

ALEXANDROU KRISTIS

Architect Engineer ID: A162924

Ph.D Candidate



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24 Dec 1988

Profile:

Kristis Alexandrou, Architect Engineer, is a Ph.D Candidate at the Department of Architecture at the University of Cyprus. His Doctoral research is entitled 'Load deformation behaviour of hybrid cable bending-active structures'. His research interest focus in the area of lightweight kinetic structures, bending-active systems, structural computation and computational design.

Education

2014 - current

University of Cyprus, CY - Ph. D

2011 - 2013

University of Cyprus, CY - Diploma of Architect Engineer (8.91/10)

2008 - 2011

University of Brighton, UK - BA Hons Architecture & Design (2:2)

Experience

Jun 2013 - Jul 2014

Junior Architect, Panikos Kaponas Architects | Engineers

Involved in the design team of a residential building in Paphos. Design and supervision of a residential building block in Limassol. Hard survey and renovation of a traditional residential building in Panayia. Drafted various design drawings and made subsequent adjustments based on client and principal feedback. Assisted with the production of detail drawings. Accompany firm partners to assorted construction sites to oversee the construction process. Production of exterior views photorealistic renders of residential building.

Oct 2017 - Current

Research Associate, in Research Project

“OptArch – Optimization Driven Architectural Design of Structures”

Hosting Institution: National Technical University of Athens, Institute of structural analysis & anti seismic research & ACE-Hellas S.A.

OPT is financed by the European Union under Horizon 2020 through the Research Funding Program: Marie Skłodowska-Curie Research and Innovation Staff Exchanges (RISE) (Proposal Number 689983).

Awards & Scholarships

Sept 2016 - 17

University of Cyprus - Postgraduate School Scholarship

Grant Value [€ 8,000]

Sept 2013

International Student Competition - 'Transformables'

📍 Seville (Spain)

MENTION: *Adaptive Structural Prototype (Diploma thesis Project)*

Publications

Journal Articles:

Phocas, M.C., Alexandrou, K., On Decoding the Structural Behavior of Hybrid Cable Bending-Active Units in Fastening, Prestress and Load-Bearing State. *Space Structures*, SAGE, [21 p.], revised submitted April 2017

Phocas, M.C., Alexandrou, K., Athini, S., "Design of an Adaptive Hybrid Structure", *Engineering Structures*, Elsevier Science, [est. 16 p.], revised submitted Nov 2017

M.C. Phocas, K. Alexandrou, C. Zakou, (2017), "Design and analysis of an adaptive bending-active plate gridshell", *Journal of the International Association of Shell and Spatial Structures (IASS)*, (under review)

M.C. Phocas, O. Kontovourkis, K. Alexandrou, (2017), "Post-reflecting on the process of integral design of an adaptive footbridge structure using bending-active principles", *International Journal of Design & Nature and Ecodynamics*, WIT Press, Vol. 12, No. 1, pp. 86-100.

M.C. Phocas, K. Alexandrou, (2017), "Kinetic Structures. Soft versus Hard Mechanical Approach", *International Journal of Computational Methods and Experimental Measurement*, WIT Press, Vol. 5 (4), pp. 421-431.

O. Kontovourkis, M.C. Phocas, K. Alexandrou, S. Frangogiannopoulos, (2017), "Reconfiguration and Deformation Control of a Hybrid Bending-Active Structure", *International Journal of Computational Methods and Experimental Measurement*, WIT Press, Vol. 5 (4), pp. 475-483.

Conference Proceedings:

Alexandrou, K., Phocas, M.C., Hybrid Bending-Active Structures with Multiple Cables. Bögle, A., Grohmann, M., (eds.), IASS Annual Symposium 2017, Interfaces: Architecture – Engineering – Science, 25.09-28.09.17, Hamburg, Germany, Proceedings, Hamburg, September 2017.

K. Alexandrou, M.C. Phocas, (2016), "Bending-Active Structures: A parametric analysis on decoding structural behaviour and capacity". Cruz, P.J.S (ed.), 3rd International Conference on Structures and Architecture (ICSA 2016), Taylor & Francis, London, pp. 1061-1068.

