

Programme updated June 20th 2014, version 9

	Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	June 23	June 24	June 25	June 26	June 27	June 28,29	June 30	July 1	July 2	July 3	July 4
09.00-11.00	Opening session	Selection of working groups & Outdoor action 1: preparation of presentation	Bizjak (SI)	Bouroussis (GR)	Presentation of Outdoor action 1	Sat. morning: industrial visit to EXPORLUX in Agueda	Beu (RO)	Quartier (B)	Labayrade (F)	Yilmaz (TR)	9: workshop's results: presentation
11.00-13.00	Poisel (DE)		Bizjak (SI)	Sotiropoulou (GR)	Cilasun (TR)	Saturday afternoon: social event	Roemhild (DE)	Verbeeck (B)	Zissis (F)	Schroer, Hoelker (DE) Giacomelli (IT)	Final Examination and Evaluation
13.00-14.00	Welcome & Lunch	Lunch	Lunch	Lunch	Lunch		Lunch	Lunch	Lunch	Lunch	Lunch
14.30-16.00	Students' project work - presentation, structure and analysis on Lighting design status from each country	1: Introduction of workshop	Lopes (PT)	Doulos (GR)	Branco (PT)	Sunday: social event	Zerefos (GR)	6: Workshop Indoor action	7: workshop's results: preparation of presentation	Haim (IL)	Overview of the course – closing ceremony with award of certificates
16.00-18.00			2: Workshop Indoor action	3: Workshop Indoor action	4: Workshop Indoor action		5: Workshop Indoor action			8: workshop's results: preparation of presentation	
>19.00		Outdoor action 2						Outdoor action 3			
>21.00	Outdoor action 1							Social event			

Note: some afternoon sessions will be probably moved later into the night.

The rooms for the lectures will be the auditorium for all days except for 26 and 27 of June when the room T1 (T stands for theoretical) will be used.
For the workshops (computers) will be used room I1 (I stands for informatics)

Outdoor action 1: Exploring outdoor lighting installation in Porto
Outdoor action 2: Visit, mapping and analysis of the external lighting of the selected buildings
Outdoor action 3: Casa di Musica: presentation of lighting design case study

Events:
Monday, June 23: SÃO JOÃO / St. JOHN PORTO: http://en.wikipedia.org/wiki/Festa_de_S%C3%A3o_Jo%C3%A3o_do_Po
<https://www.youtube.com/watch?v=JMTdqNxOLJ4>, <https://www.youtube.com/watch?v=RZgUOIAlt9c>
Saturday, June 28, afternoon: , Serralves Museum (<http://www.serralves.pt/en/>)
Sunday June 29: visit Porto wineries Passeio Maritime overlooking the Atlantic Ocean.
Tuesday July 1: Orquestra Jazz de Matosinhos & Manuela Azevedo, Casa da Musica

