Pollack Summer Specials

August 17-28, 2009
Pécs, Hungary

Knowledge, Experience, Pleasure..... Pécs, Summer 2009

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Pollack Summer Specials 2009

About Us

The Pollack Summer Specials Program (PSS) is a two-week-long academic event organized three times a year. The program was initiated by young, talented instructors of the University of Pécs, Pollack Mihály Faculty of Engineering, and aims at providing students from all around the world with a distinctive knowledge on architecture and information technologies by offering unique and highly specified top-level courses in English.

PSS offers a rare opportunity to learn about and dig into those "hot topics" of architecture and engineering IT that are not covered in the curricula. By combining high quality academics with a wide range of social activities and the possibility to work in a multicultural milieu Pollack Summer Specials definitely offers you an experience for life.

Who is the program designed for?

Pollack Summer Specials is designed for students who already acquired the basics of architecture and/or engineering IT and wish to deepen their knowledge by learning about those areas of the field that are not discussed during the regular courses and not written in textbooks. It is designed for highly motivated and enthusiastic students who have a strong desire to develop their competencies by learning and using the most up-to-date techniques and methods of the given field.

Courses 2009 Summer

This summer we will be offering two interrelated courses:

Energy Design Planning Methods in the Post-fossil Architecture
Business Planning in Engineering Projects

In the first course students can learn how to convert big, prestigious buildings (hotels, office-buildings, etc.) into more energy efficient and economical ones in long term by reducing their energy consumption with the help of the latest material technology, and advanced design. The second part of the course duo deals with the financial side of the process, shows how to count the exact returns on investment in environmental friendly technologies.

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Social Programs

PSS is not just about studying; it is also about meeting new people from different cultures and having fun together. To do so, PSS organizes a wide range of social programs to get to know each other, Pécs and its surroundings and of course the Hungarian culture.
These programs besides many others include: hiking and geocaching in the "Mecsek", swimming in the lake of Orfű, discovering the famous Villány wine region, learning how to cook the widely known Hungarian Goulash soup…

Accommodation

Students are hosted in one of the **Student Residences of the University of Pécs**.
It is located in a quiet, residential area of Pécs, just next to the Pollack Mihály Faculty of Engineering, where the courses are going to take place.
Within a two-minute-walking distance there is the Pollack Swimming Pool and the city center is easily accessible both on foot and by bus (10 minutes).

Accommodation costs 10€/night/person.

Fees

The tuition fee for the two courses is 345€ above which there is a facility usage fee of 140€ to be paid which covers the computer usage, Internet and study materials. Note that in order to be registered you also have to pay a registration fee of 110€.

Grants

In some cases there are grants or scholarships available which are listed on our website, but we also encourage you to look for other types of financial aids available for study purposes in your country and through different European foundations and institutions.

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Visas

Please, if you are not sure about the visa and passport regime; contact the Embassy of Hungary in your country. A letter of invitation will be sent to students who need visas upon the payment of the registration fee.

Application

You can apply to our courses by filling in the application form available at our website.
Application deadline: June 17, 2009

Attend the PSS Summer School to:

- Learn about hot topics of architecture and engineering IT
- Acquire practical knowledge at your field of interest
- Make new friends from any parts of the world
- Gain international and intercultural experience
- Explore the European Capital of Culture 2010

We look forward seeing You in Pécs!!!

For detailed information and application visit
www.summerspecials.pmmk.pte.hu or contact us at:

Pollack Summer Specials Program
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Energy Design Methods for the Post-fossil Architecture 1-2

"The era of fighting against nature's forces has come to an end in most settlements of the world ... Today man-kind's only enemy is mankind himself and the environmental damage caused mostly by design faults" Otto Frei, 1967

Imagine the following situation: You book your ticket to fly somewhere. You go to the terminal, find your plane and want to board. Suddenly you recognize, that someone sits on the wing of the aircraft and pulls out the rivets of it. You ask him "what do you do with that wing?" He answers "I'm from the International Increase Madness Airlines. The company earns 2 $ per rivet." "You must be completely insane! You make this airplane unsafe, dangerous and totally out of order!" you would yell. ""Please, trust me, don't be afraid, the engineers dimensioned this machine with double security degree, so I could pull almost 50% of the rivets out without anything to notice. I'll fly also on that plane, so you really don't need to be afraid. Furthermore I get 50 cents from the 2 $ per rivet- me and the International Increase Madness Company needs the money, without that the International Increase Madness couldn't continue. Of course you would return to the terminal, press charges against the Airlines and the madman on the wing, and finally you would fly with another company.

