

# Curriculum vitae Of Mr Bernhard Jakob Klinkenberg

## A. Personal marks

Full name :	Bernhard Jakob Klinkenberg
Fathers name:	Karl Werner
Mothers name:	Anna Maria
Birthplace:	München (Germany)
Birth date:	24/10/1967
Lodging:	Voutira 18 Street, Athens
Family status:	single
Phone number	6984908540
Email	Klinkib@ gmail.com

## B. Study marks

1987 start of study in electric engineering & computer engineering with direction in Electronics

1992 manual training for six months at BMW ( Bayrische Motor Werke) with specialisation in electronic car control

2000 diploma work with title «Solid state Lasers-».

## C. Research activities

- Participation in the development of a Laser Er:YAG, which in conjunction with a Nitrogen Laser αζώτου (diagnostic Laser ), a PC and an endoscope constitute a prototype laser system for heart surgery.

-Participating at the development of an Er:YAG Laser ,which was combined with a Nitrogen laser (diagnostic laser ), a computer and a endoscope which segmented an exemplar vassal surgery system

Research and improvement of the electronics of a 1MW Q-switch ruby laser

Planning and development of the electronic circuits for driving a FTIR (frustrated total internal reflection) optical Q switch for a Er:YAG Laser

Research of the transfer and propagation of the infrared Laser radiation through waveguides

Research in point of the interaction of matter and laser radiation at biological tissues, at metals and possibilities of using laser radiation for cleaning and conservation of ancient objects

Development of crystal :YAG Ho:YLF Yb:YAG Cr:LiSAF Lasers, but also gas lasers like HF with radio frequency excitation, with the new wavelengths promise many applications in medicine

Testing of fast- Photon Drag - photodetectors and Research if they are usable in the far infra red

#### **D. PUBLICATION IN PAPERS AND CONGRESSES**

Participation at the exhibition of GSRT “research & technology ΕΠΕΤ II “ May 2000, Zapeion, Athens .

1. “Development and in vitro/in vivo trials of an Endoscopic Laser Diagnosis/Surgery Prototype”,  
Serafetinides A., M. Makropoulou, A. Papayannis, E. Fabrikesi, N. Anastasopoulou, G. Chourdakis, B. Klinkenberg, G. Papastratis, T. Liakakos and N. Triantis,  
in "11<sup>th</sup> International School on Quantum Electronics 2000", Varna, Bulgaria, SPIE Proceedings Series V. 4397, p. 410, 2001.

2. Q-switched Er:YAG radiation transmission through medical COP-coated silver hollow glass waveguide  
Anastasopoulou, N., Klinkenberg, B., Papadopoulos, D.N., Papagiakoumou, E., Serafetinides, A.A., Shi, Y.-W., Matsuura, Y., Miyagi, M. Proceedings of SPIE - The International Society for Optical Engineering 5137, pp. 1-9, 2002

3. Flash-pumped pulsed Cr:LiSAF laser action from a modified conventional solid state laser cavity  
Klinkenberg, B.J., Papayannis, A.D., Serafetinides, A.A. Proceedings of SPIE - The International Society for Optical Engineering 5226, pp. 33-37, 2003

4. Determination of the maximum capabilities of high power oxide glass fibers in the middle infrared region for medical applications  
Papagiakoumou, E., Klinkenberg, B., Serafetinides, A.A. Proceedings of SPIE - The International Society for Optical Engineering 5143, pp. 289-299 2 2003.

5. Laser cleaning on Roman coins  
Drakaki, E., Karydas, A.G., Klinkenberg, B., Kokkoris, M., Serafetinides, A.A., Stavrou, E., Vlastou, R., Zarkadas, C. 2004 Applied Physics A: Materials Science and Processing 79 (4-6), pp. 1111-1115

6. Experimental study of a simple technique for the stabilization of the main discharge of a pulsed TEA HF laser  
B. J. Klinkenberg, A. A. Serafetinides  
SPIE Proceedings . pp Plovdiv Bulgaria

7. Experimental set up for laser pumping of a Cr:LiSAF crystal  
Bernhard J. Klinkenberg, Alexandros D. Papayannis and Alexandros A. Serafetinides  
SPIE Proceedings Varna .pp Bulgaria (2003)

8. Development and performance characteristics of flash lamp pumped Yb:YAG, Cr:Tm:Ho:YAG, Er:Tm:Ho:YLF laser sources and investigation of their potential biological applications  
Karadimitriou, N., Klinkenberg, B., Papadopoulos, D.N., Serafetinides, A.A. Progress in Biomedical Optics and Imaging - Proceedings of SPIE 6633, art. no. 66331H, 2007.

