

CURRICULUM VITAE

of

Catherine G. Papanicolaou

Civil Engineer, Ph.D.

Assistant Professor, Department of Civil Engineering

University of Patras

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PERSONAL DATA

Place and date of birth: Athens, Greece, December 2, 1973

EDUCATION

- 1997 - 2002 University of Patras, Greece, Ph.D. in Civil Engineering.
Ph.D. dissertation: *Behaviour and optimum design of structural sandwich panels made of lightweight concrete core and high-performance concrete faces*, 2002, 610 pages (in Greek). Ph.D. supervisor: Prof. T.C. Triantafillou.
- 1991 – 1996 University of Patras, Greece, Diploma in Civil Engineering.
Diploma thesis: *Dynamic Analysis of Underground Structures using the FEM program SAP90*, 1996, 215 pages (in Greek). Thesis supervisor: Prof. D.E. Beskos.

ACADEMIC RECORD & OTHER FUNCTIONS

- 08/2010 - today Assistant Professor, Civil Engineering Department, University of Patras.
- 06/2004 – 08/2010 Lecturer, Civil Engineering Department, University of Patras.
- 04/2003 – 04/2004 Post-Doctoral Fellow at the European Laboratory for Structural Assessment (ELSA) of the Institute for the Protection and Security of the Citizen (IPSC), Joint Research Centre (JRC), Ispra, Italy.
- 06/2002 – 04/2003 Post-Doctoral Fellow at the Structural Materials Laboratory, Civil Engineering Department, University of Patras.
- 2002 – 2003 Part time instructor (under contract) at the Department of Civil Engineering, University of Patras. Laboratory Courses on: (1) Introduction to Mechanics of Materials, (2) Mechanics of Materials and (3) Construction Materials.

RESEARCH EXPERIENCE (scientific projects)

- 2008 - today Participation in the scientific project FP7-REGPOT-2007-1 *ACES: Advanced centre of excellence in structural and earthquake engineering*, financed by the European Union. Project coordinator: Prof. M.N Fardis.
- 2008 - 2009 Participation in the scientific project *Mechanical characteristics and durability of self-compacting concretes of different strength classes comprising Greek materials*, financed by the Hellenic General Secretary of Research and Technology (in the framework of PENED 2003). Project coordinator: Assist. Prof. K. Sideris.
- 2007 - today Participation in the scientific project *ISSB: Intelligent Safe and Secure Buildings* (6th Framework Programme - Priority III - NMP4), financed by the European Union. Project coordinator: Prof. M Founti.
- 2006 - 2009 Participation in the scientific STREP (Specific Targeted Research Project - PROTECTION AND CONSERVATION OF CULTURAL HERITAGE FP6-2003-SSP3-513718) project *OPERHA: Open and fully compatible next generation of strengthening system for the rehabilitation of Mediterranean building heritage*,

financed by the European Union. Project coordinator: José Tomás San José Lombera (Fundación Labein).

- 2006 - 2008 Scientific coordination of the project 05PAB349 *PROTEAS: Development of Prefabricated Elements made of Textile Reinforced Concrete*, financed by the Hellenic General Secretary of Research and Technology (in the framework of PABET 2005). Project coordinator: A. Apergis (EDRASIS-C. PSALLIDAS S.A.).
- 2005 - 2008 Coordination of the scientific project *Systematic Study and Design of Textile Reinforced Concrete Structural Systems*, financed by the Science Committee of the University of Patras through the basic research program "K. Karatheodoris".
- 2003 - 2006 Participation in the scientific project *ARISTION: Assessment of Seismic Vulnerability for Existing Buildings and Development of Advanced Materials / Strengthening Techniques*, financed by the Hellenic General Secretariat for Research and Technology. Project coordinator: Prof. T.C. Triantafillou.
- 2003 - 2004 Participation in the scientific project *INFRAID: Infrastructure Damage Prevention, Assessment and Reconstruction Following a Disaster*. Project coordinator: Artur Vieira Pinto.
- 2001 – 2004 Participation in the scientific project *SAFEFLOOR: Low Risk and Totally Recyclable Structural Building (FP5 EVK4-CT2000-00020)*, financed by the European Union. Project coordinator: Juan Manuel Mieres Royo (NECSO Entrecanales Cubiertas S.A.).
- 1998-2001 Participation in the scientific project *Systematic study of a new reinforcing technique of RC members using advanced composite materials*, financed by the Science Committee of the University of Patras through the basic research program "K. Karatheodoris". Project coordinator: Prof. T.C. Triantafillou.
- 1997 – 1999 Participation in the scientific project *Development and production of new construction materials and products of pumice and magnesite*, financed by the Hellenic General Secretary of Research and Technology (in the framework of EPET II). Project coordinator: Prof. M.N Fardis.

