



Πανεπιστήμιο Κύπρου
University of Cyprus



Technical Services &
Campus Development Office

Presentation at

Workshop in PV, grid and grid integration at UCY

Hosted by: University of Cyprus (UCY)

Partners: Austrian Institute of Technology (AIT)
Technical University of Denmark (DTU)

13th December 2016

UCY philosophy for building facilities

UCY Vision: University of Cyprus Campus to be classified as a 'Green Campus'

The University aspires to become an institution that will foster and amplify environmental consciousness and be a leader in Cyprus in terms of sustainability and the implementation of renewable energy sources



The University, in frame of this vision, is pursuing overall targets to reduce energy, water consumption, and pollutants from the Campus development

These targets can be met through a creative use and application of materials and a combination of energy conservation methods and renewable energy sources

The intentions of the University are reinforced by the European Directive 2010/31/EU concerning nearly zero-energy buildings

University of Cyprus growth in numbers

Initial plans, current situation and future targets

UNIVERSITY OF CYPRUS			
	A. INITIAL (1996) MASTER PLAN	B. TODAY (2015): ATHALASSA CAMPUS, ACADEMIA & OTHER BUILDING FACILITIES	C. OBJECTIVES OF UNIVERSITY OF CYPRUS ESTATE STRATEGY (2016-2025)
Number of FACULTIES	3	8	9
No. of DEPARTMENTS	12	22	30
No. of RESEARCH CENTRES		11	
No. of PROGRAMMES		145 +	
Undergraduate + Postgraduate + PhD			
No. of ACADEMIC STAFF = A	253	450 (330 + ~120)	785
No. of STUDENTS = S	4.300	~7.400(2016-2017)	10.000
AVERAGE: A / S	1 : 17	1 : 16	1 : 15
RATIO			
Undergraduate Students / Post graduate Students	4:1	3 : 1	3 : 1
TOTAL BLDG AREA	110.000 SQ.M.	130.000 SQ.M.	280.000 SQ.M.
BLDG COST ESTIMATE	€ 130.400.000	€200.000.000	€ 500.000.000

Financing & Materialising Projects

Current situation: UCY has secured in December 2014 a Loan from the European Investment Bank (EIB) and in July 2016 a Loan from the Council of Europe Development Bank (CEB) in order to proceed with the implementation of the next phase of its Building and infrastructure development

Project UCY II – Phase A entails the following eight (8) Projects:

Two main Faculties:

**Faculty of Medicine
Faculty of Engineering**

Two renovation / remodelling projects :

**Academia Campus
Shakoleion - Faculty of Medicine**

An innovative Department:

The Department of Biological Sciences

A common teaching facility to be used by all faculties on Campus:

Common Teaching Facility 03

Two vital energy projects:

**PV Park 10MW
Energy Centre 2**

An open project addressed not only to UCY but to Cyprus society and beyond our borders:

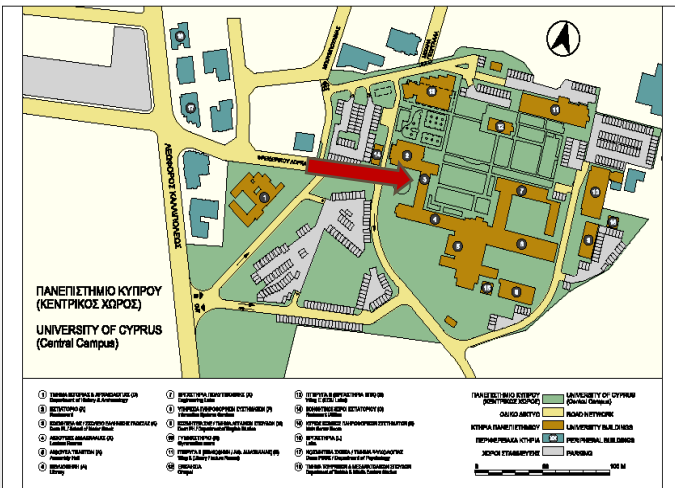
Learning Resource Centre - Library

ACADEMIA – the first UCY nucleus since 1992



- Located on this campus were the following faculties:
**Humanities, Letters
 Social Sciences & Education
 Library
 & Neuroscience Research Centre**

- **Currently undergoing an Anti-seismic upgrade / energy improvements/ overall remodelling**



