

ACTS of the
Dept of **Orthopaedic Surgery**
& **Musculoskeletal Trauma**
MEDICAL SCHOOL
UNIVERSITY of THESSALY
since 1998

EDITOR
Konstantinos N. MALIZOS

EDITING ASSISTANT
Vasiliki I. BOUKOUVALA

Special thanks to Christos Papanikolaou and Eleni Kalabaliki who have contributed to this edition with the painting present as the main theme on the front cover of the book. The two artists have also embellished the walls of the Department, i.e. in the waiting area and the two wings, and produced the artistic design of most of the congresses posters exhibited at the physicians' quarters in the premises of the Orthopaedic Department in the University Hospital of Larissa.

We also wish to thank Anastasia Charalambidou, graphic designer, for her meticulous work on this production.




The sign of the Orthopaedic Department of UTH is a true image of the reverse inscription of the bronze medal (42 mm) made by the people of Nicaea living in the province of Bithynia-Pontus near Constantinople (Istanbul), to honour Asclepius –the physician-god: $\text{V}\Gamma\text{E}\text{I}\text{A}$ KAI $\text{A}\text{C}\text{K}\text{A}\text{H}\text{H}\text{I}\text{I}\text{O}$ $\text{N}\text{I}\text{K}\text{A}\text{I}\text{E}\text{I}\text{C}$ (to l., Hygieia standing, r., feeding serpent from patera; in centre, Asclepius standing, facing, head, l., holding serpent-staff; to r., Telesphorus standing, facing). With the 1923 population exchange between Greece and Turkey, the Greeks of Nicaea moved to Nicaea of Larissa.



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i. ...from the Editor

The decision of the Faculty of Medicine to entrust me the task of establishing a new department in 1998 was accepted as an honour, and a privilege but also as a great challenge and an opportunity to lay its foundations and gradually shape it up following patterns of proven success and excellence. Pulling the strings of a newly born academic unit inside a new University gave us the opportunity, the freedom and the enthusiasm to undertake this endeavour with an even greater share of responsibility on our backs. We attracted a team of new scientists, those with a sound scientific background, who show true love and dedication to patients, are hard-workers and distinguished for their devotion and strong will to search, produce and disseminate new knowledge to our student and residents. It did not take long to create an environment of mutual trust and cohesion, essential elements needed to build a team and establish common goals. It was coupled with the commitment to decisions and plans of action. Holding one another accountable for acting towards realization of those plans and focusing on the achievement of collective results were also agreed upon from the very beginning.

The engagement in an unfiltered debate and creative interaction around ideas is something we have also been adhered to from the first steps and has been observed closely ever since.

Our first and basic obligation as academic physicians is tutoring our students on the ways they can reach up-to-date knowledge in the field of our expertise starting with the basics for understanding the function, the pathological and the traumatic conditions of the musculoskeletal system. In parallel, practising as treating physicians and surgeons we pursue our task of providing best medical care to patients; a service which, as all expect from an academic medical unit, has to be exemplary, and at the same time, serves as a role model to our students for developing professional skills.

Among the educational commitments of the Orthopaedic Department of the University of Thessaly is the task of organising and supporting an intensive training programme for students, residents and PhD candidates, and also continuous evaluation of the results of our clinical work. Clinical and laboratory research-driven development of new knowledge is the third component of our academic commitments. Translation of the most valid research findings and updates from the continuous medical research and educational programmes into the daily clinical practice is for the benefit and upgrading of the care provided to our patients.

Servicing a tertiary care facility we have met the need to confront not only the common clinical routine, but also a large variety of complicated surgical emergencies and musculoskeletal trauma cases, demanding posttraumatic, postoperative and congenital deformities and dysfunctions. A team approach with the collaborative efforts of the medical and the nursing personnel guarantees the most effective diagnostic procedures and treatment options, always within the context of the resources available by the National Health System.

In such an academic hospital environment the students, and most importantly, the residents are given the appropriate exposure and acquire the experience for the management of complicated and demanding clinical problems.

Sixteen years of function have passed since November 1998 and we review the outcomes and exhibit the results of all the efforts made by all our group members who give their best to meet the initial goals set. The challenges of tomorrow are now perplexed and became obscure from the socioeconomic hardship imposed in the last five years, that has not left unaffected neither the academic environment, nor the health care of the population. Those who suffer the most from this unwanted condition, need our help and devotion more than they did in the "good times" of our recent past. We will exhaust all our strength and coordinated efforts to deliver our services to their benefit.

Professor Konstantinos N. Malizos
Chairman of the Department

Message from the RECTOR

The University of Thessaly is a relatively new academic institution in Greece. Established 30 years ago in 1984 and expanded gradually in 5 regional cities, it provides quality higher education with its 6 Schools and 18 Departments in more than 15,000 undergraduate and graduate students in the Region of Thessaly, Greece. At the same time, the University has developed a significant research base with 450 tenured and tenure-track faculty members, more than 100 visiting scholars and over 1,000 senior or junior researchers working in a large number of competitive research projects funded mostly by the European Union or international organizations.

The School of Medicine is the largest and one of the most prominent academic units of the University of Thessaly. Located in Larissa, the capital of the Region of Thessaly, it provides quality training to young

physicians, residence training and advanced medical services to a population that extends beyond Thessaly and Central Greece. In addition, the School has a dynamic performance in terms of research record, as it is a leader in terms of research funds and international publications record.

The Department of Orthopedics is one of the most operationally active and academically dynamic Departments in the School of Medicine. Its impressive record in medical education, research, publications and international cooperation is an indication of a strong academic performance and a high quality of human resources. It is also a solid base for developing its great potential in the future.

Professor George Petrakos
Rector of the University of Thessaly



Message from the DEAN

The Faculty of Medicine in the School of Health Sciences at the University of Thessaly was founded in 1985 in Larissa. The first students were enrolled in the academic year 1990-1991 and the first physicians graduated in 1996. The medical school of Larissa has a relatively short life in Higher Education of our country being the newest of seven equivalent schools and faculties of medicine in Greece. Today, exactly three missions constitute and rank every modern medical school, namely education, biomedical research and clinical care. Our faculty members are really dedicated to all these three missions. They have managed, even in our short history, to transform our school and the city of Larissa to a really highly ranked centre of medical education and health care.

The Medical School of Larissa has become fourth in the choice of young students pursuing an MD in the country. Students are educated in the classroom, in laboratory and in a top clinical setting, the University Hospital of Larissa (founded in 1998). Master degrees are offered in six different programs of postgraduate studies. Our master degree programs are directed to offer prestigious opportunities in government, biotechnology, and pharmaceutical industry. Graduates of our MD and PhD programs have already acquired prominent positions both in academia and health care. In biomedical research, taking bibliometric data into account, it ranks fourth among other medical schools in the country. In the University of Thessaly the Medical School is the first among 17 faculties of the University of Thessaly in acquiring research funding both for laboratory and clinical research.

The University Hospital of Larissa has been functioning since 1999 as a tertiary unit, with 690 beds. In its hospices numerous academic clinics and laboratories develop their activities and a great number of students (undergraduate, postgraduate, and PhD), as well as medical residents get the opportunity for professional practice. Furthermore, in the academic clinical departments, assisted by our clinical assistants and faculty members, a full undergraduate and postgraduate practice program for nurses is also offered. In the University Hospital of Larissa up-to-date clinical care is offered for every citizen of the region of Thessaly, from Greece or abroad.

One of the most dynamic parts in our medical school is the Department of Orthopaedics. Its impressive achievements in health care, medical education and research are highly recognised both in our country and internationally. The numerous important, international, scientific cooperations once more underline a strong academic performance and a high quality of faculty members. The Orthopaedic Department has become a department of excellence and this was accomplished under passionate leadership and professionally dedicated teamwork during the past 15 years of its history. I am very proud to address this review of the Department of Orthopaedics and I am fully convinced that it will present a brilliant example to follow if we wish to ground a solid basis for the development of our Medical School in the future.

Professor Ioannis Stefanidis
Dean, Faculty of Medicine,
University of Thessaly

ii. LARISSA and the region of THESSALY are Historically linked to the evolution of Western Medicine...

NEOLITHIC TIMES

Asclepius - the physician-god - was born in the Thessalian territory, and more specifically, in the “dotion pedion” near the lake of Karla. In his name he built and organised sanctuaries (named Asclepieia). The ruins of the largest and oldest Asclepieion of Greece is in Trikala - the Homeric Trikka (or Trikki), one of the areas touted as his birthplace. Those sanctuaries were healing temples, some kind of medical centres, from which



Figures 1A- 1D. Teracotta figuring a woman from the Neolithic period, of 2.5 cm height, found in the province of Stefanovikio in 1970. The woman apparently suffers from “Tuberculosis Spondylitis” with kyphosis at her back (**B, C** - left side view and **D**, right side view). The statue is exhibited at the Archaeological Museum of Volos (catalogue No: 3402). Photos of the figure have also been published in the book “Neolithic Hellas”, a publication of the National Bank of Greece (1973, p.310, Fig. 174).

the worship of Aesculapius gradually spread. Asclepieia served as the hospitals of those times, where the healers were taking care of their patients with the regimens of their times, meditation and empirical use of herbs and other natural products. Other Asclepieia were found at Kierion (a town in the Karditsa prefecture), Peparithos (on the island of Skopelos), and the nearest to Larissa, at Gonnoi, near the southern entrance of the Tempi valley.

In the long history of modern western medicine development, our home city, Larissa, and the region of Thessaly links with the life and activity of Hippocrates, who spent his last years in Larissa, taught to students (“healers”) and treated patients according to scientific evidence from the relevant literature, i.e. the Hippocratic Corpus, book III “On Epidemics”.

HIPPOCRATIC ERA

Hippocrates’ life

Hippocrates was born in the Greek island of Kos and he was the son of Heracleides and Fainareti, while there were rumours that he was a descendant of Asclepius. Legend likewise places him in the family line of the hero Hercules. He was a student of Doctors Herodikus, Gorgias, a rhetorician from Leontinous (Sicily), and Democritus, a philosopher from Abdera (Thrace). He was born in the first year of the 80th Olympias and acted mainly during the Peloponnesian war. After completion of his studies and his parents’ death, he left his country island with the intention of observing the situation in other cities-countries and further practising medicine. Soranus reports that he followed a dream of his to live in Thessaly.

By practising the medical profession throughout Greece, he won the admiration of the king of Macedonia, Perdikas (suffering from tuberculosis), who invited him to join Doctor Evrfontas. He lived in Macedonia where he held a strong relationship with Perdikas. Then he was asked by the inhabitants of Abdera to go there to cure Democritus and save the city from the famine. But when famine appeared in the area of the barbaric Illirians and Paiones, their king asked him to visit their place, however, Hippocrates did not appear, for it was a barbarian place. After his being informed by the barbarians’ ambassador of the winds blowing over their countries and his reckoning that the famine is possible to arrive in Attika, he warned about those which would occur concerning the cities he lived in as well as his students.

He loved very much his Greek compatriots. His reputation was widely spread around as far away as Persia, and the king of Persians, Artaxerxes, called him via Hestanes, the commander of Hellespont, and promised him valuable gifts to tempt him to come. However, Hippocrates refused, for he was a modest person, non-avaricious and a patriot. He saved his country from being involved in wars with Athens, after he begged the Thessalians to help. He was honored with bright celebrations not only by the people of Kos, but also by the Thessalians, the Argives and the Athenians.

