

# **Stelios T. Antoniou**

Diploma of Civil Engineering  
National Technical University of Athens  
MSc, PhD in Earthquake Engineering  
Imperial College, University of London

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## **I. PERSONAL DETAILS**

SURNAME : ANTONIOU  
NAME : STELIOS (STYLIANOS)  
PLACE OF BIRTH : ATHENS  
DATE OF BIRTH : 12/06/1973  
MARITAL STATUS : MARRIED  
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## **II. EDUCATION**

**03/2002**      **Doctor of Philosophy (PhD)** from the Department of Civil & Environmental Engineering, Imperial College, University of London. Title of thesis: "*Advanced Inelastic Static Analysis for Seismic Assessment of Structures*".

**09/1997**      **Master of Science (MSc)** in Earthquake Engineering & Structural Dynamics from the Department of Civil & Environmental Engineering, Imperial College, University of London with distinction and grade 8.76/10. Thesis Title: "*Shear Assessment of Structures under Combined Earthquake Ground Motion*" (grade of thesis: 83%).

**09/1996**      Diploma in Civil Engineering from the Civil Engineering of the National Technical University of Athens with final grade 8.82/10. Final year Thesis with Title: "*External Prestressing Systems*" (grade 10/10, the thesis was awarded by the Technical Chamber of Greece in 1997).

## **III. LANGUAGE SKILLS**

**English:**            "Certificate of Proficiency in English" of the Cambridge Univ. (12/1988).

**French:**            "Certificat de la Langue Française" (06/1989).

## **IV. PROFESSIONAL EXPERIENCE**

**04/2006 – now** Chief Executive Officer and Director of the Repair and Strengthening Section of the Greek construction company ALFA CONSTRUCTIONS S.A [<http://www.alfakat.gr/>]. The company's budget in 2019 was approx. 4,000,000.00€, and in 2020 it is expected to exceed 6,000,000.00€.

Typical Strengthening and Interventions Projects:

- Strengthening of several RC buildings that sustained significant damage due to corrosion in an industrial complex. Total Budget > 120.000,00€. The project involved a series of sub-projects for the repair and strengthening of the reinforced concrete buildings of an industrial complex in Aliveri, Evia, which had sustained significant damage due to corrosion. The repair works involved the removal of the surface cracked concrete, the removal of the corroded steel with sandblasting, the application of reinforcement corrosion protection, the jacketing with shotcrete, and new steel constructions.
- Strengthening of a 3-storey building in Athens. Budget 500.000,00€. The project involved the construction of large external and internal steel braces and new RC walls, whilst individual existing members were strengthened with RFP materials or steel plates. A large part of the project was the strengthening of the 1,000m<sup>2</sup> slab below the ground floor, which had sustained severe damage and large permanent deformation of up to 6cm, due to increased vertical loading and poor design. The strengthening of the slab was carried out with a combination of shotcrete below, and FRP laminates above.
- Strengthening of a series of quarry tunnels with shotcrete. Budget 90.000,00€. The project involved the strengthening of the rock surface of the lining of a quarry tunnel, , in which significant rock falls were observed. The strengthening was carried out with steel and fiber reinforced shotcrete.
- Demolition and removal of the 250tn reinforced concrete base of the crane that was constructed in the front side of the Parthenon in the Acropolis of Athens. The demolition was carried out using concrete cutting method, and particular attention has been put, in order not to damage either the monument or the rock below the concrete base.
- Strengthening of an existing RC building due to increased live loading. Budget: of strengthening works: 120.000,00€. The interventions were part of a larger project. The the strengthening was required, due to the increase in the live loads of the building. The works included the strengthening of the beams and the slabs with FRP laminates and FRP wraps and the RC jacketing of the columns.
- Strengthening of an 8-storey existing R/C building in North Evia. Budget: 204.000,00€. Design and construction of the strengthening of an 8-storey existing R/C building in North Evia with shotcrete jacketing of all the columns and the majority of the beams, so that the building complies with modern seismic standards. The project also includes interventions in the foundation with the enlargement of all the footings and the introduction of tie beams between them, as well as limited interventions in the slabs for the prevention of corrosion.
- Repair and strengthening of a two-storey building that was severely damaged during the two strong earthquakes of February and March 2014 in Kefalonia. The cross sections of the damaged members were initially restored employing injections with epoxy resins. Subsequently, all the columns of the ground storey were strengthened with reinforced concrete jackets.
- Backfilling of the foundation of the ancient marble temple of Erechtheion on the north side of the Acropolis of Athens. The project involved the backfilling of the foundation of the temple with quartz sand of appropriate gradation, and other interventions that enabled the drainage of the rainwater from the temple.
- Construction of Centre for Senior Citizens in Oropos. Budget: 1.322.090,00€. Design and construction of the strengthening of an existing R/C building and the construction