University of Cyprus buildings
Academia Master Plan

Colonial precinctual architecture

NICOSIA OLD TOWN



Axiothea Culture Centre
18th century architecture - monument



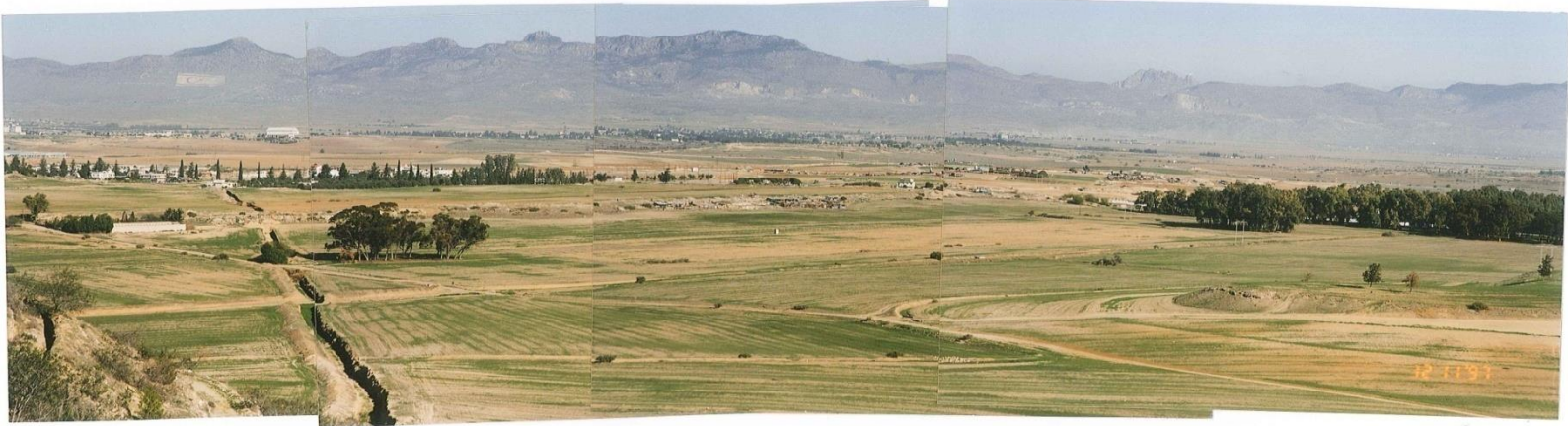
Department of Architecture



Archaeology Research Unit



Site granted by the Government of Cyprus for the development of the UCY Campus



12/11/1997

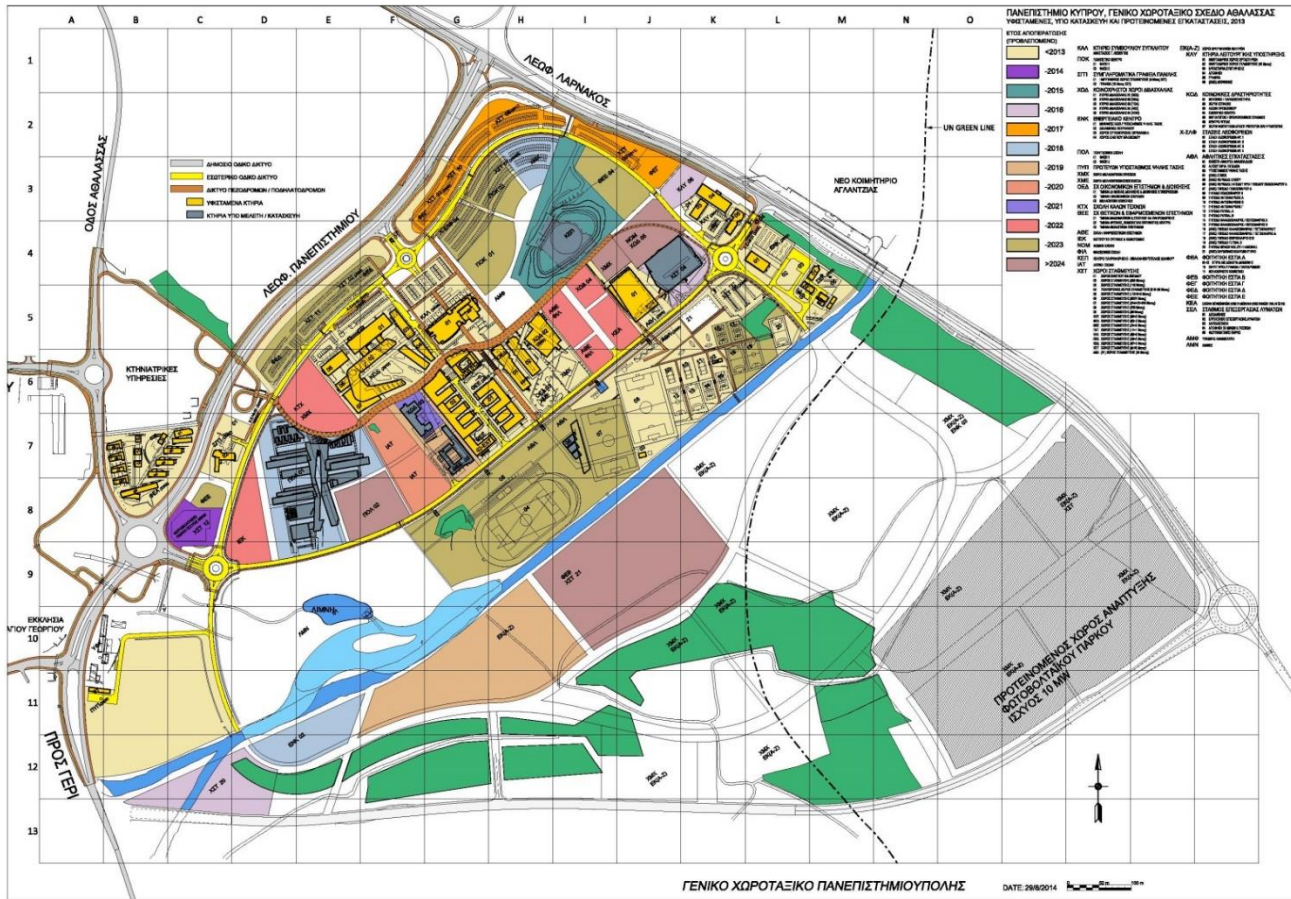


12/11/1997

- 5km south east of the historic centre of Nicosia, the capital of Cyprus
- neighbouring a National Park to the south west
- covers an area of 129 hectares (1.29sq km)
- 129 - 148m over sea level

UCY Campus Master Plan

The Campus Master Plan constitutes a complex and dynamic tool of planning, following-up and managing growth on Campus



Requirement:
 Periodical review of the Campus Master Plan

Currently the Campus Master Plan is being reviewed by a Consortium ADP / ECS / AECOM of external Consultants

- Completed Projects
- Under Construction
- Design Development

Vision: The promotion of UCY Campus as a 'Green Campus'

UCY Campus 1998 – 2016 (less than 20 years of construction)

Completed Projects

Infrastructure – Phase 1

Maintenance and Support facilities

Faculty of Pure and Applied Sciences and

Common Teaching Facilities (CTF I)

