



Short Curriculum Vitae

Ioannis Pallikaris received his medical degree from Aristotle University of Thessaloniki, Greece in 1972 and completed his residency and PhD thesis at the University of Zurich, Switzerland in 1981. During these years, he also completed graduate studies at the University of Munich (Institute of Physiological Optic, 1978), at the University of Vienna (Ultrasound in Ophthalmology, 1979), and at the University of Zurich (Department of microvascular surgery, 1980). Subsequently, he received an honorary consultant position at the Hippocraton Hospital of Thessaloniki, Greece (1981-1986), and became Director of the Ophthalmology Clinic Hospital of Chania, Greece (1986-1988). His academic carrier began as an Associate Professor of Ophthalmology at the School of Medicine, University of Crete in 1988 and has been a Professor of Ophthalmology at the University of Crete since 1996. He is the founder and director of the Vardinoyannion Eye Institute of Crete (VEIC, 1989) and Institute of Vision and Optics (IVO, 2005), chairman of the Department of Ophthalmology at the University of Crete, and the director of the Eye Clinic of the University Hospital of Heraklion, Greece (1996-2004). Ioannis Pallikaris was the rector of the University of Crete from 2004 to 2011 and the president of the European Society of Cataract and Refractive Surgeons (ESCRS – 2006-2008); he now serves the ESCRS as an elected Board member (2011). Finally, prof. Pallikaris is an elected member of *Academica Ophthalmologica Internationalis* (2010).

Research, Awards, Publications and Editorial Activities

His research interests expand in all fields of ophthalmology, including refractive surgery, visual optics, medical lasers, biopolymers, retinal surgery and image analysis, and the design and development of microsurgical instrumentation. While today he has a broad field of interests, his most significant impact is in refractive surgery, in which he is considered internationally as one of the most opinionated leaders. At his early years, he published three breakthrough articles related to the development and investigation of laser in situ keratomileusis (LASIK). Since then, he had a great impact in the field of ophthalmology while, he is considered “the father of LASIK”, the most worldwide acknowledged and used surgical technique in correcting refractive errors, today. In many countries LASIK is the most frequent surgical operation on the human body (followed by cataract surgery). Prof. Pallikaris has published approximately 198 articles in international peer-reviewed scientific journals and 27 articles in national peer-reviewed scientific journals. He is the editor of 5 books in ophthalmology, the most notable one being the book ‘LASIK’, a reference point for refractive surgeons worldwide. Moreover, he is the author or co-author of 17 invited chapters in International scientific books, while he is a reviewer in 5 international peer-reviewed journals. He has more than 2264 citations and an h-factor of 24, while he holds more than 20 patents. In addition, he has been an invited speaker in more than 200 international conferences from 1998-2011, he has presented over 240 and 170 free papers in international and Greek conferences, respectively. Finally, he has been awarded 15 international awards, most notably the “Barraquer award” from the American Academy of Ophthalmology (1997) for his groundbreaking contribution to refractive surgery, the “Charles D. Kelman Innovator’s Award” from the American Society of Cataract & Refractive Surgeons (2006), the Achievement Award from the American Academy of Ophthalmology (2000) and the Binkhorst Medal from the European Society of Cataract and Refractive Surgeons (2009). Recently, he completed editing a book on prebyopia (Presbyopia: Origins, Effects, and Treatment. Authors: Ioannis Pallikaris, W. Neil Charman, Sotiris Plainis - ISBN-10: 1617110264) that is to be published in June 2012.

Memberships, conference organization, and educational activities

Due to his worldwide recognition in the field of refractive surgery and research activities in the field of ophthalmology, he has been a member and founder (in some) of 28 national and international scientific committees, elected president of the European Society of Cataract and Refractive Surgery (2006 – 2008), elected vice president of the National Board of Research and Technology (ESET) and a member of the Greek National Committee of Unesco. Moreover, he is the program director and organizer of two conferences on a biannual basis in collaboration with the Harvard Medical School, and one summer school in Visual Optics on an annual basis. Furthermore, he has been the principal advisor of 25 PhD theses and more recently the director of the interdisciplinary postgraduate program entitled Vision and Optics, in collaboration with the department of Physics, Mathematics and Materials Science of the University of Crete.

