

# ANTONIA MOROPOULOU

**PROFESSOR AT THE NATIONAL TECHNICAL  
UNIVERSITY OF ATHENS**

**DIRECTOR OF THE LABORATORY OF  
MATERIALS SCIENCE AND ENGINEERING**

**STUDIES DIRECTOR MSc PROGRAM  
“PROTECTION OF MONUMENTS”**

**PRESIDENT OF THE GENERAL ASSEMBLY  
OF THE TECHNICAL CHAMBER OF GREECE**



---

*National Technical University of Athens,*

*9 Iroon Polytechniou Street, Zografou Campus, 15780, Athens, Greece*

*Tel: +30 210 772 3276 / 1433, Fax: +30 210 772 3215, e-mail: [amoropul@central.ntua.gr](mailto:amoropul@central.ntua.gr)*

*Mobile: +30 693 230 3337, <http://users.ntua.gr/amoropul/>*

---

She was born in Rhodes and presents 42 years of academic and professional experience and activities at national and international level.

She is a Chemical Engineer (NTUA, 1975), PhD in Chemical Engineering (NTUA, 1983). She has served as a member of the research and teaching academic staff of NTUA since 1976. Full Professor at the NTUA School of Chemical Engineering, Section of Materials Science and Engineering since 2003. She is the Director of the NTUA Laboratory of Materials Science and Engineering at the School of Chemical Engineering.

She has been pivotal in setting up (1998) and offering to the students the NTUA Inter-Departmental and interdisciplinary MSc Master Program for the "Protection of Monuments" with the participation of the Schools of Architecture, Chemical Engineering, Civil Engineering, Rural and Surveying Engineering, addressed to Engineers, Physical Scientists, Restorers, Conservators and Archaeologists as well. From the beginning of the Program, she has been the Studies Director of Direction "Materials and Conservation Interventions".

In 2010 she was elected Vice Rector of Academic Affairs of the National Technical University of Athens (2010-2014) and was appointed as NTUA Rector's Deputy (2013-2014).

She is elected President of the General Assembly of the Technical Chamber of Greece (2017-today). Under her leadership the scientific work of TCG has been expanded and enriched in the field of sustainable building materials and sustainable construction for the benefit of 170.000 Greek engineers and the Greek construction industry accounting for the 1/3 of the greek GNP. Her position as President to the HCTP (Hellenic Construction Technology Platform) is in recognition of her initiative to bring together construction and building materials industry with research institutions in Greece to define a common strategic agenda with the end users.

In 2012 she was elected as member of in the 'Administrative Council of the European Society for Engineering Education' (SEFI). In 2013 she was elected as the Vice-President of the Administrative Council of SEFI (2013-2016). She has been elected as Contracted Professor (Professoressa a' Contratto) in the University IUAV of Venice (School of Architecture, 1993) and Visiting Professor at Princeton University (School of Civil Engineering and Operations Research, 1995-1996). She has also been invited to teach in courses of undergraduate and postgraduate level at the University of Antwerp, University La Sapienza, University Ca Foscari of Venice, Princeton University and the Aristotle University of Thessaloniki

In 2003 she initiated the establishment of the Laboratory of Materials Science and Engineering (MSE) in the NTUA School of Chemical Engineering. Under her leadership and direction the Laboratory has become a key global player in science & technology development for the protection of Cultural Heritage.

She is the author of 5 books and 22 monographies and chapters in books. She has been editor of 15 books - special editions.

She is the author of more than 500 scientific publications, i.e.: 186 original papers published in International Scientific Journals, 5 in Greek Scientific Journals, 98 papers in periodical editions, 186 papers in peer-reviewed Proceedings of International, and 72 papers in Proceedings of National Conferences (in full length). According to Scopus, ResearchGate et als, based on 248 papers of her original published scientific work, she has a total of 3990 citations, 21757 reads, an h-index 30 according to scopus.

### **Prizes / Awards / Academy memberships**

---

Her Scientific work entitled: “Drying kinetics of some building materials”, Moropoulou, A., Karoglou, M., Giakoumaki, A., Krokida, M.K, Maroulis, Z.B., Saravacos, G.D., Vol. A, pp. 145-151 and the relevant publication in *Drying Technology* 02/2005; 23(1-2-1-2):289-303., DOI:10.1081/DRT-200047948, has been awarded the 1<sup>st</sup> price in the 14<sup>th</sup> International Drying Symposium, Brazil 2004. In 2011 she was acknowledged by the Council of Canadian Academy as an author of the top 5% most highly cited papers worldwide in the field of Cultural Heritage Protection. In 2012 she was awarded the ‘YPATIA’ Award by the ‘Association of Hellenic Women Scientists’. In 2015 she was conferred by His Beatitude, Patriarch of Jerusalem and All Palestine, Theophilos III, of the honorary title of the Supreme Taxiarch of the Equestrian Order of the Holy Sepulcher. In 2017 she was honoured by the European Society for Engineering Education with the SEFI Fellowship Award. She has received honorary international Association Memberships: New York Academy of Sciences, American Association for the Advancement of Science, International Who’s Who of Professionals, Academia NDT International, American Ceramic Society, et als. She is member of numerous Hellenic Academic Associations in her scientific field.