TS/CDO offices

Student Residences – Phase 1A

'University House' – UCY Council, Senate and Administration

Sports Centre / Sports fields

Faculty of Pure and Applied Sciences Extension

Faculty of Economics and Management and CTF II

Social Facilities Centre (SFC)

PV Park 'Phaethon' and PV modules on roofs of University House and SFC

Shakoleion - Faculty of Medicine

All projects on Campus are results of Architectural Competitions with the exception of the Library, University building and small support buildings

Projects under Construction

Learning Resource Centre - Library 'Stelios Ioannou'

Faculty of Engineering

Academia Campus renovation

Tender stage

Department of Biological Sciences and CTF III

Preliminary Design stage

School of Medicine



UCY Campus – Completed Projects



Installation of Photovoltaics at the west Campus entrance and on the roofs of University House and the Social Facilities Centre



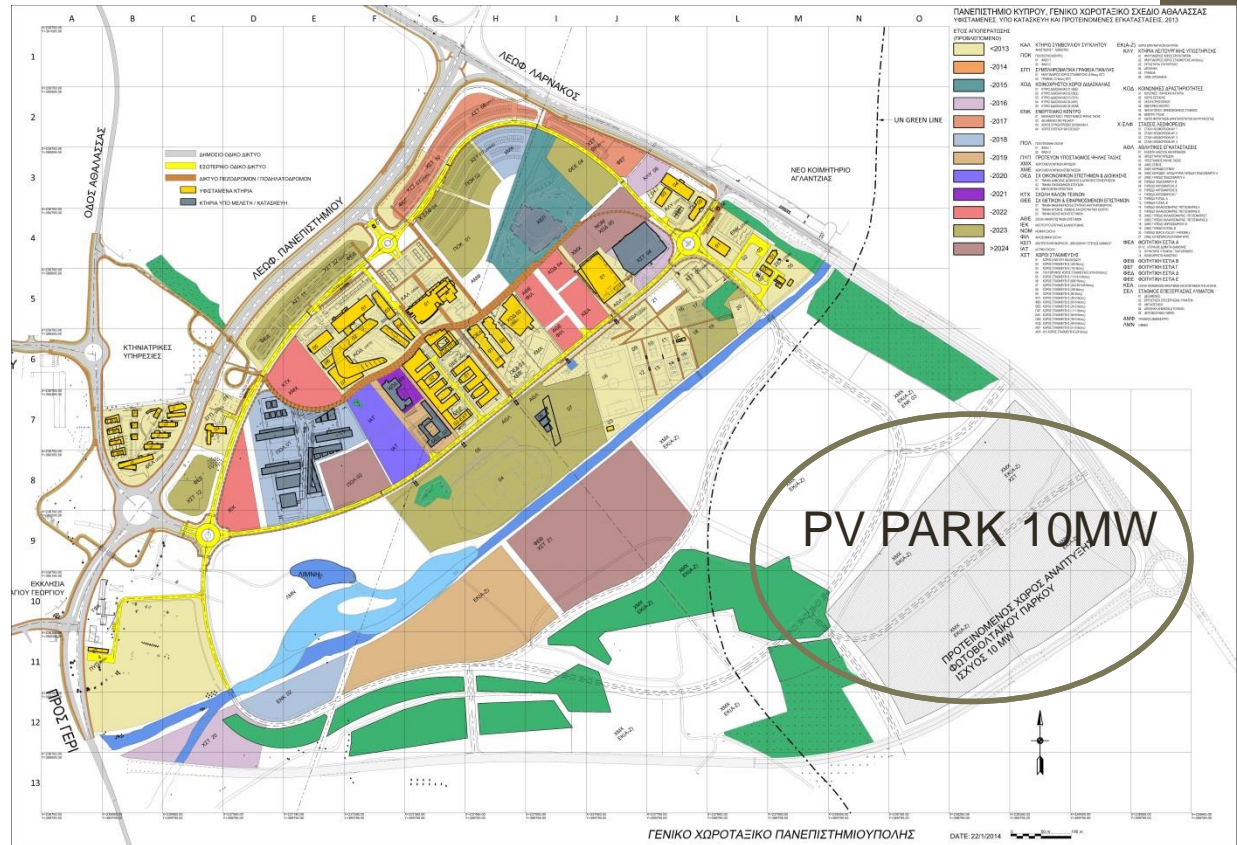
- The Project was co-funded by EU Structural Funds and the Cyprus Government
- The Project falls within the wider University policy to promote Renewable Energy Sources

