CURRICULUM VITAE

BAZIOTIS IOANNIS

Lecturer in Mineralogy-Petrology

Athens 2016

CONTENTS

PERSONAL INFORMATION

- Date of birth: 01-04-1980
- Place of birth: Athens
- Status: Engaged
- Nationality: Greek
- Address: Lipson 26, Ano Liosia
- Tel: +302102472085
- Cell phone: +306975967914
- Email: ibaziotis@aua.gr

STUDIES

- 1997: Graduate from the 2nd High School of Ano Liosia.
- 1998 – 2002: Graduate studies: Department of Geology, School of Sciences, National and Kapodistrian University of Athens. Grade: 7.23 (Very Good).
- 2003: Pre-doctoral Studies: Department of Geological Sciences, School of Mining and Metallurgical Engineering, National Technical University of Athens
- 2008: PhD Thesis with title: «Petrology and geochemistry of metamorphic rocks from Attica» (Decision 13-01-2003). Supervisor: Prof E. Mposkos.

BSC THESIS

2002: BSC Thesis with title: «Acid mine drainage in the underground mines of Lavrion area», supervisor Prof. N. Skarpelis, from Department of Geology, School of Sciences, National and Kapodistrian University of Athens. (In Greek)

PHD THESIS

2008: PhD Thesis entitled: «Petrology and geochemistry of metamorphic rocks from Attica», supervisor Prof E. Mposkos (Department of Geological Sciences, School of Mining and Metallurgical Engineering, National Technical University of Athens). (In Greek)

PROFESSIONAL EXPERIENCE

- 01-07-2002 until 31-08-2002: Internship for students working for the company Geodomiki O.E.
- November 2007-October 2008: Technical Department of company Vivodi (Internet and phone services).
- November 2008- July 2009: Scientific collaborator for the company Hospital Line S.A.
- July 2009-July 2010: Scientific collaborator for the company Pharma Line.
- September 2010-March 2012: Sales Engineer for the company TEMAK A.E. (water treatment and chemical additives).

RESEARCH EXPERIENCE - PROJECTS

- 25-10-2004 until 31-01-2005: During European Student Mobility Project SOCRATES/ERASMUS worked at the Intitute of Mineralogy-Petrology of the University of Graz. I trained at the objective of secondary electron microscopy (SEM), electron microprobe (EMP), x-ray fluorescence (XRF) and inductively coupled plasma mass spectrometry (ICP-MS), under the guidance of Prof. Georg Hoinkes, Prof. Christoph Hauzenberger, Prof. Carl Ettinger and Dr. Alexander Proyer. I participated in the context of my PhD Thesis, and the research projects "Pythagoras I" and "Protagoras". I`ve conducted a series of in-situ mineral microanalysis and rock analysis, and process the data using software like PERPLEX, Thermocalc and TWEEQU.
- 2004-2006: Protagoras with title: "Petrological study of diamondiferous rocks (Ultra-high pressures) in Central and Eastern Rhodope" funded by NTUA.
- 2004-2006: Pythagoras I with title: ""Petrological and geochemical study of diamondiferous rocks (Ultra-high pressures) in Central and Eastern Rhodope" funded by EPEAEK.
- 2008-2010: PEBE 2008 with title: "Petrological and geochemical study of eclogites from Kechros Complex in Eastern Rhodope" funded by NTUA.

At lecturer level

- 2012: National Aeronautics Space Agency (NASA) Cosmochemistry grants NNX11AG58G for the study of Martian meteorite, Tissint.
- 2012: National Science Foundation (NSF) of America for the project entitled: "Characterization of the Timing and Nature of Metasomatism in the Siberian Lithospheric Mantle"

RESEARCH EXPERIENCE - FUNDING

At lecturer level

- 2012 -2015: Project for "Supporting Postdoctoral Reserachers, with title « **Study of kinetic processes associated with small- to intermediate scale-lengths of mantle heterogeneity**». Principal Collaborators: Giampero Poli (University of Perugia, Perugia, Italy), Antonios Koroneos (Aristotle University of Thessaloniki, Thessaloniki, Greece). Secondary collaborators: Paul D. Asimow (University of Caltech, Pasadena, Los Angeles, USA), Theo Ntaflos (University of Vienna, Austria, EU). Budget 150.000€. Funded by the European Social Fund and the Greek State.
- 2015: Synthesys Project with title: «**Characterization of the shock metamorphism of a suite of specific shocked ordinary chondrite meteorites and implications on our**

understanding of the properties of asteroids, At Natural History Museum of Vienna. Budget 5.000€.

- 2015-2016: IKYDA Project at the bilateral agreement between Greek State Scholarships Foundation and DAAD, with title: «Petrological and geochemical study of composite mantle xenoliths ». Budget 10.000€.
- 2015-2017: Principal Investigator of project with code 34.0814 and title: «Laboratory tests in rock samples and drilling cores». ELKE of Agricultural University of Athens. Budget 5.000€.

TEACHING EXPERIENCE

- 2003-2004 until 2008-2009: Participation and teaching for six academic years of the laboratory exercises of the course «Petrology», 2nd Semester, of the School of Mining and Metallurgical Engineering (as PhD candidate).

At lecturer level

- 2012: Teaching at the Planetary Geosciences Institute, Department of Earth and Planetary Sciences, University of Tennessee. Teaching seminars at the topics: (1) Ultra-High Pressure Metamorphism, (2) Geothermobarometry Part-I and (3) Geothermobarometry Part-II.

2014-today: Co-teaching of the laboratory exercises of the obligatory course "Mineralogy-Petrology", Department of Natural Resources Management and Agricultural Engineering, Agricultural University of Athens (5th Winter Semester).

2014-today: Co-teaching of the obligatory course "Mineralogy-Petrology", Department of Natural Resources Management and Agricultural Engineering, Agricultural University of Athens (5rd Winter Semester).

2014-today: Co-teaching of the laboratory exercises of the optional course "Mineralogy-Geology", Faculty of Crop Science, Agricultural University of Athens (3rd Winter Semester).

2014-today: Co-teaching of the optional course "Mineralogy-Geology", Faculty of Crop Science, Agricultural University of Athens (3rd Winter Semester).

2014-today: Co-teaching of the laboratory exercises of the obligatory course "Geology-Geomorphology", Department of Natural Resources Management and Agricultural Engineering, Agricultural University of Athens (2nd Summer Semester).

2014-today: Co-teaching of the obligatory course "Geology-Geomorphology", Department of Natural Resources Management and Agricultural Engineering, Agricultural University of Athens (2nd Summer Semester).

2014-today: Co-teaching of the laboratory exercises of the optional course "Stratigraphy-Geomorphology", Faculty of Crop Science, Agricultural University of Athens (8th Summer Semester).
2014-today: Co-teaching of the optional course "Stratigraphy-Geomorphology", Faculty of Crop Science, Agricultural University of Athens (8th Summer Semester).
2014: Lecture with title: "Meteorites and long-term variations», in the context of the course «Long-term variations – Desertification phenomena and variations at the coastal areas", of the postgraduate course «Prevention and management of Natural Disasters » co-organized by the National and Kapodistrian University of Athens and the Technological Department of Serres (2nd semester).
2015-2016: Lecture with title "Applications of minerals and rocks" at the Msc level in the context of the course: "Geoenvironment and infrastructure" (Winter Semester).
2015-2016: Teaching at the Msc level the course: "Environmental Geochemistry" (Spring Semester).
2015-2016: Lecture with title "Mineral resources and Environment: consequences of exploitation in the environment and human" at the Msc level in the context of the course: "Environmental Geology-Hydrogeology" (Spring Semester).

LECTURE NOTES FOR STUDENTS

Baziotis, I. 2015: Lecturer notes in Petrology. In printed version (in Greek)

COMMITTEE MEMBER - SUPERVISION

- 2012-2013: Supervision of post-graduate student Brian Smith who studied the metasomatic processes in the area of Obnazhennaya, Siberian Craton, Russia (Principal Supervisor: Lawrence Taylor, University of Tennessee, Knoxville, USA).
- 2015-today: Member of Committee of the PhD candidate Dimitrios Mitrogiannis (Supervisor: Maria Psichogiou, Department of Natural Resources Management and Agricultural Engineering, Agricultural University of Athens).
- 2015-today: Co-Supervisor of undergraduate student Avgoustinos Pantazidis in collaboration with E. Manoutsoglou (Technical University of Crete) and Dr. Anezina Solomonidou (Jet Propulsion Laboratory). His Thesis title is: "Identifying a Martian and Lunar analogue in South Aegean Volcanic areas (Greece): Implications from mineralogical and mechanical properties, thermodynamic modeling, and spectroscopic data".

- 2015-today: Member of the scientific committee of the MSc student Alexandros Petropoulos in collaboration with N. Evelpidou (Kapodistrian University of Athens).

INVITED LECTURES

- 11th September 2006: International Conference Neogene Magmatism of the Central Aegean and Adjacent areas (NECAM) Milos, Greece (Presentation title: «Reconstruction and correlation of the exhumation history of high-pressure/low-temperature metamorphic rocks from Attica»).
- December 2012: American Geophysical Union (AGU) Fall Meeting (San Francisco, USA)(Presentation title: «UHP metamorphism in Greece: Petrologic data from the Rhodope Mountains».
- 16th April 2013: National Dong Hwa University of Hualien (Hualien, Taiwan) (Presentation title: «Thermobarometry, from theory to practice: Pseudosection calculations using Perplex Software»).
- 19th April 2013: Academia Sinica (Taipei, Taiwan))(Presentation title: «High pressure polymorphs in a single fresh piece of Martian Shergottite: implications for the largest impact excavation in Mars planet»).
- 5th September 2013: Opening Lecturer during the 13th International Conference of Geological Society of Greece, Chania-Crete (05-08 September 2013).
- 7th December 2013: Evgenidou Foundation (Presentation title: «Meteorite from Planet Mars: the example of the most important contemporary meteorite, Tissint »).
- 28th April 2014: European Geosciences Union (EGU)(Vienna, Austria)(Presentation title: «P-rich olivines in a melt vein of a composite mantle xenolith: implications for crystal growth and kinetics»).
- 26th September 2014: XX Congress of the Carpathian Balkan Geological Association (Tirana, Albania)(Presentation title: «From intermediate to small scale heterogeneity of compound mantle xenoliths from Cima Volcanic Field (Western USA): implications for rapid growth processes»).
- 18th March 2015: Athens Science Festival (Technopolis, Gazi, Athens)(Presentation title: «Meteorites and Asteroids: fantasy or threat from heaven?»).
- 22th March 2015: Agricultural University of Athens (Presentation title: «Water in our neighbour: The example of Mars and Moon»).
- 17th April 2015: European Geosciences Union (EGU) (Vienna, Austria)(Presentation title: «Phosphorus and other trace elements from secondary olivine in composite mantle xenoliths from Cima Volcanic Field: implications for crystal growth kinetics»).

- 14th July 2015: Meeting of Greek Space Industry (GSRT, Hellenic Association of Space Industry, Si-cluster, Corallia)(Presentation title: «Pure Science-Meteoritics»).
- 29th March 2016: Insitute for Geological and Mining Exploration (Athens, Greece)(Presentation title: Meteorites: the most precious stones from space).

EXPERIENCE IN ANALYTICAL INSTRUMENTS

- Optical Microscopy (transmitted and reflected light).
- Raman Spectroscopy: (1) **RM1000B of Renishaw**, at Department of Geological Sciences, School of Mining and Metallurgical Engineering, National Technical University of Athens and (2) **JY Horiba LabRam HR** (high resolution) 300 mm with 514 nm Argon-ion laser-excitation wavelength at Department of Geosciences, Virginia Tech University, Virginia, USA.
- Secondary Electron Microscopy (SEM), JEOL JSM-6310 at the Institute of Mineralogy and Petrology, University of Graz, Austria.
- Electron Microprobe **(**EMP) **Cameca SX-100** at Planetary Geosciences Institute, University of Tennessee, USA and University of Vienna, Austria; JEOL JXA-8530F Field Emission Gun Electron Microprobe (FE-EMP) and JEOL JSM-6610 Variable Pressure (VP) Scanning Electron Microscope (SEM), at Natural History Museum of Vienna, Austria.
- Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP MS - Laser Ablation Agilent 7500ce ICP-MS) coupled with Lambda Physik GeoLas 193 nm Excimer laser-ablation system at Department of Geosciences, Virginia Tech University, Virginia, USA. Also, Agilent 7500a ICP-MS equipped with a 193 nm ArF excimer laser στο Institut für Mineralogie, University of Münster-Germany and the respective at the State Key Laboratory of Geological Processes and Mineral Resources (GPMR), του China University of Geosciences στο Wuhan-China.
- X-ray Fluorescence and ICP-MS at the Institute of Mineralogy and Petrology, University of Graz, Austria.
- X-Ray Diffraction (XRD) and interpretation of diffractograms.
- Differential Thermal Analysis (DTA).
- Single-Crystal X-Ray Diffraction (SC-XRD) at the Agricultural University of Athens using a **Bruker D8 Venture**.

INTERNATIONAL SCIENTIFIC COLLABORATIONS

- Division of Geological and Planetary Sciences, California Institute of Technology, California, USA (Prof. Paul Asimow).
- Planetary Geosciences Institute, University of Tennessee, Knoxville, USA (Prof. Lawrence Taylor, Prof. Harry McSween, Dr. Geoff Howarth, Dr. Peter Barry).
- Jet Propulsion Laboratory, California, USA (Dr. Liu Yang).
- School of Earth, Energy and Environmental Sciences, Stanford University, California, USA (Prof. Gary Ernst).
- Department of Geoscience, University of Nevada, Las Vegas, USA (Ass. Prof. Arya Udry).
- University of Vienna, Vienna, Austria (Prof. Theo Ntaflos).
- Natural History Museum of Vienna, Vienna, Austria (Dr. Ludovic Ferrière, Prof. Christian Koeberl).
- Institute für Mineralogie, Universität Münster, Germany (Prof. Stephan Klemme, Dr. Alexander Krohe).
- German Research Centre for Geosciences, Helmholtz-Zentrum Potsdam, Germany (Dr. Nicole Hoymann).
- Department of Natural Resources and Environmental Studies, National Dong Hwa University, Hualien, Taiwan (Prof. Chin Ho Tsai).
- Department of Physical Sciences, Open University at Milton Keynes-United Kingdom (Prof. Mahesh Anand).

MEMBER OF SCIENTIFIC ORGANIZATIONS-OTHER SCIENTIFIC ACTIVITIES

- Project Reviewer for the NASA Postdoctoral Program (NPP)
- Member of the Mineralogical Society of Great Britain and Ireland
- Member of American Geophysical Union
- Member of European Geosciences Union
- Member of Meteoritical Society of America
- Member of Geological Society of Greece
- Member of Union of Greek Geologists
- Member of Geotechnical Chamber of Greece
- Member of Greek Speleological Society
- Member of Greek Astronomical Union

- Young Scientist Representative in the field of Geochemistry– Mineralogy – Petrology– Volcanology of European Geosciences Union (2014-2015)
- Reviewer for the Lithos Journal
- Reviewer for the Journal of the African Earth Sciences
- Reviewer for the International Journal of Mineral Processing
- Reviewer for Bulletin Geological Society of Greece (2013)

SCHOLARSHIPS - AWARDS

- 2001-2002: Scholarship for the best degree at 3rd year of studies (Greek State Scholarships Foundation).
- 2003: Scholarship from ELKE of National Technical University of Athens
- 2003-2007: Greek State Scholarships Foundation.
- 2008: Academy of Athens: Ktenas Prize for the paper entitled: «Petrogenesis of ultramafic rocks from the ultrahigh-pressure metamorphic Kimi Complex in Eastern Rhodope (NE Greece). Journal of Petrology, 49, 5, 885-909».

LANGUAGES

Speak and Write English language fluently.

COMPUTER KNOWLEDGE - GENERAL

1. Microsoft Office (Word, Excel, Power Point).
2. Corel Draw, ImageJ.
3. Dreamweaver, FrontPage.
4. Mathematica, Matlab, Datafit.
5. Arcview, ArcGIS

COMPUTER KNOWLEDGE - SPECIAL

1. **Mineralogy-Petrology**: PERPLEX, Thermocalc, TWEEQU, Geopath, PTMAFIC, PET, EVA, Winfit.
2. **Geochemistry**: AlphaMelts, Pele, Petroplot.
3. **Statitics**: Sigmaplot
4. **Raman**: LabSpec, Grams32, Fityk.

FULL PUBLICATION LIST

PhD Thesis

Baziotis, I. 2008. Petrological and Geochemical study of the metamorphic rocks from east Attica. PhD Thesis. Department of Geological Sciences, School of Mining and Metallurgical Engineering, National Technical University of Athens, pp. 420. In Greek with English abstract.

Publications in International Journals

1. Mposkos, E., ***Baziotis,*** **I.**, Proyer, A. and Hoinkes, G. 2006. Dolomitic marbles from the ultra-high pressure metamorphic Kimi Complex in Rhodope, N.E. Greece. **Mineralogy and Petrology**, 88, 341-362.

2. ***Baziotis, I.***, Mposkos, E. and Perdikatsis, V. 2008. Geochemistry of amphibolitized eclogites and cross-cutting tonalitic-trondhjemitic dykes in the metamorphic Kimi complex in East Rhodope (N.E. Greece): implications for partial melting at the base of a thickened crust. **International Journal of Earth Sciences**, 97, 459-477.

3. ***Baziotis, I.***, Mposkos, E. and Asimow, P.D. 2008. Petrogenesis of ultramafic rocks from the ultrahigh-pressure metamorphic Kimi Complex in Eastern Rhodope (NE Greece). **Journal of Petrology**, 49, 5, 885-909.

4. Proyer, A., Mposkos, E., ***Baziotis, I.*** and Hoinkes, G. 2008. Tracing high-pressure metamorphism in marbles: phase relations in high-grade aluminous calcite-dolomite marbles from the Greek Rhodope Massif in the system CaO-MgO-Al_2O_3-SiO_2-CO_2. **Lithos**, 104, 119-130.

5. ***Baziotis, I.***, Proyer, A. and Mposkos, E. 2009. High-pressure/Low-temperature metamorphism of basalts in the Lavrion (Greece): implications for the preservation of peak metamorphic assemblages in blueschists and greenschists. **European Journal of Mineralogy**, 21, 133-148.

6. Mposkos, E., ***Baziotis, I.*** and Proyer, A. 2010. Metamorphic reprocessing of a serpentinized carbonate-bearing peridotite after detachment from the mantle wedge: A *P-T* path constrained from textures and phase diagrams in the system CaO-MgO-Al_2O_3-SiO_2-CO_2-H_2O. **Lithos**, 118, 349-364.

7. ***Baziotis, I.***, Leontakianakos, G., Proyer, A., Lee, H.S. and Tsimas, S. 2011. Physico-chemical properties of different carbonate rocks: are they highly enough to control lime reactivity? **International Journal of Chemistry,** 3(2).

At lecturer level

8. ***Baziotis, I.*** and Mposkos, E. 2011. Origin of metabasites from upper tectonic unit of the Lavrion area (SE Attica, Greece): Geochemical implications for dual origin with distinct provenance of blueschist and greenschist`s protoliths. **Lithos**, 126, 161-173.

9. ***Baziotis, I.*** and Chandrinos, A. 2011. Study of the crucial role of admixture in cement production: the optimum state of cassiterite (SnO_2) addition as a natural mineralizer-oxide influencing the cement properties. **Advances in Chemical Engineering and Science**, 1, 215-223.

10. Mposkos, E., **Baziotis, I.** and Proyer, A. 2012. Pressure-temperature evolution of eclogites from the Kechros complex in the Eastern Rhodope (NE Greece). **International Journal of Earth Sciences**, 101(4), 973-996.

11. ***Baziotis, I.P.***, Liu, Y., DeCarli, P., Melosh, J., McSween, H.Y., Bodnar, R.J., and Taylor, L.A 2013. The Unique Tissint Martian Meteorite: Evidence for Largest Impact Excavation. **Nature Communications**, 4:1404 doi: 10.1038/ncomms2414.

12. Mposkos, E., ***Baziotis*, I.**, Leontakianakos, G. and Barry, P., 2013. The metamorphic evolution of the high-pressure Kechros complex in East Rhodope (NE Greece): Implications from Na-Al-rich leucocratic rocks within antigorite serpentinites. **Lithos**, 177, 17-33.

13. ***Baziotis, I.*** 2013. Theoretical observations of the ice filled craters on Martian moon Deimos. **Pluralidade**, 1, 56-99.

14. Howarth, G.H., Barry, P.H., Pernet-Fisher, J.F., ***Baziotis, I.***, Pokhilenko, N.P., Pokhilenko, L.N. and Taylor, L.A. 2014. Superplume Metasomatism: Evidence from Siberian Mantle Xenoliths. **Lithos**, 184-187, 209-224.

15. ***Baziotis, I.***, Mposkos, E. and Asimow P.D. 2014. Continental rift and oceanic protoliths of mafic rocks from the Kechros Complex, NE Rhodope (Greece): implications from petrography, major and trace element systematics, and MELTS modeling. **International Journal of Earth Sciences**, 103, 981-1003.

16. Proyer, A., ***Baziotis, I.***, Mposkos, E. and Rhede, D. 2014. Ti- and Zr-minerals in calcite-dolomite marbles from the Greek Rhodope: Rutile, titanite, geikielite-ilmenite, zircon, zirconolite, kassite and their reaction textures in calcite-dolomite marbles from the Rhodope massif, NE Greece. **American Mineralogist**, 99(7), 1429-1448.

17. Leontakianakos, G., ***Baziotis, I.***, Papandreou, A., Kanellopoulou, D., Stathopoulos, V.N. and Tsimas, S. 2014. A comparative study of the physicochemical properties of Mg-rich and Ca-rich quicklimes and their effect on reactivity. **Materials and Structures**, 10, 1-19.

18. Vallianatos, F., ***Baziotis, I. P.***, Udry, A. and Taylor, L. A. 2014. Application of non-extensive statistical physics on Martian nakhlites: A first-order approach on the crystal size distribution of pyroxene using Tsallis entropy. **Europhysics Letters** (EPL), 108(5), 58002.

19. Wawrzenitz, N., Krohe, A., ***Baziotis, I.***, Mposkos, E., Kylander-Clark, A. R., & Romer, R. L. 2015. LASS U-Th-Pb monazite and rutile geochronology of felsic high-pressure granulites (Rhodope, N Greece): Effects of fluid, deformation and metamorphic reactions in local subsystems. **Lithos**, doi:10.1016/j.lithos.2015.06.029.

20. He, Q., Xiao, L., Balta, J. B., ***Baziotis, I. P.***, Hsu, W., & Guan, Y. (2015). Petrography and geochemistry of the enriched basaltic shergottite Northwest Africa 2975. **Meteoritics & Planetary Science**, 50(12), 2024-2044.