9. Radiation pressure effects in diamond structure and III-V semiconductors  
D,G Kotsifaki, B.Klinkenberg ,A.A. Serafetinides  
To be published to SPIE Proceedings Burgas Bulgaria,pp 2008.

10. Development and performance characteristics of Flash lamp pumped IR laser sources suitable for biomedical applications

D.N.Papadopoulos, E. Papajakoumou, N Karadimitriou, B J.Klinkenberg, D Kotsifaki, AA Serafetinides

To be published to SPIE Proceedings Burgas Bulgaria, pp 2008.

## E. reference from other researchers

### 1. 12 reference from the phd work: «Laser cleaning on Roman coins», Appl. Phys. (2004).

phd work with title «Laser cleaning as a conservation technique for corroded metal artefacts» της Koh, Yang Sook του τμήματος Applied Physics and Mechanical Engineering / Division of Manufacturing Systems Engineering, Föremålsvård, Kiruna της Σουηδίας. Web site: <http://epubl.ltu.se/1402-1544/2006/02/index-en.html>

«Cleaning oxides from copper artifacts using a frequency-doubled Nd:YAG Laser» της Koh, Yang Sook, Y. S. Koh, D. Bergström, J. Powell, G. Åberg, J. Grahn, A. Kaplan, Proceedings of PICALO 2006, 2nd Pacific International Conference on Applications of Lasers and Optics, April 3-5, 2006, Melbourne Australia.

«LIPS and linear correlation analysis applied to the classification of Roman pottery Terra Sigillata» A.J. López, G. Nicolás, M.P. Mateo, A. Ramil, V. Piñón and A. Yáñez, Applied Physics A: Materials Science & Processing Vol 83, N 4 pp: 695 - 698(2006) .

“Chapter 1: Laser cleaning and surface modifications: applications in nano- and biotechnology”, Dieter Bauerle, T. Gumpenberger, D. Brodoceanu, G. Langer, J.Kofler, J. Heitz, K. Pigmayr Web site: [http://www.worldscibooks.com/phy\\_etextbook/6301/6301\\_chap01.pdf](http://www.worldscibooks.com/phy_etextbook/6301/6301_chap01.pdf), Applied Physics, Books/Proceedings, LASER CLEANING II edited by D M Kane (Macquarie University, Sydney, Australia)

“XRF Newsletter, A newsletter of the IAEA’s Laboratories, Seibersdorf, Issue No. 11, July 2006”

“Particle Generation by Ultraviolet-Laser Ablation during Surface Decontamination”, Doh-Won Lee and Meng-Dawn Cheng, Air & Waste Manage. Assoc. **56**:1591–1598

“Laser Cleaning Tests on Archaeological Copper Alloys Using an ND:YAG Laser”, Capucine Korenberg and Alexandra Baldwin, Laser Chemistry Volume 2006 (2006), Article ID 75831, 7 pages

“Selective laser cleaning of chlorine on ancient coins,” Aiello, D., Buccolieri, A., Buccolieri, G., Castellano, A., Di Giulio, M., Leo, L.S., Lorusso, A., Nassisi, G., Nassisi, V., Torrisi, L., Proceedings of SPIE - The International Society for Optical Engineering, Volume 6346 PART 2, 2007, Article number 63463H

“Laser selectivity on cleaning museologic iron artefacts” Gilberto, P., Margarida, P., Benilde, C., Fernanda, C., Proceedings of SPIE-The International Society for Optical Engineering Volume 6346 PART 1, 2007, Article number 63461G.