UCY CAMPUS PV PARK - future

Within the Buffer Zone

Tentative Tender announcement: 2017

Design / Construction duration: 12 months



UCY Campus – Completed Projects

**Sports Hall and outdoor sports fields (2008)
National Award of Architecture 2010**

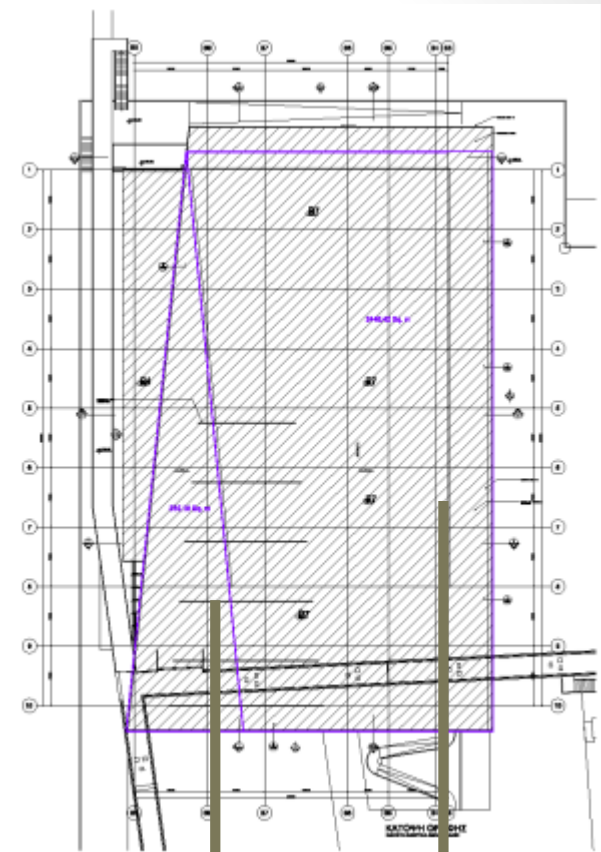
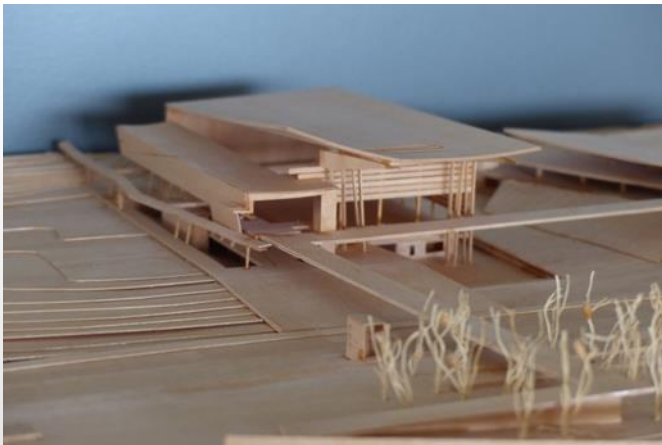


Architects: Chrysanthou & Papachristou
Civil Engineers: Hadjigeorgiou & Andreou
Mechanical Engineers: Mitsides, Samuel & Associates
Electrical Engineers: Mitsides, Samuel & Associates

Project Management: CDO

UCY Campus – Completed Projects

Sports Hall (2008)



500 sq.m.

2500 sq.m.

About 3000 sq.m.
of roof area
available for the
installation of
PV technology

UCY Faculty of Engineering – largest on Campus project

Project status: Under Construction (2016 - 2019)

Beginning with this project the University has set a requirement in the Architectural Competitions for, on-site renewable energy generation

Architects: Chrysanthou, Kotsiopoulos & Papachristou
Civil Engineers: L Hadjigeorgiou & A Andreou
Mechanical Engineers: Mitsides, Samuel & Associates
Electrical Engineers: Mitsides, Samuel & Associates

UCY Faculty of Engineering

Project status: Under Construction (2016 - 2019)



Winning Proposal

UCY Faculty of Engineering

Project status: Under Construction (2016 - 2019)



As a result the design team has incorporated PV panels on the 'spine' of the project which has been nick-named 'CLIMO' that will also provide shading and generate green electricity

Another 1000sq.m. could be available for the installation of PV technology



UCY Faculty of Engineering

Project status: Under Construction (2016 - 2019)



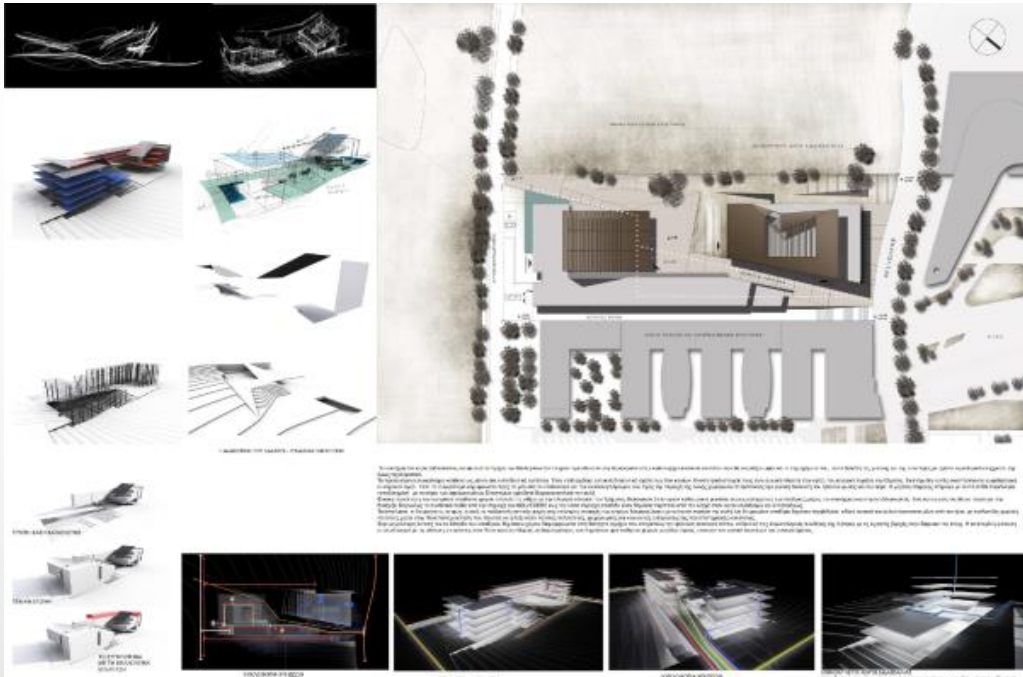
UCY Department of Biological Sciences and Common Teaching Facilities III – Final Design Stage

Architectural Design Competition was completed in December 2012.