A. Michael, K. Alexandrou, P. Konatzii, A. Kalli, (2016), "An alternative renovation strategy of the existing building stock, based on control optimisation of a modular façade system", 6th International Conference on Harmonisation between Architecture and Nature, Eco-Architecture 2016, Alicante, Spain.

O. Kontovourkis, A. Michael, K. Alexandrou, C. Vassiliades, (2015), "Lighting performance simulation and adaptive control of an advanced building skin based

on human behaviour inputs", 10th Conference on Advanced Building Skins, ABS, Bern, Switzerland.

M.C. Phocas, O. Kontovourkis, K. Alexandrou, (2014), "Structural and Construction Design of a Cable Bending-Active Structure", 4th International Conference on Mobile, Adaptable and Rapidly Assembled Structures, MARAS, Ostend, Belgium.

M.C. Phocas, O. Kontovourkis, K. Alexandrou, (2013), "Design of a Controlled Cable Bending-Active Structure", International Conference of Adaptation and Movement in Architecture, ICAMA, Ryerson University, Toronto.

Book Chapters:

O. Kontovourkis, K. Alexandrou, S. Frangogiannopoulos, (2017), "Encoding gesture-oriented human behaviour for the development and control of an adaptive building skin", *Computational Morphologies - Design Rules between Organic Models and Responsive*, Michela Rossi, Giorgio Buratti (eds), Springer.

K. Alexandrou, (2017), "Bending-active Systems: On exploring morphological configurations throughout coupling and hybridisation with linear tension elements", *archiDOCT 9: Prototyping structures in Architecture*, Vol. 5 (1), pp. 89-104.

K. Alexandrou, (2013), "Adaptive Structural Prototype", *STAR: Structural Architecture*, pp.16,17.

Teaching Experience

Fall Semester 2017

Arch 331.1: Construction & Building Technologies

Spring Semester 2015-17

Arch 534: Structural Building Design (teaching assistant)

2014-17

External Advisor for Diploma Projects:

Hybrid bending-active mechanism for a modular kinetic facade system
Charalambos Proestos

An Attempt to Upgrade Existing Transportation Infrastructure in Cyprus
Kyriakos Nikolaou

Urban expansion High-rise Prototype
Panayiota Michael

Adaptive Structural Prototype for Large Scale Building
Stavros Frangogiannopoulos

Architecture Technology and Environmental Concerns
Timotheos Alexi

Temporary Residential for Remote Environment
Rafaella Pavlou

Workshops

Jul - Aug 2014

Workshop Participant: AA Visiting School 2014 (Cyprus Architects Association Scholarship entry)

 Nicosia, Cyprus

Team Project: "Ocean Basket"
Fast Assembly Refugee Relief Component

Jul - Aug 2015

Workshop Tutor: EASA Annual Workshop event 2015

 Valletta, Malta

Workshop: "Digital Atmospheres"

Interactive Space investigation via Arduino boards and mobile sensors

Sponsored by MITA (Malta Information Technology Agency) [€ 1.500]

Exhibited Work

Oct - Nov 2013

"Built Ideas: A Life of Learning, Teaching and Action"

 Famagusta Gate Cultural Center, Nicosia

Presented: *ARCH 400 - Interfaith Centre Nicosia*

Feb - Mar 2013

"Research by Design, University of Cyprus"

 Cyprus House, New York

Presented: *Adaptive Structural Prototype (Diploma thesis Project)*

Mar 2015

"Inflatable city"

 Medieval Castle, Limassol, Cyprus

Presented: *AA Workshop Project - Ocean Basket*

Architectural Competitions

Jan 2013

Morfou Municipal Centre (Local Competition) - Nicosia, CY

with Andreas Savvides, Akis Stefanides, Konstandina Agroti & Valentinos Ioannou

Dec 2015

eVolo - Skyscraper Concept Competition - Entry number 0620

with Savvas Anastasiou, Elena Theodorou & Timotheos Alexi

Jun 2017

Urban Furniture (3rd Prize)

with Savvas Anastasiou

Language

Greek - Native Speaker

Aug 2003

English - Anglia certificate of English: Proficiency level (CREDIT)