

# Curriculum Vitae

*Professor Dr. Theodoros Markopoulos*

## Contact details

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## Personal Details

Date of birth: 28.7.1946  
Place of birth: Athens, Greece  
Sex: Male  
Nationality: Greek  
Marital Status: Married, two children

## Education

### Higher education

1966 – 1973 Studied modules in Chemistry, Mineralogy and Economics.  
University of Muenster, Clausthal-Zellerfeld and Goettingen,  
Germany.

1973 Graduated from the Department of Mineralogy and Petrology and  
received his first degree in Mineralogy (Diplom-Mineraloge)  
University of Goettingen, Germany.

1974 Completed his PhD in Experimental Mineralogy/Petrology –  
**Dr.rer.nat**  
University of Goettingen, Germany.

### Languages

Greek: Fluent by nature  
English: Very Good  
German: Fluent  
Spanish: Good  
Italian: Good

## **Awards and international acknowledgements**

- 1980                      Discovery and establishment of a new mineral called Theophrastite, which was acknowledged by the International Mineralogical Association, The Commission of New Minerals and Mineral Names.
- 1983                      Award from the Academy of Athens, Department of Natural Sciences, for the best mineralogical publication from 1.1.1980 to 30.4.1983.

## **Work experience**

- 1972-1976                Research Associate, University of Goettingen, Germany.
- 1977-1985                Lecturer, Department of Geology, University of Athens, Greece.
- 1986-Present             Professor at the Technical University of Crete, Department of Mineral Resources Engineering.
- 1986-Present             Director of the Laboratory of Petrology and Economic Geology.
- 1993-1994                Head of the Department of Mineral Resources Engineering.
- 1994-1997                Vice Rector, Technical University of Crete.
- 1997-2000                Member of the Board of Director's of the Center of Renewable Energy Sources.

Throughout his academic career he has been teaching modules, at both graduate and postgraduate level, in the fields of Mineralogy, Petrology, Economic Geology, Geothermal Energy, Geomaterials and the Environment, and Building and Restoration Materials of Monuments at the Universities of Goettingen (Germany), Athens (Greece), Crete(Greece),San Juan (Argentina),Queensland(Brisbane),Sydney(Australia),Nuclear and Geosciences Center, Taupo,(New Zealand, Seville(Spain) and FU-Berlin(Germany). Furthermore he has been supervising numerous postgraduate students at both MSc and PhD level.

## **Further Scientific Activities**

- 1987                      Member of the National Committee for International Geological Correlation Programs (IGCP), UNESCO.
- 1987-1991                Representative of Greece in the UNESCO IGCP project No. 276 and coordinator of the UNESCO IGCP project No. 351.
- 1993-1997                Member of the Scientific Board of the Hellenic Center for Marine Research, Greece.
- 1999-2002                Member of the Scientific Board of the Hellenic Center for Marine Research, Greece.
- 2000-Present             Member of the editorial board of the Mediterranean Marine Science Journal.

## **Research Projects (Leader)**

- 1990-1993                Prospection and evaluation of the industrial minerals of Crete.
- 1991-1992                Geothermometry using Vitrinite Reflectance on Greek Geothermal fields.
- 1992-1994                Research and evaluation of Graphite occurrences in northern Greece.
- 1995-1997                Development of new materials for the conservation of monuments, Greece.

1997-1999	Parco Archeologico di Roma – Conservazione ed Organizzazione, Italy, EU.
1998-2000	Prospection and evaluation of aggregates and dimension stones of the island of Crete, Greece.
2000-2001	Reconstruction materials of the Saint Peter Dominican, Heraklion, Crete.
2002-2003	Evaluation of mortars on the archeological site of Epidauros, Greece.
<b>2005-2006</b>	Evaluation of Cretan Calcareous Raw Materials for the Production of Eco-Friendly Hydraulic Binders (Pythagoras).
<b>2005-2009</b>	Suitability of Cretan Calcareous raw materials for the production of low cost hydraulic binders. Compatibility and resistivity of the produced binders and mortars with ancient and recent building materials ( <b>PENED 2003</b> )

Most of the research projects were funded by the European Union. He has also been a researcher, participant and co-leader in several other projects.