We all have to fly on our joint plane, whether we want it or not. Frightening is, that this aircraft is full of rivet pulling madmen. More frightening is that these madmen are ourselves.

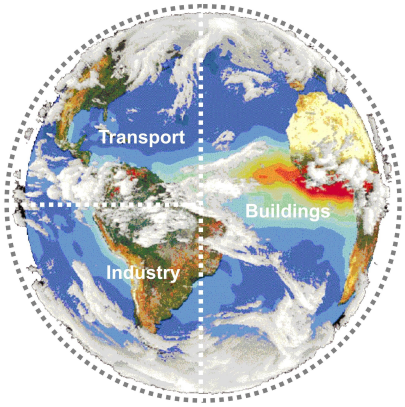
God didn't give us an operating manual to spaceship Earth, but fossil energy sources to start the main engine of the Ship. Regrettably mankind drives his spaceship with this finite amount of starter energy without thinking about the main motor.
(R. Buckmin-ster Fuller)

Something in the World is not in order. Man has never provoked such profound changes in earth's history. Mother earth is sick, she shakes her back: ecological crisis questions our very survival. In the eyes of the children of future generations we are prehistoric men, technically brilliant primitives who ate, drank and breathed their own garbage. Waste and garbage itself means a lack of imagination, and these words will only be familiar from the history books.

So do we have a chance?

Well you have now your chance to make a decision: You can stay on an energy unconscious level, where people are always fighting with energies – or you can **start switching over to an energy conscious height, where the energies are serving us**.

What does it mean thus for architects, engineers?



To tell the truth, architects create the most energy-intensive products of the world. As 50% of the world's energy and raw material consumption is generated in the construction industry, architects and engineers must bear major responsibility.

The energy and climate problems besiege us more and more – they pile on the pressure. Apparently we have come to the dawn of a new era: after the Neolithic age and then the industrial technological revolution, the beginning of the third energy revolution was a necessary consequence: the current post fossil episode.

Energy Design architecture is not a style, fashion or trend but a biological necessity, a response to the question of crisis and survival.

What surplus can you approach in Energy Design studies?
What kind of additional benefit achieves Energy Design versus conventional planning?
This difference can be described by using a ship analogy: With the help of an engine practically all floating objects can be transformed into a steerable ship.

A small sized compact mechanical device transforms a raw form into a functional object-oriented work of art. A building is not to be considered any longer as a box lined with technical apparatus but it should be developed into a 'climate machine' which – just like a sailing boat – dynamically responds to environmental impacts and supplies itself using local energy sources

What are the main goals of energy designing?

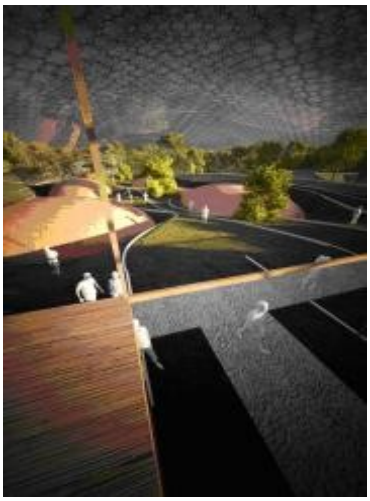
Energy Design offers solutions for buildings which offer more while using less technology. The aim is to develop buildings which create the highest level of comfort while using as little energy as possible. In order to achieve this goal it is necessary to implement a holistic approach to the planning process. Life cycle assessment and interdisciplinary approach is integrated into a multi-dimensional well-balanced designing process.

As the third skin, the building envelope serves similar functions as the skin of human body and clothing, which separate interior and exterior environments, while at the same time due to their permeability, allowing exhange processes. This is only possible if the materials, structures and concept of the building envelope can serve the same functions as the human skin.

A building is a living organism, the envelope of which controls the energy and mass exchange between internal and external environments. In this sense the building envelope is like the skin of a living being. For example living organisms can change their behavior, appearence or other physical attributes.