Lecturers		Institution	Topics of the lectures
Prof. Katelijn Quartier	B	Hasselt University	<p>Title: Atmospherical lighting: shedding light on people, products/brands and spaces</p> <p>Abstract: To understand where we are at, and to learn from the past, a brief history of retail lighting, with the focus on atmosphere will be given. Technical evolutions have changed the way we feel about lighting and how we design it. Designing for experience, with lighting, is only an evolution of the last few years. Next, via the psychological aspects of lighting, its importance and the human-environment interaction will be explained. Several studies will be presented which show the impact of lighting on the perception of atmosphere, the emotions and behaviour of consumers. A final study handles the applicability of lighting (LED in this case) in improving the signage in a hospital.</p>
Prof. Ar. Griet Verbeeck	B	Hasselt University	<p>Title: Sustainability in lighting and the role of daylight in interior design</p> <p>Abstract: Starting from the larger context of sustainability, the relation of lighting and sustainability is sketched, both its impact on ecological aspects and on aspects of well being. As a practical concept for improving the sustainability of lighting, the principle of the Trias Ecologica is presented. Hereafter the lecture focuses specifically on the role of daylight within this principle. In a first part of the lecture, attention is paid to the pros and cons of daylight versus artificial light in interior design, the assessment of daylight, the aspects influencing the daylight in a room and some easy-to-use software for daylight assessment. In a second part, the switch is made from functional use of daylight to designing of/with daylight. Different design principles are discussed and illustrated by means of a wide range of inspiring examples of daylight use in interior design.</p>
Prof. Hans Poisel	DE	Hochschule Nürnberg	<p>Title: Sunlight and LED: Hybrid lighting with optical fibers</p> <p>Abstract: Daylight is the perfect light for displaying the right colours and perfect for human well-being & performance. Using the Solektor system, direct sunlight is concentrated, coupled to optical fibers and then transported to the area to be illuminated. Thus a lot of energy can be saved, UV and IR damage are excluded and the reproduction of colours is almost 100%. The course will give insight into the principle and benefits of that daylighting system and also its extension for periods, when no daylight is available using hybrid luminaires containing LEDs.</p>
Prof. Thomas Roemhild	DE	Hochschule Wismar	<p>Title: New possibilities with LED Technology for dynamic light in Public Places</p> <p>Abstract: LED- Technology and dynamic Light in Public Places, with the new technology it is possible to change the outdoor lighting very quickly. The change of light distribution, colour temperature and intensity provides a wide range of diversity, which is difficult to design. But the biggest challenge is to find new possibilities to create lighting scenes according to parameters, that have to be designed.</p>
Prof. George Zissis	F	Université Paul Sabatier Toulouse	<p>Title: Classic Light sources Technologies for indoor and outdoor lighting applications</p> <p>Abstract: In this module the technology of "classic light sources" will be presented. Classic light source family includes incandescent and electrical discharge lamps. The operating principles and the main characteristics will be presented. Adequation of each technology with the targeted indoor and outdoor lighting application will be discussed. Finally, some innovations, like molecular radiators as light sources, will be discussed.</p> <p>Title: Light Emitting Diodes for Lighting</p> <p>Abstract: The objective of this module is to present Lighting Emitting Diode technology as light source for general and architectural lighting. The operating principles and the main characteristics of this technology will be presented. The advantages as well as the problems associated with this technology will be discussed. Some special aspects associated to Light Emitting Diodes like health issue and life cycle assessment will be addressed also. Organic Light Emitting diodes will be included in the presentation as potential future lighting technology.</p>
Dr. Raphael Labayrade	F	Ecole Nationale des Travaux, Lyon	<p>Title: Multi-objective optimization of lighting installations taking into account user preferences.</p> <p>Abstract:The design of lighting installations should take into account power demand (to minimize), and also user' feeling and preferences about the lighting atmosphere (to maximize). The lecture presents a two stage multi-objective optimization framework aimed at designing lighting installations that realize the best possible tradeoffs between these conflicting objectives. In the first stage, subjective data are collected from psycho-visual tests conducted with panels of observers and are used to derive preference functions; in the second stage, these functions are included as objective functions along with a function modeling the power demand in the multi-objective optimization process itself. The best tradeoffs between the objectives are then identified. Moreover, the multi-objective optimization methodology requires to collect a large amount of psychovisual data, depending on the case study. In this context, the use of Internet for performing psycho-visual tests is discussed: in particular, the benefits and limits of an internet-based protocol for designing complex lighting installations that meet user expectations are highlighted. Different case studies illustrating the methodology are presented, including office lighting and street lighting.</p>
Dr. Sophia Sotiropoulou	GR	Hellenic Open University, Patras	<p>Title: "Colour perception and rendering "</p> <p>Abstract: The importance of colour in our visual perception of the world is axiomatic. Colour perception operates optimally under the natural light. However, the quality of colour perception is not always granted under artificial lighting. In this lecture we will focus our discussion on the following questions: (1) What are the fundamental physiological mechanisms in colour vision? Neuroscience methods are extremely useful and exciting ways of studying the brain. But this is not usually enough to understand perception. We need, to interpret the brain activity in terms of perception and perceptually guided behaviour. We need to perform psychophysical experiments and make cognitive considerations in order to understand what is the relationship between photoreceptors response and perceived lightness or perceived colour. (2) What is the impact of lighting in colour</p>