“The potential of laser-induced breakdown spectrometry for real time monitoring the laser cleaning of archaeometallurgical objects, Spectrochimica Acta Part B: Atomic Spectroscopy (2008), doi: 10.1016/j.sab.2008.06.009

Experimental study on the effect of wavelength and fluence in the laser cleaning of silvering in late Roman coins (Mid 3rd / 4th century AD)

Vlachou-Mogire, C., Drakaki, E., Serafetinides, A.A., Zergioti, I., Boukos, N. 2007 Proceedings of SPIE - The International Society for Optical Engineering 6604, art. no. 66040W

Laser ablation threshold of cultural heritage metals

Belloni, F.; Lorusso, A.; Nassisi, V.; Buccolieri, A.; Buccolieri, G.; Castellano, A.; Leo, L.S.; Di Giulio, M.; Torrisi, L.; Caridi, F.; Borrielli, A.. Conference on Lasers and Electro-Optics Europe - Technical Digest, art. no. 438667317- IQEC.2007.4386673- DOI: 10.1109/CLEOE-22 June 2007 Page(s):1 – 1

Dentin mid-infrared laser ablation at various lasing parameters

Papadopoulos, D.N., Papagiakoumou, E., Makropoulou, M., Khabbaz, M.G., Serafetinides, A.A. 2005 Progress in Biomedical Optics and Imaging - Proceedings of SPIE 5630 II, art. no. 135, pp. 675-683

Transmission of Q-switched erbium:YSGG ( $\lambda=2.79 \mu\text{m}$ ) and erbium: YAG ( $\lambda=2.94 \mu\text{m}$ ) laser radiation through germanium oxide and sapphire optical fibres at high pulse energies

Fried, N.M., Yang, Y., Chaney, C.A., Fried, D. 2004 Lasers in Medical Science 19 (3), pp. 155-160

Selective laser cleaning of chlorine on ancient coins

[Aiello, D.](#), [Buccolieri, A.](#), [Buccolieri, G.](#), [Castellano, A.](#), [Di Giulio, M.](#), [Leo, L.S.](#), [Lorusso, A.](#), (...), [Torrisi, L.](#) 2007 *Proceedings of SPIE - The International Society for Optical Engineering* 6346 PART 2, art. no. 63463H 0

Laser selectivity on cleaning museologic iron artefacts

[Gilberto, P.](#), [Margarida, P.](#), [Benilde, C.](#), [Fernanda, C.](#) 2007 *Proceedings of SPIE - The International Society for Optical Engineering* 6346 PART 1, art. no. 63461G 0

Experimental study on the effect of wavelength and fluence in the laser cleaning of silvering in late Roman coins (Mid 3rd / 4th century AD)

⊕ [Vlachou-Mogire, C.](#), [Drakaki, E.](#), [Serafetinides, A.A.](#), [Zergioti, I.](#), [Boukos, N.](#) 2007 *Proceedings of SPIE - The International Society for Optical Engineering* 6604, art. no. 66040W 0

Laser cleaning tests on archaeological copper alloys using an ND:YAG laser

⊕ [Korenberg, C.](#), [Baldwin, A.](#) 2006 *Laser Chemistry* 2006, art. no. 75831 0

Particle generation by ultraviolet-laser ablation during-surface decontamination

⊕ [Lee, D.-W.](#), [Cheng, M.-D.](#) 2006 *Journal of the Air and Waste Management Association* 56 (11), pp. 1591-1598 [1](#)

LIPS and linear correlation analysis applied to the classification of Roman pottery Terra Sigillata

[López, A.J.](#), [Nicolás, G.](#), [Mateo, M.P.](#), [Ramil, A.](#), [Piñón, V.](#), [Yáñez, A.](#) 2006 *Applied Physics A: Materials Science and Processing* 83 (4), pp. 695-698

Transmission of Q-switched erbium:YSGG ( $\lambda=2.79 \mu\text{m}$ ) and erbium: YAG ( $\lambda=2.94 \mu\text{m}$ ) laser radiation through germanium oxide and sapphire optical fibres at high pulse energies

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Transmission of free-running and Q-switched erbium:YSGG laser radiation through sapphire and germanium fibers

[Fried, N.M.](#), [Yang, Y.](#), [Chaney, C.A.](#), [Fried, D.](#) 2004 *Proceedings of SPIE - The International Society for Optical Engineering* 5317, pp. 9-12

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