Project status: Contract was signed between UCY and Consultants in July 2014

Currently at Final Design Stage / Tender documents preparation

Architects: Miltiades Katsaros and others
KTPCG Collective Architects Partnership
ATHENS GREECE

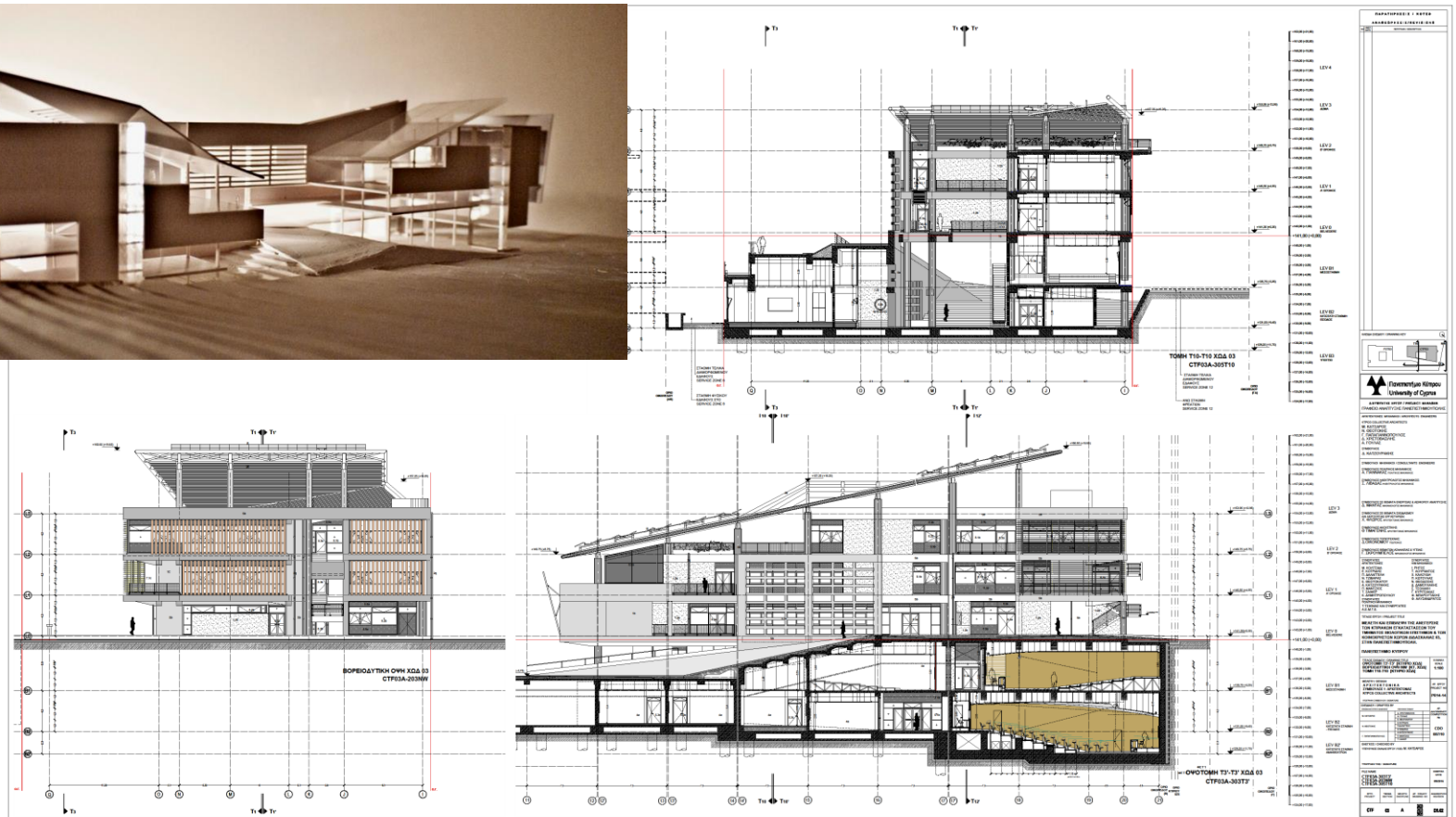
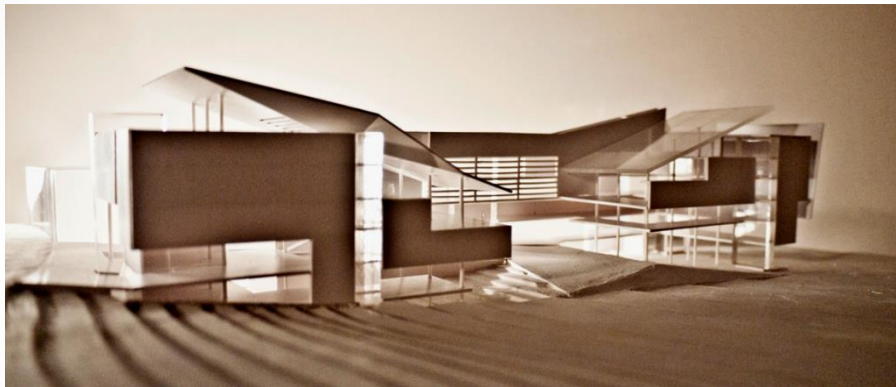


UCY Department of Biological Sciences and Common Teaching Facilities III – Final Design Stage

About 1000 sq.m. of PV panels will be installed on the metal-frame roofs of the project

