

Dr. Nikolaos P. Laskaris

Electronic Engineer - Archaeometrist

Adjunct Assistant Professor
Technological Educational Institute of Ionian Islands

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Personal Information

- Nationality: Greek
- Place & Date of Birth: Argostoli, Cephalonia, Greece, 14 - Dec - 1982
- Military Service: 15/11/2010 - 15/8/2011, Hellenic Air Force
112 Combat Wing, Operations Support Squadron
Engineer of military telecommunications and of aircraft's avionic systems

Education

- **2000 - 2004** B.Eng. in Electronic Engineering, Department of Electronics, Technological Educational Institute of Lamia, Greece
- **2007 - 2010** Ph.D, Department of Mediterranean Studies, University of the Aegean
Subject of PhD: The application of novel nuclear and spectroscopic techniques of material characterization in the advancement of the Obsidian Hydration Dating Method

Languages

Greek (mother language)
English

Work Experience

1/1/2009 - 31/12/2010: Unsalariated Visiting Scientist, Laboratory of Archaeometry, Institute of Material Science, NCSR "Demokritos"

1/1/2009 - 31/12/2009: Scientific collaborator of the Technological Educational Institute of Lamia in the project “Recording and restoration/conservation of marble monuments of high cultural value in the Greek Cemetery of Alexandria, Egypt” funded by the Ministry of Foreign Affairs. Project Coordinator: Professor Theodore Ganetsos

4/2005 - 12/2006: Scientific collaborator of the Technological Educational Institute of Lamia in the project “Study of cluster ion production mechanisms during the emission of liquid metal alloy ion sources and the application of focused ion beams in the design and manufacture of germanium - silicon diodes” funded by the Ministry of Education. Project Coordinator: Associate Professor Bill Kotsos

Teaching Experience

1/10/2011 - today: Assistant Professor,
Department of Sound Technologies & Musical Instruments, Technological Educational Institute of Ionian Islands, Lixouri, Cephalonia, Greece

Courses:

- Cultural Technology - New Technologies in Cultural Heritage Materials/Monuments
- Technology & Strength of Materials
- Acoustics & Building Materials

Memberships

- Member of the Hellenic Society of Archaeometry
- Institute of Electrical and Electronic Engineers - IEEE
- Member of the Hellenic Society of Astronomy

Research Interests

- Dating of archaeological artifacts and cultural heritage materials/monuments
- Application of novel techniques of material characterization (destructive and non-destructive) on archaeological materials (natural glass, metals, marbles, ceramics)
- Advancement of material characterization techniques (XRF, FTIR, Raman, SIMS)
- Analysis and characterization of precious and semi-precious gems and resins
- Micro- & nano- electronic engineering and applications
- Application of analytical techniques to materials used in musical instruments

Activities (e.g. member to organizing committees, software development)

Member to organizing committees of conferences/Symposiums

- 1st Workshop on Ion Beams from LMIS & Applications
November 3, 2007, Lamia, Greece
- “The Dating and Provenance of Obsidian and Ancient Manufactured Glasses”
International Specialized Workshop, February 21-24, 2008, Delphi, Greece

Member of the Editorial Board of international peer-reviewed journal

- **1/1/2008 - 31/10/2011** Editorial Assistant of the international peer-reviewed journal *Mediterranean Archaeology & Archaeometry* (IF: 0.16).
In late 2008 *Mediterranean Archaeology & Archaeometry* was selected to be indexed and Abstract by Thomson Reuters in Arts and Humanities Citation Index.
In 2009 began to be indexed by Scopus. During the same period *MAA* was mentioned in Science Magazine and Discovery News.

Software and webpage Development

- Development of specialized software for the dating of obsidian artifacts and construction of the relevant webpage ,url: www.rhodes.aegean.gr/tms/sims-ss
- Construction and maintenance (maintenance period: 1/1/2008 - 31/10/2011) of the webpage of the international pre-reviewed journal *Mediterranean Archaeology & Archaeometry*, url: www.maajournal.com (8500 visits in 2010 - 2011)
- Construction and maintenance of the webpage of “Chromatology of Theophrastus from Eressos: Analyses, provenance contribution in the study of cultural heritage” research project funded by Ministry of Education, EU (75%), Greece (25%) and by Holy Foundation St Catherine at Sinai 30%,
url: www.rhodes.aegean.gr/tms/theophrastus/

Worldwide recognition of my work

My latest scientific paper for Late Pleistocene/Early Holocene seafaring in the Aegean gained rapidly worldwide interest and several online magazines, blogs and News channels wrote about.

e.g. “*Obsidian artifacts point to Ice-Age mariners in prehistoric Greece*” by Larry O’Hanlon, PastHorizons online Archaeology magazine (www.pasthorizonspr.com).