RESEARCH EXPERIENCE (other projects)

- 2005 - 2006 *Systematic Mix Design of Expanded Polystyrene Concrete*, financed by UNISOL S.A. Project coordinator: C.G. Papanicolaou.
- 2005 - 2006 *Systematic Mix Design of Self Compacting Concrete made of Indigenous Raw Materials – Applications in the Precast Industry*, financed by EDRAIS-C. PSALLIDAS S.A. Project coordinator: C.G. Papanicolaou.
- 2005 - 2006 *Mix Design of Self Compacting Concrete in the framework of the erection of the New Acropolis Museum Building*, financed by PROET S.A. Project coordinator: C.G. Papanicolaou.
- 2003 Participation in the project *Evaluation of the effect of recycled polypropylene fibers on the toughness characteristics of concrete and mortar*, funded by THRAPLAST MEGASAKOI A.B.E.E. Project coordinator: Prof. T.C. Triantafillou.
- 2002 Participation in the project *Flexural behaviour of sandwich-type thermoplastic coupons, for use as concrete formwork*, financed by ECOTURN S.A. Project coordinator: Prof. T.C. Triantafillou.

- 2002 Participation in various projects involving toughness tests on fibre-reinforced concrete specimens in the framework of specialized services of the Structural Materials Laboratory offered to private enterprises and public organizations.
- 2000 Participation in the project *Experimental study of physical and mechanical properties of glue-laminated timber under the scope of Eurocode 5*, financed by Sakellariou Panagiotis S.A.
- 1997 – 1999 Participation in the scientific project *Improved design criteria of mechanical bolt joints*, financed by INASCO HELLAS Co.
- 1997 Participation in the project *Experimental study of physical and mechanical properties of glue-laminated timber under the scope of Eurocode 5*, financed by AVEX S.A.

PROFESSIONAL & TEACHING EXPERIENCE PRECEDING ACADEMIC SERVICE

- 2000 - 2001 Rion-Antirion Bridge construction supervision (full time: March – August, occasional since). Position held: Materials Engineer, Employer: Maunsell Greece Ltd (Project Manager: Peter Iley).
- 2002 - 2003 Laboratory instructor for the undergraduate courses of the 3rd and 4th semester of studies in the Department of Civil Engineering, University of Patras.: (1) Introduction to Mechanics of Materials, (2) Mechanics of Materials and (3) Structural Materials
- 1999 – 2002 Reviewer of post-graduate course notes for the Hellenic Open University.
- 1998 – 2002 Laboratory teaching assistant in the course “Construction Materials”, of the 4th semester of studies in the Department of Civil Engineering, University of Patras.
- 1998 Teaching assistant in the course “Strength of Materials II”, of the 4th semester of studies in the Department of Civil Engineering, University of Patras.
- 1995 – 1996 Responsible for the design and supervision of construction projects in account of a small private design firm, located in Patras, Greece.

SUPERVISION OF:

- 2 Ph.D. Theses (in progress)
- 6 M.Sc. Theses (completed)
- 30 Diploma Theses (completed)

PARTICIPATION IN EVALUATION COMMITTEES FOR:

- 6 Ph.D. Theses
- 22 M.Sc. Theses

SOCIETY MEMBERSHIP

- American Concrete Institute (ACI)
- fédération internationale du béton (*fib*)
- International Union of Testing and Research Laboratories for Materials and Structures (RILEM)
- Technical Chamber of Greece

SCIENTIFIC COMMITTEE MEMBERSHIP

- 2010 - today Association of Civil Engineers of Greece (ACEG) Committee “Concrete Technology”, Member.
- 2009 - today RILEM Technical Committee “TDT - Test methods and design of textile reinforced concrete”, Member.
- 2007 - today RILEM Technical Committee “MSC - Masonry Strengthening with composite Materials”, Member (topic leader).