of a second building to be used as the centre for senior citizens in Oropos. The strengthening of the existing building to meet modern seismic standards includes the application of new steel reinforcement and shotcrete in existing elements, the construction of new shear walls and interventions in the foundation.

- Removal of the upper storey of a nine-storey industrial building. Due to the large weight of the segment (approximately 40tn) and the height of its location (about 35m from the ground level), the removal of the section was performed using a 500tn crane. The columns were cut using specialised diamond cutters.
- Renovation and Strengthening of the Pastoral and Charity Centre in Chalkida. Budget: 1.137.000,00€. General renovation of the 1200m<sup>2</sup> building, as well as the structural upgrading and strengthening to meet modern seismic standards.
- Demolition of a R/C slab and construction of a new composite slab in a shopping centre in Syros. Budget: 104.000,00€. Demolition of a reinforced concrete slab in a shopping centre in Syros using specialised cutting equipment, and the construction at the same location but at different height of a new composite slab of approx. 300 m<sup>2</sup>. The construction works also include the strengthening of individual R/C members, the construction of a new steel staircase, the construction of new reinforced concrete walls etc.
- Renovation of HARA Hotel in Chalkida. Budget: 700.000,00€. Renovation and refurbishment of the Hara Hotel in Chalkida. The building covers a total area of 2000m<sup>2</sup> in 7 storeys.
- Repair of LIDL supermarket stores in Greece. Budget: ≈400.000,00€. Repair and strengthening of more than 40 stores of the LIDL super market chain in Greece. It includes the repair of structural deficiencies of the steel rooves, the repair of R/C members (walls, columns, beams) with epoxy injections and other methods, etc. It is noteworthy that all the interventions were carried out at night, without interrupting the stores' operation.
- Repair and strengthening of the ground floor slab of an industrial building floor of 37.500 m<sup>2</sup> in Patras. The floor had been severely damaged, due to the settlement of the soil filling below the slab with crack openings up to 5cm. The repair was carried out on an area of approx. 3.200 m<sup>2</sup> and involved cement grouting (about 85,000 lt) below the slab to fill in the gaps and the repair of cracks of a total length of 4,000m with various methods, depending on the cracks width.
- Strengthening of the Miramare Hotel in Eretria, Evia. Budget: 70.000,00€. Design and construction of the strengthening interventions of the building complex of the Miramare Hotel in Eretria Evia, which covers a total area of about 3500 m<sup>2</sup>. The strengthening interventions involve the strengthening of R/C columns and shear walls with shotcrete and cast in-situ concrete, the increase of confinement of columns with FRPs, and strengthening of the foundations of the building.
- Strengthening of the rock surface of the lining of a quarry tunnel with reinforced shotcrete. The total area of the strengthened surface was 2000m<sup>2</sup> approx.
- Strengthening a 3-storey R/C building in Glyfada, Athens. Budget 70.000,00€. Construction of the strengthening interventions of a three-storey reinforced concrete building in Glyfada, Athens. It involved the strengthening of 66 R/C columns by increasing their cross-sections with the application of new steel reinforcement and shotcrete. Interventions were also carried out at the foundation of the building.
- Strengthening of a three-storey R/C building in Chalkida. Budget 100.000,00€. Design and construction of the strengthening interventions of a three-storey building in Chalkida, so as to add two storeys in height. The strengthening interventions involve the re-design and construction of new the building foundation, the construction of new shear-walls, the strengthening of existing reinforced concrete elements with jacketing using cast in-situ concrete or shotcrete, the enhancement of the columns' confinement with carbon fibre fabrics etc.
- Strengthening and construction works in the basement of the building of the central building of the National Bank of Greece (NBG) in Athens, included within a wider project