He taught the medical profession to his students without any sentiments of jealousy and according to the due oath. He wrote a lot of scientific works and became famous. His writings are known to all of the physicians who pay them respect and accept them as inspired from God. Of those we report the Oath, the Prognosis book, the Aphorisms Book, which comprise an excellent example of medical wisdom. Fourth in row is reported the much-admired Exekontabiblus that includes every item of medical knowledge and wisdom.

He obtained two sons, Thessalus and Dracon – both of whom became brilliant scientists – and a lot of students. He died in Larissa at the age of 104 and was buried somewhere between Gyrtioni and Larissa.

[excerpts from (a) Soranus Ephesius Med., Vita Hippocratis (ed. I. Ilberg), and (b) Suda Lexicon, iota 564 (ed. Adler). Translated by V. Boukouvala, Linguist, MA]

*It is uncertain whether this descent was by family or merely by his becoming attached to the medical profession.

EPIDEMICS- Book III

ε'. Ἐν Λαρίσῃ φαλακρὸς μὴρὸν δεξιὸν ἐπόνησεν ἐξαίφνης· τῶν δὲ προσφερομένων οὐδὲν ὠφέλει. τῇ πρώτῃ πυρετὸς ὀξύς, καυσώδης, ἀτρεμέως εἶχεν, οἱ δὲ πόνοι παρείποντο. δευτέρῃ τοῦ μηροῦ μὲν ὑφέσαν οἱ πόνοι, ὁ δὲ πυρετὸς ἐπέτειεν, ὑπεδυσφόρει, οὐκ ἐκοιμάτο, ἄκρεα ψυχρά, οὕρων πλήθος διήει οὐ χρηστῶν. τρίτῃ τοῦ μηροῦ μὲν ὁ πόνος ἐπαύσατο, παρακοπή δὲ τῆς γνώμης καὶ ταραχὴ καὶ πολὺς βληστρισμός. τετάρτῃ περὶ μέσον ἡμέρης ἔθανεν.²

Case XII

In Larissa a maiden was seized with an acute fever of the ardent type. Sleeplessness; thirst; tongue sooty and parched; urine of good colour, but thin.

Second day. In pain; no sleep.

Third day. Copious stools, watery and of a yellowish green; similar stools on the following days, passed without distress.

Fourth day. Scanty, thin urine, with a substance suspended in it which did not settle; delirium at night.

Sixth day. Violent and abundant epistaxis; after a shivering fit followed a hot, copious sweating all over; no fever; a crisis. In the fever and after the crisis menstruation for the first time, for she was a young maiden. Throughout she suffered nausea and shivering; redness of the face; pain in the eyes; heaviness in the head. In this case there was no relapse, but a definite crisis. The pains on the even days.

Case V

In Larissa a bald man suddenly experienced pain in the right thigh. No remedy did any good.

First day. Acute fever of the ardent type; the patient was quiet, but the pains persisted.

Second day. The pains in the thigh subsided, but the fever grew worse; the patient was rather uncomfortable and did not sleep; extremities cold; copious and unfavourable urine was passed.

Third day. The pain in the thigh ceased, but there was derangement of the intellect, with distress and much tossing.

Fourth day. Death about mid-day.

ιβ'. Ἐν Λαρίσῃ παρθένον πυρετὸς ἔλαβε καυσώδης, ὀξύς· ἄγρυπνος, διψώδης, γλώσσα λιγνυώδης, ξηρή· οὖρα εὐχρω μὲν, λεπτὰ δέ. δευτέρῃ ἐπιπόνως, οὐχ ὑπνωσε. τρίτῃ πολλὰ διήλθεν ἀπὸ κοιλίης ὑδατόχλοα, καὶ τὰς ἐπομένας ὀλίγον, εἶχεν ἐναιώρημα μετέωρον, οὐχ ἰδρύνετο, παρέκρουσεν ἐς νύκτα. ἕκτη διὰ ῥινῶν λάβρον ἐρρήνῃ πολὺν φρίξασα ἰδρωσε πολλῶν θερμῶν δι' ὄλου· ἄπυρος· ἐκρίθη. ἐν δὲ τοῖσι πυρετοῖσι καὶ ἤδη κεκριμένων γυναικεία κατέβη πρότον τότε παρθένος γὰρ ἦν. ἦν δὲ διὰ παντὸς ἀσώδης, φρικώδης, ἐρευθὸς προσώπου, ὀμμάτων ὀδύνη· καρηβαρική. ταύτη οὐχ ὑπέστρεψεν, ἀλλ' ἐκρίθη. οἱ πόνοι ἐν ἀρτίησιν.

EPIDEMICS - Book V

13. A woman in Larissa, who was pregnant, lost much blood for fourteen days in the tenth month, but mostly in the three before the delivery of the child. On the fourteenth day the child was born dead, with the right arm attached to its side. On the third day the afterbirth, at the same time of night as the child, was born. The white flows came after that for three days and nights, moderately in general. After that fever seized her two days and nights and her whole belly and hips were in pain, the lower abdomen most of all.

13. Γυνὴ ἐν Λαρίσῃ κύουσα· τῷ δεκάτῳ μηνὶ αἷμα ἐχώρει αὐτῇ πολὺ τεσσαρεσκαίδεκα ἡμέρας, πλείστον δὲ τὰς τρεῖς τὰς πρὸ τοῦ παιδίου τῆς ἀπολύσεως. τῇ τεσσαρεσκαίδεκάτῃ ἐξέπεσεν ἐκ τῆς γαστρὸς τὸ παιδίον τεθνεὸς, ἔχον τὸν δεξιὸν βραχίονα προσπεφυκότα τῇ πλευρῇ· καὶ τὸ χορίον τρίτῃ ἡμέρῃ τῆς νυκτὸς τὴν αὐτὴν ὥρην ὡς ὅτε τὸ παιδίον· καὶ τὰ λευκὰ ἔπειτα μετὰ ταῦτα ἐχώρει τρεῖς ἡμέρας καὶ νύκτας μετρίως τὰ πολλὰ.³ μετὰ δὲ τοῦτο πυρετὸς ἔλαβε δύο ἡμέρας καὶ νύκτας δύο, καὶ ὠδυνᾶτο τὴν γαστέρα πᾶσαν καὶ τὸ ἰσχίον,⁴ τὸ δὲ ἦτρον μάλιστα.

15. Σκάμανδρος ἐν Λαρίσῃ ἰσχίον ἐσφακέλισε, καὶ ὁστέον ἀφεστηκὸς χρόνιον· ὁ δὲ ἐτμήθη τομὴν μεγάλην καὶ πρὸς τοῦ ὁστέου· ἔπειτα⁵ ἔκαθη. τότε ἡμέρῃ δωδεκάτῃ ἤρξατο μετὰ τὴν τομὴν σπασμός, καὶ εἶχε μᾶλλον· ἐσπάσατο δὲ τὸ σκέλος τοῦτο μέχρι τῶν πλευρῶν· διεφοίτα δὲ καὶ ἐπὶ θάτερα ὁ σπασμός· ξυνεκάμπετο δὲ τὸ σκέλος καὶ ἐξετείνετο, καὶ τᾶλλα μέλεα ἐκίνηε, καὶ αἱ γνάθοι ἐπάγησαν· οὗτος ἔθανε σπώμενος ὀγδόῃ μετὰ τὴν τοῦ σπασμοῦ ἐπίληψιν. ἐθεραπεύετο δὲ χλιασμάσιν ἀσκίοισι καὶ πυρήσιν⁶ ὀρόβων ὅλον τὸ σῶμα, καὶ ὑπεκλύσθη, καὶ ὑπῆλθε παλαιὴ κόπρος ὀλίγη· καὶ τὸ κατακορὸς φάρμακον ἔπιε καὶ προσκατέπιε, καὶ ὑπῆλθε μὲν, οὐδὲν ἀπὸ τοῦ καταπότου ὠφελήθη· καὶ ὕπνος ὀλίγος ἦλθεν· καὶ αὐτὸς πῖων τὸ κατακορὸς ἰσχυρὸν ἐσπερινός, ἡλίου ἀνιόντος ἔθανεν. ἐδόκει δ' αὖν πλείονα χρόνον διενεγκεῖν, εἰ μὴ κατὰ τοῦ φαρμάκου τὴν ἰσχύν.

15. Scamandrus in Larissa had mortification in the hip; in time the bone came free. A large incision up to the bone was cut, and then cauterized. Then on the twelfth day after the incision, spasm began, and it increased. That leg was drawn up right to the ribs. And the contraction migrated to the other side. The leg was bent double and very tense and his other limbs trembled and his jaws were fixed. He died drawn up on the eighth day after the spasm came on. He was treated with fomentations made from leather bottles, and with heated vetch seeds over the whole body. He was given an enema and a little old excrement came out. He took the saturated (purgative) drug and repeated it. He did pass excrement. There was no help from what he drank. He slept a little. Having drunk the saturated drug again at evening, he died at sunrise. It seemed that he would have survived longer if not for the strength of the medicine.

* W.H.S. Jones (ed), Hippocrates Vol. I, Cambridge, Massachusetts: Harvard University Press, 1984.

* Wesley D. Smith (ed), Hippocrates Vol. II, Cambridge, Massachusetts: Harvard University Press, 1994.

16. Ἴπποκόμος Παλαμήδεος ἐν Λαρίσῃ, ἑνδεκαετής, ἐπλήγη κατὰ τοῦ μετώπου ὑπὲρ τὸν ὀφθαλμὸν τὸν δεξιὸν ὑφ' ἵππου, καὶ ἐδόκει τὸ ὀστέον οὐχ ὑγιὲς εἶναι, καὶ ἐπίδυνεν¹ ἐξ αὐτοῦ ὀλίγον αἷμα. οὗτος ἐπρίσθη μέγα μέχρι τῆς διπλῆς· καὶ ἰητρεύετο οὕτως | ἔχων τὸ ὀστέον, ὃ καὶ πρόσθεν αὐτίκα² ἐκπίει.³ ἐπὶ εἴκοσιν, οἴδημα παρὰ τὸ οὖς ἤρξατο, καὶ πυρετός, καὶ ῥίγος· καὶ ἡμέρῃ μᾶλλον ὠδίσκετο καὶ⁴ ὠδυνᾶτο τὸ οἴδημα· καὶ ἐπύρεσεν ἀρχόμενος ἐκ ῥίγος· καὶ οἱ ὀφθαλμοὶ ὠδησαν, καὶ τὸ πρόσωπον· ἔπασχε δὲ ταῦτα ἐπὶ δεξιᾷ μᾶλλον τῆς κεφαλῆς, παρήλθε δὲ καὶ ἐς τὰ ἀριστερὰ τὸ οἴδημα· οὐδὲν οὖν τοῦτο ἔβλαπτεν· τελευτῶν δὲ πυρετός ξυνεχῆς ἔσχεν ἥσσον· ταῦτα ἦν μέχρι ἡμερῶν ὀκτώ. ἐβίω δὲ καυθεῖς, καὶ καθηράμενος αὐτὸ καταπότου, καὶ περιπασσόμενος τὸ οἴδημα· τὸ δὲ ἔλκος τῶν κακῶν οὐδὲν αἰτιον ἦν.

16. Hippocomus son of Palamedes in Larissa, eleven years old, was struck on the forehead above the right eye by a horse. The bone did not seem sound and a little blood spurted out of it. He was trephined extensively down to the diploe. And he was cured, despite this condition of the bone, which before was readily festering. On the twentieth day a swelling began by the ear, and fever and shivering. And in the daytime the swelling and pain were greater. He became fevered, beginning with shivering. His eyes swelled, and his face. He was affected more on the right than the left of the head, but the swelling spread also to the left. That did no harm. Finally the fever was less continuous. These things continued until the eight day. He survived, after being cauterized, purging it with medicine for drinking, and treated with plasters on the swelling. The wound was not responsible for his problems.