In addition, he has been the director and organizer of both fellowships and mini fellowships programs in refractive surgery since 1998 with the participation of over 59 Greek and 40 international ophthalmologists. Finally, he has been the coordinator of 25 competitive research grants, 13 of which have been awarded by the European Union and 12 funded by the Greek National General Secretariat of Research and Technology, while he has also been the coordinator of 2 self-funded research programs and has participated in 3 FDA trials.

In summary, Prof. Pallikaris has a remarkable contribution and has been essential in reforming the field of ophthalmology worldwide. His initial contribution in refractive surgery and his development of the most world wide used surgical technique in our days was a major breakthrough that has changed the course of history in ophthalmology. His work has a great impact on newly developed and investigated techniques most of which evolve around his initial thoughts and developments on refractive surgery. Alternative refractive procedures such as photorefractive keratectomy with or without the adjuvant of mitomycin C, LASEK, wavefront and topo-guided corrections are closely related to his initial and innovative ideas. Most recently, he developed a new technique (epi-LASIK) where the epithelial layer of the cornea is manipulated as a whole by means of a purposely-designed device, bringing microsurgery of the eye to the cellular scale.

His strive for excellence has led to a significant contributions in other fields related to ophthalmology, the foundation of a multidisciplinary center related to vision science, and the transfer of knowledge that may be reflected on his students and educational activities. Besides medical doctors, his research group includes experienced scientists from fields such as Engineering, Optics, Physics, Computer programming, Materials Science, Vision Science and Biology in order to accomplish the most significant step in refractive surgery today: Presbyopia.

Prof. Pallikaris has been essential in expanding the revolutionary field of refractive surgery and creating the appropriate grounds for the opening of new and exciting applications in this field. His initial contributions with the development of LASIK had a direct impact on the newly formed, developed and investigated techniques today. Concurrently, the development of this groundbreaking technique had an enormous effect not only on the surgical field but also on the technological aspects of the associated instrumentation. Nonetheless, he continued to educate himself and support alternative fields in ophthalmology related to vision as a whole and not just from the medical view of the field. Moreover, Prof. Pallikaris and his collaborators implement a number of clinical investigations in collaboration with various medical companies as part of mutual research protocols. Some of these research protocols were performed for the US Food and Drug Administration with very important outcomes for the safety, reliability and effectiveness of new systems used in Ophthalmology. In addition, clinical protocols are performed in animal models for the development of new therapeutic methods (i.e. photodynamic therapy), the assessment of possible toxic effects of various new drugs and the understanding of the factors that influence post- laser treatment corneal transparency.

In terms of systems, devices and instruments used in ophthalmology, he is contributing to this field by designing and developing new specialized instruments and systems. The TRACEY device, developed in collaboration with the Kiev Institute of Biomedical Technology (Ukraine) was one of the first commercial instruments for the measurement of the optical aberrations of the human eye and the assessment of retinal image quality. Under his guidance a precision machining workshop was deployed in the Institute of Vision and Optics of the University of Crete. It is remarkable, that the most experienced (and well equipped) machining workshop in the whole University of Crete belongs to the department of Ophthalmology. This workshop, following a quality control system in compliance to ISO 9001 is performing R&D and small scale manufacturing work (also irrelevant to ophthalmology) for other departments and the local industry.