to upgrade the electrical installation of the building and to construct of electrical substation for the electricity provider.

- Strengthening a 3-storey R/C building in Chalkida. Budget 50.000,00€. Design and construction of the strengthening interventions of a three-storey reinforced concrete building in Chalkida, in order to add one storey. It involved the strengthening of 30 R/C columns by increasing their cross-sections with the application of new steel reinforcement and shotcrete. Significant interventions were also carried out at the foundation of the building.
- Strengthening of a Masonry Building in Tavros, Athens. Budget: 50.000,00€. Strengthening of the walls, the foundation and the R/C slabs of a masonry building with shotcrete in Tavros, Athens.
- Strengthening of a two-storey R/C building in Artaki, Evia. Budget: 30.000,00€. Design and construction of the strengthening interventions of the a two-storey building in Artaki Evia, so as to add one storey in height. The strengthening interventions involved the re-design and construction of the new building foundation, the construction of new shear-walls, and the strengthening of existing vertical elements with jacketing.
- Repair of Steel Building of the Greek Air Force. Budget: 30.000,00€. Repair and renovation of a steel building owned by the Greek Air-Force with the protection of the steel members against corrosion and the replacement of the wall and roof panels.
- Strengthening a 3-storey masonry building in Kimi, Evia. Budget: 30.000,00€. Strengthening of a masonry structure in Kimi with different intervention techniques, including ground injection, re-construction or simple preservation of the masonry wall. Further, significant interventions took place for the strengthening of the building's foundations, such as the construction of a strip footing at the perimeter of the structure, and a continuous drain in order to prevent the development of hydrostatic pressures, due to the presence of surface waters.
- Repair and strengthening of a two-storey R/C building in Thrakomakedones. Budget: 30.000,00€. Design and construction of the strengthening interventions of a three-storey building in Thrakomakedones, Athens. The strengthening interventions involve the construction of new shear-walls and the repair of existing structural elements that were incorrectly strengthened after the 1999 Athens earthquake.
- Renovation works in one branch of the National Bank of Greece in Chalkida.
- Strengthening of a three -storey R/C building in Neo Iraklio. Budget: 30.000,00€. Design and construction of the strengthening interventions of a three-storey building in Neo Iraklio, Athens. The strengthening interventions involve the construction of new shear-walls, in order to improve the strength and the stiffness of the soft ground storey.
- Strengthening of Concrete Slab in the Akropolis of Athens. Budget: 10.000,00€. The project includes the design and construction of the strengthening of the concrete slab in front of the Temple of Athinas Nikis in the Athens Akropolis using FRPs, as well as the construction of the floor in front of the Temple with a self smoothing elastomeric polyurethane flooring system.
- Repair of Four Concrete Buildings in Evia. Budget: 50.000,00€. The project involves the repair of reinforced concrete members against corrosion of four 3 storey R/C buildings in the "Akti Tritonas" summer resort in Politika in Evia.

#### Typical Building Construction Projects:

- Construction of a new LIDL super market store in Peristeri, Athens: Budget: approx. 3.650.000,00€. The project involved the construction of a new supermarket in the location of an existing smaller facility, which was partly demolished. The duration of the project was 8 months, and involved the construction of a temporary store, in order to prevent the suspension of operations.
- Construction of a new LIDL super market store in Larisa, Greece: Budget: approx. 3.300.000,00€. The project was completed in 4.5 months.