## Publications

1. Bestimmung niedrigtemperierter Schmelzzusammensetzungen im System Quarz-Albit-Kalifeldspat-Anorthit-Wasser auf der kotektischen Fläche Plagioklas-Quarz-Schmelze-Gasphase. Dissertation, Universität Göttingen, 1974.
2. Low temperature granitic melts. N.Jb. Miner. Mh. H6, 245, 1975.
3. Hydrothermale Synthese von Alkalifeldspäten und Plagioklasen, Chem. Erde 37, 277, 1978.
4. Bestimmung von kotektischen Schmelzen granitischer Zusammensetzung mit einer Näherungsmethode. Chem. Erde 38, 210, 1979.
5. Η παρουσία βαρίου εις τας μαγγανιούχους εμφανίσεις της περιοχής Κουρνόβου, Οθρυος. Ann. Geol. Pays. Hellen. 29, 800, 1978.
6. Quantitative Bestimmung kotektischer granitischer Schmelzen mit der Elektronen-Mikrosonde. Chem. Erde 38, 349, 1979.
7. Anwendung des Systems Quarz-Albit-Orthoklas-Anorthit-Wasser (Qz-Ab-Or-An-H<sub>2</sub>O) auf natürliche granitische Magmen anhand von Granitproben aus dem Rhodopenmassif (Nordgriechenland). Tschermarks Min. Petr. Mitt. 27, 143, 1980.
8. Vesuviane in den Magnetiterzen der Serpentinite von Vermion, Griechenland. Chem. Erde 39, 140, 1980.
9. Hollandithaltige Manganerze in spilitischen Gesteinsassoziationen bei Kurnovo. Griechenland. Chem. Erde 39, 133, 1980.
10. Altération hydrothermale d' une plutonite dans la région des mines d' Aghios Philippos, Kirki (Grèce du Nord). Sci. Geol. Bull. 33, 2, 103 Strasbourg, 1980.
11. Sur les phénomènes d'altération de la plutonite des Kassitera (Grèce du Nord). Bull. Geol. Soc. Gr., XV, 3, 1980.  
<http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/320>
- 12a. Theophrastite, Ni(OH)<sub>2</sub>, a new mineral from northern Greece. American Mineralogist, 66, 1020, 1981.
- 12b. Ένα νέο ορυκτό νικελίου, ο Θεοφρασίτης. Πρακτ. Ακαδ. Αθηνών, 57, 648, 1982.
13. Manganerzknollen aus der Othrisregion, Mittelgriechenland. Fortschr. Miner. 59, 120, 1981.
14. Περί της ορυκτολογικής συστάσεως των μαγγανιούχων κονδύλων (manganese nodules) του μεταλλεύματος της περιοχής Σπαρτιάς-Οθρυος. Πρακτ. Ακαδ. Αθηνών, 56, 375, 1981.
15. Εργαστηριακή υδροθερμική σύνθεση των αλκαλικών αστρίων Or<sub>90</sub>Ab<sub>10</sub> και Or<sub>75</sub>Ab<sub>25</sub>. Πρακτ. Ακαδ. Αθηνών 57, 49, 1982.
16. Klinoptilolith, Mordenit und Analcim im Bentonit von Milos. Fortschr. Miner. 60, 136 1982.
17. Modifications géochimiques d'une granodiorite, près d' une veine minéralisée dans la région des mines d' Aghios Philippos, Kirki (Grèce du Nord). Sci. Geol. Bull. 35, 4, 237, Strasbourg, 1982.
18. Genesis, of the New Mineral Theophrastite, Ni(OH)<sub>2</sub>. Chem., Erde 42, 53, 1983.
19. X-Ray diffractometric Analysis of L-Cystine Stones in 12 Patients. Eur. Urol. 9, 227, 1983.
20. Ορυκτολογική εξέταση των φωσφοριτών της νότιας Στερεάς Ελλάδας. Annal. Geol. d. Pays. Hellen. 3, 95, 1983.
21. Πειραματική ανάπτυξη γρανιτών της Μακεδονίας υπό πίεση 5000 bar και θερμοκρασία 640-720°C. Πορεία κρυσταλλώσεως γρανιτικών τηγμάτων. Διατριβή για υφηγεσία.
22. Presence of "So-Horizon" of Sapropel in Eastern Mediterranean. Mineral Wealth, 35, 43, 1985, <http://openarchives.gr/view/355313>