A small area could be available for the installation of additional PV technology

Construction Tender will be announced in 2017



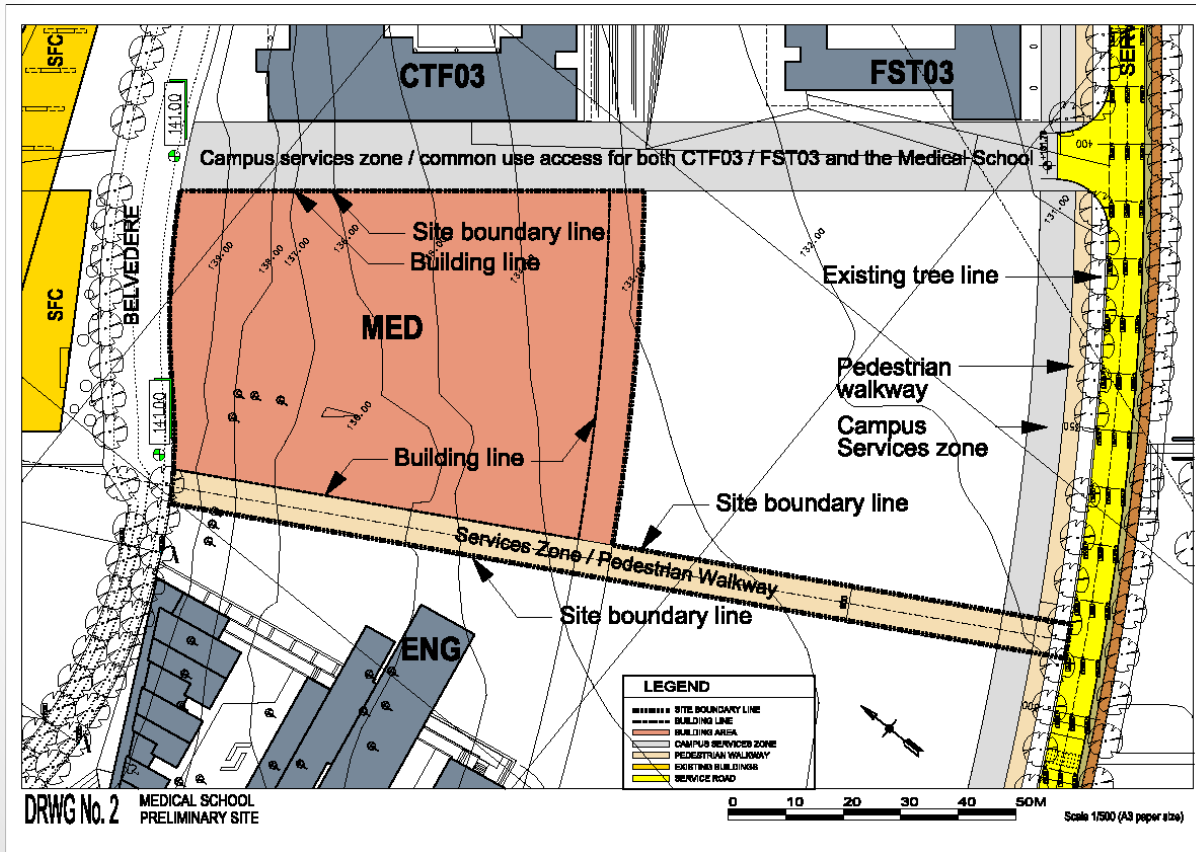
Faculty of Medicine on UCY Campus



Design Contract was signed Sept. 2016
Project status: Preliminary Design

MEDICAL SCHOOL AND
HEALTH SCIENCES BUILDING
NICOS K. SHAKOLAS

Donation of €9 million



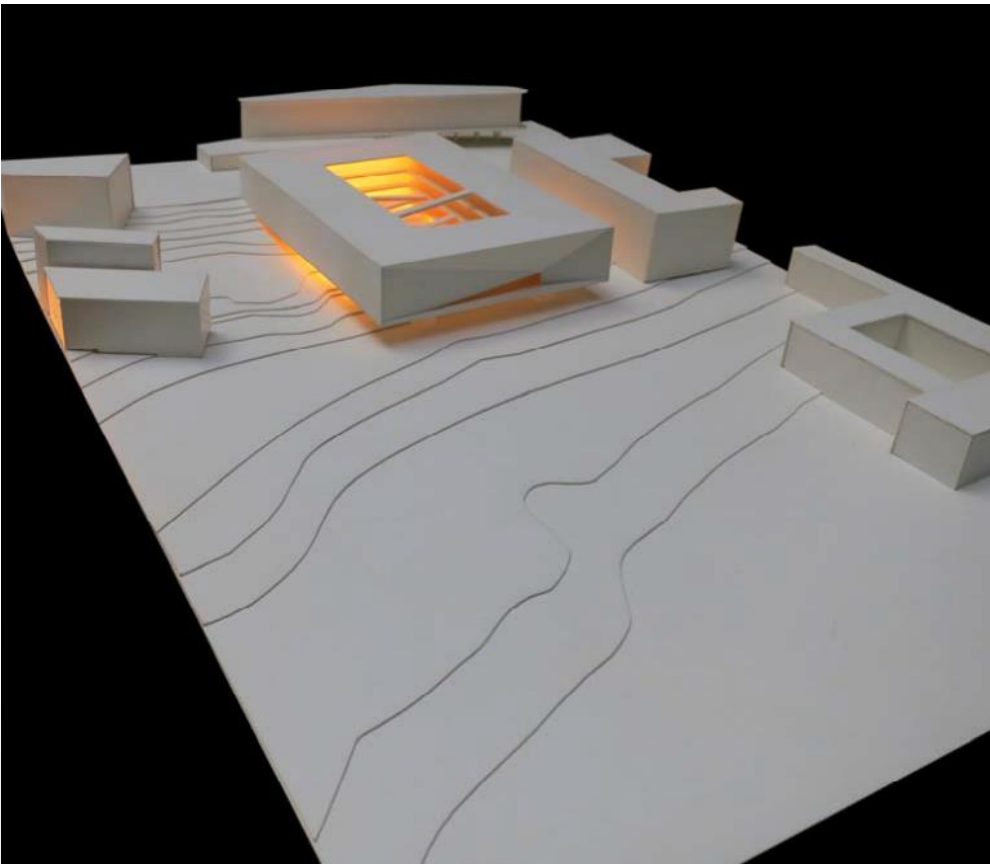
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**MEDICAL SCHOOL AND
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NICOS K. SHAKOLAS**