- Extension and refurbishment of an existing LIDL super market store in Patisia, Athens. Budget: approx. 1.200.000,00€. The project was completed in 3 months, whereas the existing store was close for the works for only one week.
- Construction of a new LIDL super market store in Heraklion, Crete Greece: Budget: approx. 3.250.000,00€. The project involved the construction of a new supermarket in the location of an existing smaller facility, which was demolished. The project was completed in 4.5 months, whereas the supermarket was closed for just 45 days.
- Construction of a new LIDL super market store in Lamia, Central Greece: Budget: approx. 3.550.000,00€. Construction of a new supermarket store in the location of an existing smaller facility, which was demolished. The project was completed in 4.5 months.
- Construction of an Elderly Care Centre at Dilesi, Viotia. Budget: 8.790.787,42€. The project involves the construction of the new elderly care center of the Orthodox Archdiocese of Athens at Dilesi, Viotia. The total area of the building is more than 4600 m<sup>2</sup> in three levels, and the construction also includes a 80 kWp photovoltaic installation on the roof of the building.
- Construction of a new LIDL super market store in Pireas port, Athens: Budget: approx. 3.225.000,00€. Construction of a new supermarket store. The project was completed in 4 months.
- Construction of new bakery facilities and renovation of eleven LIDL super markets in Greece. Budget: approx. 2.400.000,00€. This is a series of 11 independent projects that include the construction of the new internal bakery shop inside the supermarkets, the upgrading of all the electrical and mechanical installations and the general renovation of the buildings (e.g. insulation, parking space, windows and doors etc.)
- Construction of new Lyceum in Drosia, Chalkida. Budget: 2.930.000,00€. The project involves the construction of the building and schoolyard for the new Lyceum in Drosia, Chalkida. The total constructed area is approximately 2300m<sup>2</sup>.
- 25<sup>th</sup> Elementary School in Chalkida. Budget: 2.000.000,00€. Construction of the building and the schoolyard of the 25<sup>th</sup> Elementary School in Chalkida. The total constructed area is approximately 2300m<sup>2</sup>.
- Construction of a new LIDL super market in Syros, Greece: Budget: approx. 975.000,00€. The project involved the construction of a new supermarket in an existing shopping mall in Syros. The project was completed in just 2 months.
- Expansion of the fire extinguishing installation of a 40.000 m<sup>2</sup> industrial building in Thiva. Budget approx. 250,000,00€.
- Construction of four-storey Building in Voula, Athens. Total constructed area approx. 500m<sup>2</sup>.
- Construction of four-storey building in Nea Artaki, Evia. Total constructed area approx. 1.000m<sup>2</sup>.
- Five-storey commercial building in Chalkida with offices and shops. Total constructed area approx. 520m<sup>2</sup>.
- Six-storey residential building in Chalkida. Total constructed area approx. 1200m<sup>2</sup>.
- Seven-storey residential building in Chalkida. Total constructed area approx. 900m<sup>2</sup>.
- Five-storey residential building in Chalkida. Total constructed area approx. 500m<sup>2</sup>.
- Four-storey residential building in Thiva. Total constructed area approx. 800m<sup>2</sup>.

#### Typical Infrastructure Projects:

- Construction of twelve piers and foundations for the support of a rotary kiln and the mechanical equipment of a magnesium smelting line in an industrial installation in Northern Evia, Greece. Budget: approx. 400.000,00€.

- Construction of Infrastructure Works in a 500kWp Photovoltaic Station in Thiva
- Construction of Fisheries Shelter of St. Nicholas Municipality, Thisvi, Viotia
- Water Supply Network, Municipality Amarinthos
- Renovation of Agia Paraskevi Square, Chalkida

Design Projects for Seismic Assessment and Strengthening of RC and masonry buildings:

- Design of strengthening interventions in 11-storey RC building in Athens
- Strengthening design in an earthquake-stricken RC building at Leonidio
- Design of strengthening intervention in a 8-storey RC building in Quito, Ecuador
- Design of strengthening interventions in a RC hotel in Eretria, Evia
- Design of the strengthening interventions in a 5-storey RC building in Pireas
- Strengthening of a masonry building in Chalkida for the construction of two new storeys
- Seismic Assessment of a School Complex in Athens