### **Research expeditions**

---

She is a world class expert in building materials and the preservation of monuments that comprise the World’s Cultural Heritage. She has worked on restoration projects in Hagia Sophia in Istanbul, the Holy Sepulchre and the Church of Resurrection in Jerusalem, the Venetian Fortresses and Historic Cities of Rhodes, Rethymnon, Herakleion and Corfu, the Demeter Temple of Eleusis, Fortresses, architectural monuments of Venice and Magna Grecia, the Temple of Luxor in Egypt, Byzantine and Post-Byzantine Monasteries in Mount Athos and Creta, Byzantine Monasteries in Serbia and Kosovo, Historic cities, Temples and Monuments in the Mediterranean (France, Italy, Spain, Portugal, Malta, Turkey, Israel, Lebanon, Syria, Palestine, Tynisia, Egypt).

Since 1994, under her initiative, she developed a joint research initiative through a Memorandum of Understanding for the Earthquake Protection of Historical Monuments in Istanbul between Princeton University (Structural Analysis), Bogazici University (Geophysical Studies, Earthquake Engineering) and the National Technical University of Athens (Construction Materials). This initiative is still active today through co-operation projects, and within its framework the Greek contribution to the conservation of Hagia Sophia has been implemented.

She has contributed substantially to the greek-Turkish Educational and Cultural Cooperation Memorandum Agreement, validated by the Parliaments of Greece and Turkey (2000). She was the Chief Scientific Supervisor of the project for the “Conservation, reinforcement and repair interventions for the rehabilitation of the Holy Aedicule of the Holy Sepulchre in the All-Holy Church of Resurrection in Jerusalem”, which was recently implemented in the framework of the common agreement of the Status Quo Christian Communities, following invitation by the Greek-Orthodox Patriarch of Jerusalem. She has been Scientific Responsible in numerous projects for the protection of the Medieval City of Rhodes and has consistently promoted and supported the role of the local authorities in the protection and regeneration of Historic Cities. With her support a “Program Agreement” between the Municipality of Rhodes and the Ministry of Culture was signed in 1984 and is now being renewed.

Following her initiatives in the active participation of Municipalities in the Cultural Heritage management, the Organization of World Heritage Cities (OWHC) has strengthened and extended its composition up to 280 cities, promoting and supporting the maintenance, recognition and development

of historic cities world heritage. She is recently participating in the Horizon 2020 and in the European project “INCEPTION-Inclusive Cultural Heritage in Europe through 3D semantic modeling”

### **Organisation of international conferences**

---

She has been member of the Steering / Scientific Committees of numerous and responsible for the organization of more than 50 successful International Conferences and Workshops among them a reference can be made to characteristic ones: [4th International Symposium on the Conservation of Monuments in the Mediterranean (1997) (EU), Compatible materials for the protection of European Cultural Heritage (1998) (EU), Compatible materials recommendations for the preservation of European Cultural Heritage (2000) (EU), 7th International Symposium of the Organization of World Heritage Cities: Keeping heritage alive (2003), European Symposium on innovation in research and technology (2007) (EU), Building materials and elements (2008) (EU), 6th International Conference Euromed 2016, SEFI Debate “Labour Market Needs and Engineering Skills” (2016) (European Parliament) International Conference on Transdisciplinary multispectral modeling and cooperation for the preservation of Cultural Heritage (2018) with NG, WMF, ICOMOS, et al.]

