d'énergie et risque de complexité, B. Lachal, CUEPE, Genève.
Jeudi 10 avril 2003 à 17h.15
Consommation énergétique des bâtiments: enjeux et instruments économiques, A. Baranzini, HEG, Genève
et Ph. Favarger, REME-EPFL, Lausanne.
Jeudi 15 mai 2003 à 17h.15
Habitat, infrastructures et mobilité , J.B. Gay, LESO-EPFL, Lausanne**.**
Jeudi 5 juin 2003 à 17h.15
Les outils d'aide à la décision pour une architecture respectueuse de l'environnement, S. Yannas, AA Graduate School, Londres.
Jeudi 12 juin 2003 à 17h.15
Séminaire final (titre à préciser)

L'orateur

Federico M. Butera *is professor of Environmental Physics in Buildings at the Politecnico di Milano, Faculty of Architecture and member of the Scientific Committee of ENEA, the Italian Agency for Energy and Environment.*

He has been involved in solar research since 1973 in Italy, where he acted also as promoter of a "solar society". For more than a decade (1978-1989), he was the Italian delegate in many tasks of the IEA "Solar Heating and Cooling" Implementing Agreement. In the late 80s and early 90s he was also involved, as renewable energy expert and consultant, in several United Nations and Word Bank R.E. development projects; presently he is involved in the topic "energy and cities" at both national and U.E. levels. His research activity has been developed within the framework of the general topic "energy and habitat", where the issue of energy consumption in the built environment is handled in terms of relationship between buildings and natural environment (bioclimatic architecture) and as a problem of rational use of energy sources (renewable and not) to be managed by means of the analysis of territorial energy systems and the development of new planning methodologies capable of taking into account the technology-social system interface.

F. M. Butera is author of more than a hundred publications and articles in newspapers and magazines, as well as eight books.

La conférence

For several millennia the house was only a dark, smoky and cold shelter where sleeping or cooking took place when the weather was bad, with a few exceptions among the richest Roman citizens. In Europe, at the beginning of XIV century an innovation, that would have changed radically the relationship between man and his house, started to diffuse: the window glass. With window glass, it was possible to have both natural light and heat in a room, and people started moving from outside to inside. Window glass induced other innovations, such as improved fire places and stoves. Heating started to diffuse from a single room to every room, and a better comfort was achieved; and there was an increase of energy consumption. The diffusion of window glasses (very expensive, at that time) that improved fire places and stoves was rather slow in the forthcoming centuries, and very slow was also the increase of domestic energy consumption. At the beginning of XIX century, another innovation gave a big contribution to the improvement of domestic quality of life: the manufactured gas. Both lighting and heating were improved and many other technologies based on gas use were developed. More energy was used in the households which, this time, was not renewable, as wood, but fossil – since gas was produced with coal.

Then, at the end of the XIX century appeared the most revolutionary innovation: electricity used for lighting and domestic appliances.

Since then, with a speed never experienced before, our domestic life started to improve: heating, cooling, washing machines, refrigerators, etc. became our new servants, and an unprecedented increase of energy consumption took place. Also the envelope of buildings changed, actually worsened, from the energy point of view.

The story of these technologies is followed up to the present, showing that they were developed according to the perception of an infinite and not harmful availability of energy, and it is evident that some domestic technologies could and should be redesigned according to sustainable development.

Tram 13, ~20 minutes depuis la Gare, ou tram 12 depuis le centre ville, arrêt Rondeau de Carouge.