Reviewer in international peer-reviewed journals

- Journal of Archaeological Science - Elsevier (2011 - today)
Impact Factor: 1.710 / 5 - years impact Factor: 1.966

Referrals and Research Collaborations

Referrals

Prof. Theodore Ganetsos, Department of Electronics, Technological Educational Institute of Lamia, e-mail: ganetsos@teilam.gr

DrThomas Katsaros, Conservator of Fine Arts - Archaeometrist, Head of Laboratory of Gemstones of Byzantine & Christian Museum (Athens) Greece, Scientific Consultant of Sinai Mountain Foundation, e-mail: tkatsarosmeister@gmail.com

Dr. Yannis Bassiakos, Director of Research, Institute of Material Science, National Center for Scientific Research (NCSR) "Demokritos"
e-mail: bassiakos@ims.demokritos.gr

Dr. Chris Stevenson, Anthropologist/ Archaeometrist, Principal Archaeologist of Easter Island (Rapa Nui, Chile) and Member of the Executive board of Directors of Easter Island Foundation, Diffusion Laboratory, Petersburg, USA,
e-mail: cmstevenson23805@gmail.com

Research Collaborations

Technological Educational Institute of Lamia, (prof. Th. Ganetsos & as. prof. B. Kotsos)
Byzantine & Christian Museum, (Dr. Thomas Katsaros)

National Center for Scientific Research (NCSR) "Demokritos", (Dr. Yannis Bassiakos)
Dr. Chris Stevenson, Diffusion Laboratory, Petersburg, USA

Dr. Steven Novak, Vice President of Metrology, College of Nanoscale Science and Engineering, SUNY, Albany, NY

Dr. Jerry Hunter, Virginia Polytechnic University, USA

Dr. Reinhard Kersting, Tascon GmbH, Germany

Dr. David McPhail, Imperial College of London, UK

paper publications to International peer-reviewed Journals

1. "Review and software assessment of the recent SIMS-SS obsidian hydration dating method"
Ioannis Liritzis, Theodore Ganetsos and **Nikolaos Laskaris**
Mediterranean Archaeology and Archaeometry Vol.5 No2, pp 75 – 91, 2005
(Impact Factor: 0.16) (This article has 3 citations)
2. "Mass spectrum analysis of a L.M.A.I.Ss using a novel software by Matlab"
Ganetsos Th, **Laskaris N**, Lontos Ch, Kotsos B.
IEEE, Technical Digest of the 2005 IVNC.
DOI: 10.1109/IVNC.2005.1619631
3. "Obsidian hydration dating by SIMS-SS: Surface suitability criteria from Atomic Force Microscopy"
I. Liritzis, M. Bonini, **N. Laskaris**
Surface and Interface Analysis, Vol 40, Issue3-4, 2008
(Impact Factor: 1.249) (This article has 2 citations)
4. "Nano- and Micro- scale Resolution in ancient obsidian artefact's surfaces: The impact of AFM on the Obsidian hydration Dating by SIMS-SS"
I. Liritzis, **N. Laskaris**, M. Bonini
Physica Status Solidi (c), Volume 5, Issue 12, 2008
(SJR H-index: 23) (This article has 1 citation)
5. "Advances in obsidian Hydration dating by secondary ion mass spectrometry: world examples"
I. Liritzis, **N. Laskaris**
Nuclear Instruments and Methods in Physics Research B, 267, 2009
(Impact Factor: 1.042) (This article has 5 citations)
6. "Is white pigment on Appelles' palette a TiO₂ - rich kaolin? New analytical results on the case of melian Earth"
Th. Katsaros, I. Liritzis, **N. Laskaris**
Mediterranean Archaeology & Archaeometry, Vol 9, Issue 1, 2009
(Impact Factor: 0.16)