20. Eudemus in Larissa had severe hemorrhoids, and as time passed was anemic. Bile was aroused but he was quiet in the body. His lower intestine was upset. He passed bilious material. The hemorrhoids projected. He drank a medicine for purging below and was well purged. Again he drank a barley gruel and was again upset. Pains lodged in the hypochondria. In this case one was treating the hemorrhoids while he was not well in the intestines, but needed therapy and vomiting. Later, after the sore had been anointed, fever came on him and did not leave him before it had killed him. When the shivering left him, the fever would come on and seize him, and he would pass bile and gas: some was passed, but some remained, and he had pain in the belly. The hemorrhoids were outside the anus the whole time, beginning from the purgations; and the gas developed because of them. The beginning followed on a sneeze.

20. Εὐδήμος ἐν Λαρίσῃ αἰμορροΐδας ἔχων ἰσχυρὰς πάνυ, καὶ χρονίαις ἕξαμιος ἄν. χολὴ ἐκινήθη, ἀλλ' ἠπίωσε τῷ σώματι, καὶ ἡ κοιλίη ἐταράχθη κάτω· ὑπεχώρει χολαίδια, καὶ αἰμορροΐδες ἐπέειχον.⁴ φάρμακον κατατερικὸν πιῶν ἀπεκαθάρθη καλῶς, καὶ αὐτὶς μετέπει χυλὸν καὶ ἔτι ἐτετάρακτο, καὶ ὀδύνη πρὸς τὰ ὑποχόνδρια προσίστατο. τούτῳ ἐπεχειρήθη τῆσι⁵ αἰμορροΐσι τὴν κοιλίην οὐ καλῶς πως ἔχοντι, ἀλλὰ δεομένῳ θεραπείης ἔτι καὶ ἀπεμέσαι.¹ ἔπειτα δὲ ἐπαλειφθέντος τοῦ καρκίνου πυρετός ἐπέβαλε καὶ οὐκ ἀφήκε πρὶν ἀπέκτεινεν· ὅτε δὲ καὶ ἀφήκε ῥίγος ὑπολαβὼν² ἦκεν ὁ πυρετός, καὶ ὑπεχώρει αὐτῷ χολὴ καὶ³ φύσα· ἡ μὲν διεξήκει, ἡ δὲ ἐνήν, καὶ ὀδύνη ἐν τῇ κοιλίᾳ. αἱ δὲ αἰμορροΐδες ἔξω ἦσαν τοῦ ἀρχοῦ ἀπὸ τῶν ὑποκαθαρσίων ἀρξάμεναι τὸν ἄλλον χρόνον, καὶ ἡ φύσα διὰ ταύτας ὑπεγίνετο· καὶ πρὸς πταριμὸν ἐπεγίνετο ἡ ἀρχή.

21. Ἐν Λαρίσῃ ἀνὴρ ἐτρώθη ἐκ χειρὸς λόγχῃ πλατεῖᾳ ὄπισθεν, καὶ τὸ ἄκρον διήνεγκε κάτω⁴ τοῦ ὀμφαλοῦ, πελιόν, ἀποιδέον, καὶ διήλθε χωρίον πολὺ. ἔπει⁵ δὲ ἐτρώθη, ἔπειτα ὀδύνη ἔσχε τὰ πρῶτα ἰσχυρή· καὶ ἐπαδίσκετο ἡ γαστήρ. τούτῳ ἐδόθη τῇ ὑστεραίᾳ κατατερικόν, καὶ διεχώρησεν ὀλίγον ὑφαμιον, καὶ ἔθανεν. ἐδόκει τούτου τὰ ἔντερα εἶναι οὐχ ὑγιέα, καὶ αἵματος ἡ κοιλίη πλήη⁶ εἶναι.

21. In Larissa a man was wounded from behind by a hand-thrown broad spear. The tip passed through below the navel. Livid, swollen over a larger area. When he was wounded there was much pain at first, and the belly swelled up. The next day he was given a laxative and passed some bloody matter, and he died. It appeared that his entrails were not healthy and that his lower belly had filled with blood.

24. In Larissa, a maiden vomited a small amount of blood when she had become purulent. Fevers seized her, and did not leave her before she finally died in the third month. Before death she grew deaf and could not hear except when one was shouting very loudly. She had been weak before the vomiting of blood.

24. Ἐν Λαρίσῃ, παρθένος αἷμα ἐμέασα οὐ πολὺ, ἔμπυος γενομένη· πυρετῶν ἐπιλαβόντων οὐκ ἀπηλλάσσετο πρὶν τελευτῶσα ἀπέθανε τρίτῳ μηνί· πρὸ δὲ τοῦ θανάτου, ἐκωφώθη τὰ οὐατα, καὶ οὐκ ἤκουεν εἰ μὴ τις πάνυ μέγα βοῶν. πρὸ δὲ τοῦ ἐμέτου τοῦ αἵματος προσηθένει.

The original texts and the biography of Hippocrates were compiled with the assistance of Dr. I.N. Elioudes (Philologist, PhD):



Dr. I.N. Elioudes
Philologist, PhD

Dr Elioudes was born in Larissa-Greece (1957). He has got a degree in Hellenic Literature from the Aristotle University of Thessaloniki. His PhD dissertation from the University of Crete was on Traditional Hellenic texts of the 15th and 16th centuries. He has been a writer of articles and research texts on Hellenic Literature (Ancient, Byzantine, post-Byzantine and Modern Greek), one of which is included in the bibliography of Corpus de Textes Linguistique Fontamenteaux (CTLF).

iii. Forewords



George CHARTOFILAKIDIS
Professor Emeritus of Orthopaedics
University of Athens, Greece

“The Department of Orthopaedic Surgery and Musculoskeletal Trauma of the University of Thessaly is rather young. Yet, although it was established in 1998, this Department is known for its exceptionally important clinical work and publications of its research activities.

This brings to mind that in Greece the first Department of Orthopaedics was established at the University of Athens in 1951, and was functioning for three decades as the only Department of its kind in our Country. There followed the establishment of the Department of Orthopaedics at the University of Thessaloniki (Aristotelian) in 1978, and Orthopaedic Departments at the Universities of Ioannina in 1980, Irakleion in 1985, Patras in 1987, Alexandroupolis in 1989 and Thessaly in 1998.

Notwithstanding its late establishment, the department of Orthopaedics of the University of Thessaly is highly regarded and internationally commended as an institution of distinguished Orthopaedists in Greece.

Generally, the function of various Departments of a Medical School is not limited to educational purposes; they contribute to scientific research and offer high-level care to patients.

Academic Medicine has certain obligations. It is true that particularly surgeons devote many hours to surgery and clinical practice, and are left with fewer opportunities for their research and publication of their findings. However, those who decided to embark on an academic career have the responsibility of managing their time in a manner allowing for certain research and writing activities.

It is a universal fact that most of the funds of high-level Educational and Research Institutions come from the State and/or individual benefactors depending on the output of valuable research.

It is clear, therefore, that members of the faculty of Medical Schools have the obligation to participate in research programs and produce publications in respected scientific journals; those activities not only contribute to the advancement of Science, but also provide financial strength and capacity for the expansion of the functions of a Medical School.

The outstanding work of the Department of Orthopaedics of the University of Thessaly during the 1998 – 2014 period has been recognized as an excellent achievement deserving the consideration of generous support that may enable the University of Thessaly to achieve higher goals.

Our warmest wishes to Professor Konstantinos Malizos, chairman of the Department, and his commendable collaborators for even higher accomplishments in Medical Science and care.

The potential is there.”



Panayotis N. Soucacos, MD, FACS
Professor of Orthopaedics
University of Athens, School of Medicine

A Historical Perspective

“It is with nostalgia, immense admiration and a deep sense of gratification that I reflect upon the leaps and bounds that have taken place over the last 15 years in the conception, evolution and current state of the Department of Orthopaedic Surgery at the University of Thessaly, under the auspices of Professor Konstantinos N. Malizos. Nostalgia, because I was able to witness and foster the early beginnings of Dr. Malizos’ career in the field of Orthopaedics, admiration because of the extreme diligence and effort it took him and his team to conquer the significant milestones necessary to create and maintain a high caliber academic department, and the gratification of a teacher and mentor

who is able to experience the success of his once student, and now esteemed colleague.

In order to trace “The Acts of the Orthopaedic Department of UTH 1998-2014”, one must begin with the early beginnings of the driving force behind the success of the department, that is with the early beginnings of Professor Malizos. Although he received his medical degree from the University of Thessaloniki, he did his training in Orthopaedics, as well as completed his thesis for Doctor of Science at the University of Ioannina, under my auspices. Subsequently, I have had the pleasure of having a close working relationship with Dr. Malizos since 1983, ever since his first steps in the field of Orthopaedics. Upon finishing his Orthopaedic Specialty training in 1986, he persistently pursued additional post-doctoral training in the field of Microsurgery at various centers, including the SOS Main Microsurgery Unit in Paris and Duke University Medical Center in Durham, North Carolina, during which he participated in a plethora of significant research programs, and state-of-the-art surgical procedures. It was not surprising how quickly he entered and rose in the academic ranks upon his first appointment as a Lecturer in the Department of Orthopaedic Surgery of the University of Ioannina, School of Medicine in November, 1990. By September 1994, he was promoted to Assistant Professor. Fortressed with an armamentarium of significant scientific articles in the international literature, numerous presentations and lectures in prestigious international meetings, key participation in various research programs, as well as an unquestionable solid surgical know-how, it was of little surprise that at a young age and among several highly qualified co-candidates, he was elected to full Professor and given the Chairmanship of the Department of Orthopaedics in Thessaly on November 5, 1998.

With the same perseverance, diligence and focus he demonstrated from early on in his career, Dr. Malizos tackled the task of establishing an internationally acclaimed Orthopaedic Department in a relatively young University. Knowing the value of teamwork, he quickly put together an excellent team of surgeons and scientists who were able to cover the major aspects of Orthopaedics. Among the early team-members were Theofilos Karachalios, and four former surgeons from Ioannina, Theofanis Moraitis, Zoe Dailiana, Sokratis Varitimidis and Michalis Hantes. All of these critical team players had high caliber international post-doctoral training, with a formable presence in the scientific literature and international academic fora. Moreover, these prime players were just as dynamic and motivated as Dr. Malizos. That is, they were able to get the job done. With numerous other consultants, scientists, nursing personnel, etc. the new “Thessaly team” was in full function. It is with deep admiration that we are able to review the significant achievements and international acclaim that this team has been able to boast.

On a very personal note, I cannot help but feel a deep sense of gratification when I review the “Acts of Ortho-UTH”. One of the greatest satisfactions for a teacher is to witness the successes of their former fellows, who rise and surpass all forms of measure. In all, Dr. Malizos has shown himself to be a person of great guise, dedicated to excellence and has exceptional abilities to accomplish to this highest level not only the obligations he assumes, but the inspirations he dares for his academic environment.

While the Department of Orthopaedic Surgery at the University of Thessaly is a relatively young institution, it has made numerous and significant contributions not only to the development of high standard orthopaedic medical care in the region, but internationally recognized scientific contributions. Without prejudice it can be said that Orthopaedic Surgery in Greece and the University of Thessaly will certainly continue to benefit from the outstanding abilities that Dr. Malizos and his team have to offer as clinicians and scientists.”