### **Major contributions to the early careers of excellent researchers**

---

She is Head of the interdisciplinary Research Group of “Protection of Cultural Heritage”, a key global player in science & technology development for the protection of cultural heritage. The Research Group includes Architects, Civil Engineers, Survey Engineers, Chemical Engineers, Material Scientists, Experts in Non-Destructive Methods, Natural Scientists, ICT experts, Archaeologists and Conservators. She has been pivotal in setting up (1998) the NTUA Inter-Departmental MSc Master Program for the "Protection of Monuments" with the participation of the Schools of Architecture, Chemical Engineering, Civil Engineering, Rural and Surveying Engineering, addressed to Engineers, Physical Scientists, Restorers, Conservators and Archaeologists as well. From the beginning of the Program, she has been the Studies Director of the Direction “Materials and Conservation Interventions”, leading up to now to the postgraduation of 230 scientists, the 151 Master Theses of whom have been supervised by her. More than 30% were recruited in research profiled posts. She is Scientific Coordinator of the funded by the Ministry of Education basic research programs titled “Evaluation of the effectiveness of non-destructive methods on the quality control of building materials with emphasis on sustainable construction” (Heraclitus, 2010-2013, PhD Cand. N. Katsiotis), “Particle-modified composite materials as compatible and performance-based consolidants” (Heraclitus, 2011-2014, PhD Cand. Ev. Ksinopoulou), and “Sustainability and compatibility of advanced materials and technologies for the protection of built cultural heritage: development of criteria and characterization methodologies” (Thales, 2012-2015). Furthermore, she has participated in the Marie Curie European program for the mobility of new scientists “Initial Training Network for Digital Cultural Heritage ITN-DCH” (Marie Curie, 2014-2017, PhD Cand. M. Alexakis, N. Skordaki). She has supervised 21 PhD Theses in NTUA, while 5 PhD Theses will soon be concluded, 7 more are in evolution and 5 PhD Theses in European universities. She contributed to the National Qualifications Framework regarding University graduates’ access to professional activities, taking into consideration the analytical studies program, through the introduction of a Presidential Decrees on Engineering and Physical Sciences Professions at all levels (Bachelor and Master), and has decisively participated in the consultation for the Greek legislation regarding ‘the protection of Antiquities and Cultural Heritage’, introducing fruitful dialogue between Engineers and the Greek Ministry of Culture (2002), entrenching the role of Engineers in the monitoring and quality control regulation for the conservation and protection of the Cultural Heritage, and thus introducing new jobs and engineering profiles in archeology. As NTUA Vice Rector responsible for the “Career Office” she contributed to the developing and applying of a new web tool Search, Find and Classify Engineering Job Opportunities Engine “EUREKA” in the web portal of the NTUA Engineering Career Structure (2012), promoting and supporting engineering employment in key technocratic positions and implemented the 1st NTUA Competition along with OECD, SEFI and the association of Greek Industries, “From innovative ideas towards entrepreneurial plans” (2013) to promote entrepreneurial implementation of innovative ideas concerning the sustainable development of the City of Athens, aiming at knowledge transfer and the encouragement of young researchers to undertake business ventures.

### **Examples of leadership in industrial innovation or design**

She has initiated the establishment and is President of the 'Hellenic Construction Technology Platform' under the 'European Construction Technology Platform', in order to set research and technology priorities for the Greek Construction Industry, for the Sustainable Construction and the Protection of Cultural Heritage. She has exerted leadership for the design in the construction industry related to the advanced of the materials decay and repair with compatible and performing materials (historic and modern buildings of the Bank of Greece in Athens, the National Bank all over Greece, churches, hospitals, etc. towards sustainable reservation. In a European Coordinative Action led by Vinci and with the participation of construction companies she decisively inferted innovative solutions for sustainable materials, construction and life-time engineering. She has leaded a reasearch industrial innovation, with NASA (USA) on the application on her PhD (the use of atmospheric electricity to protect metallic structures) with SIEMENS (Germany) in the construction for solid fuel sells for novel materials with the global TITAN s.a. for compatible and performing repair mortars, with Fassa Bartolo in Italy for the production of metacaolin mortars with dow chemicals s.a. for particle modified composite materials as consolidants, with AIRBUS global for infrared thermography applications to assess repair patches on aircrafts. In the period 2007-2018, she initiated and participated in the implementation and operation of an educational initiative of a Euromed strategic alliance formed by the ELAICH project coordinated by Technion Israel Institute of Technology. The initiative aimed at developing a dynamic educational toolkit, enabling its users to utilize historic cities, monuments, cultural heritage assets, "industry" and construction workshops as "open labs" to experiment principles, methods and techniques of innovative technologies, materials, design and planning for the risk assessment and preservation of Cultural Heritage.

### **List of funded projects as Coordinator and Partner**

Professor Moropoulou has achieved an international recognition as a Researcher and more particular, she has shown managerial capacity and research excellence as scientific coordinator of more than 64 National, 13 European and 4 International research competitive programs (within FP 4, 5, 6, 7 and ENVIRONMENT, COMETT, LEONARDO DA VINCI, RAPHAEL, ADAPT, GROWTH, EUROMED, Hellenic Aid, Cost action, Marie Curie action, National Strategic Reference Framework), with an approximate total funding of over € 7 million.