7. "Identification of Theophrastus pigments *egyptios kyanos* and *psimythion* from archaeological excavations: a case study"
T. Katsaros, I. Liritzis and **N. Laskaris**
Archaeosciences, Vol 34, 2011, pp. 69-80 (This article has 1 citation)
8. "FTIR and Raman Spectroscopy in the analysis of archaeological samples"
Th. Ganetsos, K. Douka, T. Higham and **N. Laskaris**
AIP Conference Proceedings (SJR H-index: 20), 1267, 2010, pp 305-306
9. "Raman and FTIR Studies on Chalcogenide glasses"
Th. Ganetsos, Y. Skarlatos, B. Kotsos, **N. Laskaris**
AIP Conference Proceedings (SJR H-index: 20), 1267, 2010, pp 1119-1120
10. "Fifty years of Obsidian Hydration Dating in Archaeology"
Ioannis Liritzis & **Nikolaos Laskaris**
Journal of non-Crystalline Solids, 357, 2011, pp 2011-2023
(Impact Factor: 1.483)
11. "A new mathematical approximation of sunlight attenuation in rocks for Surface Luminescence Dating"
Nikolaos Laskaris & Ioannis Liritzis
Journal of Luminescence, 131, 2011, pp 1874-1884
(Impact Factor: 1.795)
12. "Late Pleistocene/Early Holocene seafaring in the Aegean: new obsidian hydration dates with the SIMS-SS method"
N. Laskaris, A. Sampson, F. Mavridis, I. Liritzis
Journal of archaeological Science, 38, 2011, pp. 2475 - 2479
(Impact Factor: 1.710)

Book Chapter

"The SIMS-SS obsidian Hydration Dating Method"

I. Liritzis & **N. Laskaris**

In the book "The dating and provenance of obsidian and Ancient Manufactured glasses" I. Liritzis & C. Stevenson (Eds), University of New Mexico Press, 2012

Participation to International Conferences with peer-reviewed process

1. "Mass spectrum analysis of L.M.A.I.Ss using a novel software by Matlab"
Th. Ganetsos, **N. Laskaris**, Ch. Lontos, B. Kotsos
18th International Vacuum Nanoelectronics Conference
10-14 July 2005, St. Catherine's College, Oxford, UK

2. "The energy spread of ions drawn from a BiGa liquid metal alloy ion source"
Th. Ganetsos, B. Kotsos, L. Bischoff, W. Pilz, **N. Laskaris**, A. Karatrantou
3rd Workshop on NonoSciences & NanoTechnologies
July 10 – 12, 2006, Aristotele University of Thessaloniki, Greece

3. "Temperature Dependence on the Emission characteristics of A AuGe Liquid Metal Alloy Ion Source"
Theodore Ganetsos, Lothar Bischoff, Wolfgang Pilz, Chavkat Akmadaliev, **Nikos Laskaris**, Bill Kotsos.
6th International Conference of the Balkan Physical Union
22 – 26 August 2006, Istanbul, Turkey

4. "Liquid Metal Alloy Ion Sources: Mechanism and Applications"
Th. Ganetsos, B. Kotsos, L. Bischoff and **N. Laskaris**
RADECS 2006 (Radiation Effects on Components and Systems)
27 – 29 September 2006, Athens, Greece

5. "SIMS-SS dating of obsidians: Criteria for the location of Surface Saturation Layer (SS)"
I. Liritzis, Th. Ganetsos and **N. Laskaris**
5th European Workshop on Secondary Ion Mass Spectrometry
24 – 26 September 2006, Münster, Germany

6. "SIMS-SS dating method: new physical principles and determination criteria of surface saturation layer in hydrated obsidians."
I. Liritzis, Th. Ganetsos, **N. Laskaris**, M. Suzuki, K. watanabe
16th International Conference on Secondary Ion Mass Spectrometry (SIMS XVI),
29/10 – 2/11 2007, Kanazawa, Japan

7. “Energy deficit measurements on a BiGa alloy liquid metal alloy ion source”
Th. Ganetsos, L. Bischoff, W. Pilz, C. Akhmadaliev, B. Kotsos, **N. Laskaris**.
23rd International Conference on Statistical Physics of the International Union for Pure and Applied Physics (IUPAP) Conference Center, Genova, Italy, July 9-13, 2007

8. “Comparison between SIMS and NRA for obsidian hydration dating purposes”
D. Grambole, W. Pilz, Th. Ganetsos, I. Liritzis, **N. Laskaris**
3rd International Conference Micro & Nano 2007 on Microelectronics, Microsystems & Nanotechnology, 18-21 November 2007, Athens, Greece

9. “Nano- and Micro- scale resolution in ancient obsidian artifact surfaces: The impact of AFM on the obsidian hydration dating by SIMS-SS”
I. Liritzis, **N. Laskaris**, M. Bonini
3rd International Conference Micro & Nano 2007 on Microelectronics, Microsystems & Nanotechnology, 18-21 November 2007, Athens, Greece

10. “Diffusion phenomena in Non-crystalline obsidian samples and applications in the dating of ancient obsidian tools by SIMS and FT-IR”
Th. Ganetsos, B. Kotsos, I. Liritzis, M. Novak and **N. Laskaris**
9th International Workshop on Non-Crystalline Solids, Porto, April 27-30, 2008