23. Die klinoptilolithreichen Tuffe von Thera, Griechenland. Fortschr. Miner. 62, 142, 1984.
24. a) Granite of Flambouron, Unit, Kastania  
b) Granite of Skaloti-Sidironero.  
IGCP-Project No 5, "Correlation of the Alpine-Mediterranean mountain belt" Field Guide, Field meeting in Greece, 17-23 September, p.p. 46, 61, Athens 1984.
25. Mineralogische und geochemische Untersuchungen von in Bauxiten Westgriechenlands vorkommenden Pisolithen. Fortschr. Miner. 63, S. 143, 1985.
26. Markopoulos, T. and Katerinopoulos, A. (1986). Die Alunit-Vorkommen von Milos (Griechenland) : Mineralbestand und Genese. Chem. Erde 45, 105-112.
27. Die Alunit-Vorkommen von Milos Griechenland: Mineralbestand und Genese. Chem. Erde 45, 105, 1986.
28. Acid magmatism in the Pelagonian and Rhodope belts (Macedonia Greece).  
Pre-Variscan and Variscan events in the Alpine-Mediterranean mountain belts. Edited by Flügel, Sassi and Grecula. Mineralia slovaca-Monography, 1987, Alfa Bratislava, p.p. 323-328.
29. Alteration Processes in the Volcanic Emanation Field of the Soussaki Area, Greece. European Union of Geosciences EUG IV, Abstr. p.32. Strassbourg, 13-16, April, 1987.
30. Occurrence of authigenic K-feldspar and Zeolites in the Miocene Formations of Karlovassi Basin, Samos Island, Greece.  
5th Meeting of European Geological Societies. "Orogeny, Magmatism and Metallogeny in Europe". Abstr. p. 84. Dubrovnik, 6-9 October, 1987.
31. Νεοσχηματισμός ορυκτών στο ατμικό πεδίο της Νισύρου. Δελτ. Ελλ. Γεωλ. Εταιρ. Τομ. XX/2, σελ. 393-404, 1988.
32. Ορυκτολογική μελέτη του πηγματίτη της Λεπτοκαρυάς. Δελτ. Ελλ. Γεωλ. Εταιρ. Τομ. XX/2, σελ. 405-413, 1988.
33. Metamorphic Processes of the Leptokarya Pegmatite (Thrace, Greece) 4th. Congr. of the Geol. Soc. of Greece. Abstr. p. 61. Athens, 25-27 May 1988.  
<http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/478>
34. Mineralogical and Petrographic Study of Samples from a Drill in the Geothermal Emanation Field of Nisyros Island. 4th Congr. of the Geol. Soc. of Greece. Abstr. p. 75, Athens, 25-27 May, 1988  
<http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/477/458>
35. Δημιουργία των βιομηχανικών ορυκτών και πετρωμάτων της Κιμώλου. 4ο επιστημ. συνέδριο της ελλ. Γεωλ. Εταιρ. Περιλ. σελ. 76, Αθήνα 25-27 Μαΐου, 1988.  
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36. Guide Book: First Field Meeting Crete, Greece, October 10-14, 1988. IGCP Project No 276-UNESCO. (Palaeozoic geodynamic domains and their alpidic evolution in the Tethys).
37. Κατερινόπουλος, Α., Μαγκανάς, Α., Μαρκόπουλος Θ. (1989): Διεργασίες μεταμόρφωσης του πηγματίτη της Λεπτοκαρυάς (Θράκη). Δελτ. Ελληνικής Γεωλογικής Εταιρείας XIII/2, 379-392,  
<http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/1707>
38. Ορυκτολογική και πετρογραφική μελέτη δειγμάτων γεώτρησης N2 από το γεωθερμικό πεδίο της Νισύρου, Mineralogical and petrographic study of samples from the N2 drill in the geothermal emanation field of Nisyros island, Θ. Μαρκόπουλος, Αθανάσιος. Κατερινόπουλος, Γ. Χρηστίδης, (1989), Bulletin of the Geological Society of Greece, Vol. 23, 473-486,  
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39. The granitic plutonism in the Alpine fold belt: Basic concepts, 11p, 3 fig., IGCP project 276, Newslet No 2, 1990.