			perception? Next to energy saving, colour rendition is a key requirement in the quality of artificial light sources. How do we assess the quality of white light sources in colour rendering?
Prof. Stelios Zerefos	GR	Hellenic Open University, Patras	Title: Representing light in the digital realm Abstract: The lecture will cover most aspects of how light and by extension lighting design, can be represented digitally. Subjects that will be presented are 3d modelling and spatial geometry, projection techniques including perspective, virtual camera properties, virtual light sources, rendering algorithms, virtual materials and textures. The lecture will be supported by extensive visual examples for each case mentioned. At the end there will be a discussion on the presented subjects, as well as future prospects.
Constantionos Bouroussis	GR	NTUAthens	Title: Lighting planning using RELUX software Abstract: RELUX is the most modern lighting planning software on the international market. The program, which is both simple and intuitive to use, incorporates assistants, drag & drop functions and an innovative 3D engine, ensuring that users can work efficiently with it. RELUX is supported by around 100 luminaire manufacturers with their full range of products available in RELUX integrated database. The program offers fast an easy to use 3D design features with CAD import and export. Calculations and simulations are carried out by the radiosity method while professional visualization can be performed by means of the raytracing method, ReluxMovie or Relux3DStereo. This course will introduce the most of the features of the RELUX suite with step-by-step lighting planning and advanced examples in order to prepare IP-LiDe students for the lighting planning of their projects.
Dr Lambros Doulos	GR	Hellenic Open University	Title: Lighting design. Mistakes or not
Prof. Rui Canela Lopes	PT	ESAD	Title: Museum lighting methodologies: Natural and artificial lighting strategies, Glare control, Fixed and temporary exhibitions, lighting flexibility
Dr. Renato Branco	PT	ESAD	Title: Casa sa Musica. Case study for Light Art
Dr. Dorin Beu	RO	Technical University of Cluj-Napoca	Title: Influence of Lighting in Green Building Certification Abstract: Nowadays buildings in Europe have beside an energy audit (compulsory in EU) also a green certification (which is voluntary). For instance, in Cluj-Napoca in 2012 there was only one green building certified and in 2013 there are already six. The lecture will present the evaluation system and where lighting has an influence. For a green building it is not only the energy efficiency which matters but also other factors: avoiding light pollution, indoor environmental quality, materials etc. For example for LEED certification, from a total of 110 points lighting has an influence on 28 points. The lecture will also address the problem of environmentalproduct declaration.
Prof. Grega Bizjak	SI	University of Ljubljana	Title: Visual and non visual effects of light Abstract: Light has many different effects on our body and our live but the most important is vision. Light enables our vision and contributes to over 80 % information we got from our environment. In this lecture we will first explain how vision works and what are the most important characteristics of human eyes like visual acuity, eye adaptation and accommodation or depth perception. Although we need light for our vision, to much light or improper direction of it might also disturb our vision. So we will also mentioned phenomena like glare, shadows and double light, which we should avoid in good lighting design. Although vision is very important it is not the only effect light has on our body. Light has also some non-visual effects on our body like internal clock synchronization, reduction of melatonin or sunburns. So we will learn also how this non-visual effects of light can be used to make our work better or our life more relaxing but also how to avoid some negative effects of light. Title: Quality and planning of road lighting Abstract: First road or street lighting was put to operation to assure better safety on the streets. Also today the primary task of the road lighting is to assure better safety to all users of traffic areas. But today the safety alone is not enough; today's road lighting has many qualities: quality of life, technical quality, financial quality and ecological quality which is more and more important. So we will first talk about different "qualities" and how we can describe and evaluate them. In the second part we will talk about planning of quality road lighting: what do we need to consider to comply with standards, how to make road lighting economical and in the same time environmentally friendly and how to reduce or even avoid light pollution.
Prof. Meltem Yilmaz	TR	Hacettepe University, Ankara	Title: Monument Lighting Abstract: Along with the formation of the republic in Turkey, the concept of "monument", with figurative statues, entered artistic and cultural structure. In order to strengthen the current political ideology, statues; which have taken their subjects from Atatürk, Independence War of Turkey and deeds, were placed to parks, squares and official buildings, mainly in Ankara, capital of Turkey. These qualifications rendered these monuments as landmarks in time and symbolized them in the cities they are placed in. However, since said monuments' lighting arrangements were done improperly without considering the lighting principles and monumental qualifications, the results ended up being slightly unsuccessful, therefore these monuments have been perceived differently. In this research, basic lighting principles will be evaluated with the examples in Ankara and a study about monument lighting will be taken, considering newly built examples in Hacettepe University campus.