21. Markou, G., Inglezakis, V. J., Mitrogiannis, D., Efthimiopoulos, I., Psychoyou, M., Koutsovitis, P., ... & ***Baziotis, I.*** (2016). Sorption mechanism(s) of orthophosphate onto $Ca(OH)_2$ pretreated bentonite. **RSC Advances**, *6*(27), 22295-22305.

Full papers in Proceedings

22. ***Baziotis,* I.**, Mposkos, E. and Perdikatsis, V. 2004. Pre-alpine migmatitic rocks and acid to intermediate orthogneisses in Pentelikon Mountain (NE Attica, Greece). Bulletin of Geological Society of Greece, 36/1, 542-551.

23. Mposkos E. and ***Baziotis, I.*** 2005. Petrology and geochemistry of amphibolitized eclogites and trondjemitic veins from the Organi-Kimi area of Eastern Rhodope. 2nd Congress of the Committee of Economic Geology, Mineralogy & Geochemistry, Thessaloniki, October 2005, 259-268.

24. Mposkos, E., Krohe, A., Diamantopoulos, A. and ***Baziotis, I.*** 2007. Late- and post-Miocene geodynamic evolution of the Mesogea basin (East Attica, Greece): Constraints from sediment petrography and structures. Bulletin of Geological Society of Greece, 40/1, 399-411.

25. ***Baziotis, I.***, Mposkos, E., Palikari, S. and Perraki, M. 2007. Geochemistry of ultramafic rocks from ultra-high pressure metamorphic Kimi complex in East Rhodope (N.E. Greece). Bulletin of Geological Society of Greece, 40/2, 653-665.

26. Mposkos, E., Palikari, S. και ***Baziotis, I.*** 2007. The diamond-bearing metapelites from tectonometamorphic Kimi Complex. Data help us to understand the geodynamic evolution of the Rhodope Mountains. «Pythagoras». Meeting for the scientific research at NTUA. 5-8 July 2007 Plomari Lesvos. 133-140. In Greek.

27. Mposkos, E. and ***Baziotis, I.*** 2010: Study of the metamorphic evolution of a carbonate-bearing metaperidotite from the Sidironero Complex (Central Rhodope, Greece) using P-T and P(T)-X_{CO2} pseudosections. Bulletin of the Geological Society of Greece, Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/5, 2667-2679.

28. ***Baziotis, I.*** and Mposkos, E. 2010: Geochemistry and tectonic setting of eclogite protoliths from Kechros complex in East Rhodope (N.E. Greece). Bulletin of the Geological Society of Greece, Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/5, 2522-2531.

29. Leontakianakos, G., ***Baziotis, I.***, Economou, G., Delagrammatikas, G., Galbenis, C.T. and Tsimas, S. 2010: A case study of different limestones during quick lime and slaked-lime production. Bulletin of the Geological Society of Greece,

Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/5, 2485-2491.

30. Mposkos, E., Krohe, A. and ***Baziotis, I.*** 2010: Alpine polyphase metamorphism in metapelites from Sidironero Complex (Rhodope Domain, NE Greece). Scientific Annals, School of Geology, Aristotle University of Thessaloniki. Proceedings of the XIX Congress of Carpathian-Balkan Geological Association, Thessaloniki, Greece, 100, 173-181.

31. Mposkos, E., ***Baziotis, I.*** and Krohe, A. 2010: Record of two Alpine high-P metamorphic events in the Titaros Ophiolite Complex of the Pelagonian Zone (Greece). Scientific Annals, School of Geology, Aristotle University of Thessaloniki. Proceedings of the XIX Congress of Carpathian-Balkan Geological Association, Thessaloniki, Greece, 99, 289-298.

At lecturer level

32. ***Baziotis, I.***, Asimow, P., Koroneos, A., Poli, G. and Ntaflos, T. 2013. Multi-stage history of compound mantle xenoliths from western USA: implications for metasomatic processes in the deep mantle. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 357-365.

33. Leontakianakos, G., ***Baziotis, I.***, Profitis, E., Chatzitheodoridis, E. and Tsimas, S. 2013a. Assessment of the quality of calcination of marbles from Thassos island using Raman spectroscopy and X-ray diffraction. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 2040-2049.

34. Leontakianakos, G., Vrachas, C., Baziotis, G., ***Baziotis, I.***, Soultati, G. and Fermeli, G. 2013b. Theoretical approach of teaching lithosphere in junior high school: a critical review of the content and objectives defined by the curriculum of the ministry of education. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 1024-1030.

35. Kougemitrou, I., Economou, G., Giovanopoulos, I., ***Baziotis, I.***, Leontakianakos, G. and Stathopoulos, V. 2013. A mineralogical study of pigments used in two Iakovidis paintings: verification of artwork authenticity using Raman Micro-spectroscopy. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 392-396.

36. ***Baziotis, I.*** & Taylor, L.A. 2013. Are we alone in the Universe? Does the meteorites give answers? Invited talk. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 32-50 (In Greek with English abstract).

Extended abstracts in Proceedings

37. ***Baziotis*, I.**, Mposkos, E. and Perdikatsis, V. 2004. Pre-alpine basement and acid to intermediate magmatism in Pentelikon Mountain (NE Attica, Greece). 10th International Congress of the Geological Society of Greece, 15-17 April 2004, Thessaloniki, Greece, 351-352.

38. Perraki M., Proyer A., Mposkos E., Kaindl R., ***Baziotis* I.** and Hoinkes G. 2004. Micro- and nanodiamonds in garnets of metapelitic rocks from the Greek Rhodope: an in-situ micro-Raman study. 5th International Symposium on Eastern Mediterranean Geology, 14-20 April 2004, Thessaloniki, Greece, T2-35, 1216-1219.

39. Skarpelis, N., Triantafyllidis, S. and **Baziotis, I.** 2004. Acid rock drainage in the mine of Lavrion, Greece. In: Agioutantis, Z. and Komnitsas, K. (eds.) International Conference "Advances in mineral resources management and environmental geotechnology", Hania 2004, Greece, 531-536.

40. Mposkos, E., ***Baziotis, I.***, Palikari, S., Perraki, M and Diamantopoulos, A. 2006. Petrology and geochemistry of garnet-spinel metaperidotites and associated spinel-garnet clinopyroxenites from the UHP Kimi complex, Eastern Rhodope (NE Greece). XVIIIth Congress of Carpathian-Balkan Geological Association, 3-6 September 2006, Belgrade, Serbia, 394-398.

Abstracts

41. Skarpelis, N. and ***Baziotis*, I.** 2003. Acid mine drainage phenomena at the underground mines of the Lavrion area: Environmental impacts and their ore deposits significance. Proceedings of the 1st Congress at the South Eastern Attica, Kalyvia. In Greek.

42. ***Baziotis*, I.**, Mposkos, E. and Perdikatsis, V. 2004. Alpine high-pressure/low-temperature metamorphism in Penteli area (NE Attica, Greece). 32nd International Geological Congress, Florence, Italy, Abs, 1[164-37], p.776.

43. Mposkos, E., ***Baziotis*, I.**, Palikari, S., Perraki, M., Krohe, A. and Hoinkes, G. 2004. Alpine UHP metamorphism in the Kimi complex of the Rhodope HP province N.E. Greece: mineralogical and textural indicators. 32nd International Geological Congress, Florence, Italy 1[18-28], p.108.

44. Perraki M., Proyer A., Mposkos E., Kaindl R., ***Baziotis* I.** and Hoinkes G. 2004. Raman microspectroscopy on diamonds from the Rhodope Metamorphic Province, NE Greece. 32nd International Geological Congress, Florence, Italy, Abs, 1, [18-13], p.105.

45. ***Baziotis*, I.**, Mposkos, E., Perdikatsis, V. and Hauzenberger, C. 2005. Blueschist-facies metamorphism and geochemistry of metabasites from allochthonous unit in Lavrion area (SE Attica, Greece). Mitteilungen der Österrichischen Mineralogischen Gesellschaft, 150, 18.

46. Mposkos, E., ***Baziotis*, I.**, Hoinkes, G. and Proyer, A. 2005. Dolomitic marbles from Organi area in the eastern Rhodope ultrahigh-pressure metamorphic terrane, NE Greece. Mitteilungen der Österrichischen Mineralogischen Gesellschaft, 150, 112.

47. ***Baziotis*, I.** and Mposkos, E. 2005. Geochemistry of amphibolitized eclogites and cross-cutting trondhjemitic dykes in the ultra-high pressure metamorphic Kimi Complex in east Rhodope, N.Greece. International Earth Sciences Colloquium on the Aegean Regions, 4-7 October 2005, Izmir, Turkey, 18-19.

48. Mposkos, E., ***Baziotis*, I.** and Palikari, S. 2005. Ultra-high pressure – ultra-high temperature metamorphism in east Rhodope, NE Greece: Evidence from metapelites, amphibolitized eclogites and dolomitic marbles. International Earth Sciences Colloquium on the Aegean Regions, 4-7 October 2005, Izmir, Turkey, 83.

49. ***Baziotis, I.,*** Mposkos, E. and Skarpelis, N. 2006. Raman micro-spectroscopy of carbonaceous material using the 633nm line of a He-Ne laser: application to the metamorphic rocks of Attica. Geophysical Research Abstracts, 8, EGU06-A-10882.

50. ***Baziotis, I.,*** Mposkos, E. and Perdikatsis, V. 2006. Reconstruction and correlation of the exhumation history of high-pressure/low-temperature metamorphic rocks from Attica. Neogene Magmatism of the Central Aegean and Adjacent Areas: Petrology, Tectonics, Geodynamics, Mineral Resources and Environment, International Conference, 11 - 13 September 2006, Milos, Greece, p.28.

51. Palikari, S., Perraki, M., Mposkos, E. and ***Baziotis, I.*** 2008: Multiphase inclusions in metapelitic garnets of the Rhodope Metamorphic Province, NE Greece. GeoRaman 08, Ghent.

52. Leontakianakos, G., ***Baziotis, I.***, Kiousis, G., Giavis, D. and Tsimas, S. 2010: An integrated study of limestone behavior during calcination and hydration processes. Geophysical Research Abstracts, 12, EGU2010-13164-1.

53. Mposkos, E., ***Baziotis, I.*** and Asimow, P.D. 2010: Petrology and geochemistry of eclogites from the Kechros Metamorphism Complex in eastern Rhodope (NE Greece). Geophysical Research Abstracts, 12, EGU2010-12948.

54. Mposkos, E. and ***Baziotis, I.*** 2010: Tertiary eclogites in the lower tectonic unit of East Rhodope (Kechros Complex, NE Greece). 20th General Meeting of the International Mineralogical Association, 21-27 August 2010, Budapest, Hungary. GP84-Decoding P-T-t-d evolution in mountain belts: Significance for geodynamics, 595.

55. Chandrinos, A., ***Baziotis, I.*** and Leontakianakos, G. 2011: Evaluating the role of tin (SnO2) as a natural mineralizer-oxide on the cement properties. Geophysical Research Abstracts. Vienna, Austria, 13, EGU2011-9012.

At lecturer level

56. Leontakianakos, G., ***Baziotis, I.***, Sotiriadis, K., Goulas, G., Liakopoulos, S. and Karastathis, V. 2012. Slag of Greek provenance uses in materials science and geophysics: implications for a highly potential material in the service of the development of Greek economy. Geophysical Research Abstracts. Vienna, Austria, 14, EGU2012-3737.

57. ***Baziotis, I.P.***, Liu, Y., McSween, H.Y., Bodnar, R. and L.A. Taylor 2012. Tissint Meteorite: A Fresh Piece of Martian Lava. Meteoritical Society Conference, 12-17 August, Australia.

58. ***Baziotis, I.***, Mposkos, E. and Leontakianakos, G. 2012. Amphibole chemistry from the Penteli metamorphic core complex: implication for the metamorphic evolution of eastern Attica. European Mineralogical conference, 2-6 September Frankfurt Germany.

59. ***Baziotis, I.***, Mposkos, E., Krohe, A., Wawrzenitz, N., Liu, Y. and Taylor, L.A.2012. UHP metamorphism in Greece: Petrologic data from the Rhodope Mountains. American Geophysical Union Fall Meeting, San Francisco, 3-7 December 2012.

60. ***Baziotis, I.***, Asimow, P., Koroneos, A. and Poli, G. 2013. Preliminary Study of Mantle Heterogeneity in Compound Xenoliths using In-situ Methods. 13^{th} International Congress of the Geological Society of Greece, 5-8 September 2013, Chania, Greece.

61. Leontakianakos, G., ***Baziotis, I.***, Profitis, E., Chatzitheodoridis E. and Tsimas, S. 2013. Assessment of the quality of progressive calcination using Raman and X-ray diffractometry: application on Thassos island`s marbles. 13^{th} International Congress of the Geological Society of Greece, 5-8 September 2013, Chania, Greece.

62. ***Baziotis, I.***, Asimow, P., Koroneos, A., Ntaflos, T. and Poli, G. 2013. A dynamic Study of Mantle processes applying In-Situ methods to Compound Xenoliths: implications for small to intermediate scale heterogeneity. Geophysical Research Abstracts, 15, EGU2013-5541.

63. ***Baziotis, I.P.***, Liu, Y. and L.A. Taylor 2013. Detailed Raman spectroscopic study of the Tissint meteorite: Extraordinary occurrence of High Pressure polymorphs in a single fresh piece of Martian Shergottite. Geophysical Research Abstracts, 15, EGU2013-5463.

64. Werner, S.C., Melosh, H.J., McSween, H.Y., Liu, Y., **Baziotis, I.P.**, Bodnar, R., DeCarli, P.S. and Taylor, L.A. 2013. Mojave crater: possible source for Martian Meteorites. 44th Lunar and Planetary Science Conference, #2257.

65. Liu, Y., Taylor, L.A., **Baziotis, I.P.**, Mc Sween, H.Y., Bodnar, R., DeCarli, P.S. and Melosh, H.J. 2013. Impact excavation of Martian Meteorites: index from Shock Formed Minerals. 44th Lunar and Planetary Science Conference, #1371.

66. Ferrière, L., Brandstätter, F., Topa, D., Schulz, T., ***Baziotis, I.P.***, Münker, C. and Coeberl, C. 2013. The complex history of Tissint inferred from different types of melt inclusions and isotopic systems. 76th Annual Meteoritical Society Meeting, #5194.

67. ***Baziotis, I.***, Asimow, P., Ntaflos, T., Koroneos, A. and Poli, G. 2013. High- to low- pressure features of compound xenoliths: implications from Fe-Ti-Ca metasomatism and glass formation. Goldschmidt Conference Abstracts, 673.

68. ***Baziotis, I.***, Proyer, A., Mposkos, E., Marsellos, A. and Leontakianakos, G. 2014. Amphibole zonation as a tool for tracing metamorphic histories: examples from Lavrion and Penteli metamorphic core complexes. Geophysical Research Abstracts, 16, EGU2014-835-1.

69. ***Baziotis, I.***, Asimow, P.D., Ntaflos, T., Koroneos, A., Perugini, D. and Stolper, E. 2014. P-rich olivines in a melt vein of a composite mantle xenolith: implications for crystal growth and kinetics. Geophysical Research Abstracts, 16, EGU2014-5564.

70. ***Baziotis, I.***, Asimow, P.D., Ntaflos, T., Boyce, J., McCubbin, F. M., Koroneos, A., Perugini, D., Flude, S., Storey, M., Liu, Y.S. and Stolper, E. 2014. Phosphorus zoning as a recorder of crystal growth kinetics: implications from secondary olivine

and pyroxene in mantle xenoliths from Cima Volcanic Field. 6th Orogenic Lherzolite Conference, 4-15th Marrakech, Morocco.

71. ***Baziotis, I.***, Asimow, P.D., Koroneos, A., Perugini, D., Ntaflos, T., Flude, S. and Storey, M. 2014. From intermediate to small scale heterogeneity of compound mantle xenoliths from Cima Volcanic Field (Western U.S.A.): implications for metasomatic processes in the deep mantle. XX Congress of the Carpathian Balkan Geological Association, Tirana, Albania, 24-26 September, 111.

72. ***Baziotis, I.,*** Asimow, P., Ntaflos, T., Boyce, J., Koroneos, A., Perugini, D., Liu, Y.S., Klemme, S. and Berndt, J. 2015. Phosphorus and other trace elements from secondary olivine in composite mantle xenoliths (CMX) from Cima Volcanic Field (CVF; California, USA): implications for crystal growth kinetics. Geophysical Research Abstracts, 17, EGU2015-13780.

73. ***Baziotis, I.,*** Ferrière, L., Brandstätter1, F., Topa, D. and Asimow, P.D. 2016. Shock metamorphism in ordinary chondrites: Examples from Chelyabinsk (LL5) and Chantonnay (L6) meteorites. 47th LPSC, #1440.

74. ***Baziotis, I.,*** Ferrière, L., Asimow, P.D., Topa, D. and Brandstätter, F. 2016. P-rich olivines in the impact melt lithology of the Chelyabinsk meteorite. 47th LPSC, #1437.

75. ***Baziotis, I.,*** Mavrogonatos, K., Flemetakis, S., Papoutsa, A., Klemme, S., Berndt, J. and Asimow, P. 2016. Rapid growth of phosphorus-rich olivine in mantle xenolith from Middle Atlas Mountains (Morocco, Africa). Geophysical Research Abstracts, 18, EGU2016-522.

Short description of Research

Type of publication	1st name	2nd name	>2nd name	Total
A	3	2	1	6
B	1			1
C	3	4	3	10
D	1	1	2	4
E	5	8	2	15
At lecturer level				
A	4	5	4	13
B	1			1
C	2	1	2	5
D				
E	15	2	3	20
Total				**75**

A: Papers in International Journals with impact factor (IF)
B: Papers in International Journals without impact factor IF
C: Full papers in Proceedings
D: Extended abstracts
E: Abstracts

Journal Impact factor of published papers

	Journal	Impact Factor		Journal	Impact Factor
1	Mineralogy and Petrology	1.349	12	Lithos	4.482
2	International Journal of earth Sciences	2.093	14	Lithos	4.482
3	Journal of Petrology	4.424	15	International Journal of earth Sciences	2.093
4	Lithos	4.482	16	American Mineralogist	1.964
5	European Journal of Mineralogy	1.483	17	Materials and Structures	1.714
6	Lithos	4.482	18	Europhysics Letters	2.095
8	Lithos	4.482	19	Lithos	4.482
9	Advances in Chemical Engineering and Science	0.86	20	MAPS	3. 104
10	International Journal of earth Sciences	2.093	21	RSC advances	3. 84
11	Nature Communications	11.47			
6 papers (1-6)		Average value of impact factor = **3.052**			
At lecturer level					
13 papers (8-12 & 14-21)		Average value of impact factor = **3.656** (among them, one paper published in a journal with IF=**11.47**)			

CITATIONS

On PhD Thesis (4):

1. Krohe, A., Mposkos, E., Diamantopoulos, A. & Kaouras, G. 2010. Formation of basins and mountain ranges in Attica (Greece): The role of Miocene to recent low-angle normal detachment faults. Earth Science Reviews, 98, 1-2, 81-104.
2. Γκέκας, Γ. 2012. Η δομή του τεκτονικού καλύμματος των κυανοσχιστολίθων στην ευρύτερη περιοχή Ζόργκου-Άνδρου. Πτυχιακή εργασία, Πανεπιστήμιο Πατρών, σελ. 46.
3. Σερέτη, Δ. 2012. Η δομή του τεκτονικού καλύμματος των κυανοσχιστολίθων στην ευρύτερη περιοχή Μερμυγκιές-Άνδρου. Πτυχιακή εργασία, Πανεπιστήμιο Πατρών, σελ. 35
4. Παπαπαύλου, Κ. 2013. Η πλαστική ζώνη διάτμησης του Φελλού (Ενότητα Κυανοσχιστολίθων, Άνδρος). Μεταπτυχιακή εργασία, Πανεπιστήμιο Πατρών, σελ. 97.

On paper #1 (8):

5. Bauer, C., Rubatto, D., Krenn, K., Proyer, A., & Hoinkes, G. (2007). A zircon study from the Rhodope metamorphic complex, N-Greece: time record of a multistage evolution. *Lithos*, *99*(3), 207-228.
6. Proyer, A., Mposkos, E., Baziotis, I., & Hoinkes, G. (2008). Tracing high-pressure metamorphism in marbles: phase relations in high-grade aluminous calcite–dolomite marbles from the Greek Rhodope massif in the system $CaO–MgO–Al_2O_3–SiO_2–CO_2$ and indications of prior aragonite. *Lithos*, *104*(1), 119-130.
7. Liou, J.G., Ernst, W.G., Zhang, R.Y., Tsujimori, T. & Jahn, B.M. 2009. Ultrahigh-pressure minerals and metamorphic terranes-The view from China. Journal of Asian Earth Sciences, 35, 199-231.
8. Bucher, K., & Grapes, R. (2011). Metamorphism of Dolomites and Limestones. In *Petrogenesis of Metamorphic Rocks* (pp. 225-255). Springer Berlin Heidelberg.
9. Lü, Z., Bucher, K., & Zhang, L. (2013). Omphacite-bearing calcite marble and associated coesite-bearing pelitic schist from the meta-ophiolitic belt of Chinese western Tianshan. *Journal of Asian Earth Sciences*, *76*, 37-47.
10. RUŽIČKA, P., MICHÁLEK, M., & MILOVSKÁ, S. (2013). Metamorfný vývoj dolomitického mramoru z gréckeho ostrova Thassos. *Bulletin Mineralogicko-Petrologickeho Oddeleni Narodniho Muzea v Praze*, *21*(1).
11. Ogasawara, Y. (2014). Titanite Stability in UHP Metacarbonate Rocks from the Kokchetav Massif, Northern Kazakhstan, 11-31.
12. Proyer, A., Baziotis, I., Mposkos, E., & Rhede, D. (2014). Ti-and Zr-minerals in calcite-dolomite marbles from the ultrahigh-pressure Kimi Complex, Rhodope mountains, Greece: Implications for the PT evolution based on reaction textures, petrogenetic grids, and geothermobarometry. *American Mineralogist*,*99*(7), 1429-1448.