1. Introduction

There have already been sixteen years since the opening of the Department of Orthopaedic Surgery and Musculoskeletal Trauma at the University General Hospital of Larissa. It is part of the “Domain for Surgical Specialties” of the Faculty of Medicine, School of Health Sciences, University of Thessaly. With nine attending specialists who have been trained at Greek Universities, and at internationally acknowledged specialised Orthopaedic Centres of the EU and American Universities. The most innovative and challenging ideas are generated in a society which favours collaboration and working in harmony. In such an academic environment, systems supporting a wide range of cooperation modes are employed. First and foremost, sharing of resources and ideas for learning and building consensus, best collaborative efforts joined together, the development of testing ground for ideas, are some of the concepts the members of the Department follow towards the establishment of interoperability, a critical parameter in the formulation of a new academic team. The activities are ex-

ecuted concurrently, and through cooperation, members develop congruent interpretations for the cases under examination. When difficult situations arise, dialogue is employed and introspection of behaviour and communication is encouraged. Significant results have been achieved both at the level of applications and underlying infrastructure, while the workflow management is smooth and productive. Innovation, individual expertise and coordinated team effort are the standards and the “modus operandi” of the entire unit. We employ a bottom-up approach beginning from real, special situations and extrapolate general solutions applicable to a class of similar situations. Our residents, in the continuous flow in and out to our training program are integral part of the group, and take not only specialised training but also professional and behavioural skills and attitudes, equally important and useful in their career. Many of them continue their training at recognised training centres of Europe and the USA and many have already had their “Theses” approved by the Faculty of Medicine.

1.1. The University Hospital of Larissa

The Orthopaedic Department is based at the **University General Hospital of Larissa, Thessaly**, in the midlands of continental Greece. It is a highly specialised tertiary care facility of the National Health System. It was established and started operational activity in 1999 and since then it has been a major teaching center for the School of Medicine of the University of Thessaly. It is a modern facility employing the latest technological and medical advancements on its attractive 250-acre Health Sciences campus with gradually evolving new complementary facilities. Today, with 630 specialty beds and 60 beds in special units, it serves as both a tertiary referral medical center and a teaching academic hospital, treating more than 185,000 outpatients and admitting over 53,000 patients each year. Exposure to a diverse pool of patients provides a

challenging teaching environment for knowledge and experience as well as for personal and professional development.

The medical and nursing personnel are enlarged by a whole network of trainees such as undergraduates, interns, residents, and nursing students. The hospital provides state-of-the-art clinical diagnostic and therapeutic services, and in parallel supports research, training and further education to ensure that it is always able to provide the best treatment available.

Many residency training programmes run for the 27 different academic clinical departments and labs. Special training courses on various fields of medicine extend to all employees at the hospital, thus contributing towards ensuring the best possible treatment for patients.



Fig. 2: The University Hospital of Larissa. Photo by G. Bontikoulis.

1.2. Infrastructure

The surgical infrastructure of the University Hospital includes 10 aseptic operative suites, one room for septic cases at the central Unit, and two separate suites at the maternity clinic. Furthermore, available are three rooms for endoscopies at the central unit and two emergency operating theatres.

Thirteen departments of the respective surgical specialty disciplines with 82 surgeons and 15 anesthesiologists perform approximately 10,000 surgical operations per year. The fact that a number of surgical disciplines at our University are under further development with the employment of new academic

staff in the near future should also be taken into consideration. The necessity for new “vital space” for the establishment of scientific fields not yet developed has led to the proposal for the addition of a 12,000m² wing which would include 10 new operative theatres, a surgical ICU and diagnostic imaging and lab equipment combined to a new Surgical Emergencies Unit. The Faculty of Medicine backs this proposal and has brought that to public awareness and to governmental authorities’ consideration.



2. The Department of Orthopaedic Surgery and Musculoskeletal Trauma of UTH

2.1. Medical Personnel

Academic Faculty

Konstantinos N. MALIZOS
Professor, Chairman of the Department

Theofilos S. KARACHALIOS
Professor

Zoe H. DAILIANA
Associate Professor

Sokratis E. VARITIMIDIS
Associate Professor

Michael E. HANTES
Associate Professor

Nikolaos RIGOPOULOS
University Teaching Fellow

NHS consultants

Theofanis G. MORAITIS
Senior Consultant, NHS Director

Konstantinos A. BARGIOTAS
Senior Consultant

Dimitrios MATSOUKAS
Assistant Consultant

Dimitrios LAMBROU
Assistant Consultant



Malizos, Konstantinos N.
Professor & Chairman
Founding Director, The Institute for Research & Technology-Thessaly (I.RE.TE.TH)
Dean, Faculty of Medicine 2007-09, 2009-2011



Karachalios, Theofilos
Professor



Moraitis, Theofanis
Senior Consultant



Dailiana, Zoe
Associate Professor



Varitimidis, Sokratis
Associate Professor



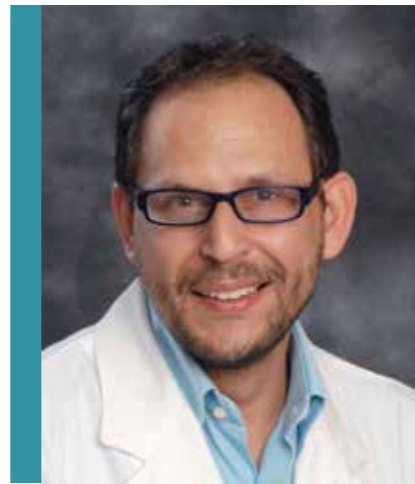
Hantes, Michael
Associate Professor



Bargiotas, Konstantinos
Senior Consultant



Matsoukas, Dimitrios
Assistant Consultant



Lambrou, Dimitrios
Assistant Consultant



Rigopoulos, Nikolaos
Teaching Academic



Fig.3: The faculty of the Department.



Fig. 4: The faculty and the residents of the Department.

2.1.1. Short CVs

Konstantinos N. MALIZOS

Medical School, Aristotle University of Thessaloniki (1972-1978) – Internship in General Surgery at General Hospital of Larissa (1982-1983) – Residency, Orthopaedic Department, University of Ioannina (1983-1986) – Fellowships: (a) Jewish Hospital, Orange, CA (05-07/1987), (b) Microsurgery and Surgery-of-the-Hand Center “SOS MAIN” in Strasburg, France (01-07/1988), (c) Clinique Longeraie, Lausanne, Switzerland (07-08/1988), and (d) Orthopaedic Department, Duke University Medical Center, Durham, NC, USA [1989-1991 (33 months)] – **Lecturer** (1991-1994) and **Assistant Professor** in Orthopaedics (1994-1998), University of Ioannina – **Professor** and **Chairman** of the Orthopaedic Department, University of Thessaly, since 11/1998 – **Founding Director**, Institute of Biomedical Research and Technology (IBRT) of CE.RE.TE.TH. (Center of Research and

Technology of Thessaly) – Member of 16 scientific societies – **President**, European Bone & Joint Infection Society (2005-2007) – Board member of EBJIS (11 years) – **Ad Hoc Reviewer** in 9 peer-reviewed journals – **International Deputy Editor** JBJS [Am] (charter)– Member of Editorial Board of 3 international peer-review journals – **Ad Hoc Reviewer** in National Research Committee of Singapore – **Organizing Committee Chairman**, European Congress of FESSH (Federation of European Societies for Surgery of the Hand) – **Dean**, Faculty of Medicine, University of Thessaly (2007-2011) – **President** of Hellenic Society for the Study of the Hand, 2002, and of the Hellenic society of Microsurgery 1998, Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST) (2013) – **Member** of the University of Thessaly Board of Trustees since 2012.

Theofilos S. KARACHALIOS

Medical school, University of Athens (1976-1982) – Residency, Orthopaedic Department of Athens University (1984-1989) – **Senior Registrar & Lecturer** at Bristol Royal Infirmary, Bristol University, Bristol UK (1990-1992) – **NHS Orthopaedic Consultant** B Orthopaedic Department and University Orthopaedic Department KAT Hospital, Kifisia, Athens (1992-1998) – **Diploma in Biomechanics and Bioengineering**, Strathclyde University, Glasgow, UK (1995-1997) – **Assistant Professor** in Orthopaedics, University of Thessaly (1998-2005) – **Associate Professor**

in Orthopaedics, University of Thessaly, since 2005 – **Professor of Orthopedics**, University of Thessaly, since 25/8/2011 – **President of the Hellenic Association for the study of Bone Metabolism (EEMMO)** (2009-2010) – **President** Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST) (2015) – **President** of the HAOST Hip and Knee (2007) and Orthopaedic Research (2008) sectors – **Member of the EX-COM of the European Hip Society (Treasurer)** (since 2011) – **Reviewer** in 5 peer-reviewed Journals.

Theofanis G. MORAITIS

Medical School, Aristotle University of Thessaloniki 1972-1979 – Internship, General Hospital of Katerini (10/1982 – 2/1983) – Residency, Orthopaedic Department (2/1983 – 11/1983) and Orthopaedic Department of the University of Ioannina (12/1983 – 3/1986) – **Consultant**, Orthopaedic De-

partment, General Hospital of Karditsa – **Senior Consultant**, Orthopaedic Department, General Hospital of Karditsa (12/1989-10/1999) – **Senior Consultant**, Orthopaedic Department, University General Hospital of Larissa since 10/1999 – **NHS Director** since 12/1/2010.

Zoe H. DAILIANA

Medical School, University of Ioannina, Greece (1984-1990) – PhD Thesis: Medical School, University of Ioannina, Greece (1997) – Diplome Universitaire de Chirurgie de la Main et du Membre Supérieur: Medical School, Université Pierre et Marie Curie-Paris VI, France (1998) – Internship (Gen. Surgery), Department of Surgery, University of Ioannina (1992-1993) – Residency at the Department of Orthopaedic Surgery, University of Ioannina (1993-1997) – Fellowship at the (a) “Institut de la Main” Paris, France (1997-1998) and (b) Orthopaedic Department, Duke University Medical Center, Durham, NC, USA (1998-2001) – Scholarships: 5 – **Lecturer** of Orthopaedic Surgery, Medical School, University of Thessaly (2001-2005) – **Assistant Professor** of Orthopaedic Surgery, Medical School, University of Thessaly (2005-2012) – **Associate Professor** of Orthopaedic Sur-

gery, Medical School, University of Thessaly since 2012 – Scientific awards: 11 – Grants awarded: 15 – Member of 18 Scientific Societies – Reviewer in 6 peer-review journals – Representative of Greece in the **Hand Trauma Committee** (HTC) of the **Federation of European Societies for Surgery of the Hand (FESSH)** since 2010 – Member of **Accreditation Committee** of HTC/FESSH since 2012 – **President** elect (2007) of Hellenic Society for Surgery of the Hand (HSSH) – Organizing Committee Member and President of the Hosting Society, European Congress of FESSH 2007 (Federation of European Societies for Surgery of the Hand) – **Scientific achievements**: 102 Publications (88 in pubmed); 154 Published abstracts; 20 Book chapters, 1224 Citations; H-index: 19.

Sokratis E. VARITIMIDIS

Medical School, Aristotle University of Thessaloniki (1982-1988) – Internship in General Surgery at General Hospital of Kozani (1991-1992) – Residency, Orthopaedic Department, University of Ioannina (1993-1997) – Fellowships: (a) University of Pittsburgh, Hand and Upper Extremity Surgery (1997-1999), and (b) University of Allegheny, Pittsburgh, PA [Adult Reconstruction] (1999-

2000) – **Consultant**, Orthopaedic Department, University of Thessaly (2000-2003) – Lecturer in Orthopaedics, University of Thessaly (2003-2008) – **Assistant Professor** in Orthopaedics, University of Thessaly since 2/2008 – **Associate Professor** in Orthopaedics, University of Thessaly since 15/2/2013.