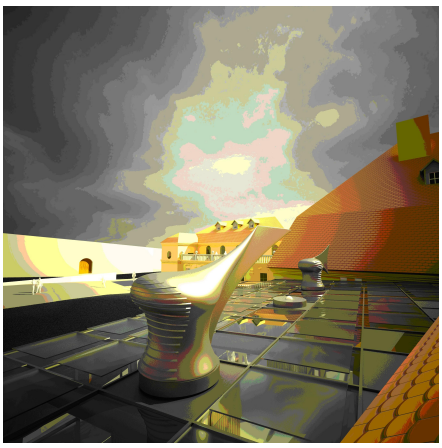
As a consequence of a change in the climatic conditions – with one word, they adapt themselves. Examining how buildings and living beings, flora and fauna function means an analysis of natural phenomena. The aim is not to imitate nature but to understand how various functions and organisations work and what logical connections there are between these functions. Thereby we will have access to knowledge which can be transferred to architecture. This is the method of organic ecological technologies, through which it can be shown that architecture can behave like intelligent organisms.

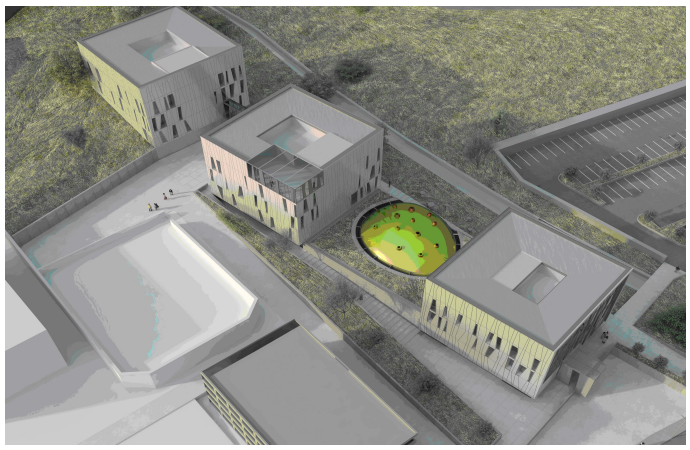
Adaptive biological organisms, i.e. organisms that are able to adapt themselves to the changing circumstances of life, require less energy for the same level of performance and are more stable than buildings, which – although endowed with nature-inspired features and solutions – require a higher input of energy and resources.



As a result of the application, the transfer of principles and logic of natural, biological functions and organisms, inevitably new functional form structures are developed. The incredible diversity of nature stands as evidence that the optimisation of functions, as a driving force of Evolution, is always manifested in consistent solutions, so-called performance-forms.

However, the constructed environment cannot and should not be the imitation of nature. It's rather about synergy combinations of functional, constructive and energetic options of a building. The energy optimized solutions are naturally prototypes due to their novelty – form follows energy.





Of course Energy Design cannot be proclaimed in kWh, CO2-equivalent or money. This is also a moral question. According to the famous Buddha citation "We are not only responsible for our achievements, but also for the things we haven't done".

If you feel this Energy Design could be your way for the future, please, don't hesitate and make your decision…

Dr. habil István Kistelegdi, DLA
Pollack Summer Specials Program
Energy Design Planning Methods for the Post Fossil Architecure 1-2

Date: 17-28 August, 2009
Tutor: Dr. habil István Kistelegdi, DLA
Syllabus and course description

Business Planning in Engineering Projects

What you are not told in an American MBA

Personal letter to my prospective students!

Hi All!

When you read the titles of my proposed courses in the Pollack Summer Specials series,
Business Planning in Engineering Projects
Market Research in Engineering Projects
most probably you will say:

'*Hey, wait a minute! I am an architect / structural engineer; I am a man of defining spaces / dealing with tensile strenghts. I have nothing to do with those flimsy marketing-type-of a guys and their annoying washing powder tv-ads!*'

Really? You still want to sell something – your design.