On paper #2 (7):

13. Mposkos, E., & Krohe, A. (2006). Pressure-temperature-deformation paths of closely associated ultra-high-pressure (diamond-bearing) crustal and mantle rocks of the Kimi complex: implications for the tectonic history of the Rhodope Mountains, northern Greece. *Canadian Journal of Earth Sciences*, *43*(12), 1755-1776.
14. Melfos, V., Chatzikirkou, A., Michailidis, K. & Voudouris, P. 2010. Fluids related to remobilization of Mesozoic sulfide mineralization in the Eptadendro-Rachi region in Eastern Rhodope, Thrace, Greece. Scientific Annals, School of Geology, Aristotle University of Thessaloniki. Proceedings of the XIX Congress of Carpathian-Balkan Geological Association, Thessaloniki, Greece, 100, 343-350.
15. Krenn, K., Bauer, C., Proyer, A., Klötzli, U. & Hoinkes, G. 2010. Tectonometamorphic evolution of the Rhodope orogen. Tectonics, 29, TC4001, doi:10.1029/2009TC002513.
16. Richards, J. P. (2011). High Sr/Y arc magmas and porphyry Cu±Mo±Au deposits: just add water. *Economic Geology*, *106*(7), 1075-1081.
17. Eliopoulos, D. G., & Kilias, S.P. (2011). Marble-hosted submicroscopic gold mineralization at Asimotrypes area, mount Pangeon, southern Rhodope core complex, Greece. *Economic Geology*, *106*(5), 751-780.
18. Liu, Y., Deng, L., & Gu, X. (2015). Multistage exhumation and partial melting of high-T ultrahigh-pressure metamorphic rocks in continental subduction-collision zones. *Science China Earth Sciences*, 1-16.
19. Wawrzenitz, N., Krohe, A., Baziotis, I., Mposkos, E., Kylander-Clark, A. R., & Romer, R. L. (2015). LASS U-Th-Pb monazite and rutile geochronology of felsic high-pressure granulites (Rhodope, N Greece): Effects of fluid, deformation and metamorphic reactions in local subsystems. *Lithos*.

On paper #3 (7):

20. Baziotis, I. & Μπόσκος, E. (2010). Geochemistry and tectonic setting of eclogite protoliths from Kechros Complex in East Rhodope (NE Greece).*Δελτίον της Ελληνικής Γεωλογικής Εταιρίας*, *43*(5), 2521-2531.
21. Mposkos, E., Baziotis, I., & Proyer, A. (2010). Metamorphic reprocessing of a serpentinized carbonate-bearing peridotite after detachment from the mantle wedge: A P–T path constrained from textures and phase diagrams in the system $CaO–MgO–Al_2O_3–SiO_2–CO_2–H_2O$. *Lithos*, *118*(3), 349-364.
22. Kirchenbaur, M., Pleuger, J., Jahn-Awe, S., Nagel, T. J., Froitzheim, N., Fonseca, R. O., & Münker, C. (2012). Timing of high-pressure metamorphic events in the Bulgarian Rhodopes from Lu–Hf garnet geochronology.*Contributions to Mineralogy and Petrology*, *163*(5), 897-921.

23. Mposkos, E., Baziotis, I., Leontakianakos, G., & Barry, P. H. (2013). The metamorphic evolution of the high-pressure Kechros complex in East Rhodope (NE Greece): implications from Na–Al-rich leucocratic rocks within antigorite serpentinites. *Lithos*, *177*, 17-33.
24. Baziotis, I., Mposkos, E., & Asimow, P. D. (2014). Continental rift and oceanic protoliths of mafic–ultramafic rocks from the Kechros Complex, NE Rhodope (Greece): implications from petrography, major and trace-element systematics, and MELTS modeling. *International Journal of Earth Sciences*, *103*(4), 981-1003.
25. Proyer, A., Baziotis, I., Mposkos, E., & Rhede, D. (2014). Ti-and Zr-minerals in calcite-dolomite marbles from the ultrahigh-pressure Kimi Complex, Rhodope mountains, Greece: Implications for the PT evolution based on reaction textures, petrogenetic grids, and geothermobarometry. *American Mineralogist*,*99*(7), 1429-1448.
26. Wawrzenitz, N., Krohe, A., Baziotis, I., Mposkos, E., Kylander-Clark, A. R., & Romer, R. L. (2015). LASS U-Th-Pb monazite and rutile geochronology of felsic high-pressure granulites (Rhodope, N Greece): Effects of fluid, deformation and metamorphic reactions in local subsystems. *Lithos*.

On paper #4 (15):

27. Smit, M.A., Broecker, M. & Scherer, E.E. 2008. Aragonite and magnesite in eclogites from the Jaeren nappe, SW Norway: disequilibrium in the system $CaCO_3$-$MgCO_3$ and petrological implications. Journal of Metamorphic Geology, 26 (9), 959-979.
28. Seaton, N., Whitney, D., Teyssier, C., Toraman, E. & Heizler, M. 2009. Recrystallization of high-pressure marble (Sivrihisar, Turkey). Tectonophysics, 479, 241-253.
29. Mizuochi, H., Satish-Kumar, M., Motoyoshi, Y. & Michibayashi, K. 2010. Exsolution of dolomite and application of calcite-dolomite solvus geothermobarometry in high-grade marbles: an example from Skallevikshalsen, East Antarctica. Journal of Metamorphic Geology, 28 (5), 509-526.
30. Massonne, H. J. (2011). Phase relations of siliceous marbles at ultrahigh pressure based on thermodynamic calculations: examples from the Kokchetav Massif, Kazakhstan and the Sulu terrane, China. *Geological Journal*, *46*(2‐3), 114-125.
31. Bucher, K., & Grapes, R. (2011). Metamorphism of Dolomites and Limestones. In *Petrogenesis of Metamorphic Rocks* (pp. 225-255). Springer Berlin Heidelberg.
32. Lü, Z., Bucher, K., & Zhang, L. (2013). Omphacite-bearing calcite marble and associated coesite-bearing pelitic schist from the meta-ophiolitic belt of Chinese western Tianshan. *Journal of Asian Earth Sciences*, *76*, 37-47.
33. Mikhno, A. O., & Korsakov, A. V. (2013). K_2O prograde zoning pattern in clinopyroxene from the Kokchetav diamond-grade metamorphic rocks: Missing part of metamorphic

history and location of second critical end point for calc-silicate system. *Gondwana Research*, *23*(3), 920-930.

34. Rajesh, V. J., Arai, S., Satish-Kumar, M., Santosh, M., & Tamura, A. (2013). High-Mg low-Ni olivine cumulates from a Pan-African accretionary belt in southern India: Implications for the genesis of volatile-rich high-Mg melts in suprasubduction setting. *Precambrian Research*, *227*, 409-425.
35. RUŽIČKA, P., MICHÁLEK, M., & MILOVSKÁ, S. (2013). Metamorfný vývoj dolomitického mramoru z gréckeho ostrova Thassos. *Bulletin Mineralogicko-Petrologickeho Oddeleni Narodniho Muzea v Praze*, *21*(1).
36. Du, J. X., Zhang, L. F., Bader, T., Chen, Z. Y., & Lü, Z. (2014). Metamorphic evolution of relict lawsonite-bearing eclogites from the (U) HP metamorphic belt in the Chinese southwestern Tianshan. *Journal of Metamorphic Geology*, *32*(6), 575-598.
37. Li, J. L., Klemd, R., Gao, J., & Meyer, M. (2014). Compositional zoning in dolomite from lawsonite-bearing eclogite (SW Tianshan, China): Evidence for prograde metamorphism during subduction of oceanic crust. *American Mineralogist*, *99*(1), 206-217.
38. Proyer, A., Baziotis, I., Mposkos, E., & Rhede, D. (2014). Ti-and Zr-minerals in calcite-dolomite marbles from the ultrahigh-pressure Kimi Complex, Rhodope mountains, Greece: Implications for the PT evolution based on reaction textures, petrogenetic grids, and geothermobarometry. *American Mineralogist*,*99*(7), 1429-1448.
39. Collett, S., Faryad, S. W., & Mosazai, A. M. (2015). Polymetamorphic evolution of the granulite-facies Paleoproterozoic basement of the Kabul Block, Afghanistan. *Mineralogy and Petrology*, 1-22.
40. Kydonakis, K., Moulas, E., Chatzitheodoridis, E., Brun, J. P., & Kostopoulos, D. (2015). First-report on Mesozoic eclogite-facies metamorphism preceding Barrovian overprint from the western Rhodope (Chalkidiki, northern Greece).*Lithos*, *220*, 147-163.
41. Chauviré, B., Rondeau, B., Fritsch, E., Ressigeac, P., & Devidal, J. L. (2015). Blue Spinel from the Luc Yen District of Vietnam. *Gems & Gemology*, *51*(1), 2-17.

On paper #5 (20):

42. Zhao, Y.L., Liu, Y.J., Li, W.M., Wen, Q.B. & Han, G.Q. 2010. High-pressure metamorphism in the Mudanjiang area, southern Jiamusi massif: Petrological and geochronological characteristics of the Heilongjiang complex, China. Geological Bulletin of China, 29 (2/3), 243-253.
43. Tombros, S.F., St. Seymour, K., Spry, P.G. & Bonsall, T.A. 2010. The isotopic signature of the mineralizing fluid of the Lavrion carbonate-replacement Pb-Zn-Ag district. Bulletin of the Geological Society of Greece, Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/5, 2406-2416.

44. Spanos, D., Koukouvelas, I., Kokkalas, S & Xypolias, P. 2010. Patterns of ductile deformation in Attico-Cycladic massif. Bulletin of the Geological Society of Greece, Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/1, 368-378.
45. Stouraiti, C. 2010 Geochemical characteristics of the amphibolites (ophiolitic metabasites) from the Serifos metamorphic core complex, Attic-Cycladic metamorphic belt, Cyclades, Greece. Scientific Annals, School of Geology, Aristotle University of Thessaloniki. Proceedings of the XIX Congress of Carpathian-Balkan Geological Association, Thessaloniki, Greece, 99, 333-340.
46. Demetriades, A. 2010. Medical geology in Hellas: The Lavrion environmental pollution study. Selinus et al. (eds.) Medical Geology, International Year of Planet Earth, 355-390, DOI: 10.1007/978-90-481-3430-4_13.
47. Baziotis, I., & Mposkos, E. (2011). Origin of metabasites from upper tectonic unit of the Lavrion area (SE Attica, Greece): Geochemical implications for dual origin with distinct provenance of blueschist and greenschist's protoliths. *Lithos*,*126*(3), 161-173.
48. Bonsall, T. A., Spry, P. G., Voudouris, P. C., Tombros, S., Seymour, K. S., & Melfos, V. (2011). The geochemistry of carbonate-replacement Pb-Zn-Ag mineralization in the Lavrion district, Attica, Greece: Fluid inclusion, stable isotope, and rare earth element studies. *Economic Geology*, *106*(4), 619-651.
49. Iglseder, C., Grasemann, B., Rice, A. H. N., Petrakakis, K., & Schneider, D. A. (2011). Miocene south directed low-angle normal fault evolution on Kea Island (West Cycladic Detachment System, Greece). *Tectonics*, *30*(4).
50. Grasemann, B., Schneider, D. A., Stöckli, D. F., & Iglseder, C. (2011). Miocene bivergent crustal extension in the Aegean: Evidence from the western Cyclades (Greece). *Lithosphere*, L164-1.
51. Maresch, W. V., Grevel, C., Stanek, K. P., Schertl, H. P., & Carpenter, M. A. (2012). Multiple growth mechanisms of jadeite in Cuban metabasite. *European Journal of Mineralogy*, *24*(2), 217-235.
52. Kleine, B. (2012). How do fluids move through rocks?: High fluxes of CO_2 in the Earth's crust.Linenciate Thesis, Stockholm University, pp. 61.
53. Σπανός, Δ.Γ. 2012. Γεωδυναμική εξέλιξη της Αττικής. Διδακτορική διατριβή, Πανεπιστήμιο Πατρών, σελ. 232.
54. Tsai, C. H., Iizuka, Y., & Ernst, W. G. (2013). Diverse mineral compositions, textures, and metamorphic P–T conditions of the glaucophane-bearing rocks in the Tamayen mélange, Yuli belt, eastern Taiwan. *Journal of Asian Earth Sciences*, *63*, 218-233.

55. Kleine, B. I., Skelton, A. D., Huet, B., & Pitcairn, I. K. (2014). Preservation of Blueschist-facies Minerals along a Shear Zone by Coupled Metasomatism and Fast-flowing CO_2-bearing Fluids. *Journal of Petrology*, egu045.
56. Spry, P. G., Mathur, R. D., Bonsall, T. A., Voudouris, P. C., & Melfos, V. (2014). Re–Os isotope evidence for mixed source components in carbonate-replacement Pb–Zn–Ag deposits in the Lavrion district, Attica, Greece.*Mineralogy and Petrology*, *108*(4), 503-513.
57. DE DOUTORAMENTO, T. E. S. E. (2014). *Metamorfismo e Evolução Tectônica do Cinturão Pareado Permo-Carbonífero na Região de Pichilemu, Cordilheira da Costa do Chile Central* (Doctoral dissertation, UNIVERSIDAD DE GRANADA), pp. 130.
58. Baziotis, I., Proyer, A., Mposkos, E., Marsellos, A., & Leontakianakos, G. (2014, May). Amphibole zonation as a tool for tracing metamorphic histories: examples from Lavrion and Penteli metamorphic core complexes. In EGU General Assembly Conference Abstracts (Vol. 16, p. 835).
59. Halama, R., & Konrad-Schmolke, M. (2015). Retrograde metasomatic effects on phase assemblages in an interlayered blueschist–greenschist sequence (Coastal Cordillera, Chile). Lithos, 216, 31-47.
60. Christophe, S., Olivier, V., Pierre, L., Alexandre, T., Léandre, P., Adonis, P., & Lydéric, F. (2015). Syn-to post-orogenic exhumation of metamorphic nappes: Structure and thermobarometry of the western Attic-Cycladic metamorphic complex (Lavrion, Greece). Journal of Geodynamics.
61. Faryad, S. W., & Žák, J. (2016). High-pressure granulites of the Podolsko complex, Bohemian Massif: An example of crustal rocks that were subducted to mantle depths and survived a pervasive mid-crustal high-temperature overprint. *Lithos*, *246*, 246-260.

On paper #6 (1):

62. Gonzalez, C. M., Gorczyk, W., & Gerya, T. V. (2015). Decarbonation of subducting slabs: Insight from petrological-thermomechanical modeling. Gondwana Research.

On paper #7 (3):

63. Soltan, A. M., Awad, S. A., & El-Ansary, G. M. (2010). Applicability of Egyptian limestones for calcination. *Applied Earth Science: Transactions of the Institutions of Mining and Metallurgy: Section B*, *119*(4), 236-242.
64. Leontakianakos, G., Baziotis, I., Profitis, E., Chatzitheodoridis, E., & Tsimas, S. (2013). Assessment of the quality of calcination of marbles from Thassos Island using Raman Spectroscopy and X-Ray Diffraction. In *Proceedings of the 13th international congress* (Vol. 47).
65. Leontakianakos, G., Baziotis, I., Papandreou, A., Kanellopoulou, D., Stathopoulos, V. N., & Tsimas, S. (2014). A comparative study of the physicochemical properties of Mg-rich and Ca-rich quicklimes and their effect on reactivity.*Materials and Structures*, 1-19.

On paper #8 (9):

66. Grasemann, B., Schneider, D. A., Stöckli, D. F., & Iglseder, C. (2011). Miocene bivergent crustal extension in the Aegean: Evidence from the western Cyclades (Greece). *Lithosphere*, L164-1.
67. Berger, A., Schneider, D. A., Grasemann, B., & Stockli, D. (2013). Footwall mineralization during late Miocene extension along the west Cycladic detachment system, Lavrion, Greece. *Terra Nova*, *25*(3), 181-191.
68. Bröcker, M., Baldwin, S., & Arkudas, R. (2013). The geological significance of 40Ar/39Ar and Rb–Sr white mica ages from Syros and Sifnos, Greece: a record of continuous (re) crystallization during exhumation?. *Journal of Metamorphic Geology*, *31*(6), 629-646.
69. DE DOUTORAMENTO, T. E. S. E. (2014). *Metamorfismo e Evolução Tectônica do Cinturão Pareado Permo-Carbonífero na Região de Pichilemu, Cordilheira da Costa do Chile Central* (Doctoral dissertation, UNIVERSIDAD DE GRANADA), pp. 130.
70. Baziotis, I., Proyer, A., Mposkos, E., Marsellos, A., & Leontakianakos, G. (2014, May). Amphibole zonation as a tool for tracing metamorphic histories: examples from Lavrion and Penteli metamorphic core complexes. In EGU General Assembly Conference Abstracts (Vol. 16, p. 835).
71. Li, N. B., Niu, H. C., Zhang, X. C., Zeng, Q. S., Shan, Q., Li, C. Y., ... & Yang, W. B. (2015). Age, petrogenesis and tectonic significance of the ferrobasalts in the Chagangnuoer iron deposit, western Tianshan. *International Geology Review*, (ahead-of-print), 1-21.
72. Halama, R., & Konrad-Schmolke, M. (2015). Retrograde metasomatic effects on phase assemblages in an interlayered blueschist–greenschist sequence (Coastal Cordillera, Chile). *Lithos*, *216*, 31-47.
73. Christophe, S., Olivier, V., Pierre, L., Alexandre, T., L?andre, P., Adonis, P., & Lyd?ric, F. (2015). Syn-to post-orogenic exhumation of metamorphic nappes: Structure and thermobarometry of the western Attic-Cycladic metamorphic complex (Lavrion, Greece). Journal of Geodynamics.
74. Spanos, D., Xypolias, P., & Koukouvelas, I. (2015). Vorticity analysis in calcite tectonites: an example from the Attico-Cycladic massif (Attica, Greece). Journal of Structural Geology.

On paper #10 (8):

75. Mposkos, E., & Perraki, M. (2012). Preiswerkite, Ca-(Mg, Fe)-paragonite and Ca-“ephesite” in metadiorite from the HP Kechros Metamorphic Complex in Eastern Rhodope, NE Greece. Geochemistry, Mineralogy and Petrology, 49, 33-48.
76. Şengün, F., Davis, P. B., Tunç, İ. O., & Yiğitbaş, E. (2012). Petrology and geochemistry of eclogites from the Biga Peninsula, Northwest Turkey.*Geodinamica Acta*, *25*(3-4), 248-266.

77. Mposkos, E., Baziotis, I., Leontakianakos, G., & Barry, P. H. (2013). The metamorphic evolution of the high-pressure Kechros complex in East Rhodope (NE Greece): implications from Na–Al-rich leucocratic rocks within antigorite serpentinites. *Lithos*, *177*, 17-33.

78. Baziotis, I., Mposkos, E., & Asimow, P. D. (2014). Continental rift and oceanic protoliths of mafic–ultramafic rocks from the Kechros Complex, NE Rhodope (Greece): implications from petrography, major and trace-element systematics, and MELTS modeling. *International Journal of Earth Sciences*, *103*(4), 981-1003.

79. Colás, V., González-Jiménez, J. M., Griffin, W. L., Fanlo, I., Gervilla, F., O'Reilly, S. Y., ... & Proenza, J. A. (2014). Fingerprints of metamorphism in chromite: New insights from minor and trace elements. *Chemical Geology*, *389*, 137-152.

80. Satsukawa, T., Piazolo, S., González-Jiménez, J. M., Colás, V., Griffin, W. L., O'Reilly, S. Y., ... & Kerestedjian, T. N. (2015). Fluid-present deformation aids chemical modification of chromite: Insights from chromites from Golyamo Kamenyane, SE Bulgaria. *Lithos*, *228*, 78-89.

81. Wawrzenitz, N., Krohe, A., Baziotis, I., Mposkos, E., Kylander-Clark, A. R., & Romer, R. L. (2015). LASS U–Th–Pb monazite and rutile geochronology of felsic high-pressure granulites (Rhodope, N Greece): Effects of fluid, deformation and metamorphic reactions in local subsystems. *Lithos*, 232, 266-285.

82. Petrík, I., Janák, M., Froitzheim, N., Georgiev, N., Yoshida, K., Sasinková, V., ... & Milovská, S. (2016). Triassic to Early Jurassic (c. 200 Ma) UHP metamorphism in the Central Rhodopes: evidence from U-Pb-Th dating of monazite in diamond-bearing gneiss from Chepelare (Bulgaria). *Journal of Metamorphic Geology*.

On paper #11 (37):

83. Gattacceca, J., Hewins, R. H., Lorand, J. P., Rochette, P., Lagroix, F., Cournède, C., ... & Ferrière, L. (2013). Opaque minerals, magnetic properties, and paleomagnetism of the Tissint Martian meteorite. *Meteoritics & Planetary Science*, *48*(10), 1919-1936.

84. Greshake, A., Fritz, J., Böttger, U., & Goran, D. (2013). Shear-induced ringwoodite formation in the Martian shergottite Dar al Gani 670. *Earth and Planetary Science Letters*, *375*, 383-394.

85. Miyahara, M., Kaneko, S., Ohtani, E., Sakai, T., Nagase, T., Kayama, M., ... & Hirao, N. (2013). Discovery of seifertite in a shocked lunar meteorite. *Nature Communications*, *4*, 1737.

86. Liu, Y., Taylor, L. A., Baziotis, I. P., McSeen, H. Y., Bodnar, R. J., DeCarli, P. S., & Melosh, H. J. (2013, March). Impact Excavation of Martian Meteorites: Index from Shock Formed Minerals. In *Lunar and Planetary Science Conference* (Vol. 44, p. 1371).

87. Werner, S. C., Melosh, H. J., McSween, H. Y., Liu, Y., Baziotis, I. P., Bodnar, R. J., ... & Taylor, L. A. (2013, March). Mojave crater: Possible source for Martian meteorites. In *Lunar and Planetary Science Conference* (Vol. 44, p. 2257).
88. Walton, E. L., Hu, J., & Sharp, T. G. (2013). Heterogeneous Distribution of High-Pressure Phases in the Tissint Martian Meteorite: No need for Multiple Impact Events. *Meteoritics and Planetary Science Supplement*, *76*, 5152.
89. Sharp, T. G., Hu, J., & Walton, E. L. (2013). Multiple Olivine Phase Transitions in the Shocked Martian Meteorite Tissint. *Meteoritics and Planetary Science Supplement*, *76*, 5154.
90. Ferrière, L., Brandstätter, F., Topa, D., Schulz, T., Baziotis, I. P., Münker, C., & Koeberl, C. (2013). The Complex History of Tissint Inferred from Different Types of Melt Inclusions and Isotopic Systems. *Meteoritics and Planetary Science Supplement*, *76*, 5194.
91. Park, J., Herzog, G. F., Nyquist, L. E., Shih, C. Y., Turrin, B., Lindsay, F. N., ... & Agee, C. (2013). Ar-Ar and Rb-Sr ages of the Tissint Olivine-Phyric Martian Shergottite. *Meteoritics and Planetary Science Supplement*, *76*, 5320.
92. Sharp, T. G., Hu, J., & Walton, E. L. (2013, December). Shock-Induced Phase Transitions in the Martian Meteorite Tissint: Mechanisms and Constraints on Shock Pressure. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 2346).
93. Agarwal, A., Reznik, B., Kontny, A., & Greiling, R. O. (2014). Shock generated microscale shear fractures: sites of intense pressure and temperature concentration.Rock Deformation & Structures Conference: RDS-III-2014.
94. Brennecka, G. A., Borg, L. E., & Wadhwa, M. (2014). Insights into the Martian mantle: The age and isotopics of the meteorite fall Tissint. *Meteoritics & Planetary Science*, *49*(3), 412-418.
95. Okrusch, M., & Matthes, S. (2014). Meteorite. In *Mineralogie* (pp. 547-565). Springer Berlin Heidelberg.
96. Ma, C. et al. (2014). First new minerals from Mars: Discovery of ahrensite γ-Fe_2SiO_4 and Tissintite (Ca, Na, □)$AlSi_2O_6$, two high pressure phases from the Tissint martian meteorite. Eigth International Conference on Mars, #1317.
97. Walton, E. L., Sharp, T. G., Hu, J., & Filiberto, J. (2014). Heterogeneous mineral assemblages in Martian meteorite Tissint as a result of a recent small impact event on Mars. *Geochimica et Cosmochimica Acta*, *140*, 334-348.
98. Zhai, S., Xue, W., Yamazaki, D., & Ma, F. (2014). Trace element composition in tuite decomposed from natural apatite in high-pressure and high-temperature experiments. *Science China Earth Sciences*, *57*(12), 2922-2927.