Michael E. HANTES

Medical School, Aristotle University of Thessaloniki (1984-1991) – Internship in General Surgery at “Hatzikosta” General Hospital of Ioannina (1994-1995) – Residency, Orthopaedic Department, University of Ioannina (1995-1999) – Fellowships: (a) ATOS Klinikzentrum für Knie und Fusschirurgie (Center for Knee and Foot Surgery) in Heidelberg, Germany (4/1999 – 5/2000), and (b) Orthopaedic Center of Mount Vernon IL, USA (Shoulder and Knee Arthroscopy) (1/2001 – 12/2001) – Consultant, Orthopaedic Depart-

ment, University Hospital of Larissa, since 12/2001 – **Assistant Professor** in Orthopaedics, University of Thessaly (elected 7/2008) – **Associate Professor** in Orthopaedics, University of Thessaly (elected 4/2012) – President of the Greek Arthroscopy Association (2012-2014) – Treasurer of the European Society of Arthroscopy Knee Surgery and Sports Medicine – Editorial board member of American Journal of Sports Medicine (AJSM) and Knee Surgery Sports Traumatology and Arthroscopy (KSSTA).

Konstantinos A. BARGIOTAS

Medical School, Aristotle University of Thessaloniki (1983-1989) – Internship in General Surgery at Military General Hospital & General Hospital of Larissa (1991-1992) – Senior House Officer at Bristol Royal Infirmary & Bedford General Hospital UK (1994) – Residency, Department of Orthopaedics, KAT General Hospital, University of Athens

(1995-1999) – Fellowship in Shoulder Surgery, Bristol Royal Infirmary, UK (2000) – **Consultant**, Orthopaedic Department, University of Thessaly, University Hospital of Larissa, since 2001 – Fellowship in Adult Reconstruction Surgery, Allegheny General Hospital, Pittsburgh USA (2005).

Dimitrios A. MATSOUKAS

Medical School, Comenius University of Bratislava Slovakia (1991-1998) – Diploma in Hand & Upper Extremity, University of Sorbonne (2006) – Internship, Kremlin Bicetre Hospital (2001-2002), Henri Mondor Hospital (2002), Beaujon Hospital (2002-2003) – Residency, Avicenne Hospital (2003-2004), Kremlin Bicetre Hospital (2004-2005), St Camille Hospital (2005), La croix St

Simone Hospital (2005-2006), George Pombidou Hospital (2006-2007), Hopital de Pontoise (2007-2008) – **Consultant**, Clinique Turin (2008-2009), KAT University Hospital of Athens (2011-2012), General Hospital of Naxos (2012-2013), Orthopaedic Department, University Hospital of Larissa, since 2013.

Dimitrios LAMBROU

Medical School, University of Bucharest, “CAROL DAVILA” (1990-1997) – Rural service, General Hospital “VOSTANIO” Mytilene, Lesbos (2002 – 2003) – Internship, Department of Thoracic Surgery, General Hospital of Athens “KAT”, Athens (2004-2005) – Residency, General Hospital of Athens “KAT”, Athens (Pediatric Orthopaedics 2005-2006), (Microsurgery, Centre for Research on

Musculoskeletal Diseases, 2008), (Spine surgery, 2009), (General Orthopaedics, -2010) – Fellowship in spine surgery, Centre for Endoscopic Surgery & Computer Aided CHU Bordeaux, France (2011-2012) – Clinical Fellowship in trauma Surgery Hospital Centre Cote Basque Bayonne, France – Private practice (2013) – **Consultant**, University Hospital of Larissa (since 2014).

Nikolaos RIGOPOULOS

Medical School, Aristotle University of Thessaloniki, Greece (1988-1995) – Residency, Orthopaedic Department, University of Thessaly (2001-2005) – Fellowships: (a) Clinical Fellow in Pediatric Orthopaedics at Department of Surgery, Orthopaedic Division Duke University, Durham, NC, USA (USMLE certification- 27/8/2007) (1/8/2008-31/7/2009), (b) Research Associate at

Department of Orthopaedic Surgery, Keck School of Medicine, University of Southern California, CA, USA (1/7/2006-31/5/2008), (c) Clinical Research Fellow, Department of Orthopaedic Surgery & M/Sk Trauma, University of Thessaly (since 2005) – PhD Thesis: Medical School, University of Thessaly, Greece (2007).



2.2 Residency training programme

There are eleven slots that are filled with 11 residents and two more from the Hellenic Army Force. Below are the residents who are currently attending the full training programme for the specialty of Orthopaedic Surgery & Musculoskeletal Trauma.

Currently in service:

1. Drakos, Athanasios, MD (chief)
2. Antoniou, Ioannis, MD (chief)
3. Raoulis, Vassilios, MD (chief)
4. Papanagiotou, Marianthi, MD
5. Veloni, Katerina, MD
6. Tsekoura, Stavroula, MD
7. Kiorpelidis Polykarpos, MD
8. Chliapas, Stelios, MD
9. Doxariotis, Nikolaos, MD
10. Karatzios, Konstantinos, MD
11. Natsaridis, Prodromos, MD
12. Alexiou, Konstantinos, MD
13. Kokkinos, Georgios, MD
14. Chrysovergis, Christos, MD
15. Banios, Konstantinos, MD
16. Karakitsios, Panagiotis, MD

Scientific fellows having attended the programme as part of their residency training:

- Lazarides, Stefanos, MD
- Papachristos, Athanasios, MD
- Pagonis, Thomas, MD

32 orthopaedic surgeons have completed their training so far:

- Papachristos, Athanasios, MD
- Zachos, Vassilios, MD
- Zibis, Aristidis, MD
- Damdounis, Aristidis, MD
- Passias, Athanasios, MD
- Rigopoulos, Nikolaos, MD
- Basdekis, Georgios, MD
- Drougas, Vassilios, MD
- Christou, Dimitrios, MD
- Koutsogiannis, Alexandros, MD
- Samaras, Dimitrios, MD
- Dimitroulias, Apostolos, MD
- Gougoulias, Nikolaos, MD
- Giotikas, Dimitrios, MD
- Agorastakis, Dimitrios, MD
- Venouziou, Aaron, MD
- Poultsides, Lazaros, MD
- Liantsis, Athanasios, MD
- Karydakos, Georgios, MD
- Giannakos, Rene-Athanasios, MD
- Michalitsis, Sotirios, MD
- Papatheodorou, Loukia, MD
- Karamanis, Nikolaos, MD
- Paridis, Dionysios, MD
- Tsoungias, Georgios, MD
- Papasoulis, Efthimios, MD
- Tsarouchas, Alexandros, MD
- Lagaras, Apostolos, MD
- Sitras, Achilleas, MD
- Liakatas, Athanasios, MD
- Papadopoulos, Antonios, MD
- Koutalos, Antonios, MD



Drakos A.
19/8/11 – 2/10/14



Antoniou I.
15/11/10 – 14/11/14



Raoulis V.
16/1/13 – 15/1/15



Papanagiotou M.
7/9/10 – 7/2/15



Veloni K.
20/6/12 – 19/6/15



Tsekoura, S.
13/7/11 – 12/7/15



Kiorpelidis P.
22/11/11 – 22/11/15



Chliapas S.
14/1/13 – 13/1/16



Doxariotis N.
14/1/13 – 13/1/16



Kokkinos G.
20/5/14 - 19/5/16



Karatzios K.
7/1/12 - 7/1/17



Natsaridis P.
21/8/13 - 16/1/17



Alexiou K.
12/4/13 - 11/4/17



Chrysovergis Ch.
22/9/14 - 1/6/17



Banios K.
21/4/15 - 20/1/18

2.3. Administrative personnel



Gonela, Katerina
Philologist
Administrative Secretary



Boukouvala, Vasiliki
Linguist, MA
Translator & Editor



Skoutela, Konstantina
Nurse
Patient Registry

2.4. Nursing Personnel

Nurses

Tasioudi E. (Head Nurse)
Kechagias S.
Milona E.
Stergiou I.
Siameli S.
Mosiou A.
Pardali M.
Pappas L.
Anagnostou S.
Kriki G.
Tziatzias D.
Goutzamani K.
Liouska G.
Mavrogianni D.
Nousia D.

Assistants

Tampaki G.
Varsamopoulou M.



Tasioudi E.
Head Nurse



Fig. 5: The nursing personnel of the Department.

2.5. History and Current Operation

2.5.1. Flashback

The Department was established at the Medical School in 1993 (FEK/181/6-10-93 volume A). It started providing undergraduate training in September 1995.

Dr K.N. Malizos was first elected in June 1997, but assumed his duties as Professor at the Orthopaedic Department of the University of Thessaly and the Chair's duties on 5/11/1998.

Dr Th. Karachalios was elected Assistant Professor in 1998 (15/3) and he assumed his duties on 15/11/1998.

In the last 3 months of the year 1999, Dr Th. Moraitis and Dr I. Gelalis joined the department, as Senior Consultant (19/10/1999) and Consultant (29/11/1999), respectively.

The outpatients clinic started its function on

27/9/1999 and the first orthopaedic patients initially were hospitalized at the Neurosurgery wards.

The first eight patients were admitted in the wards of the Orthopaedic Department on 3/2/2000 and the first on-call duties started on 22/3/2000.

In January 2000 the first two residents, Drs. A. Papachristos and S. Lazaridis, joined the Department during their training as residents.

In the middle of 2000, Drs. P. Kitsoulis, I. Sarris, I. Gelalis, S. Lazaridis, and Dr I. Tsionos (consultant) were employed as clinical fellows for 6 months.

From August 2007 to April 2013, George Basdekis, and from January 2011-July 2013, Vasileios Kontogeorgakos were employed as Assistant Consultants (junior attending surgeons).

2.5.2. Donations and the "Konstantinos HOULIARAS" University Library of the Orthopaedic Department

The university library of the Orthopaedic Department was inaugurated on September 29, 2000. It is located in the premises of the Orthopaedic Department (3rd floor of Tower B of the University Hospital of Larissa) and is open to every scientist and researcher. The library was given the name of the greatest and first benefactor K. Houliaras (ex-Head of the Orthopaedic Department of the General Hospital of Larissa, and the 1st ever Orthopaedic Surgeon

in the Region of Thessaly), who donated a compilation of 20 series of Orthopaedic journals and about 400 books. The inauguration was preceded by a ceremony honouring the donator, which took place at the Auditorium of the University Hospital of Larissa. Books and journals were also donated by Dr. Giotis, Prof Hartofilakidis, Dr Tsemanis, Dr S. Theodorou, and Dr N. Triantafyllou.



Fig. 6A



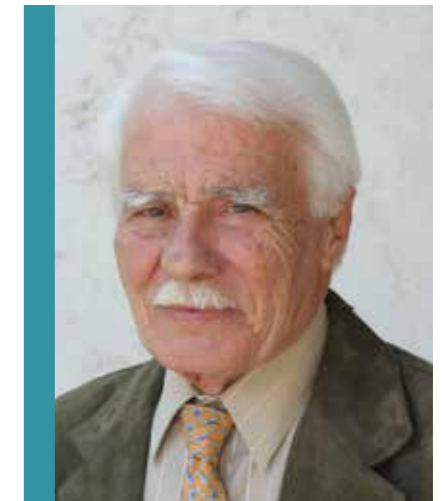
Fig. 6B

Figures 6A-C: Photos from "K. Houliaras" university library.