REFEREE IN SCIENTIFIC JOURNALS

- ASCE Journal of Composites for Construction (3)
- ASCE Journal of Materials in Civil Engineering (1)
- Composite Structures (3)
- Materials and Structures (RILEM) (2)
- Construction & Building Materials (2)
- Journal of Advanced Concrete Technology (1)
- Engineering Structures (4)
- Waste Management (1)
- International Journal of Materials and Product Technology (IJMPT) (1)
- Composites Part B: Engineering (1)

REFEREE FOR SCIENTIFIC PROJECT PROPOSALS

- AMERICAN UNIVERSITY OF BEIRUT FACULTY OF ENGINEERING AND ARCHITECTURE (1)
- Research Promotion Foundation (RPF) of Cyprus (7)

PUBLICATIONS

A. Papers in Refereed Journals

- A1. Papanicolaou, C. and Papantoniou, I. (2010): “Mechanical Behavior of Textile Reinforced Concrete (TRC) / Concrete Composite Elements”, International Journal of Japan Concrete Institute, Journal of Advanced Concrete Technology (ACT), 8(1), pp. 35-47.
- A2. Papanicolaou, C.; Triantafillou, T. and Lekka, M. (2009): “Externally Bonded Grids as Strengthening and Seismic Retrofitting Materials of Masonry Panels”, Construction and Building Materials, <http://dx.doi.org/10.1016/j.conbuildmat.2010.07.018>.
- A3. Papanicolaou, C.G.; Triantafillou, T.C.; Papathanasiou, M. and Karlos, K. (2008): “Textile-reinforced mortar (TRM) versus FRP as strengthening material of URM walls: out-of-plane cyclic loading”, RILEM Materials and Structures, 41(1), pp. 143-157.
- A4. Bournas, B.A.; Lontou, P.V.; Papanicolaou, C.G. and Triantafillou, T.C. (2007): “Textile-Reinforced Mortar (TRM) versus FRP Confinement in Reinforced Concrete Columns”, ACI Structural Journal, 104(6), pp. 740-748.
- A5. Papanicolaou, C.G.; Triantafillou, T.C.; Karlos, K. and Papathanasiou, M., (2007): “Textile-reinforced mortar (TRM) versus FRP as strengthening material of URM walls: in-plane cyclic loading”, RILEM Materials and Structures, 40(10), pp. 1081-1097.
- A6. Triantafillou, T.C.; Papanicolaou, C.G.; Zissimopoulos, P. and Laourdekis, T. (2006): “Concrete Confinement with Textile Reinforced Mortar (TRM) Jackets”, ACI Structural Journal, 103 (1), pp. 28-37.
- A7. Triantafillou, T.C. and Papanicolaou, C.G. (2006): “Shear Strengthening of Reinforced Concrete Members with Textile Reinforced Mortar (TRM) Jackets”, RILEM Materials and Structures, 39 (1), January 2006, pp. 85-93.

- A8. Karatzikis, M.; Papanicolaou, C.G.; Antonopoulos, C.P. and Triantafillou, T.C. (2005): "Experimental Investigation of Non-Conventional Confinement for Concrete Using FRP", *ASCE J. of Composites for Construction*, 9 (6), pp. 480-487.
- A9. Papanicolaou, C.G. and Triantafillou, T.C. (2004): "Analysis and Minimum Cost Design of Concrete Sandwich Panels Under Out-of-Plane Loading", *Structural Concrete (Journal of the fib)*, 5(1), pp. 11-27.
- A10. Papanicolaou, C.G. and Triantafillou, T.C. (2002): "Minimum Cost Design of Concrete Sandwich Panels Made of HPC Faces and PAC Core: The Case of In-Plane Loading", *Structural Concrete (Journal of the fib)*, 3 (4), pp. 167-181.
- A11. Papanicolaou, C.G. and Triantafillou, T.C. (2002): "Shear transfer capacity along pumice aggregate concrete and hpc interfaces", *RILEM Materials & Structures*, Vol. 35, May 2002, pp. 237-245.