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Winning Proposal

Architects:
SV60 Arquitectos,
Antonio Linan Antonio Gordon
Seville, Spain

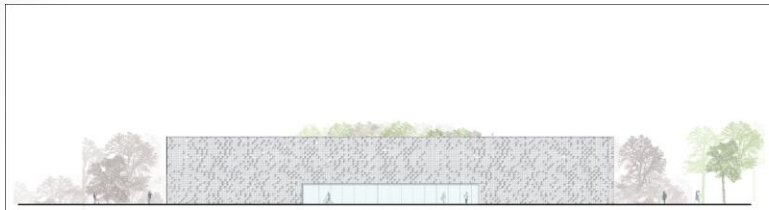
in collaboration with
local office
A. Gabrielides &
Formit Architects &
other specialised Consultants

Faculty of Medicine on UCY Campus

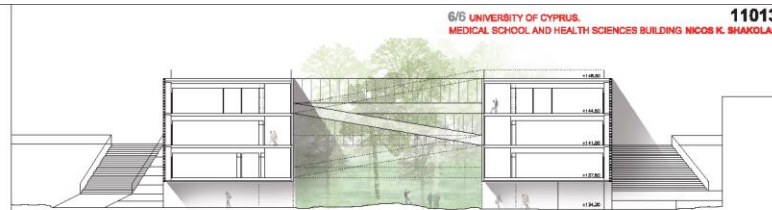


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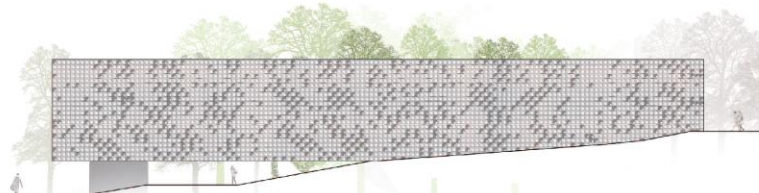
MEDICAL SCHOOL AND
HEALTH SCIENCES BUILDING
NICOS K. SHAKOLAS



NORTH ELEVATION S:1/200



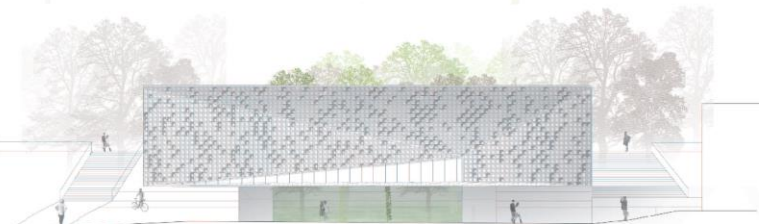
CROSS SECTION AA S:1/200



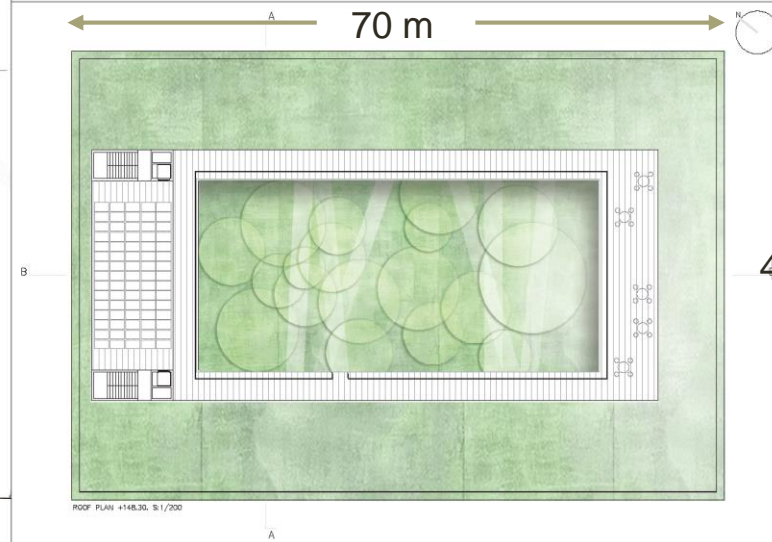
EAST ELEVATION S:1/200



CROSS SECTION BB S:1/200



SOUTH ELEVATION S:1/200



WEST ELEVATION S:1/200

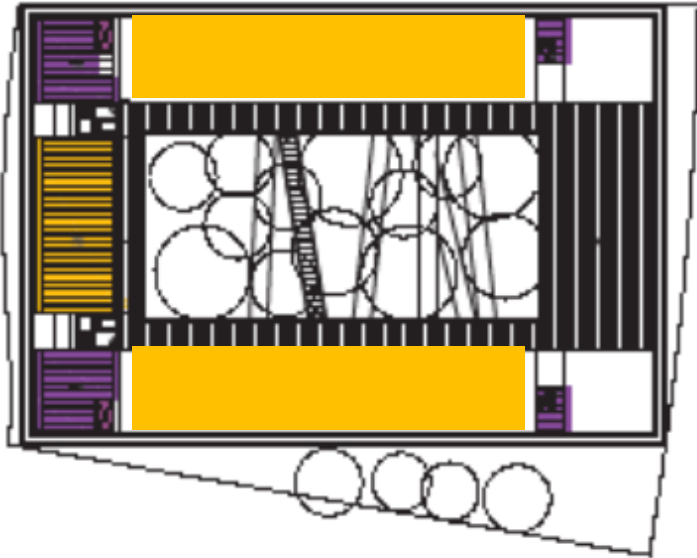
Winning Proposal

Faculty of Medicine on UCY Campus



Design Contract was signed Sept. 2016
Project status: Preliminary Design

**MEDICAL SCHOOL AND
HEALTH SCIENCES BUILDING
NICOS K. SHAKOLAS**



**The extent to which PV technology
will be incorporated at the Medical School
project is under study by the Architects and
the Energy Consultants**