Dr. Arzu Cilasun	TR	Yasar University, Izmir	<p>Title: Efficiency of Manual Control for Lighting Energy Consumption</p> <p>Abstract: Lighting is one of the biggest energy consumers in building. In order to reduce energy consumption, lighting control systems are commonly recommended and preferred. Many studies concluded that using control systems can save energy up to 60% when compared to the manual control. In fact, when we consider real situations, this assumption is not correct because during the day, users control their lighting system due to their absence. Some studies worked on manual control (not only for lighting but also for cooling/ventilation/heating etc.) and they concluded that, actually, users are not totally passive because users control the lighting system due to the visual comfort, biological rhythm and motivation issues,. The main aim of this lecture is to review current papers related with control systems' efficiency while mentioning user control, which is commonly under-estimated. In order to predict energy consumption realistically, user control factor should not be overlooked.</p>
Dr. Sibylle Schroer and Prof. Franz Hölker	DE	Leibniz Institute of Freshwater Ecology and Inland Fisheries, Müggelseedamm 310, 12587 Berlin <i>Schroer@igb-berlin.de</i> <i>Hoelker@igb-berlin.de</i>	<p>Title: Loss of the night – a German research approach to investigate in the impacts of artificial light at night on human and nature</p> <p>Abstract: This part of the lecture presents the German national research project Loss of the Night (Verlust der Nacht). The interdisciplinary research group joined forces to investigate the impact of artificial light at night (ALAN) on humans and nature. Ten institutes from astronomy to social science are involved. Two interdisciplinary experimental approaches were implemented for the fourteen subprojects. One approach accompanies scientifically modifications of public street lighting from either mercury-vapour lamps or no street light to LED lighting at different sites. One site is in the city of Berlin, another in a periurban area in Brandenburg near Berlin. The second experimental approach offers a constructed light field at one of the darkest spots in Germany to measure ecological impacts of ALAN on light-naïve riparian and terrestrial interactions and food webs. Outside of the light dome of Berlin, in about 70 km distance to the cities' border a light field with 12 sodium vapour street lights was constructed. The lights are located along a drainage channel in three rows containing each four lamps in distance of 20 m to each other. In about 800 m distance, covered by trees, a comparable site was constructed with the same equipment only without luminaires, to serve as a reference field. Status quo of the research and results are presented from the different disciplines, including social science, light technology and ecology. Further, possible implementations of the research results are exemplified and research gaps demonstrated. Measures, to reduce the negative impact of ALAN on human and nature need to be carefully adjusted to the surrounding environment and the local requirements for visibility. Further research is urgently needed to create refuges for light sensitive species at night and calculate the improvements of light pollution reducing measures. Successful guidelines are of major importance to retain the rapid increase in sky brightness worldwide. These guidelines need to be made accessible for decision makers especially in remote areas which require new light installations.</p>
Dr. Andrea Giacomelli	IT	Attivarti.org, Piazza del Popolo 20, loc. Torniella, 58036 Roccastrada, Italy <i>info@pibinko.org</i>	<p>Title: Global visions and local actions on artificial light at night: a case history from Italy at the beginning of its seventh year of activity</p> <p>Abstract: This lecture will provide an overview of the activities conducted in Italy since Spring 2008 by the team now operating as Attivarti.org, an awareness raising association based in Southern Tuscany, which has as its flagship project the BuioMetria Partecipativa (participatory night sky quality monitoring) initiative. The project originated from one of the three areas which today offer dark skies in Italy, i.e. the inland area starting from the Southern part of the Siena province, and reaching down through the Grosseto province and Monte Amiata, as opposed to most of the urban areas in Italy, which expose one of the highest power use for outdoor lighting, thus creating substantial night sky quality issues both in the plains, as well as in the hilly and mountainous areas surrounding the main cities. The four main tasks managed by Attivarti.org will be explored: education and awareness raising, citizen science, information and communication technology, and networking activities with other professional and research teams. The lecture will show how these four threads have been interwoven to create a variety of actions directed to citizens, public administrations, private stakeholders (such as managers of tourism and recreational facilities), research teams and other teams engaged in Italy in light pollution issues.</p>
Prof. Abraham Haim	IL	University of Haifa at Oranim, Tivon 36006, Israel <i>ahaim@research.haifa.ac.il</i>	<p>Title: Biological definition of light pollution – why is it a necessity?</p> <p>Abstract: Light pollution or artificial light at night (ALAN), so far has been defined by astronomers but not by biologists as the later only recently became aware of the ecological and health problems related to the new source of pollution. Furthermore, not all decision makers are convinced that it is a real environmental problem, risking our health. Only two years ago the AMA (American Medical Association) passed a resolution that "light at night is a source of pollution" as among others it suppresses melatonin production in the pineal gland which takes place under dark conditions at night, interferes with the circadian rhythms and sleep cycles. Therefore, they call upon developing new technologies for illumination. In order to develop sustainable illumination it is important first of all to define light pollution. For this purpose we first need to select the relevant variables that may be included in such a definition. As we do not suggest going back to the pre-Edison period, we should accept the call of the AMA and come up with sustainable illuminating solutions. In the last years, in our research center and in other laboratories some aspects of a biological definition are being studied. No doubt that: 1) light wave length, 2) light intensity, 3) frequency of exposure, 4) duration of exposure 5) timing of exposure during the dark phase, should be considered. If we will know the thresholds for these different variables, I think we will be able to come up with sustainable solutions, bearing in mind that different spaces should be illuminated in different ways. Improving illumination by remembering that light/dark cycles are a basic temporal variable, we can improve the quality of our environment, where a healthy environment will result in healthy populations.</p>