99. Shih, C. Y., Nyquist, L. E., Park, J., & Agee, C. B. (2014, March). Sm-Nd and Rb-Sr Isotopic Systematics of a Heavily Shocked Martian Meteorite Tissint and Petrogenesis of Depleted Shergottites. In *Lunar and Planetary Science Conference* (Vol. 45, p. 1184).

100. Chen, Y., Liu, Y., Guan, Y., Eiler, J. M., Ma, C., Rossman, G. R., & Taylor, L. A. (2014, March). Unusual Interaction Between Martian Surface and Magmatic Reservoirs: Volatiles in Impact Melts in the Tissint Meteorite. In *Lunar and Planetary Science Conference* (45, 2425).

101. Sharp, T. G., Walton, E. L., & Hu, J. (2014, March). Shock Effects in Tissint: Evidence Against a Long Duration Shock and Large Impacting Body. In *Lunar and Planetary Science Conference* (Vol. 45, p. 2820).

102. Hallis, L. J., Huss, G. R., Nagashima, K., Taylor, G. J., Stöffler, D., Smith, C. L., & Lee, M. R. (2014). D/H and Water Sources in Tissint. *LPI Contributions*, *1800*, 5149.

103. Ma, C., Tschauner, O. D., Liu, Y., Sinogeikin, S. V., Zhuravlev, K. K., Prakapenka, V., ... & Taylor, L. A. (2014). Discovery of Ahrensite gamma-Fe2SiO4 and Tissintite (Ca, Na,[]) AlSi2O6, Two New Shock-induced Minerals from the Tissint Martian Meteorite: a Nanomineralogy Investigation. In*AGU Fall Meeting Abstracts* (Vol. 1, p. 2280).

104. HABACH, A. (2014). *MICRO-RAMAN SPECTROSCOPY OF CARBONACEOUS CHONDRITE METEORITES* (Doctoral dissertation, University of Central Florida Orlando, Florida).

105. Balta, J. B., Sanborn, M. E., Udry, A., Wadhwa, M., & McSween, H. Y. (2015, March). Igneous Petrology and Geochemistry of the Tissint Meteorite. In *Lunar and Planetary Science Conference* (Vol. 46, p. 1267).

106. Basu Sarbadhikari, A. (2015, March). Petrographical and Mineralogical Diversity Between Fresh and Impact-Melted Domains of Olivine-Phyric Shergottite Tissint. In *Lunar and Planetary Science Conference* (Vol. 46, p. 1456).

107. Bowling, T. J., Johnson, B. C., & Melosh, H. J. (2015, March). Simulating Dwell Times at High Pressure and Temperature Following an Impact: Relating Thin Section to Source Crater. In *Lunar and Planetary Science Conference* (Vol. 46, p. 2289).

108. Bowling, T. J., Johnson, B. C., & Melosh, H. J. (2015). Dwell Time at High Pressure of meteorites ejected from Mars. In 78th Annual Meeting of the Meteoritical Society*, #5310.*

109. Azzopardi, K. M., Brincat, J. P., Grima, J. N., & Gatt, R. (2015). Anomalous elastic properties in stishovite. *RSC Advances*, *5*(12), 8974-8980.

110. Azzopardi, K. M., Brincat, J. P., Grima, J. N., & Gatt, R. (2015). Advances in the study of the deformation mechanism of stishovite. *physica status solidi (b)*, 252, 7, 1486-1491.

111. Balta, J. B., Sanborn, M. E., Udry, A., Wadhwa, M., & McSween, H. Y. (2015). Petrology and trace element geochemistry of Tissint, the newest shergottite fall.*Meteoritics & Planetary Science*, *50*(1), 63-85.

112.Chen, Y., Liu, Y., Guan, Y., Eiler, J. M., Ma, C., Rossman, G. R., & Taylor, L. A. (2015). Evidence in Tissint for recent subsurface water on Mars. *Earth and Planetary Science Letters*, *425*, 55-63.

113.Kubo, T., Kato, T., Higo, Y., & Funakoshi, K. I. (2015). Curious kinetic behavior in silica polymorphs solves seifertite puzzle in shocked meteorite. *Science Advances*, *1*(4), e1500075.

114.Ma, C., Tschauner, O., Beckett, J. R., Liu, Y., Rossman, G. R., Zhuravlev, K., ... & Taylor, L. A. (2015). Tissintite,(Ca, Na,□) AlSi 2 O 6, a highly-defective, shock-induced, high-pressure clinopyroxene in the Tissint martian meteorite.*Earth and Planetary Science Letters*, *422*, 194-205.

115.Wittmann, A., Korotev, R. L., Jolliff, B. L., Irving, A. J., Moser, D. E., Barker, I., & Rumble, D. (2015). Petrography and composition of Martian regolith breccia meteorite Northwest Africa 7475. *Meteoritics & Planetary Science*, *50*(2), 326-352.

116.He, Q., Xiao, L., Balta, J. B., Baziotis, I. P., Hsu, W., & Guan, Y. (2015). Petrography and geochemistry of the enriched basaltic shergottite Northwest Africa 2975. *Meteoritics & Planetary Science*, *50*(12), 2024-2044.

117.Udry, A., McSween, H. Y., Hervig, R. L., & Taylor, L. A. (2016). Lithium isotopes and light lithophile element abundances in shergottites: Evidence for both magmatic degassing and subsolidus diffusion. *Meteoritics & Planetary Science*.

118.McSween, H. Y. (2015). Petrology on Mars. *American Mineralogist*, *100*(11-12), 2380-2395.

119.Baziotis, I. B., Ferrière, L., Brandstätter, F., Topa, D., & Asimow, P. D. (2016, March). Shock Metamorphism in Ordinary Chondrites: Examples from Chelyabinsk (LL5) and Chantonnay (L6) Meteorites. In *Lunar and Planetary Science Conference* (Vol. 47, p. 1440).

On paper #12 (1):

120.Baziotis, I., Mposkos, E., & Asimow, P. D. (2014). Continental rift and oceanic protoliths of mafic–ultramafic rocks from the Kechros Complex, NE Rhodope (Greece): implications from petrography, major and trace-element systematics, and MELTS modeling. *International Journal of Earth Sciences*, *103*(4), 981-1003.

On paper #14 (27):

121.Ashchepkov, I. V., Logvinova, A. M., Reimers, L. F., Ntaflos, T., Spetsius, Z. V., Vladykin, N. V., ... & Khmel'nikova, O. S. (2014). The Sytykanskaya kimberlite pipe: Evidence from deep-seated xenoliths and xenocrysts for the evolution of the mantle beneath Alakit, Yakutia, Russia. *Geoscience Frontiers*.

122.Doucet, L. S., Peslier, A. H., Ionov, D. A., Brandon, A. D., Golovin, A. V., Goncharov, A. G., & Ashchepkov, I. V. (2014). High water contents in the Siberian cratonic mantle linked to metasomatism: An FTIR study of Udachnaya peridotite xenoliths. *Geochimica et Cosmochimica Acta*, *137*, 159-187.

123.Pernet-Fisher, J. F., Howarth, G. H., Liu, Y., Barry, P. H., Carmody, L., Valley, J. W., ... & Taylor, L. A. (2014). Komsomolskaya diamondiferous eclogites: evidence for oceanic crustal protoliths. *Contributions to Mineralogy and Petrology*, *167*(3), 1-17.

124.Wu, F., Xu, Y., Zhu, R., & Zhang, G. (2014). Thinning and destruction of the cratonic lithosphere: A global perspective. *Science China Earth Sciences*,*57*(12), 2878-2890.

125.Калашникова, Т. В. (2014). Сравнительная характеристика мантийных ксенолитов лерцолит-вебстеритового состава из кимберлитовых трубок Обнаженная и Удачная. In *VII Сибирская научно-практическая конференция молодых ученых по наукам о Земле* (pp. c-24).

126.Barry, P. H., Hilton, D. R., Day, J. M., Pernet-Fisher, J. F., Howarth, G. H., Magna, T., ... & Taylor, L. A. (2015). Helium isotopic evidence for modification of the cratonic lithosphere during the Permo-Triassic Siberian flood basalt event. *Lithos*, *216*, 73-80.

127.Hill, P. J. A., Kopylova, M., Russell, J. K., & Cookenboo, H. (2015). Mineralogical controls on garnet composition in the cratonic mantle.*Contributions to Mineralogy and Petrology*, *169*(2), 1-20.

128.Howarth, G. H., Sobolev, N. V., Pernet-Fisher, J. F., Ketcham, R. A., Maisano, J. A., Pokhilenko, L. N., ... & Taylor, L. A. (2015). 3-D X-ray tomography of diamondiferous mantle eclogite xenoliths, Siberia: A review. *Journal of Asian Earth Sciences*, *101*, 39-67.

129.Ionov, D. A., Carlson, R. W., Doucet, L. S., Golovin, A. V., & Oleinikov, O. B. (2015). The age and history of the lithospheric mantle of the Siberian craton: Re–Os and PGE study of peridotite xenoliths from the Obnazhennaya kimberlite. *Earth and Planetary Science Letters*, *428*, 108-119.

130.Ivanov, A. V. (2015). Why volatiles are required for cratonic flood basalt volcanism: Two examples from the Siberian craton. Mantle Plumes.

131.Pernet-Fisher, J. F., Howarth, G. H., Pearson, D. G., Woodland, S., Barry, P. H., Pokhilenko, N. P., ... & Taylor, L. A. (2015). Plume impingement on the Siberian SCLM: Evidence from Re–Os isotope systematics. *Lithos*, *218*, 141-154.

132.Pokhilenko, N. P., Agashev, A. M., Litasov, K. D. & Pokhilenko, L. N. (2015). Carbonatite metasomatism of peridotite lithospheric mantle: implications for diamond formation and carbonatite-kimberlite magmatism. *Russian Geology and Geophysics*, *56*(1), 280-295.

133.Sobolev, N. V., Dobretsov, N. L., Ohtani, E., Taylor, L. A., Schertl, H. P., Palyanov, Y. N., & Litasov, K. D. (2015). Problems related to crystallogenesis and the deep carbon cycle. *Russian Geology and Geophysics*, *56*(1), 1-12.

134.Соболев, Н. В., Добрецов, Н. Л., Отани, Э., Тэйлор, Л. А., Шертл, Г. П., Пальянов, Ю. Н., & Литасов, К. Д. (2015b). Проблемы, связанные с кристаллогенезисом и глубинным циклом углерода. *Геология и геофизика*,*56*(1-2), 5-20.

135.Harris, L. B., & Bédard, J. H. (2015). Interactions between continent-like 'drift', rifting and mantle flow on Venus: gravity interpretations and Earth analogues.*Geological Society, London, Special Publications*, *401*(1), 327-356.

136.Safonova, I., Maruyama, S., & Litasov, K. (2015). Generation of hydrous-carbonated plumes in the mantle transition zone linked to tectonic erosion and subduction. Tectonophysics. doi:10.1016/j.tecto.2015.08.005.

137.SOLOVEVA, L., KOSTROVITSKY, S., MATSUK, S., & SUVOROVA, L. (2015). METASOMATIC AND MAGMATIC PROCESSES IN THE MANTLE LITHOSPHERE OF THE BIREKTE TERRAIN OF THE SIBERIAN CRATON AND THEIR EFFECT ON THE LITHOSPHERE EVOLUTION. *Геодинамика и тектонофизика*, *6*(3).

138.Sokol, A. G., Kruk, A. N., Chebotarev, D. A., Pal'yanov, Y. N., & Sobolev, N. V. (2015). The composition of garnet as an indicator of the conditions of peridotite-carbonatite interaction in the subcratonic lithosphere (experimental data). In Doklady Earth Sciences (Vol. 463, No. 1, pp. 746-750). Pleiades Publishing.

139.Sokol, A. G., Khokhryakov, A. F., & Palyanov, Y. N. (2015b). Composition of primary kimberlite magma: constraints from melting and diamond dissolution experiments. Contributions to Mineralogy and Petrology, 170(3), 1-18.

140.Соболев, Н. В., Добрецов, Н. Л., Отани, Э., Тэйлор, Л. А., Шертл, Г. П., Пальянов, Ю. Н., & Литасов, К. Д. (2015). Проблемы, связанные с кристаллогенезисом и глубинным циклом углерода. *Геология и геофизика*,*56*(1-2), 5-20.

141.Ashchepkov, I. V., Kuligin, S. S., Vladykin, N. V., Downes, H., Vavilov, M. A., Nigmatulina, E. N., ... & Khmelnikova, O. S. (2015). Comparison of mantle lithosphere beneath early Triassic kimberlite fields in Siberian craton reconstructed from deep-seated xenocrysts. *Geoscience Frontiers*.

142.Ashchepkov, I. V., Logvinova, A. M., Reimers, L. F., Ntaflos, T., Spetsius, Z. V., Vladykin, N. V., ... & Palesskiy, V. S. (2015b). The Sytykanskaya kimberlite pipe: Evidence from deep-seated xenoliths and xenocrysts for the evolution of the mantle beneath Alakit, Yakutia, Russia. *Geoscience Frontiers*, *6*(5), 687-714.

143.Harvey, J., Warren, J. M., & Shirey, S. B. (2016). Mantle sulfides and their role in Re-Os and Pb isotope geochronology. *Rev Mineral Geochem*, *81*, 579-649.

144.Sokol, A. G., Kruk, A. N., Chebotarev, D. A., & Palyanov, Y. N. (2016). Carbonatite melt–peridotite interaction at 5.5–7.0 GPa: Implications for metasomatism in lithospheric mantle. *Lithos*, *248*, 66-79.

145.le Roex, A., & Class, C. (2016). Metasomatic enrichment of Proterozoic mantle south of the Kaapvaal Craton, South Africa: origin of sinusoidal REE patterns in clinopyroxene and garnet. *Contributions to Mineralogy and Petrology*, *171*(2), 1-24.

146.Correale, A., Rizzo, A. L., Barry, P. H., Lu, J., & Zheng, J. (2016). Refertilization of lithospheric mantle beneath the Yangtze craton in south-east China: Evidence from noble gases geochemistry. *Gondwana Research*.

147.Rezvukhin, D. I., Malkovets, V. G., Sharygin, I. S., Kuzmin, D. V., Litasov, K. D., Gibsher, A. A., ... & Sobolev, N. V. (2016, February). Inclusions of Cr-and Cr–Nb-rutile in pyropes from the internatsionalnaya kimberlite pipe, Yakutia. In*Doklady Earth Sciences* (Vol. 466, No. 2, pp. 173-176). Pleiades Publishing.

On paper #15 (4):

148.Schenker, F. L., Burg, J. P., Kostopoulos, D., Moulas, E., Larionov, A., & Quadt, A. (2014). From Mesoproterozoic magmatism to collisional Cretaceous anatexis: Tectonomagmatic history of the Pelagonian Zone, Greece. *Tectonics*,*33*(8), 1552-1576.

149.Zhao, J. H., & Asimow, P. D. (2014). Neoproterozoic boninite-series rocks in South China: A depleted mantle source modified by sediment-derived melt.*Chemical Geology*, *388*, 98-111.

150.Petrík, I., Janák, M., Froitzheim, N., Georgiev, N., Yoshida, K., Sasinková, V., ... & Milovská, S. (2016). Triassic to Early Jurassic (c. 200 Ma) UHP metamorphism in the Central Rhodopes: evidence from U‐Pb‐Th dating of monazite in diamond‐bearing gneiss from Chepelare (Bulgaria). *Journal of Metamorphic Geology*.

151.Obeid, M. A., Khalil, A. E., & Azer, M. K. (2015). Mineralogy, geochemistry, and geotectonic significance of the Neoproterozoic ophiolite of Wadi Arais area, south Eastern Desert, Egypt. *International Geology Review*, 1-16.

On paper #16 (2):

152.Liou, J. G., Tsujimori, T., Yang, J., Zhang, R. Y., & Ernst, W. G. (2014). Recycling of crustal materials through study of ultrahigh-pressure minerals in collisional orogens, ophiolites, and mantle xenoliths: A review. *Journal of Asian Earth Sciences*, *96*, 386-420.

153.Tropper, P. (2014). Small grains and big implications: Accessory Ti-and Zr-minerals as petrogenetic indicators in HP and UHP marbles. *American Mineralogist*, *99*(7), 1197-1198.

On paper #18 (2):

154.Zhang, Q., Yin, G., Fan, X., Wei, Z., Wang, W., & Nie, W. (2015). Loading Capacity and Deformation Characteristics of Tailings Based on a Fractal Geometrical Analysis of the Particle Microstructure. *Minerals*, *5*(1), 86-103.

155.Sanei Tabass, M., & Borzadaran Mohtashami, G. R. (2015). The Generalized Maximum Tsallis Entropy Estimators and Applications to the Portland Cement Data set. *Communications in Statistics-Simulation and Computation*, (just-accepted).

On paper #19 (3):

156.Kirkland, C. L., Timmons, E., Johnson, T. E., Danišík, M., Evans, N. J., Bourdet, J., & McDonald, B. J. (2016). Discriminating prolonged, episodic or disturbed monazite age spectra: An example from the Kalak Nappe Complex, Arctic Norway. *Chemical Geology*.

157.Petrík, I., Janák, M., Froitzheim, N., Georgiev, N., Yoshida, K., Sasinková, V., ... & Milovská, S. (2016). Triassic to Early Jurassic (c. 200 Ma) UHP metamorphism in the Central Rhodopes: evidence from U-Pb-Th dating of monazite in diamond-bearing gneiss from Chepelare (Bulgaria). *Journal of Metamorphic Geology*.

158.Wawrzenitz, N. & Krohe, A. (2016). Deformed monazite yields high-temperature tectonic ages. *GSA*, doi: 10.1130/G37394C.1

On paper #22 (1):

159.Σπανός, Δ.Γ. 2012. Γεωδυναμική εξέλιξη της Αττικής. Διδακτορική διατριβή, Πανεπιστήμιο Πατρών, σελ. 232.

On paper #24 (2):

160.Krohe, A., Mposkos, E., Diamantopoulos, A., & Kaouras, G. (2010). Formation of basins and mountain ranges in Attica (Greece): The role of Miocene to Recent low-angle normal detachment faults. *Earth-Science Reviews*, *98*(1), 81-104.

161.Skarpelis, N., & Argyraki, A. (2009). Geology and Origin of Supergene Ore at the Lavrion Pb-Ag-Zn Deposit, Attica, Greece. *Resource geology*, *59*(1), 1-14.

On paper #28 (3):

162.Mposkos, E., Baziotis, I., & Proyer, A. (2012). Pressure–temperature evolution of eclogites from the Kechros complex in the Eastern Rhodope (NE Greece).*International Journal of Earth Sciences*, *101*(4), 973-996.

163.Mposkos, E., Baziotis, I., Leontakianakos, G., & Barry, P. H. (2013). The metamorphic evolution of the high-pressure Kechros complex in East Rhodope (NE Greece): implications from Na–Al-rich leucocratic rocks within antigorite serpentinites. *Lithos*, *177*, 17-33.

164.Baziotis, I., Mposkos, E., & Asimow, P. D. (2014). Continental rift and oceanic protoliths of mafic–ultramafic rocks from the Kechros Complex, NE Rhodope (Greece): implications from petrography, major and trace-element systematics, and MELTS modeling. *International Journal of Earth Sciences*, *103*(4), 981-1003.

On paper #30 (9):

165.Janák, M., Froitzheim, N., Georgiev, N., Nagel, T. J., & Sarov, S. (2011). P–T evolution of kyanite eclogite from the Pirin Mountains (SW Bulgaria): implications for the Rhodope UHP Metamorphic Complex. *Journal of Metamorphic Geology*, *29*(3), 317-332.

166.Nagel, T. J., Schmidt, S., Janák, M., Froitzheim, N., Jahn-Awe, S., & Georgiev, N. (2011). The exposed base of a collapsing wedge: the nestos shear zone (Rhodope Metamorphic Province, Greece). *Tectonics*, *30*(4).

167.Schmidt, S., Nagel, T. J., Froitzheim, N., & Janák, M. (2011). The age of UHP metamorphism and the exhumation path of microdiamond-bearing rocks (SW Rhodope, Greece). In *Geophysical Research Abstracts* (Vol. 13, p. 125).

168.Jahn-Awe, S., Pleuger, J., Frei, D., Georgiev, N., Froitzheim, N., & Nagel, T. J. (2012). Time constraints for low-angle shear zones in the Central Rhodopes (Bulgaria) and their significance for the exhumation of high-pressure rocks.*International Journal of Earth Sciences*, *101*(7), 1971-2004.

169.Mposkos, E., Baziotis, I., & Proyer, A. (2012). Pressure–temperature evolution of eclogites from the Kechros complex in the Eastern Rhodope (NE Greece).*International Journal of Earth Sciences*, *101*(4), 973-996.

170.Didier, A., Bosse, V., Cherneva, Z., Gautier, P., Georgieva, M., Paquette, J. L., & Gerdjikov, I. (2014). Syn-deformation fluid-assisted growth of monazite during renewed high-grade metamorphism in metapelites of the Central Rhodope (Bulgaria, Greece). *Chemical Geology*, *381*, 206-222.

171.Froitzheim, N., Jahn-Awe, S., Frei, D., Wainwright, A. N., Maas, R., Georgiev, N., ... & Pleuger, J. (2014). Age and composition of meta-ophiolite from the Rhodope Middle Allochthon (Satovcha, Bulgaria): A test for the maximum-allochthony hypothesis of the Hellenides. *Tectonics*, *33*(8), 1477-1500.