B. Papers in International Conference Proceedings (refereed or invited)

Papers in National Conference Proceedings (refereed): 14

- B1. Kaffetzakis, M. and Papanicolaou, C. (2010): "Mix Design Procedure for Lightweight Aggregate SCC (LWASCC) Based on the Wet Packing Method", *ACES Workshop: Innovative Materials and Techniques in Concrete Construction*, Corfu, Greece, October 10-12, 2010 (**invited paper**).
- B2. Papanicolaou, C. and Kaffetzakis, M. (2010): "Pumice Aggregate Self-Compacting Concrete (PASCC)", 6th International RILEM Symposium on Self-Compacting Concrete & 4th North American Conference on the Design Design and Use of SCC – SCC2010, 26-29 September 2010, Montreal, Canada.
- B3. Papanicolaou, C. and Vassilopoulou, V. (2010): "Shear Transfer Capacity along Vibrated and Self-Compacting Concrete Interfaces", 2010 PCI Annual Convention/Exhibition & 3rd International *fib* Congress - *fib* 2010, May 29 - June 2, 2010 Washington, D.C., U.S.A.
- B4. Papantoniou, I. and Papanicolaou, C. (2010): "Minimum Cost Design Of One-Way Trc/Rc Composite Slabs", International Conference on Material Science and 64th RILEM Annual Week, September 6 - 10, 2010, Aachen, Germany.
- B5. Papanicolaou, C.G. and Triantafillou, T.C. (2009): "Innovative Strengthening of the Building Heritage using Textile-based Composites", 2^a Jornada Internacional Sobre La Tecnología De La Rehabilitación Y Gestión Del Patrimonio Construido (REHABEND), October 29 – 30, 2009, Bilbao, Spain (**invited, keynote paper**).
- B6. Papantoniou, I.; Papanicolaou, C. and Triantafillou, T. (2009): "Optimum design of one way concrete slabs cast against Textile Reinforced Concrete Stay-in-Place Formwork Elements", 4th Colloquium on Textile Reinforced Structures (CTRS4), Curbach, M. and Jesse, F. (eds.), Dresden, Germany, June 3 – 5, 2009, pp. 529-540.
- B7. Papanicolaou, C.; Triantafillou, T.; Papantoniou, I. and Balioukos, C. (2009): "Strengthening of two-way reinforced concrete slabs with Textile Reinforced Mortars (TRM)", 4th Colloquium on Textile Reinforced Structures (CTRS4), Curbach, M. and Jesse, F. (eds.), Dresden, Germany, June 3 – 5, 2009, pp. 409-420.
- B8. Bournas, D.; Triantafillou, T. and Papanicolaou, C. (2009): "Retrofit of Seismically Deficient RC Columns with Textile-Reinforced Mortar (TRM) Jackets", 4th Colloquium on Textile Reinforced Structures (CTRS4), Curbach, M. and Jesse, F. (eds.), Dresden, Germany, June 3 – 5, 2009, pp. 471-490.
- B9. Papanicolaou, C.; Triantafillou, T.; Papantoniou, I. and Balioukos, C. (2009): "Strengthening of Two-Way Slabs with Textile Reinforced Mortars (TRM)", *fib* 2009 Symposium: Concrete 21st Century Superhero, London, UK, June 22 – 24, 2009, (in CD Proceedings).
- B10. Papantoniou, I.C. and Papanicolaou, C.G. (2008): "Textile Reinforced Concrete (TRC) for Precast Stay-in-Place Formwork Elements", Walraven, J.C. and Stoelhorst, D. (eds.), International *fib* Symposium 2008, "Tailor Made Concrete Structures: New Solutions for Our