40. Liakopoulos, A., Katerinopoulos, A., Markopoulos, Th., and Boulegue, J. (1991): A mineralogical, petrographic and geochemical study of samples from wells in the geothermal field of Milos Island, Greece. *Geothermics*, 20, No 4, 237-256
41. Bonin, B., Markopoulos, Th. (1991): Plutonism in the Present Alpine Fold Belt : The Palaeozoic Granitic Plutonism in the Present Alpine Fold Belt : Basic Concepts and a general Scheme for Space and Time Evolution. *Mem. de Geol. (Lausanne) N° 10*, 43-53, IGCP Project No. 276, Newsletter N° 2.
42. Markopoulos, Th., Katerinopoulos, A., Kyriakopoulos, K. (1992): The distribution in time and space of the acid plutonic complexes in Greece. *Mineralia Slovaca*, 26p.
43. Fytikas, M., Markopoulos, Th. (1992): Guide Book : Post-Congress field trip to Milos, May 28-30, 46p. 6th Congress of the Geological Society of Greece.
44. Cabaleri, N., Amrella, Cl. Baldis, B., Markopoulos, Th., Alexopoulos, A. (1992): Studies on the Permian-Jurassic Carbonate sequences of Talea-Ori, Crete, Greece, 6th Congr. of the Geological Society of Greece, Abstr. p. 21, Athens 25-27 May 1992. <http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/1816>
45. Christidis, G., Markopoulos, Th. (1992): Kaolinite generating processes in the Milos bentonites and their influence on the physical properties of bentonites. 6th Congr. of the Geological Society of Greece, Abstr, p. 28-29, Athens 25-27 May, 1992.
46. Baldis, B.A., Martinez, R.D., Markopoulos, Th., (1992): Microtectonica en granitoides y su relacion con la geotectonica del basamento de las Sierras Pampeanas Centrales de La Rioja. VIII Reunion sobre Microtectonica, 5 y 6 noviembre de 1992 Progeba-Conicet, San Carlos de Bariloche.
47. P. Maravelaki, Th. Markopoulos, P. Trimantili-M<sup>c</sup> Gann, E. Repouskou (1993): Problemi di degrado dei materiali lapidei e delle malte delle fortificazioni veneziane a Chania, Convegno internazionale. le pietre da costruzione : il tufo calcareo e la pietra leccese, IRIS-CNR, Bari, 26-28 Maggio 1993.
48. Papageorgakis, J., Markopoulos, Th., Maravelaki, P., (1993): Building stones of the Minoan Palace of Knossos. Guide Book. Community of Mediterranean Universities. Second Course on Stone Materials in monuments : Diagnosis and Conservation, Heraklion, Crete, 24-30 May, 1993.
49. Θ. Μαρκόπουλος, Π. Μαραβελάκη, Ε. Ρεπούσκου, Γ. Στεφανογιάννης (1993): Ορυκτολογική και πετρογραφική μελέτη δομικών λίθων και κονιαμάτων των ενετικών οχυρώσεων Χανίων. Επιστημονική συνεδρία Ελληνικής Γεωλογικής Εταιρείας, 4 Ιουνίου 1993 Χανιά, <http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/863>
50. Χ. Φασούλας, Α. Κιλίας, Δ. Μουντράκης, Θ. Μαρκόπουλος (1993): Μελέτη της προοδευτικής παραμόρφωσης με τη χρήση εφελκυστικών διακλάσεων και ανάλυση παλαιότητας, στην Κεντρική Κρήτη. Επιστημονική συνεδρία Ελληνικής Γεωλογικής Εταιρείας, 4 Ιουνίου 1993 Χανιά, <http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/860>
51. Κ. Καρύτσας, Γ. Καναβάκης, Θ. Μαρκόπουλος (1993): Γεωθερμομετρία με τη μέθοδο ανάκλασης βιτρινίτη στη λεκάνη του Σπερχειού. <http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/866>
52. A. Bakolas, G. Biscontin, Th. Markopoulos, P. Maravelaki, E. Repouskou, E. Zendri, "Indagini su calcestruzzi usati nell'area archeologica di Knossos", *Proc. of Congress Scienza e Beni Culturali, Calcestruzzi antichi e moderni (Storia, cultura e tecnologia)*, Bressanone 6-9 Luglio 1993.
53. Markopoulos Th. (1993): The volcanic island of Thira. Guide Book. Mediterranean University. International Postgraduate training course MED. Campus. Project # 130. "Geodynamics and Environment June, 1993, 9p.
54. Markopoulos, Th., Maravelaki, P. and Repouskou, E., (1994): The materials of the Venetian fortifications in Chania: properties, weathering forms and mechanisms. III