Fig. 6C

Fig. 6C. Part of the collection of paleontological skeletal remainings (Elephas Antiquous, Rhinos, etc.)



Konstantinos Houliaras
Ex-Director, Orthopaedic Dpt
General Hospital of Larissa
& 1st Orthopaedic Surgeon
in Thessaly in 1962.

Since 1998, the Orthopaedic Department has received medical equipment, furniture and book donations necessary for the proper function of the Department. This was only possible due to the thoughtful contributions of some people who have the generosity to donate for the benefit of the public.

Mrs Smaragda GARANI, in memory of her husband Michael GARANIS, a distinguished surgeon, and driven by benevolent and charitable motives donated special equipment of the most advanced technology at its time of €304,500 and she has undertaken to cover the maintenance costs for those devices ever since. This equipment has given another dimension

to the research potential of our unit. In this way, the health services offered have dramatically improved as the donated equipment serves hundreds of patients each year without charge, giving them the hope that treatment is attainable. It also facilitates the laboratory and clinical research of the faculty and the residents, who are now given the opportunity to utilise special devices for diagnosis and conduct relevant research studies. The University of Thessaly has honoured Mrs GARANI as "great benefactor" in a special ceremony (23 Oct. 2003).



Fig. 7A



Fig. 7B

Fig. 7A, 7B: The articles of the Friday, 24 October, 2003 (newspapers: Hmerisios Kirykas and Eleftheria) covering the event of honouring Mrs GARANI for her generous donation of 100 million drachmas (301,000 euros).

Giving without regard to reward or the benefits of recognition is a pure altruistically motivated act reflecting the feelings of loyalty and duty of some people who have the generosity, kindness and are socially-sensitive to help others in need. Through such philanthropic intentions, donors become the brilliant example to show the path of altruism and invite more people to act in such a benevolent man-

ner for the common good of the society. All in all, we all should take into consideration that "...giving is not a duty but a privilege." (John D. Rockefeller Jr.)

The medical staff would like to thank the following persons for gifting contributions to benefit the Orthopaedic Department (for books, library furniture, and equipment) – in alphabetic order:

- Bliatsiou, Alik
- Chroni, Katerina
- Exarchou, Vagia
- Fessas, Theodoros
- Fountis, Spyros
- Garani, Smaragda
- Giaglara, Efrosyni
- Giotis, Konstantinos
- Hartofillakidis, Georgios
- Houliaras, Konstantinos
- Kaiva, Fani
- Kakagianni, Iro & Stella
- Kantonias, Xenophon
- Karagianni, Magda
- Kelaiditou, O. & Gerogiannis, K.
- Kittas, Georgios
- Konstantinidis, Gregorios
- Koukoulis, K. & Androutopoulou, V.
- Koutsoukis, Spyros
- Kyritsakas, Gregorios
- Malakos, Georgios
- Oikonomou, Sotirios
- Papadimitriou, Dimitrios

- Papaioannou, Vassilios
- Patramanis, Stefanos
- Petrou, Dimitra & Theodora
- Potakidis, Panayotis
- Raptopoulou, M & O.
- Romnios, Nikolaos
- Saitis, Eleftherios
- Samakidis, Konstantinos & Nasiopoulou Athina
- Samara, Fani & Stergiou, Dimitrios
- Samsarelou, Dimitrios
- Soulis, Ioannis
- Theodorou, Stamatis
- Triantafyllou, Nikolaos
- Tragakis, Panayotis
- Tsaliki, Ermofili
- Tsagkoulis, Stergios
- Tsemanis, Vassilios
- Tsiaras, Vassilios
- Tsoukas, Antonios
- Valavanis, Elias
- Zachariadi, Fani
- Zisopoulos, Dimitrios

3. Current Activity

The Orthopaedic Department at the University Hospital of Larissa provides diagnostic and treatment services on a daily basis to all emergency and elective Orthopaedic cases admitted from Central Greece with a catchment area of 1.6 million people. The Department serves as a tertiary referral Orthopaedic centre and admits patients from the region of Thessalia, and the prefectures of Kozani, Grevena, Pieria and Phthiotida. Selected Emergency and Elective Orthopaedic referrals are also admitted from all over Greece, Cyprus and occasionally referrals from the Balkan and North African countries.

The University Hospital and thus the Orthopaedic Department serves regular on-call full duties every 2nd day.

3.1. Subspecialty Units

The Department of Orthopaedic Surgery at the University Hospital of Larissa comprises the following units for special surgery:

- | | |
|--|--|
| (1) Musculoskeletal Trauma | (6) Infections of the Musculoskeletal System |
| (2) Major Joint Replacement & Reconstruction | (7) Tumour of the M/Sk System |
| (3) Surgery of the Hand and Upper Extremity | (8) Reconstructive Surgery of the Spine |
| (4) Microsurgery | (9) Pediatric Orthopaedics |
| (5) Arthroscopy/Sports Injuries | (10) Metabolic Bone Diseases |

(1) Musculoskeletal Trauma Unit

The department of Musculoskeletal Trauma offers treatment for patients with multiple trauma injuries. The all-inclusive orthopaedic trauma program including hand, spine and musculoskeletal specialties provides comprehensive care in every multi-trauma patient following the most modern and up-to-date management protocols.

(2) Major Joint Replacement & Reconstruction Unit

Hip, knee, shoulder and other joint replacement surgeries (*both primary and revision*) are the major focus in this unit. Commitment to a postoperative rehabilitation plan designed by the treating physician, and to physical therapy, is important to getting the most benefit from surgery and to returning to normal activities. Patients enjoy very good to excellent results from their total joint replacement surgeries.

(3) Hand and Upper Extremity Surgery Unit

Due to lack of specialized Hand Surgery units in most prefectures of the central and northern Greece, the Hand and Upper Extremity Surgery subspecialty unit serves an area of 1,600,000 inhabitants and 6 regional hospitals for referrals of complex hand trauma and microvascular cases. Amputative injuries from Central and Northern Greece are also regularly referred to this unit.

The University Hospital is on full-duty calls every other day but the Unit of Hand & Upper Extremity Surgery is available 24 hours, 7 days per week, for replant calls.

The Hand Surgery Unit of the Department of Orthopaedic Surgery of the University of Thessaly has been validated as an official Hand Trauma centre by the Hand Trauma Committee (HTC) of the Federation of European Societies for Surgery of the Hand (FESSH) for two 3-year time periods, i.e. from 2010 to 2013, and from 2014 to 2017.

(4) Microsurgery Unit

The Microsurgery Unit functions along with the Hand and Upper Extremity Unit and provides care for Upper and Lower Extremity amputative injuries and traumatic defects, and also for skeletal disorders such



as congenital malformations, osteonecrosis, musculoskeletal tumour reconstruction, peripheral nerve injuries, traumatic plexus, complex reconstruction after sepsis, etc. Regular weekly outpatient clinicals are also in operation since 2001 for units (1), (2), (3) and (4).

(5) Arthroscopy/Sports Injuries Unit

The Sports Injuries Unit has received local and national recognition for its contributions to the field of sports medicine orthopaedics. It includes athletes' patient care using the most advanced orthopaedic and surgical therapy routines, research, education, and community service. Since 2013 the European Society for the Surgery of the Knee & Arthroscopy - ESSKA- accredited this unit with the privilege to train for 6 months international fellows for sports injuries surgery.

(6) Musculoskeletal Infections Unit

Although enormous clinical and research effort has focused on infections of the musculoskeletal diseases over the last 25 years, and despite the introduction of modern prevention protocols, infections still remain a source of morbidity, pain and potential long-term disability having personal and socioeconomic consequences. In this unit, the infections of the musculoskeletal system as multifaceted diseases that require a multidisciplinary approach for diagnosis and imaging are taken care of. Pivotal to this practice is the tight collaboration among Surgeons, Imaging specialists, Biopathologists, and others working within the field of Musculoskeletal Infections. The unit accepts referrals from all over the country, Cyprus and the Balkans, and also a small number of cases from Northern Africa.

(7) Unit of Tumour Surgery of the Musculoskeletal System

In collaboration with the Departments of Oncology, Pathology, and Radiotherapy, comprehensive management is provided in all tumour cases. The specific responsibility in this unit includes reconstruction of skeletal and soft tissues defects with implants, grafting and microsurgical free tissue transfer.

(8) Spine Surgery Unit

Trauma-related and degenerative spine disorders are treated in this unit by using operative techniques including microsurgery procedures and the latest techniques for stabilization in spine surgery.

(9) Paediatric Orthopedics Unit

In specially prepared wards and in an outpatient paediatric clinic, this unit takes care of hundreds of paediatric orthopaedic surgery cases every year, including congenital deformities of the extremities, trauma, and paralytic disorders. Weekly paediatric outpatient clinics are also in operation from the very beginning of the department.

(10) Metabolic Bone Diseases Unit

A big number of patients with metabolic bone diseases (such as osteoporosis and the Paget's disease) are followed regularly on an outpatients base. Modern therapeutic modalities are applied and several investigational treatment protocols have been completed.

3.2. Surgical Care

The standards of training and clinical practice of all specialists of the Department are applied to every emergency and elective Orthopaedic procedure, applying evidence-based criteria in treatment selection and overall management, combined with the collective experience of the unit's experts.

In more detail, the expertise of the surgeons work-

ing in our Department extends to a variety of conditions, including: (i) acute management and late reconstruction of injuries of all tissues of the musculoskeletal system, (ii) reconstruction of joint disorders in adulthood, (iii) arthritis of the major and the small joints, (iv) fracture care, (v) malunions, (vi) nonunions, (vii) septic conditions of bones and joints,

(viii) amputative injuries & re-implantations, (ix) microsurgical reconstruction of the musculoskeletal system and microneurovascular repair procedures, (x) tendon transfers, (xi) peripheral nerve injuries, (xii) management of paediatric disorders, (xiii) surgical oncology for musculoskeletal tumours, (xiv) defects and deformities of the growing skeleton, (xv) spinal injuries and deformities, (xvi) sports injuries, (xvii) surgery of the hand and upper limb, (xviii) surgery of the foot, and (xix) correction of congenital

malformations of the extremities.

Records and electronic databases enable to study the outcome of surgical care, allowing thus a continuum in the quality control of our practices.