- Society”, CRC Press/Balkema, Amsterdam, The Netherlands, May 19-21, 2008, (abstract: pp. 117 – full paper: in CD Proceedings).
- B11. Karlos, K.; Papathanasiou, M.; Papanicolaou, C.G. and Triantafillou, T.C. (2007): “Textile Reinforced Mortar (TRM) Versus FRP as Strengthening and Seismic Retrofitting Material of Masonry Structures”, Triantafillou, T. (ed.), FRPRCS-8: Eighth International Symposium on FRP Reinforcement for Concrete Structures, Patras, Greece, July 16-18.
- B12. Bournas, B.A.; Lontou, P.V.; Triantafillou, T.C. and Papanicolaou, C.G. (2007): “Textile Reinforced Mortar (TRM) Versus FRP Jacketing For Reinforced Concrete Columns”, Triantafillou, T. (ed.), FRPRCS-8: Eighth International Symposium on FRP Reinforcement for Concrete Structures, Patras, Greece, July 16-18.
- B13. Bousias, S.N.; Spathis, L.-A.; Fardis, M.N.; Papanicolaou, C.G. and Triantafillou, T.C. (2007): “Pseudodynamic tests of non-seismically designed RC structures retrofitted with textile-reinforced mortar”, Triantafillou, T. (ed.), FRPRCS-8: Eighth International Symposium on FRP Reinforcement for Concrete Structures, Patras, Greece, July 16-18.
- B14. Taucer, F. and Papanicolaou, A. (2007): “Post-Disaster Reconstruction Projects to Mitigate the Seismic Risk Associated to Non-Engineered Buildings in Latin America”, 5th Seminar on Earth Architecture in Portugal (V Seminario Arquitectura de Terra em Portugal), ARGUMENTUM-ISBN 978-972-8479-49-7, Aveiro, Portugal October, 10 – 13, 2007.
- B15. Papanicolaou, C.G.; Triantafillou, T.C.; Bournas, D.A. and Lontou, P.V. (2006): “TRM as Strengthening and Seismic Retrofitting Material of Concrete Structures”, 1st International RILEM Conference on Textile Reinforced Concrete – ICTRC-1, Hegger, J.; Brameshuber; W. and Will, N. (eds.), Aachen, Germany, Sept. 6-7, pp. 331-340.
- B16. Papanicolaou, C.G.; Triantafillou, T.C.; Karlos, K. and Papathanasiou, M. (2006): “Seismic Retrofitting of Unreinforced Masonry Structures with TRM”, 1st International RILEM Conference on Textile Reinforced Concrete – ICTRC-1, Hegger, J.; Brameshuber; W. and Will, N. (eds.), Aachen, Germany, Sept. 6-7, pp. 341-350.
- B17. Papanicolaou, C.G. and Triantafillou, T.C. (2006): “Textile-Reinforced Cementitious or Polymeric Materials for Strengthening of Concrete Structures”, The Second International *fib* Congress, Naples, Italy, June 5-8.
- B18. Triantafillou, T.C. and Papanicolaou, C.G. (2006): “Textile Reinforced Mortars (TRM): New Materials for Concrete Confinement”, Civil Engineering Infrastructure Systems – CEIS2006, American University of Beirut, Lebanon, June 12-14.
- B19. Triantafillou, T.C. and Papanicolaou, C.G. (2005): “Textile Reinforced Mortars (TRM) versus Fiber Reinforced Polymers (FRP) as Strengthening Materials of Concrete Structures”, SP230-6, FRPRCS-7: Seventh International Symposium on FRP Reinforcement for Concrete Structures, ACI SP-230, Kansas City, USA, November 6-9 2005, pp. 99-118.
- B20. Triantafillou, T.C. and Papanicolaou, C.G. (2005): “Textile Reinforced Mortars (TRM) versus Fiber Reinforced Polymers (FRP) for Concrete Confinement”, Third International Conference on Construction Materials: Performance, Innovations and Structural Implications (ConMat), Vancouver, Canada, August 22-24.
- B21. Triantafillou, T.C. and Papanicolaou, C.G. (2005): “Textile Reinforced Mortars (TRM) as Strengthening Materials for Concrete Structures”, *fib* Symposium: “Keep Concrete Attractive”, Budapest, Hungary, May 23-25, pp. 345-350.
- B22. Papanicolaou, C.G., Fryganakis, D.G. and Triantafillou, T.C. (2005): “Self-Compacting Concrete: The Greek Experience”, *fib* Symposium: “Keep Concrete Attractive”, Budapest, Hungary, May 23-25, pp. 229-234.
- B23. Antonopoulos, C.P.; Triantafillou, T.C. and Papanicolaou, C.G. (2001): “Experimental Investigation of FRP-Strengthened RC Beam-Column Joints”, Fifth International Conference on Fibre-Reinforced Plastics for Reinforced Concrete Structures, Cambridge, UK, July 16-18, Vol. 1, pp. 329-338.