Apart from the expansion and inclusion of researchers in a variety of fields such as physics, optics, and engineering, he has strongly supported and provided a spark for new and younger scientists to accomplish their goals within the field of ophthalmology. Many of the graduates and post graduates students have gone to highly successful areas nationally and internationally and have contributed significantly to the scientific community. As it was mentioned earlier, education constitutes one of the basic activities of IVO as it fulfills its academic mission. Mini Fellowships in refractive surgery addressed towards ophthalmologists, optometrists, and opticians, conference organizations such as the Aegean Cornea and Aegean Retina with the participation of distinguished scientists, the interdisciplinary postgraduate program with the contribution of IVO and the collaboration of the departments of Medicine, Physics, and Mathematics of the University of Crete with the objective of the formation of scientists with a high level of education capable to follow careers in hospitals, medical centers, private enterprises that develop and implement devices in the fields of visual

science, as well as in Universities and Research Institutes as academic – research personnel, are examples of the educational activities that he has initiated.

List of most significant publications

The most notable publications of prof.Pallikaris have been made through leading interdisciplinary groups of medical doctors, physicists, engineers, biologists, optometrists and mathematicians. In this manner, special knowledge has been applied for the creation of novel solutions for the treatment and diagnosis in ophthalmology and in ophthalmic physiology.

The twenty most significant publications in peer reviewed journals, in terms of scientific impact and citations are summarised in the list below:

1. Pallikaris, I.G. and D.S. Siganos, Excimer laser in situ keratomileusis and photorefractive keratectomy for correction of high myopia. *J Refract Corneal Surg*, 1994. 10(5): p. 498-510. (324 citations)
2. Pallikaris, I.G., et al., Laser in situ keratomileusis. *Lasers Surg Med*, 1990. 10(5): p. 463-8. (282 citations)
3. Pallikaris, I.G., et al., A corneal flap technique for laser in situ keratomileusis. Human studies. *Arch Ophthalmol*, 1991. 109(12): p. 1699-702. (183 citations)
4. Pallikaris, I.G., G.D. Kymionis, and N.I. Astyrakakis, Corneal ectasia induced by laser in situ keratomileusis. *J Cataract Refract Surg*, 2001. 27(11): p. 1796-802. (180 citations)
5. Pallikaris, I.G., et al., Induced optical aberrations following formation of a laser in situ keratomileusis flap. *J Cataract Refract Surg*, 2002. 28(10): p. 1737-41. (103 citations)
6. Pallikaris, I.G., et al., Epi-LASIK: comparative histological evaluation of mechanical and alcohol-assisted epithelial separation. *J Cataract Refract Surg*, 2003. 29(8): p. 1496-501. (86 citations)
7. Pallikaris, I.G. and D.S. Siganos, Laser in situ keratomileusis to treat myopia: early experience. *J Cataract Refract Surg*, 1997. 23(1): p. 39-49. (83 citations)
8. Pallikaris, I.G., et al., Ocular rigidity in living human eyes. *Invest Ophthalmol Vis Sci*, 2005. 46(2): p. 409-14. (82 citations)
9. Siganos, C.S., et al., Management of keratoconus with Intacs. *Am J Ophthalmol*, 2003. 135(1): p. 64-70. (74 citations)
10. Kanellopoulos, A.J., et al., Comparison of corneal sensation following photorefractive keratectomy and laser in situ keratomileusis. *J Cataract Refract Surg*, 1997. 23(1): p. 34-8. (74 citations)
11. Pallikaris, I.G., et al., Advances in subepithelial excimer refractive surgery techniques: Epi-LASIK. *Curr Opin Ophthalmol*, 2003. 14(4): p. 207-12. (72 citations)
12. Panagopoulou, S.I. and I.G. Pallikaris, Wavefront customized ablations with the WASCA Asclepion workstation. *J Refract Surg*, 2001. 17(5): p. S608-12.