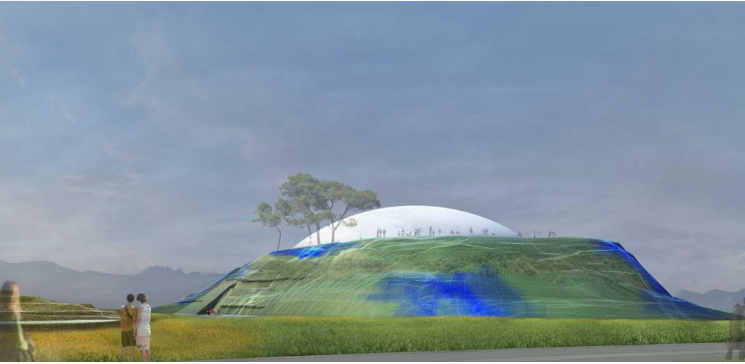


UCY LRC – A landmark under Construction

A state of the art Learning Resource Centre - Library

'Stelios Ioannou' (LRC) is under construction on Campus

Designed by renowned French Architect Jean Nouvel



Architects: Ateliers Jean Nouvel (AJN)

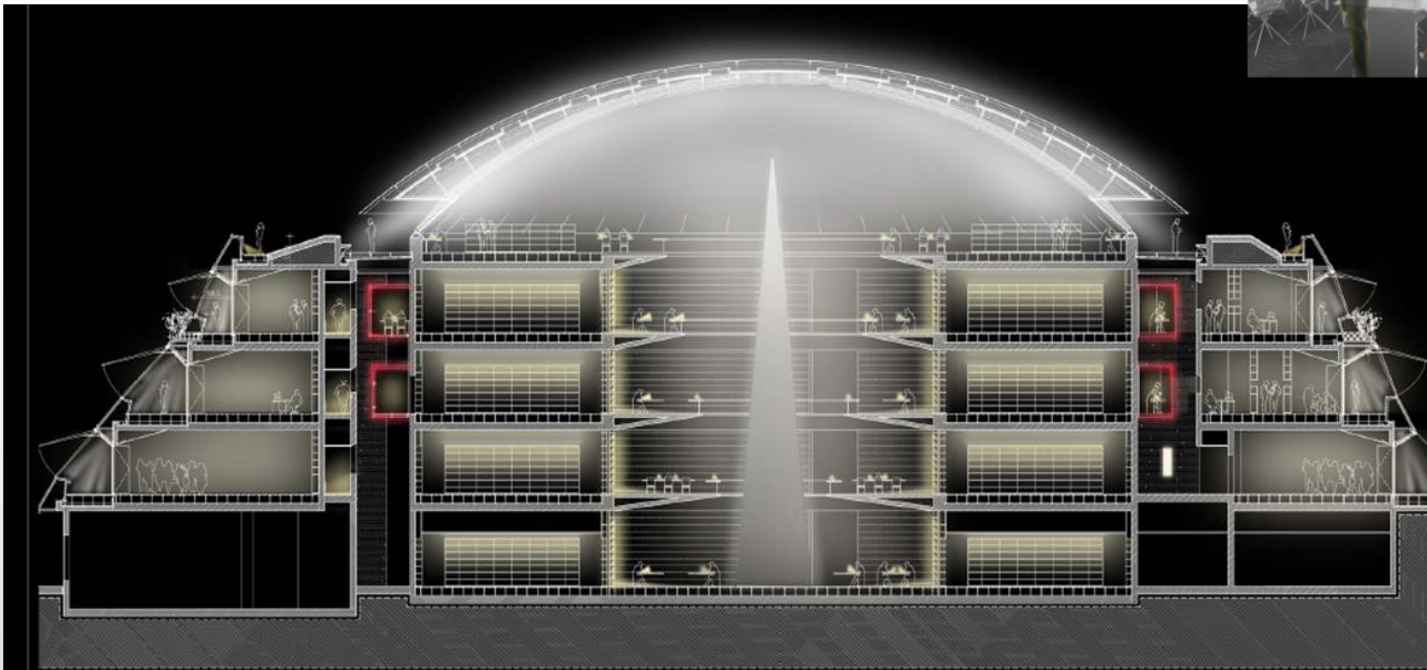
Local Consultants:- Architects & Civil

Engineers: J + A Philippou

Mechanical & Electrical Engineers:

Eliofotou & Zinieris and Mitsides & Samuel

Project Management: CDO



A heliostat at the centre of the dome directs natural light into the building

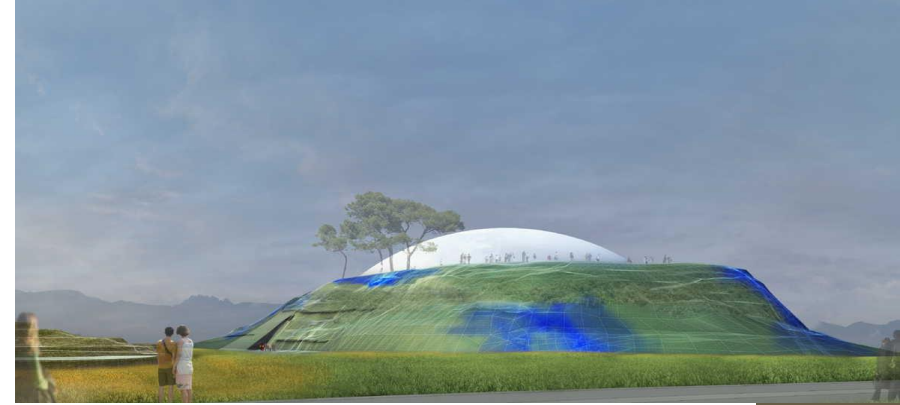
UCY LRC - under Construction

Learning Resource Centre (LRC)

– Library 'Stelios Ioannou'

Construction completion: Sept 2017

A sensitive approach in terms of minimising energy needs



Donation of €8 million by Elli St. Ioannou

Thank for your attention