### **International Projects**

"Plan for the sustainable development of the island of Halki", UNESCO, Contract No: J86, 1986

"Technological prediction and assessment", FAST- DG XII- EEC, Edit S.C. de Hoo, R.E.H.M. Smis, R Petrella, Hauge, 1987

"Tourism and Enviroment", OECD, Contract No: P/RI/88/1307/IM/sn, 1988

"Urban air quality", EIT, Contract: 22/12/88, 1990

### **European Projects:**

COMETT II - ITECOM "Technological innovations in the preservation of structural materials in monuments" [1991 - 1993], funded by European Economic Community under Environment Program

Marine spray and polluted atmosphere as factor of damage to monuments in the Mediterranean coastal environment [1992 – 1996], coordinated by Prof. F. Zezza, CUM - Community of Mediterranean Universities, funded by European Economic Community under ENVIRONMENT Program

Development of evaluation criteria, prediction and control methods concerning sea-salt effects on monument stones [1996 - 1999], coordinated by Prof. F. Zezza, CUM – Community of Mediterranean Universities, funded by European Economic Community under ENVIRONMENT Program

INCOMARECH "Initiative for promoting the use of compatible materials in the protection of European Cultural Heritage from environmental risks" [1998 - 1999], funded by European Commission, DC X under RAPHAEL Program

COMARECH "Initiative for compatible materials recommendations for the preservation of European Cultural Heritage" [1999 - 2000], funded by European Commission, DC X under RAPHAEL Program

ITECOM Advance Study Course "Innovative Technologies and Materials for the Conservation of Monuments" [2003 - 2004], funded by European Commission, DG Research under Energy, Environment and Sustainable Development Program

LIFETIME “Lifetime engineering of buildings and civil infrastructures”, EU, GROWTH, Contact: GIRT-CT-2002-05082, 2002-2007

ELAICH “Educational linkage approach in cultural heritage” [2009 - 2012], coordinated by Dr. A. Lobovikov – Katz - Technion Israel Institute of Technology, funded by European Commission under EUROMED Heritage IV Program

EU-CHIC “European Cultural Heritage Identity Card” [2009 - 2012], coordinated by Prof. R. Zarnic - University of Ljubljana, funded by European Commission, DG Research under FP7 Environment Program

MEDNETA “Mediterranean cultural network to promote creativity in the arts, crafts and design for communities’ regeneration in historical cities” [2013 - 2015], coordinated by Prof. S. Avgerinou – NTUA, funded by ENPI CBC Mediterranean Sea Basin Programme

“2014-2017 Researcher’s night: The greek events”, “2014-2017 EU HORIZON 2020, Grand agreement 63-3303, Project ID: 722935

ITN-DCH “Initial Training Network for Digital Cultural Heritage: Projecting our Past to the Future” [2013-2017], coordinated by Dr. Marinos Ioannides Cyprus University of Technology funded by European Commission under the FP7 - People Marie Curie Actions Programme.

INCEPTION “Inclusive Cultural Heritage in Europe through 3D semantic modeling” [2015 - 2019], coordinated by Prof. R. Di Giulio, University of Ferrara, funded by European Commission under the Horizon 2020 Reflective Programme

Cost Action TD1406 “Innovation in Intelligent Management of Heritage Buildings” (i2MHB)

TUD Cost Action TU 1404. “Towards the next generation of standards for service life of cement-based materials and structures”

### **Development of lab infrastructures**

---

Coordinator of interlab- interfaculties infrastructures (2008-2009) “Quality and resilience control of building materials and construction works, under environmental stresses (3 labs of Chemical Engineering School, 3 labs of Civil engineering School, 2 labs of School of applied sciences.

Coordinator of an InterUniversities network, “Durability and sustainability of construction materials and works under the influence of environmental actions”, S.U.D.E.N for large European infrastructures of ESFRI level

### **At the forefront of international activities for sustainable development**

---

She has been at the forefront of many initiatives and programs concerning the introduction, planning and implementation of the concept of Sustainable Development, based on the needs and cohesion of local societies, emphasizing on Environmental and Cultural Heritage Protection, on Youth Employment and Entrepreneurship, by applying scientific support to policies: as founding member of the ‘Conférence des Régions Périphériques Maritimes’ (CRPM) (1981-1983), as elected President of the ‘Local Economic and Employment Development’ (LEED) Program in the ‘Organization for Economic Co-operation and Development’ (OECD) (1982-1987), as Scientific Advisor and Expert in Committees of International Organizations (OECD, UNESCO, INSULA, EU, ICOMOS, EIT, CEPACT, UN, EPA, TMS, et al.) (1982-today), as Greek Prime Minister’s advisor, attached to the Vice Minister of Education, Culture and Youth (1981-1985), as well as to the Minister of Foreign Affairs (1985-1986), as elected in the Municipal Council of the City of Athens (1986-1990), as Chair of the Scientific Committee of the ‘Organization of World Heritage Cities’ (OWHC) (2003) and as member of the Board of Athens Development and Destination Management Agency of the Municipality of Athens (2011-2015).