- B24. Papanicolaou, C.G. and Triantafillou, T.C. (1999): “Mechanical Behaviour and Optimum Design of Concrete Panels made of HSC Faces and LWAC Core”, *fib 99 Symposium, Structural Concrete – The Bridge Between People*, Prague, Oct. 12-15, Vol. 2, pp. 411-416.
- B25. Papanicolaou, C.G. and Triantafillou, T.C. (1999): “Design of Hybrid HPC and LWAC Sandwich Panels”, *ASCE 5th Materials Engineering Congress*, Cincinnati, Ohio, May 10-12, pp. 9-16.

C. Papers in non-refereed journals & Miscellaneous publications

- C1. Papanicolaou, C.G. (2006) “Self-Compacting Concrete: An Innovative Technology”, *Concrete & Steel*, Issue 2, pp. 44-60 (invited paper in Greek).
- C2. Papanicolaou, C.G. and Stamou V.I. (1996) “Strengthening of RC Columns with FRPs”, *2nd Civil Engineering Students’ Symposium*, Patras, Greece (in Greek).

D. Scientific & Technical Reports (only the ones written in English are included: 8/41)

- D1. Papanicolaou, C. G. and Triantafillou, T. C. (2009): Contribution of the University of Patras to the Deliverable 5.2.4.2 “Test Report Covering the Second Series of Cyclic-Static Tests on Building Components” of the project I-SSB (FP6 NMP2-CT-2006-026661).
- D2. Papanicolaou, C. G. and Triantafillou, T. C. (2008): Contribution of the University of Patras to the Deliverable 5.2.4.1 “Test Report Covering the First Series of Cyclic-Static Tests on Building Components” of the project I-SSB (FP6 NMP2-CT-2006-026661).
- D3. Papanicolaou, C.G.; San-José, J.T.; Triantafillou, T.T.; Lekka, M. and García, D. (2007): “Lab Scale Validation in 1:3 Scale Models”, Report No: OPERHA-D13, FP6 project “OPERHA - Open and fully compatible next generation of strengthening system for the rehabilitation of Mediterranean building heritage”.
- D4. Triantafillou, T. C. and Papanicolaou, C. G. (2004): Contribution of the University of Patras to the Final Report of the project SAFEFLOOR (FP5 EVK4-CT2000-00020).
- D5. Triantafillou, T. C. and Papanicolaou, C. G. (2004): Contribution of the University of Patras to the 3rd Annual Report of the project SAFEFLOOR (FP5 EVK4-CT2000-00020).
- D6. Triantafillou, T. C. and Papanicolaou, C. G. (2003): Contribution of the University of Patras to the 2nd Annual Report of the project SAFEFLOOR (FP5 EVK4-CT2000-00020).
- D7. Triantafillou, T. C. and Papanicolaou, C. G. (2002): Contribution of the University of Patras to the 1st Annual Report of the project SAFEFLOOR (FP5 EVK4-CT2000-00020).
- D8. Papanicolaou, C. G. (2001): “Investigation of the suitability of the RCPT test procedure for the estimation of the durability characteristics of ready-mix repair mortars used on Rion-Antirion construction site”, Έκθεση προς την εταιρεία Maunsell Hellas Ltd.

E. Course Notes

- E1. Papanicolaou, C.G. (2006) Notes for the course “Advanced Mechanics of Materials”, (62 pages – in Greek).
- E2. Papanicolaou, C.G. (2006) Notes for the course “Materials and Design Methods for Prefabricated Elements”, (110 pages – in Greek).

F. Monographs

- F1. Aikaterini Papanikolaou and Fabio Taucer (2004): “Review of non-engineered houses in Latin America with reference to building practices and self-construction projects”, EUR 21190EN, European Commission, Directorate-General, Joint Research Centre, Institute for the Protection and Security of the Citizen, European Laboratory for Structural Assessment (ELSA), Ispra, Italy, 2004, p. 258.