- Inter. Symp. on the conservation of Monuments in the Mediterranean Basin. Ed. by V.Fassina, H.Ott, F.Zezza. Venice, 22-25 June 1994.
55. Christidis, G. and Markopoulos, Th., (1995) : Mechanisms of Formation of Kaolinite and Halloysite in the Bentonite Deposits of Milos Island, Greece. *Chem Erde* 55 1995 315-329.
  56. Christidis, G., Scott, P. W. and Markopoulos, Th., (1995) : Origin of the Bentonite Deposits of Eastern Milos, Aegean, Greece: Geological, Mineralogical and Geochemical Evidence. *Clays and Minerals*, Vol. 43, No. 1, 63-77, 1995.
  57. G.Christidis, Th.Marcopoulos. Kaolinite and Halloysite in the Bentonite Deposits of Milos Island, Greece: Mechanism of Formation and Influence on the Properties of Bentonites. *Euroclay '95 Proceedings*, Louvain, August 1995.
  58. Th. Markopoulos, E. Repouskou, P. Rotonto. Mineralogical study of the building materials of the monuments Castello dei Caetani and Villa dei Quintilli of the ancient Roman Road, Rome. *Bull. Geol Soc. Greece*, 29-37, 1998.
  59. E.Manoutsoglu, Th.Marcopoulos, H.Mariolakos. The Petrified Sponge-Colonies of Crete: the Contribution of Earth Sciences in the Social and Touristic Development of the Island 1<sup>st</sup> International Scientific Congress: Tourism and Culture for Sustainable Development Athens 1998, May 19-21, 9p.
  60. Ch. Kariolaki, E. Manoutsoglou, Th. Marcopoulos, I. Vogiatzakis, V. Kasotakis. Biotopes and Geotopes in the National Park of Lefka Ori-Crete. 3rd Inter. Symposium "Management of protected areas and natural monuments. Molyvos, Lesvos, 13-15 July 1998. Abstract.
  61. E. Manoutsoglou. Th. Marcopoulos, E. Mariolakos The Fossilized Sponge Colonies of the Plattenkalk series of Crete. 3rd Inter. Symposium "Management of protected areas and natural monuments. Molyvos, Lesvos, 13-15 July 1998. Abstract.
  62. Th. Markopoulos - Invited speaker. Introduction to the Geochemistry of Crete. European Research Conference. Geochemistry of Crustal Fluids. Characterisation of Reactive Transport in Natural Systems. 22-27 May 1998, Aghia Pelagia. Abstract.
  63. G.Alevizos, Th.Marcopoulos. Mineralogie des sedimentaeren Eisennickel-vorkommens von Aghios Ioannis (Lokris-Griechenland). *Berichte des Deutschen Mineralogischen Gesellschaft im Rahmen der Geo-Berlin '98*, 6-9 Oktober 1998. Ext. Abstract.
  64. Th.Marcopoulos, E.Repouskou, P. Rotonto. Mineralogical Study of Building Materials from the Monuments Castello dei Caetani and Villa dei Quintill on the Ancient Appian Road Rome. *Terra Nostra. Schriften der Alfred-Wegener-Stiftung* 98/3, V 221-222. Geo-Berlin 1998.
  65. Th.Marcopoulos, E.Repouskou, P. Rotonto (1999) Mineralogical study of building materials from the archeological site Vigna Barberini in Rome. *European Journal of Mineralogy*, 11, 152.
  66. G.Christidis, Th.Marcopoulos, A.Foscolos. (1999) Origin, and Physical Properties of a Bentonite Deposit of Chios Island, Eastern Aegean, Greece. *Proceedings 11<sup>th</sup> International Clay Conference Ottawa, Canada*, 75-82.
  67. Repouskou, E., Christidis, G., Marcopoulos, Th & Skarpelis, N. (1999) Geology, physical and chemical properties of carbonate rocks from Crete, Greece. In: *Mineral Deposits: Processes to Processing* (C.J. Stanley ed). Balkema, Rotterdam, 1141-1144.
  68. Galetakis M. Markopoulos Th., Christidis, G., Repouskou E. & Alevizos G. (2000) Prediction of aggregate quality parameters using artificial neural networks techniques. *Proc. 3<sup>rd</sup> Congress for Mineral Wealth*. November 2000, 1<sup>st</sup> Volume, 571-577.