Teaching hospitals with a "house staff" made up of interns and residents in training usually achieve lower morbidity and mortality rates and more extensive care. The statistics of the Department are demonstrated in the following graphs:

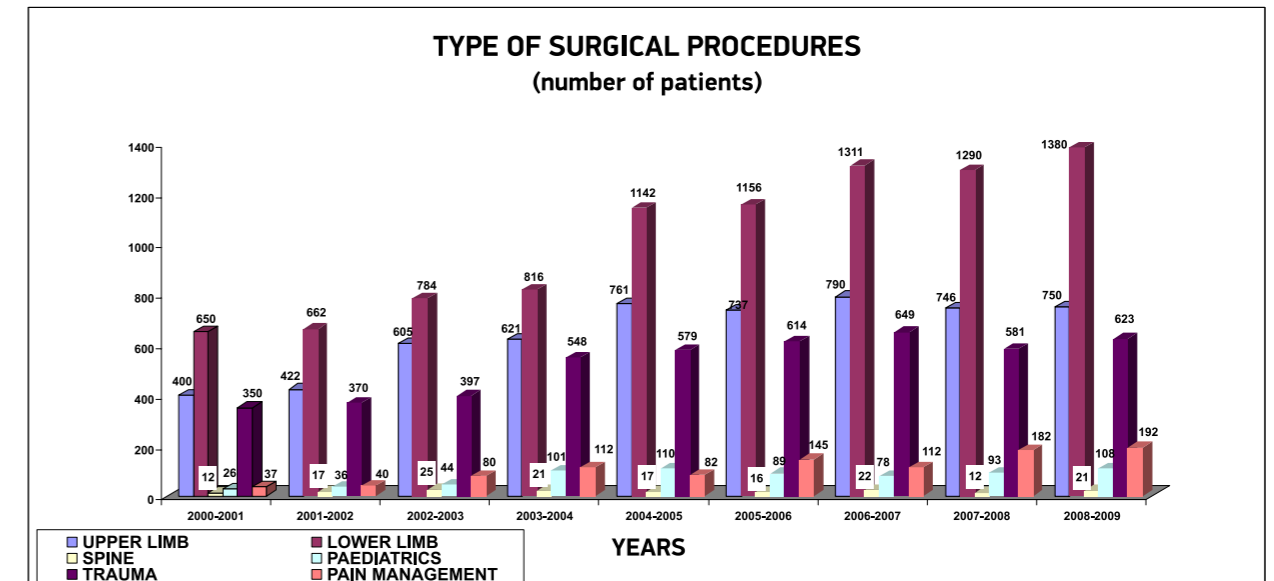


Diagram 1A

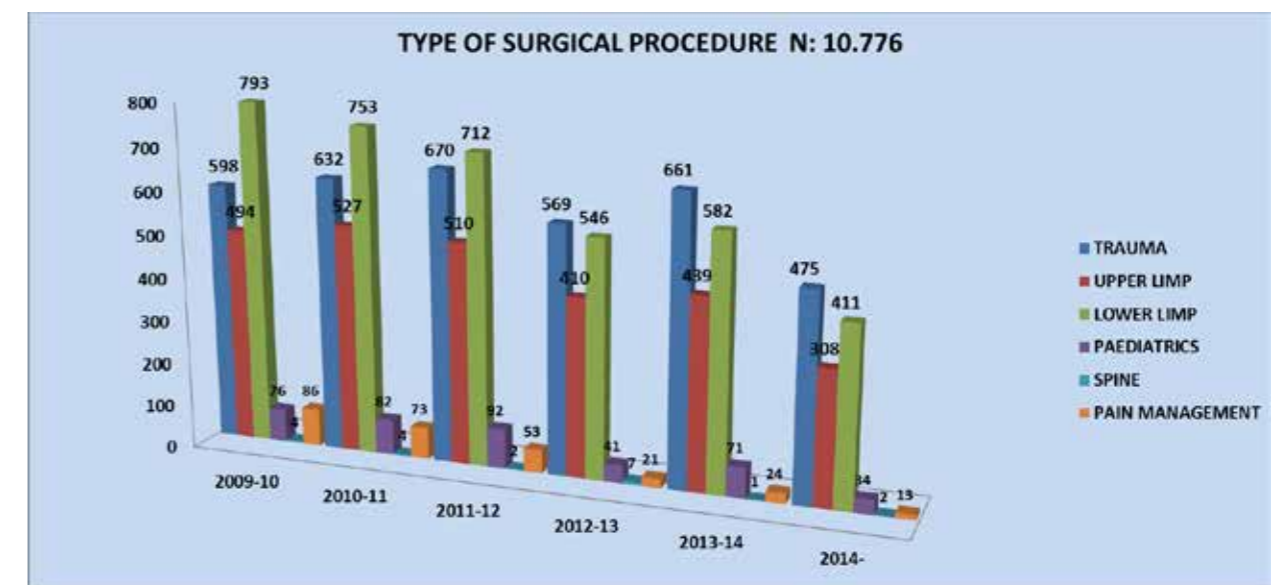


Diagram 1B

Diagrams 1A, 1B: Type of Surgical Procedures/Number of Patients. 23% of the operations are performed on an outpatient basis. Diagram 1A depicts the number of patients per type of surgical procedure in the years 2000-2009, whereas Diagram 1B includes the years 2009-2014.

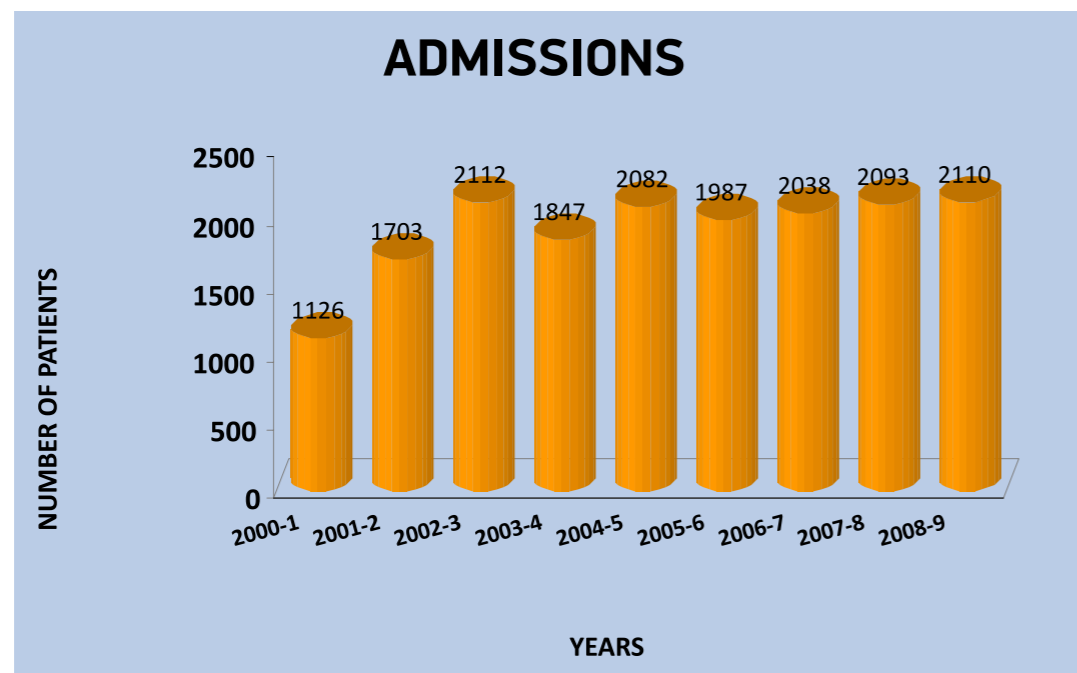


Diagram 2A



Diagram 3A

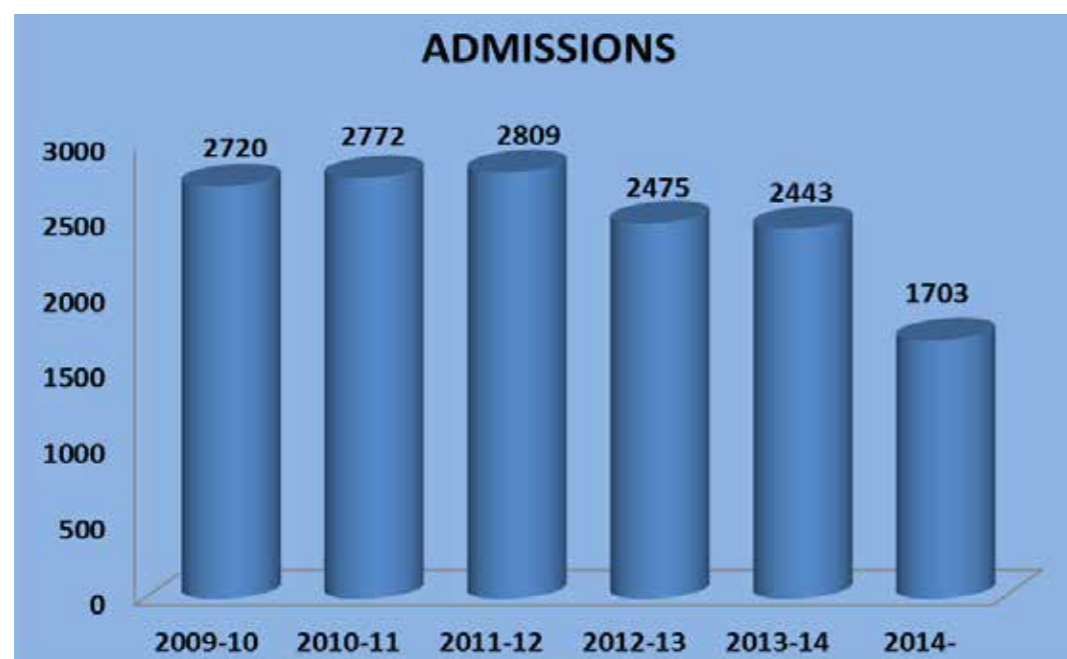


Diagram 2B



Diagram 3B

Diagrams 2A, 2B: Number of Admissions /Year, between the years 2000-2009 (2A), and during the last 5 years, i.e. 2009-2014 (2B).

Diagrams 3A – 3B: Number of Surgical Procedures/Year, between the years 2000-2009 (3A), and during the last 5 years, i.e. 2009-2014 (3B).



ACCIDENT AND EMERGENCY DEPARTMENT (number of patients)

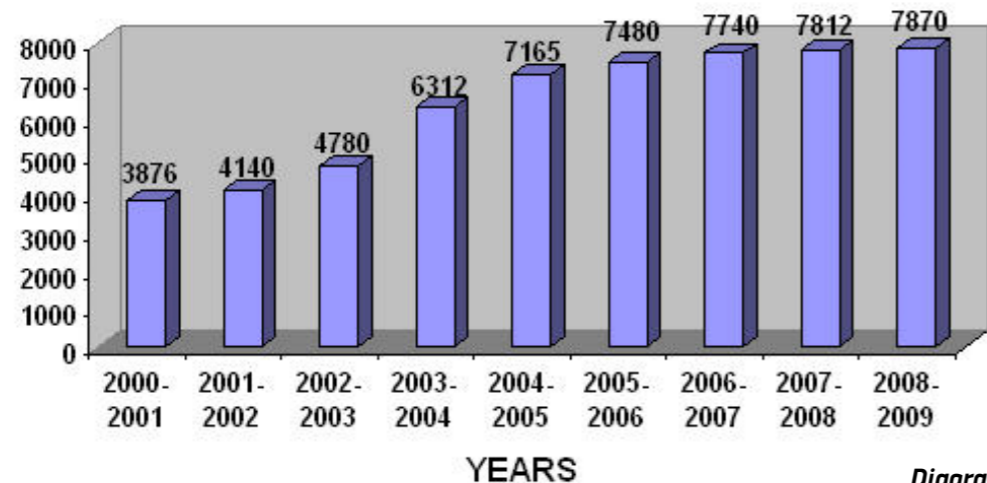


Diagram 4A

OUTPATIENT CLINIC (number of patients)