### **At the forefront of European Research Strategies**

---

She has contributed to the formation of European research strategies: as expert of the External Advisory Group on “City of Tomorrow and Cultural Heritage” of the European Commission at the DG XII. (2000-2003), National Representative in the Horizontal Configuration of the Program Committee of the FP6 Specific Program "Integrating and Strengthening the European Research Area" (2003-2004), Stakeholders’ Representative at the Strategic Research Area of Earthquake Engineering (2007) and has served as member of the EUREKA thematic network (2003-2005) and the CHRAF

and EACH initiatives (2005-2008) for sustainable building materials and constructions as well as in the mainstreaming for the European Petition to include Cultural Heritage Research, Innovation, Science and Education in the 8<sup>th</sup> EU Common Strategic Framework Program (HORIZON 2020).

### **Development of knowledge alliance- Education- Research- Innovation**

---

She has contributed in the development of knowledge alliances and synergies of the Universities with 'Industry' within the triangle Education – Research – Innovation: as founding member of the 'European Construction Technology Platform' (ECTP) (2004), as President of the 'Hellenic Construction Technology Platform' (HCTP) (2005-today), participating in the 'Energy Efficient Buildings Association' (E2BA) (2008), and the 'European Council of Academies of Applied Sciences, Technologies and Engineering' Euro-Case Innovation Platform (2012-today).

She has been the First Scientific Responsible for the 'Employment and Career Structure' of NTUA, enhancing and promoting the cooperation and coordination of the following relevant NTUA units: the 'Career Office Liaison Services for student and recent alumni', the 'Internship Program' and the 'Innovation and Entrepreneurship Center'. In particular, through this structure, she has promoted the planning and implementation of innovative actions aiming at strengthening and fostering NTUA's connection with the global labor market and the knowledge alliance with industry.

### **Innovation in Education**

---

She has contributed towards interdisciplinary innovative educational linkage approach and has prepared draft ministerial decisions for the operation and Programmatic Agreements with strategic partners of the interdisciplinary NTUA postgraduate programs, to fuse Education, Research and Innovation at a multidisciplinary level. In 2009 she initiated the successful EuroMed strategic alliance with Technion Israel Institute of Technology, ELAICH project – Educational Linkage Approach in Cultural Heritage, an awarded educational initiative, pilot case for Protection of Monuments knowledge transfer to secondary education.

She has developed innovative toolkits and protocols that enable users to utilize historic cities, monuments, cultural heritage assets, "industry" and construction workshops as "open labs" to experiment principles, methods and techniques of innovative technologies, materials, design and planning for the risk assessment and preservation of Cultural Heritage.

### **Initiatives for Education and the Profession of Engineers**

---

She has contributed in amendments of the Bologna Declaration at the Fourth Bologna Policy Forum in Yerevan in May 2015, accepted unanimously, ensuring Higher Engineering Education quality and the skills for appropriate profession exercise, as SEFI Vice President representing the Greek Minister of Education. She has recently contributed and succeeded in the recognition of integrated and uninterrupted 5 years Studies Program leading to Diplomas in Greece as equivalent to Master degree by the law introduced by the Minister of Education. In addition, she has recently contributed and succeeded in the publication of a new Presidential Decree recognizing the general and specialized professional rights of Engineers in Greece, thus achieving an integrated framework concluding efforts of the Technical Chamber of Greece of more than five decades. Her commitment into the Education and the profession of Engineers underlines her stable belief for the role and contribution of Engineers in the development processes. She has been an elected member of the General Assembly of the Technical Chamber of Greece (TCG) since 1981-1984, 1997-today, an elected member of TCG's Administrative Committee (2001-2007 and 2014-2017), while she was elected and served as the General Secretary of TCG (2004-2007) and the Vice-President of TCG (2014-2017).

### **Education- Social and Political activities- Values**

---

Her multivariate activities connect Education to social and political activities. Her participation in the students' movement and the democratic uprising in November '73, as member of the Coordinating Committee and its Secretariat and the first broadcaster of the historic radio, has triggered her motivation and is acting with reference to values.