172.Wawrzenitz, N., Krohe, A., Baziotis, I., Mposkos, E., Kylander-Clark, A. R., & Romer, R. L. (2015). LASS U-Th-Pb monazite and rutile geochronology of felsic high-pressure granulites (Rhodope, N Greece): Effects of fluid, deformation and metamorphic reactions in local subsystems. *Lithos*.

173.Petrík, I., Janák, M., Froitzheim, N., Georgiev, N., Yoshida, K., Sasinková, V., ... & Milovská, S. (2016). Triassic to Early Jurassic (c. 200 Ma) UHP metamorphism in the Central Rhodopes: evidence from U-Pb-Th dating of monazite in diamond-bearing gneiss from Chepelare (Bulgaria). *Journal of Metamorphic Geology*.

On paper #33 (1):

174.Leontakianakos, G., Baziotis, I., Papandreou, A., Kanellopoulou, D., Stathopoulos, V. N., & Tsimas, S. A comparative study of the physicochemical properties of Mg-rich and Ca-rich quicklimes and their effect on reactivity.*Materials and Structures*, 1-19.

On paper #38 (11):

175. Mposkos, E., & Krohe, A. (2006). Pressure-temperature-deformation paths of closely associated ultra-high-pressure (diamond-bearing) crustal and mantle rocks of the Kimi complex: implications for the tectonic history of the Rhodope Mountains, northern Greece. *Canadian Journal of Earth Sciences*, *43*(12), 1755-1776.
176. Perraki, M., Proyer, A., Mposkos, E., Kaindl, R., & Hoinkes, G. (2006). Raman micro-spectroscopy on diamond, graphite and other carbon polymorphs from the ultrahigh-pressure metamorphic Kimi Complex of the Rhodope Metamorphic Province, NE Greece. *Earth and Planetary Science Letters*,*241*(3), 672-685.
177. Turpaud, P. (2006). Characterization of igneous terranes by zircon dating: implications for the UHP relicts occurrences and suture identification in the Central Rhodope, Northern Greece. *Unpublished Ph. D. thesis, Johannes-Gutenberg-Universität, Mainz, 107pp.*
178. Baziotis, I., Mposkos, E., & Perdikatsis, V. (2008). Geochemistry of amphibolitized eclogites and cross-cutting tonalitic–trondhjemitic dykes in the Metamorphic Kimi Complex in East Rhodope (NE Greece): implications for partial melting at the base of a thickened crust. *International Journal of Earth Sciences*, *97*(3), 459-477.
179. Baziotis, I., Mposkos, E., & Asimow, P. D. (2008). Petrogenesis of ultramafic rocks from the ultrahigh-pressure metamorphic Kimi Complex in Eastern Rhodope (NE Greece). *Journal of Petrology*, *49*(5), 885-909.
180. Proyer, A., Mposkos, E., Baziotis, I., & Hoinkes, G. (2008). Tracing high-pressure metamorphism in marbles: phase relations in high-grade aluminous calcite–dolomite marbles from the Greek Rhodope massif in the system $CaO–MgO–Al_2O_3–SiO_2–CO_2$ and indications of prior aragonite. *Lithos*, *104*(1), 119-130.
181. Mposkos, E., Perraki, M., & Palikari, S. (2009). Single and multiphase inclusions in metapelitic garnets of the Rhodope Metamorphic Province, NE Greece. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, *73*(3), 477-483.
182. Mposkos, E., & Baziotis, I. (2010). Study of the metamorphic evolution of a carbonate-bearing metaperidotite from the Sidironero complex (Central Rhodope, Greece) using PT and P (T)-Xco2 pseudosections. *Bulleting of the Geological Society of Greece*, *43*(5), 2667-2679.
183. Mposkos, E., Baziotis, I., & Proyer, A. (2010). Metamorphic reprocessing of a serpentinized carbonate-bearing peridotite after detachment from the mantle wedge: A P–T path constrained from textures and phase diagrams in the system $CaO–MgO–Al_2O_3–SiO_2–CO_2–H_2O$. *Lithos*, *118*(3), 349-364.
184. Vlahov, A. Symmetry trends of monoelement minerals.Geologica Balcanica, 40, 85-95.

185.Mposkos, E., Baziotis, I., & Proyer, A. (2012). Pressure–temperature evolution of eclogites from the Kechros complex in the Eastern Rhodope (NE Greece).*International Journal of Earth Sciences*, *101*(4), 973-996.

On paper #39 (1):

186.Skarpelis, N., & Argyraki, A. (2009). Geology and Origin of Supergene Ore at the Lavrion Pb-Ag-Zn Deposit, Attica, Greece. *Resource geology*, *59*(1), 1-14.

On paper #42 (1):

187.Σπανός, Δ.Γ. 2012. Γεωδυναμική εξέλιξη της Αττικής. Διδακτορική διατριβή, Πανεπιστήμιο Πατρών, σελ. 232.

On paper #43 (8):

188.Mposkos, E., Baziotis, I., Proyer, A., & Hoinkes, G. (2006). Dolomitic marbles from the ultrahigh-pressure metamorphic Kimi complex in Rhodope, NE Greece. *Mineralogy and Petrology*, *88*(1-2), 341-362.

189.Mposkos, E., & Krohe, A. (2006). Pressure-temperature-deformation paths of closely associated ultra-high-pressure (diamond-bearing) crustal and mantle rocks of the Kimi complex: implications for the tectonic history of the Rhodope Mountains, northern Greece. *Canadian Journal of Earth Sciences*, *43*(12), 1755-1776.

190.Baziotis, I., Mposkos, E., & Perdikatsis, V. (2008). Geochemistry of amphibolitized eclogites and cross-cutting tonalitic–trondhjemitic dykes in the Metamorphic Kimi Complex in East Rhodope (NE Greece): implications for partial melting at the base of a thickened crust. *International Journal of Earth Sciences*, *97*(3), 459-477.

191.Baziotis, I., Mposkos, E., & Asimow, P. D. (2008). Petrogenesis of ultramafic rocks from the ultrahigh-pressure metamorphic Kimi Complex in Eastern Rhodope (NE Greece). *Journal of Petrology*, *49*(5), 885-909.

192.Proyer, A., Mposkos, E., Baziotis, I., & Hoinkes, G. (2008). Tracing high-pressure metamorphism in marbles: phase relations in high-grade aluminous calcite–dolomite marbles from the Greek Rhodope massif in the system CaO–MgO–Al 2 O 3–SiO 2–CO 2 and indications of prior aragonite. *Lithos*, *104*(1), 119-130.

193.Mposkos, E., Perraki, M., & Palikari, S. (2009). Single and multiphase inclusions in metapelitic garnets of the Rhodope Metamorphic Province, NE Greece. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, *73*(3), 477-483.

194.Mposkos, E., Baziotis, I., & Proyer, A. (2010). Metamorphic reprocessing of a serpentinized carbonate-bearing peridotite after detachment from the mantle wedge: A P–T path constrained from textures and phase diagrams in the system $CaO–MgO–Al_2O_3–SiO_2–CO_2–H_2O$. *Lithos*, *118*(3), 349-364.

195.Liu, Y., Deng, L., & Gu, X. (2015). Multistage exhumation and partial melting of high-T ultrahigh-pressure metamorphic rocks in continental subduction-collision zones. *Science China Earth Sciences*, 1-16.

On paper #44 (2):

196.Bauer, C., Proyer, A., Krenn, K., Perraki, M., & Hoinkes, G. (2005). Zircon study from the Rhodope Metamorphic Province, Greece. MITT.ÖSTERR.MINER.GES. 150.

197.Puhr, B., Schneider, Y., Bauer, C., & Krenn, K. Petrology of metapelites and metabasites of the UHP-Kimi Complex near Kimi, Rhodopes, NE Greece. MITT.ÖSTERR.MINER.GES. 150.

On paper #49 (4):

198.Baziotis, I., Proyer, A., & Mposkos, E. (2009). High-pressure/low-temperature metamorphism of basalts in Lavrion (Greece): implications for the preservation of peak metamorphic assemblages in blueschists and greenschists. *European Journal of Mineralogy*, *21*(1), 133-148.

199.Liati, A., Skarpelis, N., & Pe-Piper, G. (2009). Late Miocene magmatic activity in the Attic-Cycladic Belt of the Aegean (Lavrion, SE Attica, Greece): implications for the geodynamic evolution and timing of ore deposition. *Geological Magazine*, *146*(05), 732-742.

200.Σπανός, Δ.Γ. 2012. Γεωδυναμική εξέλιξη της Αττικής. Διδακτορική διατριβή, Πανεπιστήμιο Πατρών, σελ. 232.

201.Lünsdorf, N. K., Dunkl, I., Schmidt, B. C., Rantitsch, G., & Eynatten, H. (2014). Towards a higher comparability of geothermometric data obtained by Raman spectroscopy of carbonaceous material. Part I: Evaluation of biasing factors.*Geostandards and Geoanalytical Research*, *38*(1), 73-94.

On paper #50 (6):

202.Mposkos, E., Krohe, A., Diamantopoulos, A., & Baziotis, I. (2007). Late and post-Miocene geodynamic evolution of the Mesogea basin (East Attica, Greece): constraints from sediments petrography and structures. *Bulletin of the Geological Society of Greece*, *40*, 399-411.

203.Skarpelis, N., Tsikouras, B., & Pe-Piper, G. (2008). The Miocene igneous rocks in the Basal Unit of Lavrion (SE Attica, Greece): petrology and geodynamic implications. *Geological Magazine*, *145*(01), 1-15.

204.Liati, A., Skarpelis, N., & Pe-Piper, G. (2009). Late Miocene magmatic activity in the Attic-Cycladic Belt of the Aegean (Lavrion, SE Attica, Greece): implications for the geodynamic evolution and timing of ore deposition. *Geological Magazine*, *146*(05), 732-742.

205.Diamantopoulos, A., Krohe, A., & Mposkos, E. (2009). Kinematics of conjugate shear zones, displacement partitioning and fragmentation of the upper rigid crust during denudation of high-P rocks (Pelagonian and Sub-Pelagonian Zones, Greece). *Tectonophysics*, *473*(1), 84-98.

206.Baziotis, I., & Mposkos, E. (2011). Origin of metabasites from upper tectonic unit of the Lavrion area (SE Attica, Greece): Geochemical implications for dual origin with distinct provenance of blueschist and greenschist's protoliths. *Lithos*,*126*(3), 161-173.

207.Christophe, S., Olivier, V., Pierre, L., Alexandre, T., Léandre, P., Adonis, P., & Lydéric, F. (2015). Syn-to post-orogenic exhumation of metamorphic nappes: Structure and thermobarometry of the western Attic-Cycladic metamorphic complex (Lavrion, Greece). Journal of Geodynamics.

On paper #58 (1):

208.Singh, P., Pant, N. C., Saikia, A., & Kundu, A. (2013). The role of amphiboles in the metamorphic evolution of the UHP rocks: a case study from the Tso Morari Complex, northwest Himalayas. *International Journal of Earth Sciences*, *102*(8), 2137-2152.

On paper #64 (1):

209.Goddard, K., Warner, N. H., Gupta, S., & Kim, J. R. (2014). Mechanisms and timescales of fluvial activity at Mojave and other young martian craters. *Journal of Geophysical Research: Planets*, *119*(3), 604-634.

On paper #68 (1):

210.Spanos, D., Xypolias, P., & Koukouvelas, I. (2015). Vorticity analysis in calcite tectonites: an example from the Attico-Cycladic massif (Attica, Greece). *Journal of Structural Geology*.

Citations on papers listed for the years 2005 -2016.														
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	Tot.	SC	OC
PhD						**1**		**2**	**1**				4		4
1			**1**	**1**	**1**		**1**		**2**	**2**			8	2	6
2		**1**				**2**	**2**				**2**		7	1	6
3						**2**		**1**	**1**	**2**	**1**		7	6	1
4				**1**	**1**	**1**	**2**		**4**	**3**	**3**		15	1	14
5						**5**	**4**	**3**	**1**	**4**	**2**	1	20	2	18
6											**1**		1		1
7						**1**			**1**	**1**			3	2	1
8								**1**	**2**	**2**	**4**		9	1	8
10								**2**	**1**	**2**	**2**	1	8	3	5
11									**10**	**12**	13	2	37	4	33
12										**1**			1	1	
14										**4**	18	5	27		27
15										**2**	1	1	4		4
16										**2**			2		2
18											2		2		2
19												3	3		3
22								**1**					1		1
24					**1**	**1**							2		2
28								**1**	**1**	**1**			3	3	
30							**3**	**2**		**2**	1	1	9	2	7
33										**1**			1	1	
38		**3**		**3**	**1**	**2**	**1**	**1**					11	6	5
39					**1**								1		1
42								**1**					1		1
43		**2**		**3**	**1**	**1**					1		8	5	3
44	**2**												2		2
49					**2**			**1**	**1**				4	1	3
50			**1**	**1**	**2**		**1**				1		6	2	4
58									**1**				1		1
64										**1**			1		1
68											1		1		1
	2	**6**	**2**	**9**	**10**	**16**	**14**	**16**	**26**	**42**	41	10	210	43	167
									After 2011				**165**		
	PhD: PhD Thesis, Tot: Total. SC: self-citations, OC: other citations														

h-index$_{\text{google scholar}}$ = 8
i10-index$_{\text{google scholar}}$ = 5

ANALYSIS OF PAPERS

PhD Dissertation

Baziotis, I. 2008. Petrological and Geochemical study of the metamorphic rocks from east Attica. PhD Thesis. Department of Geological Sciences, School of Mining and Metallurgical Engineering, National Technical University of Athens, pp. 420. In Greek with English abstract.

In the present dissertation, we study, the metamorphic evolution and petrogenetic history of the protoliths of the metamorphic rocks of Eastern Attica. The metamorphic complex of Eastern Attica respresents the NW part of Attic-Cycladic Crystalline zone, comprised by the Upper Tectonic Unit (UTU) and the Lower Tectonic Unit (LTU).

In this study we use thermobarometric methods (multi-equilibrium method, chlorite thermometry, chlorite-chloritoid thermometry, phengite barometry, pseudosections and graphite thermometry) geochemical plots have been used in order to evaluate the role of various petrological processes which induce the geochemical characteristics of the protoliths of the metabasites and gneisses. The zonation of blue amphiboles, the glaucophane, pumpellyite and lawsonite inclusions in albite and epidote and the omphacite-glaucophane-actinolite-epidote assemblage in the metabasites show a prograde path with increasing pressure from pumpellyite-actinolite phase field towards lawzonite-blueschists. The temperatures range from 310-330^{o}C (Penteli area) and 330-380^{o}C (Lavrion area), whereas the pressures from 0.7-0.9 (Penteli area) and 0.8-0.9 GPa (Lavrion area). Petrological data from the LTU support the high pressure/low temperature character of the studied rocks. The maximum pressures ranging from 1.2-1.3 GPa and 1.3-1.4 GPa for the area of Penteli and Hymettus-Lavrion respectively. Thermobarometric evaluation of the data of the UTU show that the exhumation path is followed by continuous cooling with the maximum P-T conditions of the UTU reached a depth >30 Km. The maximum temperatures are range from 450-470^{o}C and 460-490^{o}C for the area of Penteli and Hymettus-Lavrion respectively. The LTU rocks reached a maximum depth at about 45-50 Km. The exhumation path followed by temperature increase at a back-arc environment.

The magmas that generate the protoliths of the metabasites from the UTU of Penteli area show enriched melts upwelling and mixing with depleted mantle melts. The magmas that generate the protoliths of the metabasites from the UTU of Lavrion area are the result of fractional crystallization. The magmas that generate the protoliths of the metabasites from the LTU of Penteli area came from the partial melting of a homogeneous source. The magmas that generate the protoliths of metamigmatites and orthogneisses show that plagioclase was the principal residual mineral phase during partial melting. The geotectonic environment of formation of the protoliths of the metamorphic rocks in Eastern Attica is generally displayed by a dual system volcanic arc-back arc basin. In UTU, the protoliths are settled in a N-MORB or evolved back-arc basin or to the internal part of an oceanic slab. In the LTU, the protoliths of the metabasites have been formed in an evolved tectonic environment from volcanic arc to back-arc basin. The gneissic protoliths of the LTU represent magmatic arc rocks either of pre-alpine or alpine age.

Publications in International Journals

1. Mposkos, E., ***Baziotis*, I.**, Proyer, A. and Hoinkes, G. 2006. Dolomitic marbles from the ultra-high pressure metamorphic Kimi Complex in Rhodope, N.E. Greece. **Mineralogy and Petrology**, 88, 341-362.

   Dolomitic marbles from the Organi and Pandrosos areas of the ultrahigh-pressure (UHP) metamorphic Kimi complex in East Rhodope, N.E. Greece have the mineral assemblage: Cal+Dol+Ol+Phl±Di±Hbl±Spl±Ti–Chu+retrograde Srp and Chl.

   Several generations of calcite and dolomite with variable composition and texture represent different stages of the P–T evolution: The first stage is represented by matrix dolomite ($XMgCO_3$=0.48) and relic domains of homogenous composition in matrix calcite ($XMgCO_3$=0.11–0.13); the second stage is evident from precipitation of lathshaped and vermicular dolomite in matrix calcite. The third stage is represented by veinlets of almost pure $CaCO_3$ and domainal replacement of prior calcite by nearly pure $CaCO_3$+Ca-rich dolomite ($XMgCO_3$=0.34–0.43). Matrix dolomite adjacent to $CaCO_3$ veinlets also becomes Ca-rich ($XMgCO_3$=0.42). In fact, Ca-rich dolomites with $XMgCO_3$ in the range of 0.40–0.34 are reported for the first time from metamorphic marbles.

   Coexisting Ca-rich dolomite and Mg-poor calcite cannot be explained by the calcitedolomite miscibility gap. This assemblage rather suggests that Mg-poor calcite was aragonite originally, which formed together with Ca-rich dolomite according to the reaction Mg–Cal→Arg+Dol (1) at ultrahigh pressures and temperatures above at least 850°C, when dolomite becomes disordered and incorporates more Ca than coexisting aragonite does in terms of Mg.

   The simplest explanation of these observations probably is to suggest two metamorphic events: The first one represented by relic matrix carbonates at relatively low to moderate pressures and temperatures of ca. 750°C, and the second one limited by the minimum temperatures for dolomite disorder (ca. 850°C) and in the aragonite+dolomitestability field, i.e. at a minimum pressure of 3GPa and, if the presence of diamond-bearing metapelites nearby is considered, at conditions of at least 850°C and 4.3GPa in the diamond stability field.

   As there is hardly any back-reaction of Ca-rich dolomiteþMg-poor calcite to Mg-rich calcite, peak temperatures remained below the reaction (1) and the exhumation path probably crossed the aragonite-calcite transition at much lower than peak temperature.

Cooling and decompression must have both occurred extremely fast in order for the mmsized Ca-rich dolomite textures to be preserved.

An alternative explanation of the formation of "UHP"-textures and compositions is by a fluid influx that not only caused serpentinisation and chloritisation of silicates but also Mg-leaching from carbonates, particularly from Mg-rich calcite and its fine grained dolomite-precipitates, thus transforming them into Mg-poor calciteþCa-rich dolomite.

2. ***Baziotis, I.***, Mposkos, E. and Perdikatsis, V. 2008. Geochemistry of amphibolitized eclogites and cross-cutting tonalitic-trondhjemitic dykes in the metamorphic Kimi complex in East Rhodope (N.E. Greece): implications for partial melting at the base of a thickened crust. **International Journal of Earth Sciences**, 97, 459-477.

In the ultra-high pressure Metamorphic Kimi Complex widespread tonalitic–trondhjemitic dykes, with an intrusion age ca. 65–63 Ma, cross-cut boudins and layers of amphibolitized eclogites. Geochemical investigation proclaims the tied genetic relationship of the amphibolitized eclogites and the associated tonalitic–trondhjemitic dykes. The major and trace element contents and rare earth element patterns of the amphibolitized eclogites indicate formation of their protoliths by fractional crystallization of tholeiitic magmas in a back-arc environment. The tonalites and trondhjemites are characterized by moderate to high Sr contents (>130 ppm), and low Y (<8.2 ppm) and heavy rare earth element contents (Yb content of 0.19–0.88 ppm). The chemical composition of the tonalitic and trondhjemitic dykes are best explained by partial melting of a tholeiitic source like the amphibolitized eclogites with residual garnet and amphibole, at the base of a thickened crust during Early Tertiary subduction/accretion at the southern margins of the European continent.

3. ***Baziotis, I.***, Mposkos, E. and Asimow, P.D. 2008. Petrogenesis of ultramafic rocks from the ultrahigh-pressure metamorphic Kimi Complex in Eastern Rhodope (NE Greece). **Journal of Petrology**, 49, 5, 885-909.

Widespread bodies of garnet^spinel metaperidotites with pyroxenitic layers occur in the ultrahigh-pressure metamorphic Kimi Complex. In this study we address the origin of such peridotite^pyroxenite associations in the context of polybaric melting regimes.We conduct a detailed geochemical investigation of major and trace element relations and compare them with a range of major element modelling scenarios. With increasing bulk-rock MgO content, the garnet-spinel metaperidotites exhibit decreasing CaO, Al_2O_3, TiO_2, and Na_2O along with increasing Ni and a gradually increasing Zr/Z* anomaly, consistent with an origin as residues after variable degrees of melt extraction.The major element modelling further suggests a polybaric adiabatic decompression melting regime beginning at high to ultrahigh pressure, with an intermediate character between pure batch and fractional melting and a mean extent of melting of 9-11%. The pyroxenites exhibit major element compositions that cannot be reproduced by experimental or calculated melts of peridotite. Moreover, the Kimi pyroxenites have highly variable Ni and Sc contents and a wide range ofMg-number (0.76-0.89), inconsistent with an origin as frozen melts or the products of melt^peridotite interaction. However, both the major element systematics and the observed rare earth element patterns, with both convex and concave shapes, can be explained by an origin as clinopyroxene-rich, high-pressure cumulates involving garnet and/or Cr-spinel.

4. Proyer, A., Mposkos, E., ***Baziotis, I.*** and Hoinkes, G. 2008. Tracing high-pressure metamorphism in marbles: phase relations in high-grade aluminous calcite-dolomite marbles from the Greek Rhodope Massif in the system CaO-MgO-Al_2O_3-SiO_2-CO_2. **Lithos**, 104, 119-130.

   Four different types of parageneses of the minerals calcite, dolomite, diopside, forsterite, spinel, amphibole (pargasite), (Ti–)clinohumite and phlogopite were observed in calcite–dolomite marbles collected in the Kimi-Complex of the Rhodope Metamorphic Province (RMP). The presence of former aragonite can be inferred from carbonate inclusions, which, in combination with an analysis of phase relations in the simplified system CaO–MgO–Al_2O_3–SiO_2–CO_2 (CMAS–CO_2) show that the mineral assemblages preserved in these marbles most likely equilibrated at the aragonite–calcite transition, slightly below the coesite stability field, at ca. 720°C, 25 kbar and aCO_2~0.01. The thermodynamic model predicts that no matter what activity of CO_2, garnet has to be present in aluminous calcite–dolomite-marble at UHP conditions.