**09/2002 – now** Founder and Software Development Director of the software company SeismoSoft Ltd. [<http://www.seismosoft.com/>], which specialises in the field of Earthquake Engineering (seismic analysis of structures and seismological applications) with more than 35,000\_users in approx. 100 countries. The main packages of the company are the following:

1. **SeismoStruct** is an award-winning program developed for the accurate analytical assessment of different classes of structures, such as buildings, bridges or industrial plants, subjected to earthquake strong motion. It features a number of verified nonlinear static and dynamic analysis methods (pushover, incremental dynamic analysis, etc.) so as to meet the analytical requirements posed by the modern performance-based seismic assessment and design philosophy.
2. **SeismoBuild** is an innovative Finite Element package targeted to the design office. It is wholly and exclusively dedicated to seismic assessment and strengthening of reinforced concrete structures. The program is capable of fully carrying out the Code defined assessment methodologies from the structural modelling through to the required analyses and the corresponding member checks. Currently three European Codes are supported (ASCE41-13, Eurocodes, Italian National Seismic Code NTC-08, Greek Seismic Interventions Code KANEPE, New Turkish Code). Both metric and imperial units, as well as European and US reinforcing bars types are supported.
3. **SeismoSignal** constitutes a simple, yet efficient, package for the processing of strong-motion data. Amongst other things, it allows for the derivation of elastic and constant ductility inelastic response spectra, computation of Fourier amplitude spectra, filtering of high and low frequency record content and estimation of other important seismological parameters, such as the Arias Intensity and the significant and effective durations.
4. **SeismoSelect** is an easy and efficient way to search, select, scale and download ground motion data from different strong motion databases that are available on-line. Different criteria may be employed as the parameters of interest, with which to carry out the searches. These include a target response spectrum, different ground motion parameters (e.g. PGA, PGV, Arias or Housner Intensity), information regarding the event (e.g. magnitude, faulting style location, date) or the recording site (e.g. Vs30, epicentral distance).
5. **SeismoArtif** is an application capable of generating artificial earthquake accelerograms matched to a specific target response spectrum using different calculation methods and varied assumptions. It is noted that the use of real accelerograms and spectrum matching techniques (i.e. SeismoMatch), together with records selection tools, tends to be recommended for the derivation of suits of records for use in nonlinear dynamic analysis of structures. However, in those cases where access to real accelerograms is,

for whatever reason, challenging or inappropriate, then a tool such as SeismoArtif will be of pertinence and usefulness.

6. **SeismoSpect** allows users to create their own library of ground motion records and save them all in a single file making it easy to handle and share large numbers of records. This application is then capable of applying several filter types, perform baseline-correction, computing the mean spectral response of a collection of accelerograms and to compare these results with a target spectrum. A number of strong-motion parameters can also be calculated.
7. **SeismoMatch** is an application capable of adjusting earthquake records, through wavelet addition, to match a specific target response spectrum. Users have the opportunity to simultaneously match a number of accelerograms, and then obtain a mean matched spectrum whose maximum misfit respects a pre-defined tolerance. This software can thus be used in combination with records selection tools and records appropriateness verification algorithms to define adequate suites of records for nonlinear dynamic analysis of new or existing structures.

**10/2002 – 06/2004** Designer in the design company OTM Ltd. in Athens. Design of bridges and retaining walls. Typical Projects:

- Egnatia Motorway, Bridge Γ7: Cantilever bridge of total span length 365.0m.
- Attiki Odos: Project KTX-TE02: 126.0m retaining wall on the Saketa region of Katehaki avenue. The project was designed after a landslide in March 2003.
- Media village of the Olympic Games 2004 in Athens: Bridge below the metro lines using the forepoling method, in order to avoid the interruption of the metro trains' operation.