(68 citations)

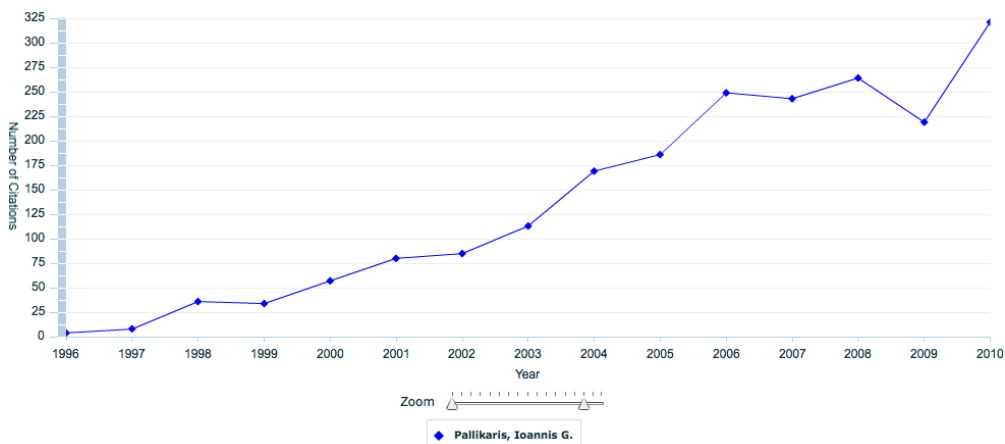
13. Kozobolis, V.P., et al., Primary deep sclerectomy versus primary deep sclerectomy with the use of mitomycin C in primary open-angle glaucoma. *J Glaucoma*, 2002. 11(4): p. 287-93.
(63 citations)
14. Pallikaris, I.G., et al., Epi-LASIK: preliminary clinical results of an alternative surface ablation procedure. *J Cataract Refract Surg*, 2005. 31(5): p. 879-85.
(62 citations)
15. Kymionis, G.D., et al., Management of post-LASIK corneal ectasia with Intacs inserts: one-year results. *Arch Ophthalmol*, 2003. 121(3): p. 322-6.
(59 citations)
16. Kozobolis, V.P., et al., Epidemiology of pseudoexfoliation in the island of Crete (Greece). *Acta Ophthalmol Scand*, 1997. 75(6): p. 726-9.
(45 citations)
17. Siganos, C.S., et al., Management of corneal ectasia after laser in situ keratomileusis with INTACS. *J Refract Surg*, 2002. 18(1): p. 43-6.
(44 citations)
18. D'Amico, D.J., et al., Multicenter clinical experience using an erbium:YAG laser for vitreoretinal surgery. *Ophthalmology*, 1996. 103(10): p. 1575-85.
(44 citations)
19. Kymionis, G.D., et al., Long-term follow-up of Intacs in keratoconus. *Am J Ophthalmol*, 2007. 143(2): p. 236-244.
(42 citations)
20. Molebny, V.V., et al., Principles of ray tracing aberrometry. *J Refract Surg*, 2000. 16(5): p. S572-5.
(32 citations)

Significant research achievements in the last 10 years (publications, invited talks, patents, awards etc)

Overview of publications invited talks and citations.

Ioannis Pallikaris in the past 10 years has published 125 peer reviewed articles. In particular, most of his influential papers (as listed in the previous section) have been published in the last 10 years (2001-2011) showing an active research profile.

The last few year his work is cited about 300 times every year (see graph).



Citations per year (1996-2010). Source: www.scopus.com

Ioannis Pallikaris is regularly invited in international congresses to give lectures related to refractive surgery, vision, presbyopia and ocular rigidity.

He serves in the educational committee of the European Society of Cataract and Refractive Surgeons and in collaboration with the European Board of Ophthalmology he is striving to establish a European-wide standard for ophthalmology training in the sub-specialties of cataract and refractive surgery. He is co-organizing (on a bi-annual basis) educational courses in Basic Optics for ophthalmologists in the framework of the congresses of the ESCRS.

Awards

Ioannis Pallikaris has received the following awards.