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70. Th.Markopoulos, E.Repouskou, P. Rotonto (2000) Mortars used for intervention in the archeological site of villa dei Quintilli, via Appia Antica Rome. 5<sup>th</sup> International Symposium on the Concervation of Monuments in the Mediterranean Basin, Sevilla, vol. 1, 248-250.
71. Lazzarini L. Markopoulos Th. & Palio O. (2000) The Stones of the Minoan Vases of Phaestos. ASMOSIA VI. Proceedings of the Sixth International Conference Venice, June 15 – 18 2000.
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73. Christidis, G., Markopoulos, Th. Petavratzi E. (2001) Formation of bentonite beds in the ophiolitic Complex of Troodos, Cyprus. (12<sup>th</sup> ICC-Abstracts).
74. Christidis, G. Triantafyllou G. & Markopoulos, Th. (2001) Evaluation of an Upper Cretaceous limestone from the Area of Arta for lime production. Bulletin of the Geological Society of Greece, 34, 1169-1175,  
<http://geolib.geo.auth.gr/digeo/index.php/bgsg/article/view/2110>
75. Markopoulos Th., Alevizos G. & Manutsoglu E. (2001) Mineralogische Untersuchungen von neotektonisch gebildeten Eisenkrusten aus der Phyllit-Quarzit-Serie, West Kretas, Griechenland. European Journal of Mineralogy, vol 13, 116.
76. Mistakidou E., Markopoulos Th. & Alevizos G. (2001) Synthesis of mortars for use in the repair and maintenance of historic buildings and monuments in the island of Crete, Greece. 2<sup>nd</sup> International Congress on Studies in Ancient Structures, Istanbul, Proceedings Vol. 2, 531 – 538.
77. Markopoulos Th. & Galetakis M. (2002) Investigation of stones used for the restoration/reconstruction of the church of Saint Peter Dominican, Heraklion – Crete. Proceeding of the International Conference Stone Weathering and Atmospheric Pollution Network (SWAPNET 2001), Prague, 189 – 196.
78. Markopoulos Th. Perdiaktis V. Rotondo P. Manutsoglu E. Lambrinouidakis V. & Ninis N. (2003) Materials used for coatings in the external perimetric drainage zone of the gymnasium at the Asklepeion of Epidauros in Greece. Proceedings of the International Symposium of Industrial Minerals and Building Stones, Istanbul, 807 – 814.

## **MARKOPOULOS –Publications 2000-2009**

Galetakis M., Markopoulos Th., Christidis, G., Repouskou E. & Alevizos G. (2000) Prediction of aggregate quality parameters using artificial neural networks techniques. Proc. 3rd Congress for Mineral Wealth. November 2000, 1st Volume, 571-577.

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