**03/2001 – 11/2007** Responsible for the operation and maintenance of the website <http://www.seismolinks.com/>

**06/2002 – 09/2002** Rose School, Universita di Pavia, Italy. Development of software for the seismic analysis and the evaluation of seismic risk of structures: <http://www.roseschool.it/>

**01/2000 – 04/2000** Participation in the Imperial College team for the seismic assessment and the design of strengthening interventions of the Glaxo Welcome headquarters of Africa, in Kairo Egypt. Cooperation with EQE international.

**12/2000 – 09/2001** Research Assistant at Imperial College, London in the SAFERR program (Seismic Assessment For Earthquake Risk Reduction): <http://www.saferr.net/>

**12/1999 – 11/2000** Research Assistant at Imperial College, London in the ICONS program (Innovative Seismic Design Concepts for New and Existing Structures).

## **V. KEYNOTE LECTURES**

### **4<sup>TH</sup> INTERNATIONAL CONFERENCE ON STRUCTURAL ENGINEERING (02/2018)**

Presenter of one of the keynote lectures of the 4th International Conference on Structural Engineering (<http://www.irastconf.com>), organized by the Iranian Society of Structural Engineering (ISSE). Title: "*Retrofitting of RC Buildings, Strengthening Techniques and Intervention Strategies*". The basic principles for the strengthening of existing structures and the strategy of structural interventions were presented, with the help of worked examples and several case-studies of real strengthening projects.



## **VI. WORKSHOPS & COURSES**

### **ON-LINE COURSE ON SEISMIC ASSESSMENT AND RETROFITTING (2019 onwards)**

Presenter in a 60h course with title "*Seismic Assessment & Retrofitting of Existing RC Structures using SeismoStruct and SeismoBuild*". The basic principles for the seismic assessment and strengthening of existing structures were explained, and several worked examples were presented with the use of SeismoBuild and SeismoStruct. The course is repeated three times per year. URL: <https://ingeoexpert.com/en/courses-online/seismic-assessment-seismobuild/>

### **WORKSHOP IN SEISMIC ASSESSMENT AND RETROFITTING, MALAYSIA (05/2018)**

Presenter of a 9h workshop with title "*Seismic Assessment & Retrofitting of Existing Reinforced Concrete Structures*" hosted in Kuala Lumpur and Kota Kinabalu, Malaysia. The basic principles for the seismic assessment and strengthening of existing structures were explained, and several worked examples were presented.

### **SERIES OF WORKSHOPS IN SEISMIC ASSESSMENT AND RETROFITTING, IRAN (02/2018)**

Main presenter of a series of four 3h workshop with title *Seismic Assessment & Retrofitting of Existing Reinforced Concrete Structures* using SeismoBuild and SeismoStruct hosted at different cities in Iran (Tehran, Tabriz, Isfahan & Mashhad). The basic principles for the seismic assessment and strengthening of existing structures were explained, and several worked examples were presented with the use of SeismoBuild and SeismoStruct.

### **JORDAN ENGINEERS ASSOCIATION (05/2017)**

Presenter of a two-day Workshop on the *Seismic Assessment & Retrofitting of Existing Reinforced Concrete Structures* at the Jordan Engineers Association in Amman (<http://www.jea.org.jo>). The basic principles for the seismic assessment and strengthening of existing structures were explained, and several case-studies of strengthening projects were presented.

### **GREEK NATIONAL CENTRE FOR PUBLIC ADMINISTRATION AND LOCAL GOVERNMENT (05/2003)**

Lecturer at the Training Program No.30078X03 with subject the *Seismic Assessment of Bridges*, carried out by the Greek National Centre for Public Administration and Local Government (EKDDA - [www.ekdd.gr](http://www.ekdd.gr)).