Maybe the guys who write a cheque on your receipt are not the guys who will live in or work with your design, but there is still customer feedback – if they are unsatisfied with your work, sooner or later you are out of the market.
I remember how much I disdained marketing myself, when I completed my PhD in 1998 from Artificial Intelligence in Credit decision making at the Faculty of Business and Economics, University of Pécs: in my former MSc in Economic studies marketing seemed as a flimsy, highly subjective and purely verbal set of buzzwords.

In just 3 years, I ran my Database Marketing and Customer Relationship Management computations daily at State University of New York (SUNY) at Buffalo, Center for Computational Research on a 2000-node Sun supercomputer, working for Tops Friendly Markets Inc. supermarket chain:

When I pressed the 'Enter' on my laptop and 2000 hard drives whined up crunching daily shopping data of more than 4 million households, and when the underground armored room started to vibrate a little bit – that was already quite an engineer-like feeling!

What happened in the meantime? I recognized during my MBA at SUNY that Americans are still ahead of Europe: they consider marketing somewhat to a more exact

science based on NUMBERS instead of buzzword, resulting TESTED statements instead of fancy prophecies. The only problem is that it needs math – which Americans in general are very geek at. And that's what opens up a lot of possibilities for people from Central Europe, Russia, India, Middle-East or the Far-East, who have a better math background.

Therefore, when I created my courses for PSS, I tried to put together the best of old- and new worlds:

- Strong application orientation, case studies, group work and quantitative basis of American style
- Advanced math-stat background of European education systems

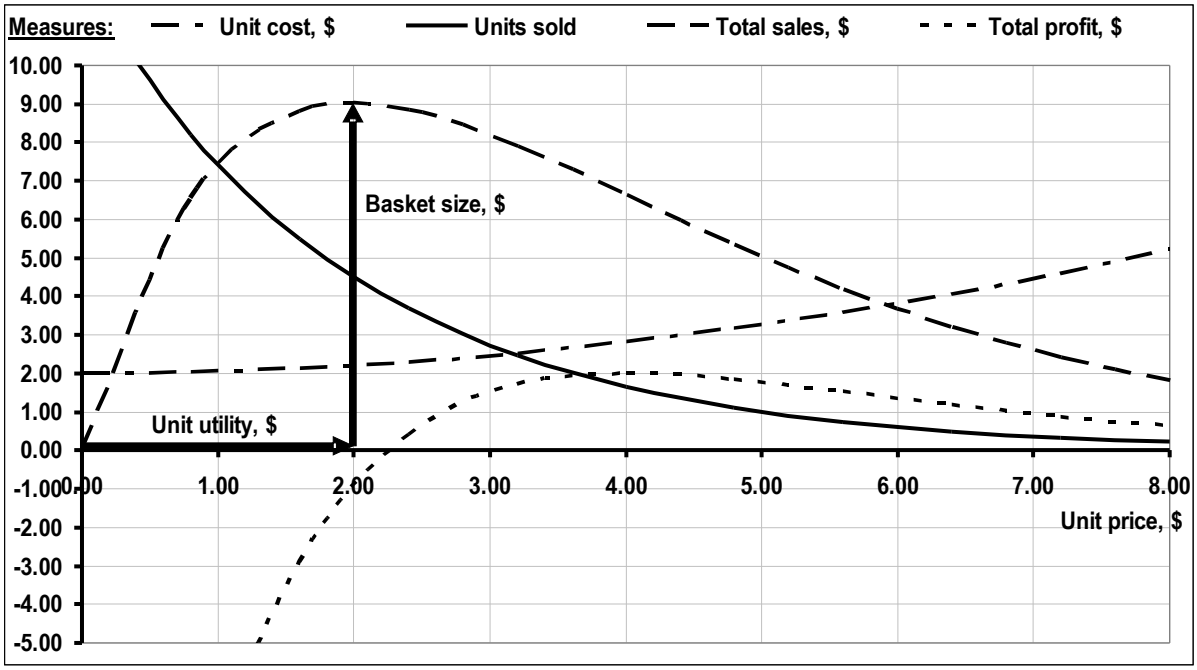
My first course PSS02 Business Planning in Engineering Projects supports Dr. habil István Kistelegdi's PSS06 Energy Design 1 course. When most people talk about environmental- or energy conscious architecture the may imagine small cottage houses made from fully natural materials for some really radical „dark green" people. But it is not that. It is about how to convert big, prestigious buildings (hotels, research centers, etc.) into more economical ones in long term by reducing their energy consumption with the help of the latest material technology, and advanced design.