Participation to Greek Conferences with peer-reviewed process

1. “ A study of a tin liquid metal ion source”
Th. Ganetsos, L. Bischoff, **N. Laskaris**, C.A. Lontos and B. Kotsos
XXI Panhellenic Conference of Solid State Physics & Material Science,
August 28-31 2005, Cyprus

2. “Diffusion phenomena in solids and applications in the dating of ancient obsidian tools”
I. Liritzis, Th. Ganetsos, **N. Laskaris**, C.M. Stevenson and S. Novak
XXI Panhellenic Conference of Solid State Physics & Material Science,
August 28-31 2005, Cyprus

3. "Mechanisms in Liquid Ion Sources"
Th. Ganetsos, B. Kotsos L. Bischoff, W. Pilz, **N. Laskaris**, A Karantradou
XXI Panhellenic Conference of Solid State Physics & Material Science,
September 24-27 2006, Patra, Greece
4. "Study of the energy dispersion of ions produced from a BiGa alloy and application to microelectronics"
Th. Ganetsos, B. Kotsos, A. Roumelioti, L. Bischoff, W. Pilz, **N. Laskaris**, A Karantradou
10th Co-Organized Conference of Greek and Cypriot Physics
March, 1-4 2007, Corfu, Greece
5. "Aphasia in clinical practice. A neuropsychological approach"
Kasselimis, D.S., Potagas, C., Manoli, D., Routsis, C., **Laskaris, N.**, Karli, A., & Evdokimidis, I.
23rd Panhellenic Congress of Greek Neurologists, 14 -17 May 2009 Thessaloniki, Greece.
6. "Recent Advancements in the Obsidian Hydration Dating Method by SIMS-SS with H+ profile Modeling: Surface Suitability Criteria"
N. Laskaris & I. Liritzis
5th Symposium of the Hellenic Society of Archaeometry, 8-10 October 2008, Athens
7. "Study of artifacts from semiprecious gemstones with Raman and FT-IR spectroscopies"
Th. Katsaros, Th. Ganetsos, B. Kotsos, **N. Laskaris**, E. Maramveliotaki, A. Lazaridou, Ch. Papanastasiou
2nd International Symposium on Archaeological Survey and New Technologies
21-23 October 2010, Kalamata, Greece
8. "Anonymous cave of Schisto in Keratsini: Dating of obsidian samples from Late Pleistocene/Early Holocene layers with SIMS-SS method"
F. Mavridis, **N. Laskaris**, L. Kormazopoulou, A Papadea, O. Apostolikas, I. Liritzis
2nd International Symposium on Archaeological Survey and New Technologies
21-23 October 2010, Kalamata, Greece

Papers to peer-reviews proceedings in Greek and International Conferences

1. "Mechanisms in Liquid Ion Sources"
Th. Ganetsos, B. Kotsos L. Bischoff, W. Pilz, **N. Laskaris**, A Karantradou
Proceedings of the XXI Panhellenic Conference of Solid State Physics & Material Science, September 24-27 2006, Patra, Greece

2. " A study of a tin liquid metal ion source", Th. Ganetsos, L. Bischoff, **N. Laskaris**, C.A. Lontos and B. Kotsos
Proceedings of the XXI Panhellenic Conference of Solid State Physics & Material Science, August 28-31 2005, Cyprus

3. "Diffusion phenomena in solids and applications in the dating of ancient obsidian tools", I. Liritzis, Th. Ganetsos, **N. Laskaris**, C.M. Stevenson and S. Novak
Proceedings of the XXI Panhellenic Conference of Solid State Physics & Material Science, August 28-31 2005, Cyprus

4. "Temperature Dependence on the Emission Characteristics of a AuGe liquid Metal Ion Source", Th. Ganetsos, L. Bischoff, W. Pilz, Ch. Akmaliev, **N. Laskaris** and B. Kotsos.
Proceedings of the sixth International conference of the Balkan Physical Union, American Institute of Physics

5. "Development of a Wireless embedded system to reduce the influence of Gaussian noise and 50 Hz power line noise in electromyography (EMG)"
Kalovrektis K., Ganetsos T., Fountas E., Shammas, N.Y.A., Taylor, I., Andonopoulos, J., **Laskaris, N.**, Antonios, G.
13th WSEAS International Conference on Circuits, 22 - 24 July 2009, Rodos, Greece

6. "New Methods for analyzing Cardio Signals"
Antonopoulos, A., Shammas, N.Y.A., Grainger, S., Taylor, I., Ganetsos, Th., **Laskaris, N.**, Karatradou, A.
21st Intern. Medicine Conference, p. 372 23-26 November, 2006, Thessalonica, Greece
(This article has 2 citations)