## **VII . PUBLICATIONS**

### **BOOK CHAPTERS**

1. Antoniou S. and Pinho R. [2018] "Nonlinear Seismic Analysis of Framed Structures". *Structural Engineering in Vibrations, Dynamics and Impacts* by CRC Press, Taylor & Francis Group. Accepted for publication.
2. Pinho R., Antoniou S., Casarotti C. and Lopez M. [2005] "A displacement-based adaptive pushover algorithm for assessment of buildings and bridges". *Nato Science Series: IV: Earth and Environmental Sciences. Volume 66, Book Advances in Earthquake Engineering for Urban Risk Reduction*. Springer Netherlands, ISBN 978-1-4020-4569-1 (Print) 978-1-4020-4571-4 (Online), pg. 79-94
3. Fragiadakis M., Pinho R. and Antoniou S. Modelling inelastic buckling of reinforcing bars under earthquake loading. Chapter 23, *Post-Conference Book Publication: Computational Structural Dynamics and Earthquake Engineering, COMPDYN 2007*.

## **JOURNAL PAPERS**

1. Smyrou E., Blandon C., Antoniou S., Pinho R., Crisafulli F. [2011] Implementation and Verification of a Masonry Panel Model for Nonlinear Dynamic Analysis of Infilled RC Frames. *Bull. of Earthquake Engineering*, published online 11 April 2011.
2. Asteris P. G., Antoniou S., Sophianopoulos D. S., and Chrysostomou C. Z. [2011] Mathematical Macromodeling of Infilled Frames: State of the Art. *Journal of Structural Engineering, ASCE. December 2011*.
3. Pinho R., Casarotti C. and Antoniou S. [2007a] "A comparison of single-run pushover analysis techniques for seismic assessment of bridges," *Earthquake Engineering and Structural Dynamics*, Vol. 36, Issue 10, pp. 1347-1362.
4. Antoniou S. and Pinho R. [2004a] "Advantages and Limitations of Force-based Adaptive and Non-Adaptive Pushover Procedures," *Journal of Earthquake Engineering*, Vol. 8, No. 4, pp. 497-522.
5. Antoniou S. and Pinho R. [2004b] "Development and Verification of a Displacement-based Adaptive Pushover Procedure," *Journal of Earthquake Engineering*, Vol. 8, No. 5.
6. Tzanetos, N., Elnashai A.S., Hamdan F.H. & Antoniou S. [2000]. Inelastic Dynamic Response of RC Bridges Subjected to Spatial Non-synchronous Earthquake Motion. *Advances in Structural Engineering*, Vol. 3, No. 3.

## **CONFERENCE PAPERS**

1. Antoniou S. and Pinho R. [2009] "Displacement-based adaptive pushover". Proceedings of the the 2nd International Conference on Computational methods in structural dynamics and earthquake engineering.
2. Pinho R., Bhatt C., Antoniou S., Bento R. [2008] "Modelling of the horizontal slab of a 3D irregular building for nonlinear static assessment," Proceedings of the Fourteenth World Conference on Earthquake Engineering, Beijing, China, Paper no. 05-01-0159.
3. Pavan A., Pinho R. and Antoniou S. [2008] "Blind prediction of a full scale 3D steel frame tested under dynamic conditions". Proceedings of the 14th World Conference on Earthquake Engineering. Beijing, China, October 2008.
4. Fragiadakis M., Pinho R. and Antoniou S. [2007] "Modelling Inelastic Buckling of Reinforcing Bars under Earthquake Loading," Proceedings of the ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN07), Crete, Greece.
5. Ferracuti B., Savoia M., Pinho R., Francia R. and Antoniou S. [2007] "Pushover analysis of FRP-retrofitted existing RC frame structures," Proceedings of the Eighth International Symposium on Fiber-Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS-8), Patras, Greece.
6. Smyrou E., Blandon C.A., Antoniou S., Pinho R. and Crowley H. [2006] "Implementation and verification of a masonry panel model for nonlinear pseudo-dynamic analysis of infilled RC frames," Proceedings of the First European Conference on Earthquake Engineering and Seismology, Geneva, Switzerland, Paper no. 355.
7. Meireles H.A., Pinho R., Bento R. and Antoniou S. [2006] "Verification of an adaptive pushover technique for the 3D case," Proceedings of the First European Conference on Earthquake Engineering and Seismology, Geneva, Switzerland, Paper no. 619.
8. Pietra D., Pinho R. and Antoniou S. [2006] "Verification of displacement-based adaptive pushover for seismic assessment of high-rise steel buildings," Proceedings of the First European Conference on Earthquake Engineering and Seismology, Geneva, Switzerland, Paper no. 956.
9. R. Pinho , S. Antoniou and D. Pietra [2006]. A Displacement-Based Adaptive Pushover for Seismic Assessment of Steel and Reinforced Concrete Buildings. US National Conference in Earthquake Engineering, San Francisco, US, 17th - 21st April 2006. Paper No. 1701