But all these fancy high-tech stuff costs a lot of money. You gotta be really green to sink one buck into them and to get back only one cent of savings. Financial managers and other decision makers are typically NOT that Greenpeace-kind of people fighting with Japanese whaler ships on the Pacific Ocean in their holiday time. They want RETURN on invested capital even if they invest in environmental-friendly technologies. So the tricky part in selling energy-design is that somehow you have to prove numerically that there will be returns within a reasonable time frame. It is difficult because most of the technologies work better if they are used together in more buildings – so economy is influenced by demand, demand is influenced by the pricing of your design, while pricing is influenced by costs, and cost are influenced again by the economy. Pretty annoying, isn't it?

So simply counting the kilowatts not going out of the window is not enough, you need an advanced quantitative business planner and optimizer to be able to solve this. That's exactly what we offer in the course, in a user-friendly MS Excel environment: Business Planner 2.0. This is what you can see:

2007.10.26	PaulerSoft™Business Planner|Üzleti Tervező 2.0 Financing| Finanszírozás								Dr. Gabor Pauler
Legenda|Jelmagy.:	Input data|Inputok	Parameter|Paraméter	Part.results|Részeredm	Outputs|Outputok	VariableID|VáltozóID-k	Constants|Konstansok		Estimation|Becslés	
	Incomes/expenses in business periods, Ft |	Bevételek / kiadások az üzleti periódusokban, Ft :	2004.01.01	2005.01.01	2006.01.01	2007.01.01	2008.01.01		
Item name Tételnév	Item type Tétel tipus	Item description Tétel leírás	Totals Összegek	Meas.unit|Mértékegys. Dim|Egység	Basis|Alap	0 Period0	1 Period1	2 Period2	3 Period3	4 Period4
Prod1NetM	+	Net margin from product1| Fedezet a(z) 1. termékből		Ft /Year|Év		0	1,751,679	3,008,299	3,008,299	343,192
Prod2NetM	+	Net margin from product2| Fedezet a(z) 2. termékből		Ft /Year|Év		0	27,535,118	36,621,707	48,706,870	64,780,137
Prod3NetM	+	Net margin from product3| Fedezet a(z) 3. termékből		Ft /Year|Év		0				
Prod4NetM	+	Net margin from product4| Fedezet a(z) 4. termékből		Ft /Year|Év		0				
Prod5NetM	+	Net margin from product5| Fedezet a(z) 5. termékből		Ft /Year|Év		0				
FC	-	Time-based/fixed costs total| Időarányos/fix költségek összesen		Ft /Year|Év		-25,135,187	-58,687,771	-58,475,654	-58,312,003	-65,750,526
EBIT	=	Earning Before Interests and Taxes (EBIT)| Adó/kamatfiz. előtti eredé		Ft /Year|Év		-25,135,187	-29,400,974	-18,845,648	-6,596,833	-627,197
CorpTax	-	Corporate profit tax| Vállalkozási nyereségadó (VANYA)		% /Year|Év		18.00%	18.00%	18.00%	18.00%	18.00%
EAT	=	Earning After Tax (EAT)| Adófizetés utáni eredmény		Ft /Year|Év		-25,135,187	-29,400,974	-18,845,648	-6,596,833	-627,197
ChgWrkAs	-	Change of net working assets| Nettó forgótőke változása		Ft /Year|Év		0	225,318	-32,165	-27,860	-23,555
Amort	+	Amortization| Értékcsökkenési leírás		Ft /Year|Év		0	1,107,025	894,908	731,257	603,642
CF	=	Cash-flow| Működési pénzáram		Ft /Year|Év		-25,135,187	-28,519,267	-17,918,575	-5,837,717	0

And this is the nasty math behind that what you cannot see (if you are not curious about):



It is based on an advanced demand- sales- profit estimator + retail price optimizer model supported by customer surveys and cost data, taking product life cycle into consideration with 4 life cycle models. Moreover, it optimizes credit/equity financing of the project and recommends optimal interests+installment schedule.

Date: 17-28 August, 2009
Tutor: Dr. Gábor Pauler
Syllabus and course description