5. ***Baziotis, I.***, Proyer, A. and Mposkos, E. 2009. High-pressure/Low-temperature metamorphism of basalts in the Lavrion (Greece): implications for the preservation of peak metamorphic assemblages in blueschists and greenschists. **European Journal of Mineralogy**, 21, 133-148.

   The Upper Tectonic Unit of the Lavrion area is part of the Attic-Cycladic blueschist belt and was affected by high-pressure, low-temperature metamorphism. Blueschists and greenschists occur in the same outcrop and are believed to have experienced the same pressure–temperature (P–T) history which has been quantified using geothermobarometry and pseudosections for specific bulk-rock compositions. Calculated P–T conditions indicate minimum pressure of ~0.9 GPa and temperature of ~370°C for the peak of metamorphism. The prograde and retrograde paths followed a very similar low geothermal gradient (10–12°C/km) with cooling during decompression. Pseudosections show that both blueschists and greenschists can exist stably at the metamorphic peak, the dominant amphibole being a function of bulk composition: the blueschists, on average, have lower Mg# than the greenschists, which results in a larger P–T stability field of blue amphibole. A pseudosection analysis of the dehydration behaviour indicates that blueschists and some greenschists can preserve their peak assemblages (no dehydration along the retrograde path), whereas greenschist assemblages, in general, are rather prone to undergo dehydration and hence re-equilibration to lower P–T conditions during exhumation.

6. Mposkos, E., ***Baziotis, I.*** and Proyer, A. 2010. Metamorphic reprocessing of a serpentinized carbonate-bearing peridotite after detachment from the mantle wedge: A *P-T* path constrained from textures and phase diagrams in the system CaO-MgO-Al_2O_3-SiO_2-CO_2-H_2O. **Lithos**, 118, 349-364.

In the central Rhodope mountains of Greece a carbonate-bearing metaperidotite lens ∼200×500 m in size crops out as part of the high- to ultrahigh-pressure metamorphic Upper Sidironero Complex ∼500 m SE of the Gorgona Village, north of Xanthi town. It is composed primarily of coarse grained (3–20 mm in size) olivine and orthopyroxene, medium grained clinohumite and medium to fine grained tremolite, chlorite, dolomite, magnesite, talc, antigorite and various spinel phases.

Whole-rock chemistry, mineral textures and compositions, and phase diagram calculations show that the metaperidotite was subjected to a prograde HP metamorphism, isofacial with the surrounding migmatitic gneisses, metapelites and amphibolites. The prograde character of metamorphism is demonstrated by inclusions of talc, antigorite, chlorite, dolomite, magnesite and Ti-clinohumite in ferrit-chromite, olivine, and orthopyroxene, as well as of olivine in orthopyroxene, and by the typical change in composition of zoned spinel minerals from ferrit-chromite in the core to chromian spinel at the rim.

The prograde path is characterized by successive growth of amphibole, Ti-clinohumite, olivine and orthopyroxene, followed by the breakdown of Ti-clinohumite to olivine+Mg-ilmenite and of chlorite to olivine+spinel, probably during exhumation. The construction of a partial petrogenetic P–T grid in the system CaO–MgO–Al_2O_3–SiO_2–CO_2–H_2O (CMASCH) for Ca-poor ultramafic bulk compositions has proven highly useful for the reconstruction of the metamorphic evolution and a P–T path, indicating that the use of univariant reactions in mixed volatile systems is highly warranted. The P–T path is clearly constrained to pressures below 1.5–1.7 GPa by the absence of clinopyroxene. These pressures are slightly lower than those recorded in the closely associated Jurassic eclogites and much lower than those recorded in the diamondbearing gneisses 5km to the south in the same tectonic unit.

The carbonate-bearing metaperidotite from Gorgona probably represents a fragment of the hydrated mantle wedge. This is indicated by the REE compositions which differ from those of ophiolitic peridotites and resemble those of spinel or garnet peridotites of sub-continental origin. The ultramafic slice was incorporated tectonically into the subduction channel, most likely by tectonic erosion in the Early Jurassic, but did not experience ultrahigh-pressure metamorphism like the nearby metapelites that exhumed along the same subduction channel..

7. ***Baziotis, I.***, Leontakianakos, G., Proyer, A., Lee, H.S. and Tsimas, S. 2011. Physico-chemical properties of different carbonate rocks: are they highly enough to control lime reactivity? **International Journal of Chemistry,** 3(2).

   We have examined 5 different carbonate rocks in order to study their behavior during calcination at different temperatures (900, 1050 and 1200^{o}C for 30 min) and hydration properties of quick limes and the final interconnection of the primary material with the reactivity of the slaked lime. Quick limes calcined at 900^{o}C show the lower reactivity values. This could be related to the low calcination temperature or to the short calcination time of 30 min which was insufficient to produce enough lime. The samples calcined at temperatures of 1200^{o}C are less reactive compared to those calcined at 1050^{o}C, indicated by parameters such as the $(CaO+MgO)_{Lime}$, the time required to reach the temperature maximum and the reactivity rate. This, probably could be due to annealing effects such as crystal coarsening and reduction of porosity at relatively high temperatures.

At lecturer level

8. ***Baziotis, I.*** and Mposkos, E. 2011. Origin of metabasites from upper tectonic unit of the Lavrion area (SE Attica, Greece): Geochemical implications for dual origin with distinct provenance of blueschist and greenschist`s protoliths. **Lithos**, 126, 161-173.

   The Lavrion area forms the westernmost part of the Attic–Cycladic crystalline belt (ACCB) and is built up by two tectonic units metamorphosed at HP/LT conditions. In the Upper Tectonic Unit metabasic rocks occur as greenschists and blueschists. Major and trace elements plotted against Mg# show a systematic increase in TiO2, Fe_2O_3*, Na_2O, Zr, Y, V, La and Yb and a decrease in Al_2O_3, Ni and Cr with decreasing Mg#. Typically, the blueschists always exhibit a more evolved basaltic composition. The greenschists are characterized by LREE depleted chondrite-normalized REE patterns and Zr/Nb values that range from 15 to 24. The blueschists are characterized by slightly LREE-enriched chondrite-normalized REE patterns and lower Zr/Nb ratios (6.6–11.3). Both rock types share common geochemical features like flat HFSE patterns or slight positive Nb anomalies with La/Nb<1. The protoliths of both greenschists and blueschists show that two different suites generated their protoliths and that their magmatic evolution at low pressures has also been different. The observed Zr/Nb vs. Ce/Y ratios span the compositions of greenschists and blueschists out on hyperbolae at an ideal spectrum from intermediate N-MORB to E-MORB. However, the REE patterns of the studied metabasites cannot be explained by fractional crystallization processes alone. We interpret that the protoliths of the Lavrion metabasites support a dual origin; the blueschist's protoliths are comparable to rift-related mildly alkaline basalts whereas the greenschist's protoliths probably formed as typical N-MORB at an oceanic spreading center or in an evolved back-arc basin. A mélange setting with two distinct provenances of the basic protoliths is the proposed genetic model, similar to that envisioned for other parts of the ACCB, e.g. the islands of Syros, Sifnos and Tinos.

9. ***Baziotis, I.*** and Chandrinos, A. 2011. Study of the crucial role of admixture in cement production: the optimum state of cassiterite (SnO_2) addition as a natural mineralizer-oxide influencing the cement properties. **Advances in Chemical Engineering and Science**, 1, 215-223.

In this work we evaluate the role of a natural mineralizer-oxide like cassiterite (SnO_2) on the cement proper-ties. In particular, we study the effect of different quantities of SnO_2 with 0.5, 1.0, 1.5 and 2.0 wt% on bur-nability of industrial raw mix by free lime evaluation. We obtain four datasets, with successive increase of temperature at 1250˚C, 1350˚C, 1400˚C and 1450˚C. We study the produced cassiterite-added clinker with X-ray diffraction (XRD), thermal analysis (DTA) and scanning electron microscopy (SEM). Though, we characterize the new phases formed and whether, adding excess SnO_2 is promote forms of C3S, C2S influen-cing the final quality of cement.

10. Mposkos, E., **Baziotis, I.** and Proyer, A. 2012. Pressure-temperature evolution of eclogites from the Kechros complex in the Eastern Rhodope (NE Greece). **International Journal of Earth Sciences**, 101(4), 973-996.

The Rhodope Domain in NE Greece consists of different tectonometamorphic complexes involved in the Alpine collisional history between the Eurasian and African plates. In the Kechros Complex, which is the lowermost tectonic unit in the East Rhodope, a lense of kyanite eclogite occurs within orthogneiss and common eclogites are found between serpentinized peridotite and underlying pelitic gneisses. In kyanite eclogite, the high-pressure (HP) mineral assemblage is Grt + Omp ($Jd_{35–55}$) + Ky + Ph + Qz + Rt + (indirectly inferred Tlc + Law); a Na-rich tremolite and zoisite formed at or near peak metamorphic conditions. In common eclogites, the HP mineral assemblage is Grt + Omp ($Jd_{29–41}$) + Rt and, with less certainty, Amp (Gln-rich + Brs + Wnc + Hbl) ± Czo. The inclusions in garnet are glaucophane, actinolite, barroisite, hornblende, omphacite, clinozoisite, titanite, rutile and rarely paragonite and albite. In kyanite eclogite, peak P–T conditions are constrained at 2.2 GPa and 615^{o}C using garnet–omphacite–phengite geothermobarometry and very similar values of 585 ± 32^{o}C and 2.17 ± 0.11 GPa with the average P–T method, by which conditions of formation could also be narrowed down for the common eclogites (619 ± 53^{o}C and 1.69 ± 0.17 GPa) and for a retrogressed eclogite (534 ± 36^{o}C and 0.77 ± 0.11 GPa). Ages for the HP metamorphism in the Kechros Complex are not yet available. A Rb–Sr white mica age of 37 Ma from orthogneiss records a stage of the exhumation. The HP event may be coeval with the Eocene HP metamorphism (49–55 Ma) recorded in the Nestos Shear Zone in Central Rhodope and in the Attic-Cycladic crystalline belt, where it is interpreted as the result of subduction and final closure of the Axios/Vardar ocean and subsequent subduction of the Apulian continental crust (a promontory of the Africa continent) under the southern margin of the European continent in the late Cretaceous and early Tertiary.

11. ***Baziotis, I.P.***, Liu, Y., DeCarli, P., Melosh, J., McSween, H.Y., Bodnar, R.J., and Taylor, L.A. 2013. The Unique Tissint Martian Meteorite: Evidence for Largest Impact Excavation**. Nature Communications**, 4:1404 doi: 10.1038/ncomms2414.

High-pressure minerals in meteorites provide clues for the impact processes that excavated, launched and delivered these samples to Earth. Most Martian meteorites are suggested to have been excavated from 3 to 7 km diameter impact craters. Here we show that the Tissint meteorite, a 2011 meteorite fall, contains virtually all the high-pressure phases (seven minerals and two mineral glasses) that have been reported in isolated occurrences in other Martian meteorites. Particularly, one ringwoodite (75 × 140 μm^2) represents the largest grain observed in all Martian samples. Collectively, the ubiquitous high-pressure minerals of unusually large sizes in Tissint indicate that shock metamorphism was widely dispersed in this sample (~25 GPa and ~2,000^{o}C). Using the size and growth kinetics of the ringwoodite grains, we infer an initial impact crater with ~90 km diameter, with a factor of 2 uncertainty. These energetic conditions imply alteration of any possible low-T minerals in Tissint.

12. Mposkos, E., ***Baziotis*, I.**, Leontakianakos, G. and Barry, P. 2013. The metamorphic evolution of the high-pressure Kechros complex in East Rhodope (NE Greece): Implications from Na-Al-rich leucocratic rocks within antigorite serpentinites. **Lithos**, 177, 17-33.

The Rhodope Domain in NE Greece is comprised of different tectonometamorphic complexes involved in the Alpine collisional history between the Eurasian and African plates. The Kechros Complex represents the lowermost tectonic unit in East Rhodope, and contains a metamorphic suite of Na–Al-rich leucocratic rocks (i.e., alkali feldspar granites, alkali syenites and syenites) within the Virsini antigorite serpentinite.

Based on the calculated P–T pseudosection and superimposed isopleths for a meta-syenite, we have determined a peak pressure and temperature of 1.55 ± 0.03 GPa and 550 ± 25 °C, suggesting HP metamorphism for leucocratic rocks enclosed in the Virsini serpentinized peridotites. The retrograde conditions suggest a prolonged exhumation history, with equilibration conditions first at P 1.1 ± 0.03 GPa and T 580 ± 20 °C and then at P 0.55 ± 0.04 GPa and T 430 ± 30 °C. The P–T conditions suggest an early rapid uplift event followed by a late-stage exhumation period, characterized by rapid cooling at relatively isobaric conditions. Similar metamorphic signatures are also recorded in continental rocks of the Kechros complex (i.e., orthogneisses, metapelites), suggesting that crustal and mantle rocks underwent a common Alpine tectonometamorphic evolution.

The exact ages of HP metamorphism in the Kechros Complex are not well constrained, however, a Rb–Sr age of 37 Ma from a neighboring orthogneiss records a stage of exhumation that may be contemporaneous with the Eocene HP metamorphism (49–55 Ma; i.e., recorded in the Nestos Shear Zone of Central Rhodope). We interpret this to be the result of the eventual closure of the Axios/Vardar Ocean and subsequent subduction of the Apulian continental crust (a promontory of the Africa continent) under the southern margin of the European continent in the late Cretaceous and early Tertiary.

13. ***Baziotis, I.*** 2013. Theoretical observations of the ice filled craters on Martian moon Deimos. **Pluralidade**, 1, 56-99.

For decades mankind has envisioned a manned mission to Mars. Some plans initiated the concept that using Martian Moon Deimos as a possible stepping stone to Mars. However, within the last several decades one of the questions that has evaded scientists is: "Does Deimos have any ice upon it's surface and/ or in it's craters?" Why? Because ice is a form of water, and water as far as outer space is concerned in the number one most precious resource. Not only because water is a fundamental essential for sustaining life, but it is also necessary for producing rocket fuel. However, one of the foremost problems in being able to ascertain if there is any water on Deimos is the fact that the closest images ever taken of Deimos last occurred when the Voyager 2 Orbiter mission was able to take some images of the surface of Deimos as close as 30 km. However, at even this close a distance to the surface of Deimos these images were still not close enough to determine if ice was upon the surface of Deimos or in its craters. In order to provide enough ice so that a manned mission to Deimos is feasible. Therefore, at this point in time in 2013 there is still not enough data to seriously determine if a manned mission to Deimos as a stepping stone to Mars is a practical viability or not.

14. Howarth, G.H., Barry, P.H., Pernet-Fisher, J.F., ***Baziotis, I.***, Pokhilenko, N.P., Pokhilenko, L.N. and Taylor, L.A. 2014. Superplume Metasomatism: Evidence from Siberian Mantle Xenoliths. **Lithos**, 184-187, 209-224**.**

The Siberian craton contains N1000 kimberlite intrusions of various ages (Silurian to Jurassic), making it an ideal locality for a craton-wide study on the evolution of the sub-continental lithospheric mantle (SCLM). The primary objective of this study is to characterize the temporal and spatial metasomatic effects on the Siberian SCLM, focusing on the metasomatic imprint rendered by the Siberian superplume. We report new major- and trace element mineral data for mantle peridotite xenoliths, obtained from the Late Devonian Udachnaya and the Late Jurassic Obnazhennaya kimberlites, which bracket the thermal climax of the Siberian superplume.

Garnet compositions have two distinct trends in CaO–Cr2O3 space: 1) increasing CaO at constant Cr2O3 within the harzburgite field, and 2) decreasing CaO and Cr2O3 within the lherzolite field, moving from ultramafic compositions of Udachanaya toward more mafic compositions of Obnazhennaya. Zoned garnet grains have sinusoidal-REE patterns within their cores and display a gradational change to flat MREE–HREE profiles at the rims. Clinopyroxenes typically are LREE-enriched and have high Ti/Eu, indicating kimberlite rather than carbonatite metasomatism. Re-constructed melts in equilibrium with garnet REE chemistry indicate that Obnazhennaya garnets were overprinted by plume-derived basaltic fluids, whereas Udachnaya garnets were overprinted by kimberlite fluids. The ubiquitous plume signatures from the younger Obnazhennaya garnets is clear evidence for extensive metasomatism by mafic fluids within the SCLM during Siberian flood basalt (SFB) emplacement.

We present a four-stage model for the temporal evolution of the SCLM over the life cycle of the Siberian superplume: 1) Early-stage metasomatism from fluids circulating within the SCLM, resulting in refertilization fromharzburgite to lherzolite in the SCLM; 2) kimberlitic metasomatism, caused by small-degree partial melting of SCLM, induced by superplume upwelling; 3) Syn-SFB basalticmetasomatism, as the result of extensive percolation of basaltic fluids derived from the main stages of superplume activity; and 4) Post-SFB local kimberlitic metasomatism, resulting in LREE enrichment of Obnazhennaya clinopyroxenes related to the eruption of the host kimberlite..

15. ***Baziotis, I.***, Mposkos, E. and Asimow P.D. 2014. Continental rift and oceanic protoliths of mafic rocks from the Kechros Complex, NE Rhodope (Greece): implications from petrography, major and trace element systematics, and MELTS modeling. **International Journal of Earth Sciences**, 103, 981-1003.

The whole-rock chemistry of eclogites, partially amphibolitized eclogites, and dyke amphibolites from the metamorphic Kechros complex in the eastern Rhodope Mountains preserves evidence of the geodynamic framework for the origin of their protoliths. Major and trace-element concentrations define two distinct protolith groups for the eclogites. The low-Fe–Ti (LFT) eclogites have low-TiO_2 content (<0.67 wt%), negative high field strength element anomalies, and variable enrichments in large ion lithophile elements (LILE). The rare earth element (REE) patterns are characterized by strong light-REE (LREE) enrichment and heavy-REE (HREE) depletion. The high-Fe–Ti (HFT) eclogites have small to moderate LILE enrichment and lack Nb anomalies. The REE patterns of the HFT eclogites are characterized by LREE depletion and relatively flat MREE–HREE patterns. The rock compositions and petrographic features of the LFT eclogites resemble gabbros formed in a continental rift environment with minor to moderate contamination of a mantlederived mafic magma by continental crust, whereas the HFT eclogites resemble mafic rocks formed in extensional oceanic environments. We interpret the HFT suite to represent a later stage in an evolution from continental rift to open ocean, following the origin of the LFT suite. Dyke amphibolite compositions, except for probable SiO_2 loss associated with metamorphic dehydration reactions, appear to represent liquid compositions quenched in conduits through the lower crust. MELTS modeling shows that dyke amphibolite compositions can be related to each other by fractional crystallization under strongly oxidizing conditions at ~0.5 GPa pressure, and all can be derived from a low-degree melt of modified fertile peridotite from around 1.7 GPa. Cumulates crystallized from the parental liquids of the amphibolites under oxidizing conditions may have yielded the protoliths of the HFT suite.

16. Proyer, A., ***Baziotis, I.***, Mposkos, E. and Rhede, D. 2014. Ti- and Zr-minerals in calcite-dolomite marbles from the Greek Rhodope: Rutile, titanite, geikielite-

ilmenite, zircon, zirconolite, kassite and their reaction textures in calcite-dolomite marbles from the Rhodope massif, NE Greece. **American Mineralogist**, 99(7), 1429-1448.

Rutile, titanite, and zircon formed as relatively coarse-grained accessory minerals in several samples of high-grade calcite-dolomite marble with an early ultrahigh-pressure history. These minerals decomposed to a texturally complex set of secondary minerals during subsequent stages of retrograde metamorphism. The reactions involve several generations of geikielite-ilmenite as well as zirconolite [$(Ca,Th,U)Zr(Ti,Fe,Nb,Ta)_2O_7$], kassite/cafetite [$CaTi2O4(OH)_2/CaTi_2O_5 \cdot H_2O$], Ti-bearing humite group minerals, thorianite, and sometimes euxenite [$(Ca,U,Th,REE)(Nb,Ta,Ti)_2(O,OH)_6$]. Stable coexistence of zircon and olivine is observed and stably coexisting titanite with olivine and/or humite-group minerals is reported here for the irst time outside of carbonatites, kimberlites, or lamprophyres. Petrogenetic grids constructed for Ti- and Zr-bearing olivine/antigorite-saturated calcite-dolomite marbles show that geikielite is stable at highest pressures, followed by titanite and rutile, and that baddeleyite + diopside replaces zircon + calcite to higher pressures. The observed reaction textures are consistent with an earlier derived P-T path for the Kimi Complex. They corroborate a period of heating during decompression from 25 to 20 kbar and ca. 800 °C, where the assemblage olivine-diopside-spinelrutile-zircon formed. This assemblage partially re-equilibrated during subsequent decompression and cooling, thus forming the observed reaction textures. Even though no memory of the UHP path is preserved in the accessory minerals, their reaction relationships turn out to be potentially very useful for geothermobarometry over a large range of metamorphic conditions.

17. Leontakianakos, G., ***Baziotis, I.***, Papandreou, A., Kanellopoulou, D., Stathopoulos, V.N. and Tsimas, S. 2014. A comparative study of the physicochemical properties of Mg-rich and Ca-rich quicklimes and their effect on reactivity. **Materials and Structures**, 10, 1-19.

We studied the physicochemical properties of quicklimes derived from typical carbonate rocks, focusing on variations in chemical composition and their effects on reactivity. Samples were selected based upon their composition (two Mg-rich and two Ca-rich samples), freshness (scarce secondary alteration features), texture (two common Hellenic limestones and two marbles), and similarity to materials commonly used in industrial practice. We characterized the samples in detail by chemical analysis, X-ray diffraction, N2-BET, scanning electron microscopy, petrography, TG/DTA and EN 459-2 testing, and examined correlations between measured properties and reactivity. Surprisingly, specific surface area (SSA) is found not to be a determinant factor for reactivity. As expected, chemical composition has an important role in the sintering and slaking mechanisms. Impurities such as Fe_2O_3 and K_2O facilitate, while MgO inhibits, sintering. Mg-rich quicklime, with impurities in trace amounts, calcined at 1,200^{o}C, has SSA of 11.9 m^2/g while Ca-rich quicklime, with considerable impurities, has SSA of 0.6 m^2/g. Variations in the slaking behavior, monitored by reactivity tests, were identified and related to the properties of the quicklimes. The variations can be understood in the context of a proposed five-step slaking mechanism. Slaking curves are found to be insensitive to sourcerock texture; they are similar for the two sets of Mgrich and the two sets of Ca-rich quicklimes, respectively. MgO is found to improve hydration resistance of the material, leading to more complex slaking curves. A general firing scheme is proposed based on the investigated material properties.