10. Pinho, R. & Antoniou, S. [2005]. A Displacement-Based Adaptive Pushover Algorithm for Assessment of Vertically Irregular Frames. 4<sup>th</sup> European Workshop on the Seismic Behaviour of Irregular and Complex Structures. Thessaloniki 26-27 August 2005.
11. Antoniou, S., Rovithakis, A. & Pinho, R. [2002]. Development and verification of a fully adaptive pushover procedure. Proceedings of the Twelfth European Conference on Earthquake Engineering. Paper Reference 822 [computer file], Elsevier Science Ltd.
12. Elnashai, A. S. & Antoniou, S. [2000]. The September 7, 1999 Athens earthquake. Implications of recent earthquakes on seismic risk : papers presented at the Japan-UK Seismic Risk Forum 3rd Workshop, 6-7 April 2000, Imperial College, London, UK.
13. Elnashai, A. S. & Antoniou, S. [1998]. Assessment of behaviour factors in EC8 including shear supply-demand considerations. Proceedings of the Eleventh European Conference on Earthquake Engineering [computer file], A. A. Balkema.

### **TECHNICAL NOTES**

1. Fragiadakis, M., Pinho, R. and Antoniou, S. (2008). "Modelling inelastic buckling of reinforcing bars under earthquake loading", in Progress in Computational Dynamics and Earthquake Engineering, M. Papadrakakis, D.C. Charmpis, N.D. Lagaros and Y. Tsompanakis (Eds.), A.A. Balkema Publishers – Taylor & Francis.

### **VIII. EDITORSHIP**

1. Elnashai, A. S. & Antoniou, S. [2000]. Implications of recent earthquakes on seismic risk : papers presented at the Japan-UK Seismic Risk Forum 3rd Workshop, 6-7 April 2000, Imperial College, London, UK. Series on innovation in structure and construction v.2, Imperial College Press, London, 2000, 228 pages.

### **IX. ORGANISATIONS AND SOCIETIES**

1. Member of the Technical Chamber of Greece since 03/1997.
2. Member of the Greek Society of Civil Engineers.
3. Member of Greek Society of Earthquake Engineering since 06/2003.
4. Member of Scientific Committee of Earthquake Engineering and Seismology of the Technical Chamber of Greece since since 07/2005.

### **X. COMPUTER SKILLS**

Main developer of the following software packages: (i) SeismoBuild, (ii) SeismoStruct, (iii) SeismoSignal, (iv) SeismoMatch, (v) SeismoSpect, and (vi) SeismoArtif. Developer of smaller applications for section analysis (derivation of moment-curvature curves), citations management, calculation of creep coefficients for concrete etc.

Very good knowledge:

- i. Packages for the design and analysis of structures (SAP2000, SOFiStiK, StereoStatika, Fespa).
- ii. CAD software (AutoCAD).
- iii. Programming languages (Delphi, Pascal, Fortran, Basic, Perl).
- iv. Operating Systems (Windows 10/8/7/ XP/2000/NT, Linux, Unix, MS-DOS).

- v. MicroSoft Office (Word, Excel, Access, PowePoint, Project).
- vi. Graphics editing program (PhotoShop)
- vii. Computer networks in Windows 2000/XP and Linux.
- viii. Web design programs (Dreamweaver)