1	“Charles D. Kelman Innovator’s Award” (American Society of Cataract & Refractive Surgeons)	ASCRS	2003
2	“Barraquer Award” (International Society of Refractive Surgeons)	ISRS	1997
3	The “Casebeer Award” (International Society of Refractive Surgeons)	ISRS	2002
4	Binkhorst Medal	ESCRS	2009
4	“Albrecht-von-Graefe-Vorlesung” Award for the Innovator’s	DOC	2003
5	KMSG-Barraquer Award (American Academy of Ophthalmology)	AAO	1999
6	Award as pioneer in Refractive Surgery	SUMMIT Tech.	1998
7	Achievement Award (American Academy of Ophthalmology)	AAO	2000
8	Barraquer Award ‘Video Refractive Italy’		2011
9	Charamis medal	SOE	2013

Honorary and elected positions

Ioannis Pallikaris has been either elected or honorably positioned to following societies

1	President of the European Society of Cataract and Refractive Surgeons	ESCRS	2006 – 2008
2	Elected Board member of the European Society of Cataract and Refractive Surgeons	ESCRS	2011
3	Member of the Board of Directors	ISRS	2001
4	Vice President of the “Excimer Laser European Ophthalmologic Society”	ELEOS	1991/95
5	Member of the "Glory" Certification Committee	ISRS	1999
6	Chairman of the International Training Center Sub-Committee (ISRS)	ISRS	1999
7	Honorary member of the International Microsurgery Society		
8	President of ERELAS (European Refractive Laser Study)	ERELAS	1995
9	Chairman of the International Investigator’s T-PRK Study Group		1994
10	President of the National Research Committee for Biotechnology in Greece	ESET	2006-7
11	Academia Ophthalmologica Internationalis	AOI	2010

Patents

Some of the following patents have been implemented in clinical instruments for ophthalmic diagnosis and treatment

1. Device for measuring aberration refraction of the eye Molebny, Vasyl V., Pallikaris, Ioannis, Chyzh, Igor, Sokurenko, Vyacheslav, Naoumidis, Leonidas, Wakil, Youssef.
2. Method and device for determining refractive components and visual function of the eye for vision correction. Wakil Y.S., Molebny V., Pallikaris I.G., Molebny, S., Padrick T..
3. Device and method for the increase of ocular elasticity and prevention of macular degeneration Pallikaris, I., Tslibaris M.K., Kounis G.A., Kymionis G.D., Harilaos G.S.
4. Device for separating the epithelium layer from the surface of the cornea of an eye Pallikaris I., Ginis H.S..
5. Device for the shaping of a substance on the surface of a cornea Pallikaris I., Ginis H
6. Photoablatable lenticular modulator Pallikaris I.G.
7. Method and device for synchronous mapping of the total refraction non- homogeneity of the eye and its refractive components Molebny V.V., Pallikaris I., Wakil Y., Molebny S.
8. Measuring refractive characteristics of human eyes Wakil Y., Pallikaris I., Molebny Vasyl.
9. Device for separating the epithelium layer from the surface of the cornea of an eye Pallikaris I. , Ginis H..
10. Determining clinical refraction of eye Wakil Y., Molebny V., Molebny S.,Pallikaris I.
11. Method and device for synchronous mapping. Molebny V., Pallikaris I, Wakil Y., Molebny S.
12. Device for the shaping of a substance on the surface of a cornea. Ginis H., Pallikaris I.
13. Method of refractive surgery Wakil Y.S., Thornton S.P., Pallikaris I.G.
14. Device for measuring aberration refraction of the eye.Molebny V., Pallikaris I., Chyzh I., Sokurenko V., Naoumidis L., Wakil J.
15. Locating the center of the entrance pupil of an eye after pupil dilation. Gray G.P., Gauthier C.A., Pallikaris I.G.
16. Method of refractive surgery. Wakil Y.S., Thornton S.P., Pallikaris I.G.
17. Procedure for removal of soft eye tissue. Pallikaris I.

18. Substances and methods for the mechanical reinforcement of the cornea. Pallikaris I., Ginis H. (Greek patent application).
19. Device for the measurement of testicular rigidity. Ginis H. Myrilas P. Pallikaris I.
20. Peripheral capsule reconstructor. Pallikaris I. (Greek application in 2011 relevant to the concept of the proposed work).