18. Vallianatos, F., ***Baziotis, I. P.***, Udry, A. and Taylor, L. A. 2014. Application of non-extensive statistical physics on Martian nakhlites: A first-order approach on the crystal size distribution of pyroxene using Tsallis entropy. **Europhysics Letters** (EPL), 108(5), 58002.

In this paper, we present a Non-Extensive Statistical Physics (NESP) approach in order to investigate the crystal size distribution of pyroxene crystals from Martian meteorites, nakhlites MIL090030 and MIL090032, which reflect igneous processes on Mars 1.3 Ga ago. The formation of pyroxene crystals is a complex process in which fractional crystallization of an igneous melt is predominant in the evolution process. It is exactly this type of complex process, such as that of crystal-melt interaction, for which NESP could be applied. The results of the analysis indicate that a model based on the Tsallis entropy is an appropriate framework for the statisticalphysics interpretation of crystal size distribution of pyroxene grains in these rocks. The similarity of the estimated q values supports the previous conclusions on the pairing between the studied nakhlites.

19. Wawrzenitz, N., Krohe, A., ***Baziotis, I.***, Mposkos, E., Kylander-Clark, A. R., & Romer, R. L. 2015. LASS U-Th-Pb monazite and rutile geochronology of felsic high-pressure granulites (Rhodope, N Greece): Effects of fluid, deformation and metamorphic reactions in local subsystems. **Lithos**, doi:10.1016/j.lithos.2015.06.029.

The specific chemical composition of monazite in shear zones is controlled by the syndeformation dissolution–precipitation reactions of the rock-forming minerals. This relation can be used for dating deformation, even when microfabric characteristics like shape preferred orientation or intracrystalline deformation of monazite itself are missing.

Monazite contemporaneously formed in and around the shear zones may have different compositions. These depend on the local chemical context rather than reflecting successive crystallization episodes of monazite.

This is demonstrated in polymetamorphic, mylonitic high-pressure (HP) garnet–kyanite granulites of the Alpine Sidironero Complex (Rhodope UHP terrain, Northern Greece). The studied mylonitic rocks escaped fromregional migmatization at 40–36 Ma and from subsequent shearing through cooling until 36 Ma. In-situ laser-ablation split-stream inductively-coupled plasma mass spectrometry (LASS) analyses have been carried out on monazite from micro-scale shear zones, from pre-mylonitic microlithons as well as of monazite inclusions in relictic minerals complimented by U–Pb data on rutile and Rb–Sr data of biotite.

Two major metamorphic episodes, Mesozoic and Cenozoic, are constrained. Chemical compositions, isotopic characteristics and apparent ages systematically vary among monazite of four different microfabric domains (I–IV). Within three pre-mylonitic domains (inclusions in (I) pre-mylonitic kyanite and (II) garnet porphyroclasts, and (III) in pre-mylonitic microlithons) monazite yields ages of ca. 130–150Ma for HP-granulite metamorphism, in line with previous geochronological results in the area. Patchy alteration of the pre-mylonitic monazite by intra-grain dissolution–precipitation processes variably increased negative Eu anomaly and reduced the HREE contents. The apparent age of this altered monazite is reduced.

Monazite in the syn-mylonitic shear bands (IV) differs in chemical composition from unaltered and altered monazite of the three pre-mylonitic domains by having a significantly more pronounced negative Eu anomaly, a flatter HREE pattern, and high Th content. These compositional characteristics are linked with syn-mylonitic formation of plagioclase and resorption of garnet in the shear bands under amphibolite facies conditions. The absence of pre-mylonitic monazite in the shear zones, in contrast to the other domains, suggests complete dissolution of old and formation of newmonazite. This probably results froman increased alkalinity and reactivity of the fluid that again is controlled by syn-mylonitic interaction with feldspar and apatite in the shear zones. There, the deformation was accommodated by dissolution precipitation creep at ca. 690 ± 50 °C and 6–7.5 kbar. Growth of monazite at 55 ± 1 Ma dates this deformation, which precedes the regional migmatization of the Sidironero Complex, whereas rutile and biotite ages reflect these later stages. This new pressure–temperature–time constraint for a relictic deformation structure provides insight into the still missing parts of the overall metamorphic, deformation and exhumation processes of the UHP units in the Rhodope.

20. He, Q., Xiao, L., Balta, J. B., ***Baziotis, I. P.***, Hsu, W., & Guan, Y. (2015). Petrography and geochemistry of the enriched basaltic shergottite Northwest Africa 2975. **Meteoritics & Planetary Science**, 50(12), 2024-2044.

In this paper we present a study of the petrology and geochemistry of basaltic shergottite Northwest Africa 2975 (NWA 2975). NWA 2975 is a medium-grained basalt with subophitic to granular texture. Electron microprobe (EMP) analyses show two distinct pyroxene compositional trends and patchy compositional zoning patterns distinct from those observed in other meteorites such as Shergotty or QUE 94201. As no bulk sample was available to us for whole rock measurements, we characterized the fusion crust and its variability by secondary ion mass spectrometer (SIMS) measurements and laser ablation inductively coupled plasma spectroscopy (LA-ICP-MS) analyses as a best-available proxy for the bulk rock composition. The fusion crust major element composition is comparable to the bulk composition of other enriched basaltic shergottites, placing NWA 2975 within that sample group. The CI-normalized REE (rare earth element) patterns are flat and also parallel to those of other enriched basaltic shergottites. Merrillite is the major REE carrier and has a flat REE pattern with slight depletion of Eu, parallel to REE patterns of merrillites from other basaltic shergottites. The oxidation state of NWA 2975 calculated from Fe-Ti oxide pairs is NNO-1.86, close to the QFM buffer. NWA 2975 represents a sample from the oxidized and enriched shergottite group, and our measurements and constraints on its origin are consistent with the hypothesis of two distinct Martian mantle reservoirs: a reduced, LREE-depleted reservoir and an oxidized, LREE-enriched reservoir. Stishovite, possibly seifertite, and dense SiO2 glass were also identified in the meteorite, allowing us to infer that NWA 2975 experienced a realistic shock pressure of ~30 GPa.

21. Markou, G., Inglezakis, V. J., Mitrogiannis, D., Efthimiopoulos, I., Psychoyou, M., Koutsovitis, P., ... & ***Baziotis, I.*** (2016). Sorption mechanism(s) of orthophosphate onto $Ca(OH)_2$ pretreated bentonite. **RSC Advances**, *6*(27), 22295-22305.

In this study we preset a bentonite that was chemically pretreated with Ca(OH)2 to enhance orthophosphate phosphorus (OPP) sorption capacity (qe). The pretreatment resulted in an increase of qe from about 0.3 mg P per g to about 8mg P per g at pH 7 and 25 C, and of OPP concentration 100 mg P per L. The effects of solution pH, OPP concentration, sorbent dosage, and temperature on OPP sorption onto pretreated bentonite were investigated. The variation of initial pH (4–9) did not affect qe, however, re-adjustment of the final pH showed that the variation of the final pH had a significant positive effect on qe. The sorption kinetics showed a low rate, reaching half of qe in the first 4 h and equilibrium after 96 h. The calculated Langmuir qmax was 11.68 mg P per g. Thermodynamic analysis suggests that the sorption process is spontaneous and endothermic. Desorption of OPP was high in solutions of 0.1 M HCl and 0.01 EDTA-Na2 and reached 83% and 98%, respectively. We conclude that the predominant sorption mechanism for OPP uptake is inner-sphere surface complexation (ligand exchange). Other less important mechanisms such as surface precipitation and replacement of P5+ for Si4+ on the tetrahedral sites of montmorillonite may operate during the OPP uptake process by pretreated bentonite with Ca(OH)2.

Full papers in Proceedings

22. ***Baziotis*, I.**, Mposkos, E. and Perdikatsis, V. 2004. Pre-alpine migmatitic rocks and acid to intermediate orthogneisses in Pentelikon Mountain (NE Attica, Greece). Bulletin of Geological Society of Greece, 36/1, 542-551.

    In the broad area of Pentelikon Mountain, which is part of the Attic-Cycladic crystalline belt, metamigmatites and orthogneisses occur as tectonic slices within the calc-schists or between calcschists and marbles. In the metamigmatites relic of migmatitic fabrics, comprising leucosomes and melanosomes, and cross-cutting aplitic and pegmatitic dykes are still preserved. The orthogneisses have dioritic to granitic composition. They are interpreted to be probably formed in a magmatic arc setting. Granitic orthogneisses show high-K contents and are enriched in LILEs and depleted in HFSEs. They also exhibit fractionated REE patterns with slight to strong negative Eu anomaly. The exceptionally high K_2O contents (>7%) and the very low Na_2O contents (0.4-0.98 wt%) of certain phengite-orthogneisses with ultramylonitic textures are attributed to metasomatic processes that occurred during ultramylonitization..

23. Mposkos E. and ***Baziotis, I.*** 2005. Petrology and geochemistry of amphibolitized eclogites and trondjemitic veins from the Organi-Kimi area of Eastern Rhodope. 2nd Congress of the Committee of Economic Geology, Mineralogy & Geochemistry, Thessaloniki, October 2005, 259-268. In Greek.
    It is precursor summary of paper #2.

24. Mposkos, E., Krohe, A., Diamantopoulos, A. and ***Baziotis, I.*** 2007. Late- and post-Miocene geodynamic evolution of the Mesogea basin (East Attica, Greece): Constraints from sediment petrography and structures. Bulletin of Geological Society of Greece, 40/1, 399-411.

In Attica, from the Miocene through the Quaternary, successive generations ofdetachment faults caused exhumation and denudation ofAlpine HP rocks and -later on -formation of sedimentary basins. The Mesogea low angle detachment fault separates the HP rocks exposed at the southern flank ofthe PenteLi Mt from the Late -post-Late Miocene Mesogea basin. Combined sedimentary-petrologic and structuraL analyses reveaL the following: (i) Late Miocene sediments include material from unmetamorphosed source areas suggesting that, until then, parts of the HP rocks were buried under the (largely unmetamorphosed) Pe/agonian nappe unit. (ii) Post-Late Aiiocene sediments exclusively contain clasts from high-P source areas and show downward bending of the layering that accom.modates slip along a listric fault swface. Close to the Penteli Mt, within the post-late-Miocene sediments gravity sliding-blocks of metamorphic rocks occur. All this indicates post-Late Miocene activity along this detachment fault controlled rapid surface uplift/reliefformation, denudation andfast erosion of HP rocks in the Penteli Mt.

25. ***Baziotis, I.***, Mposkos, E., Palikari, S. and Perraki, M. 2007. Geochemistry of ultramafic rocks from ultra-high pressure metamorphic Kimi complex in East Rhodope (N.E. Greece). Bulletin of Geological Society of Greece, 40/2, 653-665.

It is precursor summary of paper #3.

26. Mposkos, E., Palikari, S. and ***Baziotis, I.*** 2007. The diamond-bearing metapelites from tectonometamorphic Kimi Complex. Data help us to understand the geodynamic evolution of the Rhodope Mountains. "Pythagoras". Meeting for the scientific research at NTUA. 5-8 July 2007 Plomari Lesvos. 133-140. In Greek.

The Kimi Complex, suffered ultra-high pressure metamorphism during Jurassic (~150 million years). This metamorphism verified by the presence of diamond inclusions in garnets from metapelites. Additionally to that, we observed quartz and rutile exsolutions in sodic-rich garnets. The exhumation period, lasted ~100 million years, and verified by mineral assemblages equilibrated at various stages of decompression. Three main decompressional stages were recorded on Kimi rocks; the first from depth of ~150 km up to ~55 km characterized by rapid decompression and cooling; the second from ~55 km up to ~40 km characterized by cooling and slower decompression; and finally, the third is characterized by rapid exhumation and cooling.

27. Mposkos, E. and ***Baziotis, I.*** 2010: Study of the metamorphic evolution of a carbonate-bearing metaperidotite from the Sidironero Complex (Central Rhodope, Greece) using P-T and P(T)-X_{CO2} pseudosections. Bulletin of the Geological Society of Greece, Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/5, 2667-2679.

The carbonate-bearing metaperitite from Sidironero Complex, north of the Xanth town is composed primarily of olivine and orthopyroxene megacrysts and of Ti-clinohumite, tremolite, chlorite, dolomite, magnesite, talc, antigorite and spinel group minerals. The metaperidotite underwent a prograde HP metamorphism probably isofacial with the neighboring amphibolitized eclogites. Calculated P-T and P(T)-XCO_2 phase diagram sections (pseudosections) for the bulk rock compositions showed that XCO_2 in the fluid phase was extremely low (≤0.008) at the first stages of the metamorphism and increased up to 0.022 at the peak P-T conditions ~1.5 GPa and 690°C. The prograde metamorphism probably started from a hydrated and carbonated assemblage including talc+chlorite+magnesite+dolomite and proceeded with tremolite and antigorite formation before olivine growth, and orthopyroxene formation after olivine growth (Ol-1). Matrix dolomite, breakdown of chlorite (Chl-1) to Cr-Spinel+olivine and of Ti-clinohumite to olivine+Mg-ilmenite occurred during decompression. The P-T path is constrained by the absence of clinopyroxene in the metaperidotite.

28. ***Baziotis, I.*** and Mposkos, E. 2010: Geochemistry and tectonic setting of eclogite protoliths from Kechros complex in East Rhodope (N.E. Greece). Bulletin of the Geological Society of Greece, Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/5, 2522-2531.

In the present work we studied the geochemistry of eclogites and amphibolitized eclogites of Kechros complex in Eastern Rhodope. We inferred constraints in the tectonic environment of formation of the eclogites protoliths. Petrographic analysis revealed the mineral assemblage garnet + omphacite + tremolite + hornblende ± glaucophane + epidote ± kyanite + phengite + rutile + quartz for the eclogites, whereas tremolite + hornblende+ albite + chlorite + epidote +quartz ± phengite ± paragonite ± garnet ± margarite + rutile for the amphibolitized eclogites.

29. Leontakianakos, G., ***Baziotis, I.***, Economou, G., Delagrammatikas, G., Galbenis, C.T. and Tsimas, S. 2010: A case study of different limestones during quick lime and slaked-lime production. Bulletin of the Geological Society of Greece, Proceedings of the 12th International Congress, 19-22 May, Patras, XLIII/5, 2485-2491.

We have examined 5 different limestones in order to study their behavior i) during calcination at different temperatures (900, 1050 and 1200°C for 30 min) and ii) after hydration of quick limes derived to slaked lime. Quick limes calcined at 900°C show the lower reactivity values. This could be related to the low calcination temperature or to the short calcination time of 30 min which was unable to produce enough lime. The samples calcined at temperatures of 1200°C are less reactive compared to the hydrated limes which were prepared by hydration of quick lime calcined at 1050°C, indicating by parameters such as the $(CaO+MgO)_{Lime}$, the time required to become the temperature maximum and the reactivity rate. These, probably could be due to crystal growth at relative high temperatures.

30. Mposkos, E., Krohe, A. and ***Baziotis, I.*** 2010: Alpine polyphase metamorphism in metapelites from Sidironero Complex (Rhodope Domain, NE Greece). Scientific Annals, School of Geology, Aristotle University of Thessaloniki. Proceedings of the XIX Congress of Carpathian-Balkan Geological Association, Thessaloniki, Greece, 100, 173-181.

Metamorphic mineral ages from garnet-kyanite gneisses in the area north of Xanthi documented a Jurassic and an Eocene metamorphic event in the Sidironero complex of the Rhodope domain. The two metamorphic events are well imprinted in the mineral assemblages, mineral compositions and textural relationships of metapelites within the Nestos Shear Zone in the Sidironero complex. The Jurassic event at HP-UHP metamorphic conditions is characterized by the mineral assemblage garnetkyanite-Ti-rich phengite at the peak pressure. The Eocene metamorphic event at moderate HP conditions and minimum pressure > 0.9 GPa is characterized by the mineral assemblages St-Grt-Ms-Ky-Bt with garnet growth at the expense of kyanite or staurolite, and Grt-St-Ky-Bt with peak P-T conditions within the St+Bt+Ky stability field..

31. Mposkos, E., ***Baziotis, I.*** and Krohe, A. 2010: Record of two Alpine high-P metamorphic events in the Titaros Ophiolite Complex of the Pelagonian Zone (Greece). Scientific Annals, School of Geology, Aristotle University of Thessaloniki. Proceedings of the XIX Congress of Carpathian-Balkan Geological Association, Thessaloniki, Greece, 99, 289-298.

We present new petrological data of the Titaros ophiolite complex and discuss their significance for the Alpine geodynamic evolution in the Pelagonian realm. There are two Alpine high-P metamorphic stages. The first stage, at pressures between 0.8-1.4 GPa and minimum temperatures 570-610^{o}C occurred in late Jurassic/early Cretaceous and is associated with the obduction of the ophiolite complexes onto the Pelagonian crust. At this stage the Titaros ophiolite was subducted together with crustal rocks of the Pelagonian zone as a result of tectonic erosion of the ophiolite margin. The second stage occurred in the Eocene at much lower temperatures (about 400^{o}C and minimum pressure ~0.7 GPa). It is interpreted to reflect the final closure of the Vardar-Axios ocean and collision/underthrusting of the Apulia microcontinent under Europe.

At lecturer level

32. ***Baziotis, I.***, Asimow, P., Koroneos, A., Poli, G. and Ntaflos, T. 2013. Multi-stage history of compound mantle xenoliths from western USA: implications for metasomatic processes in the deep mantle. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 357-365.

The compound mantle xenoliths from Cima Volcanic Field and Chino Valley (West-ern U.S.A.) represent outstanding candidates to illustrate the processes that occur prior to their delivery to the surface by alkali-basaltic volcanism. The xenoliths share characteristics like pyroxene zonation, amphibole breakdown and formation of glass and armalcolite. Their petrogenetic evolution involved partial melting of the silicate minerals, infiltration of reactive melts and dissociation of minerals en route to the surface, suggesting that these rocks followed multi-stage histories that initiat-ed deep in the mantle (>1.0 GPa) and proceeded during a very short period of time.

33. Leontakianakos, G., ***Baziotis, I.***, Profitis, E., Chatzitheodoridis, E. and Tsimas, S. 2013a. Assessment of the quality of calcination of marbles from Thassos island using Raman spectroscopy and X-ray diffraction. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 2040-2049.

It is precursor summary of paper #17.

34. Leontakianakos, G., Vrachas, C., Baziotis, G., ***Baziotis, I.***, Soultati, G. and Fermeli, G. 2013b. Theoretical approach of teaching lithosphere in junior high school: a critical review of the content and objectives defined by the curriculum of the ministry of education. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 1024-1030.

The purpose of this study is an attempt to define the lithosphere concept, as de-scribed in the textbook "Geology-Geography" of the 1st Grade of junior high-school. Further we investigate whether the objectives of the corresponding chapter are being implemented according to the curriculum of the Ministry of Education. The main research hypothesis concentrates on the very limited cognitive background of the students regarding the lithosphere. It is based on the absence of a well-organized framework of proportional and gradually increased and specialized flow of knowledge, as suggest the few generalised concepts on the subject of Geography taught on the 5th and 6th grade of the Primary School. According to the Curriculum of the "Geology–Geography" of the Ministry of Education, the lithosphere chapter requires fifteen didactic hours for a sum of nine complexes, mostly cognitive objec-tives. However, the textbook contains only five didactic hours, an indicator of an asymmetric state of the Curriculum. Our opinion about curriculum content itself, which describes the lithosphere, compared to the strictly scientific definition, is that it represents a simplistic approach and consequently the materialization of the cog-nitive goals is doubtful.

35. Kougemitrou, I., Economou, G., Giovanopoulos, I., ***Baziotis, I.***, Leontakianakos, G. and Stathopoulos, V. 2013. A mineralogical study of pigments used in two Iakovidis paintings: verification of artwork authenticity using Raman Micro-spectroscopy. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 392-396.

For the purpose of the current study, we examined two paintings, an original and a fake one, entitled "Still life with grapes", and claimed both to be created from the Greek ainter G. Iakovidis. The current Research Project has been carried out at the Centre Nikias, an innovative Research Centre specialised on certification, maintenance and restoration of art works.

Raman spectroscopic analysis has been carried to verify the authenticity of the used pigments and also the originality of the two paintings. The Raman spectra acquired confirmed four different colours in both painting`s pigments: red, blue, white and yellow. For the first painting Cinnabar for the red pigment, Ultramarine for the blue pigment, White earths for the white pigment and Yellow ochre for the yellow pig-ment. In the second painting the colours used verified as synthetic pigments. We identified the presence of Cadmium red for the red colour, Cobalt blue for the blue pigment, Zinc white for the white and Cadmium yellow for the yellow one.

36. ***Baziotis, I.*** & Taylor, L.A. 2013. Are we alone in the Universe? Does the meteorites give answers? Invited talk. Bulletin of the Geological Society of Greece, Proceedings of the 13th International Congress, 05-08 September, Chania, 32-50 (In Greek with English abstract).

In the current paper, we focus on the origin of Martian meteorites, presenting their complete geological history; from the genesis of their protoliths till their falling to the earth. We attempt to shade light in the understanding of meteorite formation using mineralogical-petrological-geochemical data, and the assignment of timing for each event based upon contemporary geochronological data. Recently, studies of the Martian meteorite Tissint, allegedly discovered structures rich in carbon and oxygen. Furthermore, recent field observations from Curiosity rover, indicates the existence of surface water that flowed once in the past at the Martian surface. We conclude that the planet Mars might not be a "dead" planet. But it turns out that many of the meteorites that reach the Earth, have undergone a complex history which is associated with the development of very high pressures and temperatures on the surface of the planet (e.g., Mars) from which they originate, able to destroy any trace of life before them. After all, we should be very sceptic and evaluate all the possibilities before the acceptance for the existence of life out there.

Extended abstracts

37. ***Baziotis*, I.**, Mposkos, E. and Perdikatsis, V. 2004. Pre-alpine basement and acid to intermediate magmatism in Pentelikon Mountain (NE Attica, Greece). 10th International Congress of the Geological Society of Greece, 15-17 April 2004, Thessaloniki, Greece, 351-352.

It is precursor summary of paper #10.

38. Perraki M., Proyer A., Mposkos E., Kaindl R., ***Baziotis* I.** and Hoinkes G. 2004. Micro- and nanodiamonds in garnets of metapelitic rocks from the Greek Rhodope: an in-situ micro-Raman study. 5th International Symposium on Eastern Mediterranean Geology, 14-20 April 2004, Thessaloniki, Greece, T2-35, 1216-1219.

In this work, we studied carbonaceous inclusions in garnets from metapelites from ultra-high pressure rocks Kimi Complex in Eastern Rhodope. The rocks are characterized by the mineral assemblage: garnet + kyanite + muscovite + biotite + quartz + plagioclase + rutile. The inclusions occur as solid, liquid or mixed. The predominant inclusins in garnet are quartz, kyanite, carbonates and carbon polymorphs (diamong + graphite).

The diamond inclusions have been verified using Raman Spectroscopy technique. The major Raman band at 1332 cm^{-1} occurs either alone or combined with carbonates. We have also investigated cuboid graphite inclusions with characteristic Raman band at ~1580 cm^{-1}. The presence of diamond inclusions indicates that these rocks passed through the ultra-high pressure metamorphic field.

39. Skarpelis, N., Triantafyllidis, S. and **Baziotis, I.** 2004. Acid rock drainage in the mine of Lavrion, Greece. In: Agioutantis, Z. and Komnitsas, K. (eds.) International Conference "Advances in mineral resources management and environmental geotechnology", Hania 2004, Greece, 531-536.

At Lavrion we are faced with a pollution problem with permanent and specific focus point, such as the acid drainage waters. Acid rock drainage is intense at the underground mines of Lavrion. Draining waters are characterized by strong metal enrichments. The measured concentrations of metals in the highly acidic waters are several orders of magnitude higher than the drinking water standards set by the

E.U. Arsenic, cadmium, iron and copper are enriched in the highly acidic waters, whereas their concentrations drop sharply as pH increases. It seems that once the acid drainage waters form, they react with the carbonate host rocks, which can shift pH to less acidic values. The acid drainage in Lavrion is favored by the high pyrite content of the ore bodies and the occurrence of Fe-rich sphalerite. The geology of Lavrion and the occurrence of secondary Fe- and Zn ores indicate that the draining waters remained polluted since the uplift of the Attico-Cycladic Belt, as a result of oxidation of sulfide ores and the release of metals into the natural environment.

40. Mposkos, E., ***Baziotis, I.***, Palikari, S., Perraki, M and Diamantopoulos, A. 2006. Petrology and geochemistry of garnet-spinel metaperidotites and associated spinel-garnet clinopyroxenites from the UHP Kimi complex, Eastern Rhodope (NE Greece). XVIIIth Congress of Carpathian-Balkan Geological Association, 3-6 September 2006, Belgrade, Serbia, 394-398.

The garnet-spinel metaperidotites of ultra-high pressure metamorphic Kimi complex from the Rhodope province represent a segment of convecting asthenosphere into the mantle wedge. It was primary garnet-peridotite equilibrated during assent first into the expanded stability field of garnet-chromian spinel peridotite at T>1200^{o}C and 30 kbar. The associated spinel-garnet pyroxenites represent primary HP magmatic rocks crystallized from melts within the stability field of garnet pyroxenite. Decompression and substantial cooling of both rock types occurred at depth up to ~15 kbar and 750-765^{o}C, within the Cr-spinel peridotite/garnet pyroxenite stability field. Major, trace and REE geochemistry indicates that the peridotites are residues from varying degrees of partial melting (<35%). The associated garnet pyroxenites are frozen melts, derived from the host peridotite. Trace element systematics suggest mantle wedge metasomatism.

Abstracts

41. Skarpelis, N. and ***Baziotis*, I.** 2003. Acid mine drainage phenomena at the underground mines of the Lavrion area: Environmental impacts and their ore deposits significance. Proceedings of the 1st Congress at the South Eastern Attica, Kalyvia. In Greek.

In this work, we studied the acid mine drainage and the environmental impacts, from the waters on the ore mines from Lavrion area.

42. ***Baziotis*, I.**, Mposkos, E. and Perdikatsis, V. 2004. Alpine high-pressure/low-temperature metamorphism in Penteli area (NE Attica, Greece). 32nd International Geological Congress, Florence, Italy, Abs, 1[164-37], p.776.

We studied the mineralogy and petrology of the lower tectonic unit of Penteli area. We provided the metamorphic evolution of metabasites, using mineral zonations, mineral assemblages and calculated reactions.

43. Mposkos, E., ***Baziotis*, I.**, Palikari, S., Perraki, M., Krohe, A. and Hoinkes, G. 2004. Alpine UHP metamorphism in the Kimi complex of the Rhodope HP province N.E. Greece: mineralogical and textural indicators. 32nd International Geological Congress, Florence, Italy 1[18-28], p.108.

We provided the mineralogical and textural indicators of ultra-high pressure metamorphism from Kimi Complex of Eastern Rhodope.

44. Perraki M., Proyer A., Mposkos E., Kaindl R., ***Baziotis* I.** and Hoinkes G. 2004. Raman microspectroscopy on diamonds from the Rhodope Metamorphic Province, NE Greece. 32nd International Geological Congress, Florence, Italy, Abs, 1, [18-13], p.105.

In this work we studied the diamond inclusions in garnet from metapelites of Rhodope area.

45. ***Baziotis*, I.**, Mposkos, E., Perdikatsis, V. and Hauzenberger, C. 2005. Blueschist-facies metamorphism and geochemistry of metabasites from allochthonous unit in Lavrion area (SE Attica, Greece). Mitteilungen der Österrichischen Mineralogischen Gesellschaft, 150, 18.

In this work we studied the metamorphism and geochemistry of metabasites from upper tectonic unit from Lavrion area.

46. Mposkos, E., ***Baziotis*, I.**, Hoinkes, G. and Proyer, A. 2005. Dolomitic marbles from Organi area in the eastern Rhodope ultrahigh-pressure metamorphic terrane, NE Greece. Mitteilungen der Österrichischen Mineralogischen Gesellschaft, 150, 112.

This work related with the mineralogy and petrogenesis of dolomitic marbles from Organi area, part of the Kimi Complex in Eastern Rhodope.

47. ***Baziotis*, I.** and Mposkos, E. 2005. Geochemistry of amphibolitized eclogites and cross-cutting trondhjemitic dykes in the ultra-high pressure metamorphic Kimi Complex in east Rhodope, N.Greece. International Earth Sciences Colloquium on the Aegean Regions, 4-7 October 2005, Izmir, Turkey, 18-19.

In this work, we provided the petrological and geochemical characteristics of amphibolitized eclogites and cross-cutting trondhjemitic dykes from Kimi Complex in Eastern Rhodope. Using these data, we conclude on the geotectonic environment of formation.

48. Mposkos, E., ***Baziotis*, I.** and Palikari, S. 2005. Ultra-high pressure – ultra-high temperature metamorphism in east Rhodope, NE Greece: Evidence from metapelites, amphibolitized eclogites and dolomitic marbles. International Earth Sciences Colloquium on the Aegean Regions, 4-7 October 2005, Izmir, Turkey, 83.

We presented data from metapelites, amphibolitized eclogites and marbles from Eastern Rhodope verifying the ultra-high pressure metamorphism of this area.

49. ***Baziotis, I.,*** Mposkos, E. and Skarpelis, N. 2006. Raman micro-spectroscopy of carbonaceous material using the 633nm line of a He-Ne laser: application to the metamorphic rocks of Attica. Geophysical Research Abstracts, 8, EGU06-A-10882.

We studied the carbonaceous material (graphite) from metapelites of Eastern Attica, using Raman Spectroscopy. We derived the peak temperatures of metamorphism using Raman spectrum parameters as full width at half maximum (FWHM), height, area and position of Raman bands.

50. ***Baziotis, I.,*** Mposkos, E. and Perdikatsis, V. 2006. Reconstruction and correlation of the exhumation history of high-pressure/low-temperature metamorphic rocks from Attica. Neogene Magmatism of the Central Aegean and Adjacent Areas: Petrology, Tectonics, Geodynamics, Mineral Resources and Environment, International Conference, 11 - 13 September 2006, Milos, Greece, p.28.

We provided new petrological and mineralogical data and infer constraints on the exhumation processes of the lower and upper tectonic unit from Attica (Penteli, Hymettus, Lavrion).

51. Palikari, S., Perraki, M., Mposkos, E. and ***Baziotis, I.*** 2008: Multiphase inclusions in metapelitic garnets of the Rhodope Metamorphic Province, NE Greece. GeoRaman 08, Ghent.

We studied multiphase inclusions in garnets from garnet-kyanite-biotite gneisses from the ultra-high pressure Kimi Complex in eastern Rhodope. The material has been studied using secondary electron microscopy, electron microprobe, and Raman spectroscopy. We verified two types of inclusions; hydrated silicates and silicates-carbonates. The hydrated silicates composed by biotite ± kyanite ± quartz ± muscovite ± rutlite ± zircon ± apatite, whereas the silicates-carbonates by carbon (graphite and rare diamond) ± carbonates(magnesite-siderite) ± CO_2 ± quartz ± rutile ± muscovite ± kyanite ± plagioclase ± zircon.

52. Leontakianakos, G., ***Baziotis, I.***, Kiousis, G., Giavis, D. and Tsimas, S. 2010: An integrated study of limestone behavior during calcination and hydration processes. Geophysical Research Abstracts, 12, EGU2010-13164-1.

In this work we studied the dehavior of different limestone for the formation of CaO and the relation with the hydraulic properties of quicklime. The material has been studied using optical microscopy, secondary electron microscopy, x-ray Diffraction and Raman Spectroscopy.

53. Mposkos, E., ***Baziotis, I.*** and Asimow, P.D. 2010: Petrology and geochemistry of eclogites from the Kechros Metamorphism Complex in eastern Rhodope (NE Greece). Geophysical Research Abstracts, 12, EGU2010-12948.

This work related with the petrology of eclogites from the Kechros metamorphic complex in Eastern Rhodope. We provide the mineral assemblages, mineral chemistry data and P-T estimations for the metamorphic peak and the exhumation path. According to the geochemical data, two gabbroic protoliths occur. The first with low Fe-Ti content formed in a continental rift environment and the other, with high Fe-Ti contents formed in an oceanic spread tectonic environment.

54. Mposkos, E. and ***Baziotis, I.*** 2010: Tertiary eclogites in the lower tectonic unit of East Rhodope (Kechros Complex, NE Greece). 20th General Meeting of the International Mineralogical Association, 21-27 August 2010, Budapest, Hungary. GP84-Decoding P-T-t-d evolution in mountain belts: Significance for geodynamics, 595.

This work related with the petrology of eclogites from the Kechros metamorphic complex in Eastern Rhodope. We provide the textural relationships, mineral chemistry data and the estimated P-T conditions.

55. Chandrinos, A., ***Baziotis, I.*** and Leontakianakos, G. 2011: Evaluating the role of tin (SnO_2) as a natural mineralizer-oxide on the cement properties. Geophysical Research Abstracts. Vienna, Austria, 13, EGU2011-9012.

In this work, we examined the role of cassiterite (SnO_2) on the cement properties.

At lecturer level

56. Leontakianakos, G., ***Baziotis, I.***, Sotiriadis, K., Goulas, G., Liakopoulos, S. and Karastathis, V. 2012. Slag of Greek provenance uses in materials science and geophysics: implications for a highly potential material in the service of the development of Greek economy. Geophysical Research Abstracts. Vienna, Austria, 14, EGU2012-3737.

We presented the Greek slag uses in materials science and geophysics. The aim of the present study was to study the evolution of new advanced silicate materials presenting high durability at high temperature environments. We conclude that that the slag of Greek origin is a material with a significant potential to be used in the field of building constructions protection against high temperature.

57. ***Baziotis, I.P.***, Liu, Y., McSween, H.Y., Bodnar, R. and L.A. Taylor 2012. Tissint Meteorite: A Fresh Piece of Martian Lava. Meteoritical Society Conference, 12-17 August, Australia.

We provided the petrological and geochemical characteristics of martian meteorite, Tissint.

58. ***Baziotis, I.***, Mposkos, E. and Leontakianakos, G. 2012. Amphibole chemistry from the Penteli metamorphic core complex: implication for the metamorphic evolution of eastern Attica. European Mineralogical conference, 2-6 September Frankfurt Germany.

We provided, for first time, detailed data about the amphibole chemistry from Penteli area. The study focuses on the relationship between the zonation and (1) physicochemical conditions of formation and (2) the different pressure and temperature conditions during prograde and retrograde evolution.

59. ***Baziotis, I.***, Mposkos, E., Krohe, A., Wawrzenitz, N., Liu, Y. and Taylor, L.A. 2012. UHP metamorphism in Greece: Petrologic data from the Rhodope Mountains. American Geophysical Union Fall Meeting, San Francisco, 3-7 December 2012.

We provided all the features related with the ultra-high pressure metamorphism from Eastern Rhodope.

60. ***Baziotis, I.***, Asimow, P., Koroneos, A. and Poli, G. 2013. Preliminary Study of Mantle Heterogeneity in Compound Xenoliths using In-situ Methods. 13th International Congress of the Geological Society of Greece, 5-8 September 2013, Chania, Greece.

It is precursor summary of paper #30.

61. Leontakianakos, G., ***Baziotis, I.***, Profitis, E., Chatzitheodoridis E. and Tsimas, S. 2013. Assessment of the quality of progressive calcination using Raman and X-ray diffractometry: application on Thassos island`s marbles. 13th International Congress of the Geological Society of Greece, 5-8 September 2013, Chania, Greece.

It is precursor summary of paper #31.

62. ***Baziotis, I.***, Asimow, P., Koroneos, A., Ntaflos, T. and Poli, G. 2013. A dynamic Study of Mantle processes applying In-Situ methods to Compound Xenoliths: implications for small to intermediate scale heterogeneity. Geophysical Research Abstracts, 15, EGU2013-5541.

We studied the mantle heterogeneity using in-situ methods in micro scale. The material has been studied applying several techniques like optical microscopy, electron microprobe and laser ablation inductively coupled plasma mass spectrometry. We investigated the distribution of major and trace elements at grain scale.

63. ***Baziotis, I.P.***, Liu, Y. and L.A. Taylor 2013. Detailed Raman spectroscopic study of the Tissint meteorite: Extraordinary occurrence of High Pressure polymorphs in a single fresh piece of Martian Shergottite. Geophysical Research Abstracts, 15, EGU2013-5463.

We extensively studied the mineral polymorphs from martian meteorite Tissint. The material has been studied using optical microscopy, Raman Spectroscopy and electron microprobe

64. Werner, S.C., Melosh, H.J., McSween, H.Y., Liu, Y., **Baziotis, I.P.**, Bodnar, R., DeCarli, P.S. and Taylor, L.A. 2013. Mojave crater: possible source for Martian Meteorites. 44th Lunar and Planetary Science Conference, #2257.

We discuss the case of origin of a martian meteorite group from the Mojave crater.

65. Liu, Y., Taylor, L.A., **Baziotis, I.P.**, McSween, H.Y., Bodnar, R., DeCarli, P.S. and Melosh, H.J. 2013. Impact excavation of Martian Meteorites: index from Shock Formed Minerals. 44th Lunar and Planetary Science Conference, #1371.

In this work we present data related with mineral formed at very high pressure from the meteorites Tissint, EET 79001, LAR 6319 and Y 984028. The material has been studied using optical microscopy, Raman Spectroscopy and electron microprobe

66. Ferrière, L., Brandstätter, F., Topa, D., Schulz, T., ***Baziotis, I.P.***, Münker, C. and Coeberl, C. 2013. The complex history of Tissint inferred from different types of melt inclusions and isotopic systems. 76th Annual Meteoritical Society Meeting, #5194.

    In this work, we provide information on the complex history of Tissint meteorite, from the stage of crystallization, until its excavation from Mars. The material has been studied combining several methods like optical microscopy, electron microprobe and isotopic geochemical analyses; for the first two methods, the material was studied from thin sections, whereas for the isotopic work as powder. The final conclusion is that Tissint meteorite has a crystallization age of 616 million years and derived from depleted mantle sources.

67. ***Baziotis, I.***, Asimow, P., Ntaflos, T., Koroneos, A. and Poli, G. 2013. High- to low- pressure features of compound xenoliths: implications from Fe-Ti-Ca metasomatism and glass formation. Goldschmidt Conference Abstracts, 673.

    In this work we studied the composite mantle xanoliths, from the areas of Cima Volcanic Field and Chino Valley. We present the petrological features related with high/low pressures such as the presence of armalcolite and glass, and their correlation with metasomatoc events and the duration of decompression up to the surface.

68. ***Baziotis, I.***, Proyer, A., Mposkos, E., Marsellos, A. and Leontakianakos, G. 2014. Amphibole zonation as a tool for tracing metamorphic histories: examples from Lavrion and Penteli metamorphic core complexes. Geophysical Research Abstracts, 16, EGU2014-835-1.

    In this work we provide detailed data on the chemistry of amphiboles from the Penteli and Lavrion areas.

69. ***Baziotis, I.***, Asimow, P.D., Ntaflos, T., Koroneos, A., Perugini, D. and Stolper, E. 2014. P-rich olivines in a melt vein of a composite mantle xenolith: implications for crystal growth and kinetics. Geophysical Research Abstracts, 16, EGU2014-5564.

    In the present work we studied olivine crystals from melt veins that crosscut mantle xenoliths. We studied a plethora of thin section using optical microscopy (transmitted and reflected light) and electron microprobe. We discovered olivine rich in phosphorus (P_2O_5 0.52 wt.%). In an EMP traverse across the most P-rich zones (<7 μm) of olivines, we mapped two sub-areas with minimum P surrounded by P-rich planes parallel to crystal edges. The thickness of such P-rich zones never exceeds 3-7 μm. Our olivine data, judging by the dynamic experiments of Grant & Kohn (2013), display cooling rates >10 °C/h that generate disequilibrium solute trapping of P but near-equilibrium incorporation of Al.

70. ***Baziotis, I.***, Asimow, P.D., Ntaflos, T., Boyce, J., McCubbin, F. M., Koroneos, A., Perugini, D., Flude, S., Storey, M., Liu, Y.S. and Stolper, E. 2014. Phosphorus zoning as a recorder of crystal growth kinetics: implications from secondary olivine and pyroxene in mantle xenoliths from Cima Volcanic Field. 6th Orogenic Lherzolite Conference, 4-15th Marrakech, Morocco.

In the present work we studied olivine and pyroxene crystals from melt veins that crosscut mantle xenoliths. We studied a plethora of thin section using optical microscopy (transmitted and reflected light) and electron microprobe. We discovered olivines and pyroxenes rich in phosphorus (P_2O_5 0.62 wt.% and 0.68, respectively). Additionally to that, the olivines preserve a complex chemical zonation with several parallel P-rich bands with a thickness of 3-7 μm. Counter to that, the pyroxenes display a homogeneous composition. Our olivines, judging by the dynamic experiments of Grant & Kohn (2013), display cooling rates >10 °C/h that generate disequilibrium solute trapping of P but near-equilibrium incorporation of Al. Uniform enrichment then probably suggests slow enough crystallization to avoid boundary enrichment and growth from a large enough reservoir to avoid progressive P enrichment (unlikely in an isolated melt pocket) or growth of pyroxene after melt P_2O_5 became buffered by apatite saturation.

71. ***Baziotis, I.***, Asimow, P.D., Koroneos, A., Perugini, D., Ntaflos, T., Flude, S. and Storey, M. 2014. From intermediate to small scale heterogeneity of compound mantle xenoliths from Cima Volcanic Field (Western U.S.A.): implications for metasomatic processes in the deep mantle. XX Congress of the Carpathian Balkan Geological Association, Tirana, Albania, 24-26 September, 111.

We studied the metasomatic events of composite mantle xenoliths from Cima Volcanic Field. We studied a plethora of thin sections using optical microscopy, electron microprobe and laser ablation inductively coupled plasma mass spectrometry. Along with that, we applied the micro X-ray Fluorescence technique on selected samples.

Their petrogenetic evolution involved partial melting of the silicate minerals, infiltration of reactive melts and dissociation of minerals (transformation of original lithologies) en route to the surface. The infiltration by alkali-basaltic melts and interaction with the peridotite-wall rock selectively formed dunite layers. The presence of small idiomorphic rapidly quenched crystals (e.g., spinel), glass and armalcolite indicate a very short timescale of reactions en route to the surface. The evidence suggests that these rocks followed multistage histories that included transport from >1.0 GPa to the surface within a very short period of time.

72. ***Baziotis, I.,*** Asimow, P., Ntaflos, T., Boyce, J., Koroneos, A., Perugini, D., Liu, Y.S., Klemme, S. and Berndt, J. 2015. Phosphorus and other trace elements from secondary olivine in composite mantle xenoliths (CMX) from Cima Volcanic Field (CVF; California, USA): implications for crystal growth kinetics. Geophysical Research Abstracts, 17, EGU2015-13780.

    In the present work we studied olivine crystals from melt veins that crosscut mantle xenoliths. We studied a plethora of thin section using optical microscopy (transmitted and reflected light) and electron microprobe. The goal of the study was to provide data related with the kinetics and growth processes. We discovered olivines rich in phosphorus (P_2O_5 3.5 wt.%). The petrogenetic history following melt intrusion requires rapid cooling and reaction with matrix minerals and crystallization sequence Olivine → Clinopyroxene → Plagioclase → Apatite → Fe-Oxides → quench of glass. P and Li concentrations set upper and lower limits on growth rates after intrusion of melt into Cima Volcanic Field xenoliths. Early-crystallized olivine grew rapidly enough that sluggish P became over-enriched but not so fast as to over-enrich other elements. Cpx formed later either as neoblasts or reaction rims in which P was homogeneous and growth was slower compared to Ol but fast enough to preserve the Li zoning.

73. ***Baziotis, I.,*** Ferrière, L., Brandstätter1, F., Topa, D. and Asimow, P.D. 2016. Shock metamorphism in ordinary chondrites: Examples from Chelyabinsk (LL5) and Chantonnay (L6) meteorites. 47th LPSC, #1440.

    In this work we present new data on shock metamorphism of ordinary chondrites Chelyabinsk and Chantonnay.

74. ***Baziotis, I.,*** Ferrière, L., Asimow, P.D., Topa, D. and Brandstätter, F. 2016. P-rich olivines in the impact melt lithology of the Chelyabinsk meteorite. 47th LPSC, #1437.

    In this work we present new data on Phosphorus-rich olivines from ordinary chondrite Chelyabinsk. The implications were related with growth processes and the mechanism of dissolution-reprecipitation at the exterior of the studied grains.

75. ***Baziotis, I.,*** Mavrogonatos, K., Flemetakis, S., Papoutsa, A., Klemme, S., Berndt, J. and Asimow, P. 2016. Rapid growth of phosphorus-rich olivine in mantle xenolith from Middle Atlas Mountains (Morocco, Africa). Geophysical Research Abstracts, 18, EGU2016-522.

In this work we present new data from mantle xenoliths of Middle Atlas Mountains (NW Africa, Morocco). The melt veins cross-cutting the xenolith matrix were traced for phosphorus in olivine with various implications related with crystal growth processes.