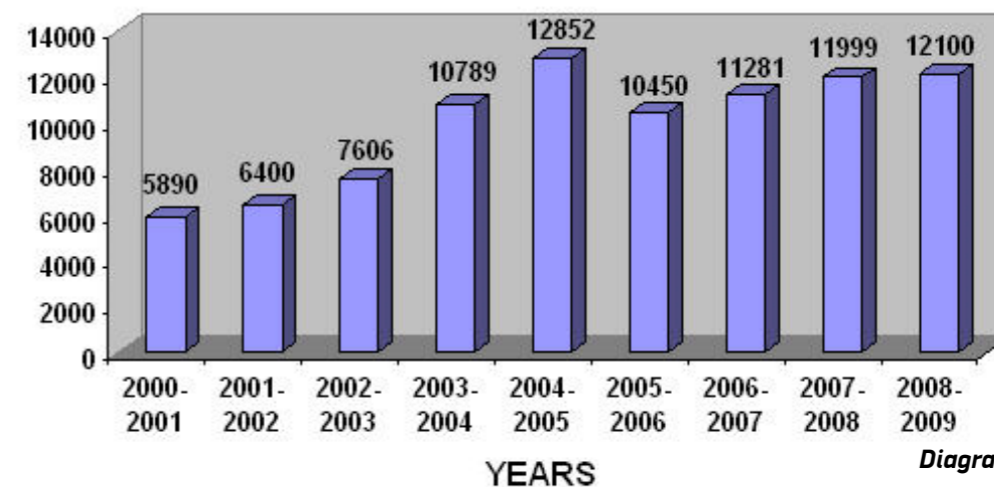


Diagram 5A

NUMBER OF PATIENTS ATTENDED ACCIDENT AND EMERGENCY DEPARTMENT

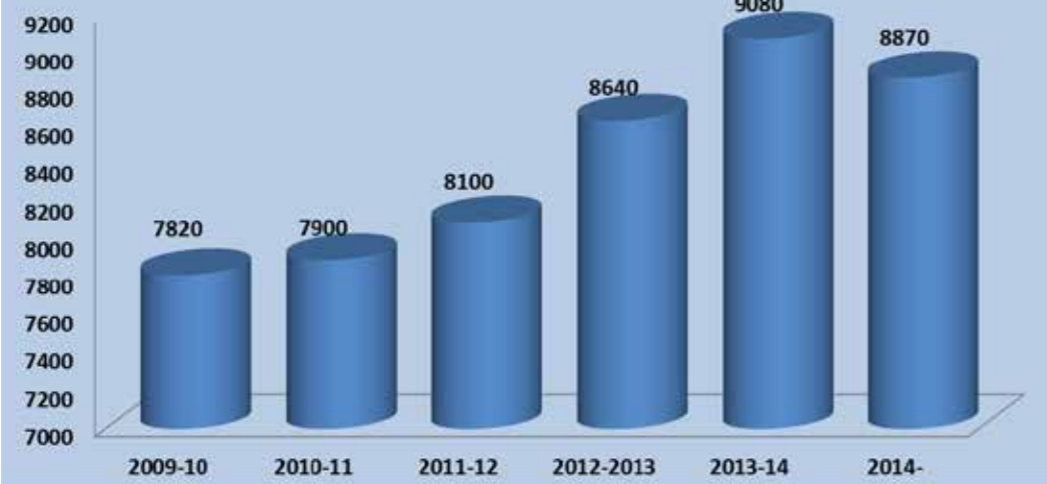


Diagram 4B

NUMBER OF PATIENTS ATTENDED OUTPATIENT CLINICS

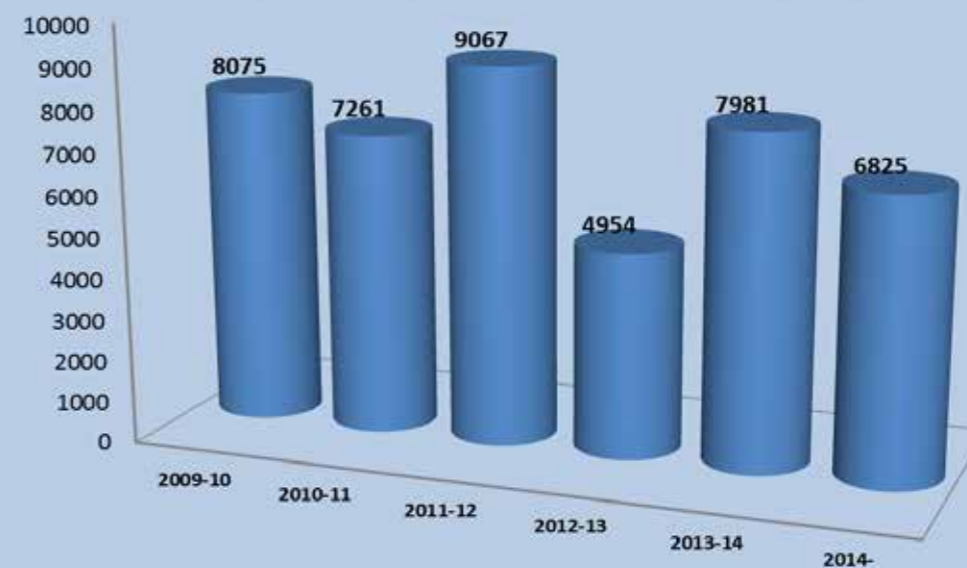


Diagram 5B

Diagrams 4A-4B: Patients examined in the Emergency Department of Orthopaedics/Year, between the years 2000-2009 (4A), and during the last 5 years, i.e. 2009-2014 (4B).

Diagrams 5A-5B: Patients examined in the Outpatient Clinic/Year, between the years 2000-2009 (5A), and during the last 5 years, i.e. 2009-2014 (5B).

3.3. “Modus operandi” of departmental and clinical activities

- ✓ Operative and non-operative therapeutic choices based on the best available evidence.
- ✓ Thorough documentation of all Orthopaedic practice.
- ✓ Training based on modern techniques & up-to-date resources.
- ✓ Continuing education of all staff members and the nursing personnel.
- ✓ Applied research.
- ✓ Clinical outcomes research published in international peer-review journals.
- ✓ Continuous optimization in clinical activities through quality control and feedback.
- ✓ Collaborative and targeted translation research in fields such as arthritis, osteonecrosis, enhancement of musculoskeletal tissue healing and osteoporosis.



Fig.8A



Fig.8C

Figures 8A-D. A: Photo from the physicians’ quarters. In the background, the “K. Houliaras” library is seen. **B:** The posters of the congresses organized. **C:** The waiting area of the Orthopaedic Department. **D:** View of the Wing.



Fig.8B



Fig.8D

4. Medical Education

4.1. Medical training in Greece

Medicine has been practised in Greece since Hippocrates' time. Nowadays, the vast majority of doctors are trained locally as there is an extensive and generally well organised undergraduate and postgraduate medical training scheme. The Greek medical schools are situated in Athens, Thessalonica, Patra, Crete, Alexandroupoli, Larissa and Ioannina. Entrance to the undergraduate medical training and admission to one of the medical schools is through Pan-Hellenic examinations at the end of secondary school. These examinations are very competitive with a less than 10% chance of success.

The duration of the undergraduate medical training is six years, with three examination periods each year. During that time, it is possible to defer examinations or retake examinations in certain subjects. Clinical teaching commences in the second semester of the third year, but only for the students who have passed examinations in certain compulsory subjects such as anatomy, physiology and biochemistry. The clinical blocks span from the sixth semester up to and including the fifth year, and students are required to pass all the clinical examinations before progressing to the sixth year. During this period there are also academic lectures and relevant examinations on basic and applied sciences. In contrast, the sixth year is exclusively clinical and is similar in some ways to the House Officer year in the UK. Students spend time in General Medicine, Surgery, Obstetrics and Gynaecol-

ogy, Paediatric Medicine and Neurology posts and, after succeeding in their oral and written examinations are awarded their medical degree.

During the year after graduation, a new doctor has to work on the compulsory community service. The Ministry of Health assigns posts after taking into consideration the grade obtained by candidates for their degree, their preferences and places of origin. In general, a junior doctor will spend 12 months practicing medicine in health centres and small hospitals in rural areas – nine months in General Practice and three months in Emergency Department medicine.

The medical degree and the certificate of completion of one year in the community service enables a young doctor to apply for a position in specialist training. Waiting time varies depending on how competitive the post is, and some people wait up to a few years before starting on a rotation. The length of each rotation varies as well – for example, six years for Orthopaedic Surgery with one year spent doing General Surgery. Near the end the trainees are required to pass oral and written examinations before being awarded the title of specialist and are then free to pursue a career in private, academic or hospital medicine.

A considerable number of Greek doctors choose to continue their special training abroad as fellows in specialising medical centres around the world.

4.2. Undergraduate & Postgraduate Programmes of the Faculty of Medicine, University of Thessaly



Fig. 9A



Fig. 9B



Fig. 9C



Fig. 9D

Fig. 9A-D: A view of the School of Medicine of the University of Thessaly, as it was designed (9A) and as it is now (9B), and the University General Hospital of Larissa (9C), both of which are located in the Biopolis area, very close to the city of Larissa (9D). Photos 9B-D by G. Bontikoulis.



The Faculty of Medicine is part of the School of Health Sciences of the University of Thessaly and is dedicated to educating and training undergraduate and postgraduate students to be outstanding physicians and specialists in the life sciences, thoroughly prepared to meet the world's medical needs. It seeks to attract students of the highest academic calibre who have been educated on volunteerism, altruism, and a genuine desire to help those in need.

The primary educational goals are to teach students to provide outstanding medical care and to be well-prepared for further training and lifelong career development. This education is based upon a solid foundation in the basic sciences, extensive and systematic hands-on clinical training, the principles of evidence-based medicine, and integration of basic science and clinical medicine throughout the curriculum. Special effort is made to prepare students in a way they will develop the necessary skills to continually update their knowledge and healthcare delivery to patients after graduation, and also to prepare them for careers in clinical medicine, medical education and medical research. Thus, graduates are well-prepared to pursue residency training.

The pedagogical approach adopted by the faculty includes:

- traditional classroom-based instruction;
- hands-on practical training, possibly in a laboratory or in the clinics;
- observation and hands-on participation in surgical procedures;

- Hands-on practice in the emergency room; and
- elementary microsurgical training.

Since 1996, when the first circle of the undergraduate programme was completed, and the first graduates-physicians obtained their diploma, the Medical School of the University of Thessaly has yielded more than 560 new physicians to the medical workforce of Greece, most of whom were specialized in Greece, in EU countries and the USA. Today, they staff the Hellenic NHS personnel or work in the private sector. Up to now in the undergraduate programme 1300 students have been enrolled, however, with the decision of the Hellenic Minister of Education from the beginning of the academic year 2008-2009 the number of the students who are enrolled after Panhellenic examinations comes up to 100, who will be attending the medical undergraduate course yearly. It is of importance that the School of Health Sciences of the University of Thessaly is ranked fourth in students' preferences after those for the Universities of Athens, Thessaloniki and Patra.

In 2014 there was a study evaluating the research output of all medical schools of the country for a 9-year-period ending in 2010, where the Medical School of the University of Thessaly was found to be ranked 4th in excellence after the medical schools of Crete, Ioannina and Athens. This indicates its great progress considering that it is the "youngest" school in the country, with the lowest number of faculty and a university hospital that has been operating only since 2000.



Fig.10A



Fig. 10B

Figures 10A-B. Photos from the inauguration of the premises of the Faculty of Medicine, School of Health Sciences, University of Thessaly: **A.** The ex-Dean of the School, Professor K.N. Malizos, **B.** The central auditorium "Hippocrates" during the inauguration ceremony of the Medical School buildings.

4.2.1. Undergraduate Level Tutorials

(1) 4th year medical students are trained in Orthopaedic Surgery for 2 semesters. Musculoskeletal Trauma is covered in the 1st semester (14 weeks: 45 teaching hours), and Musculoskeletal Disorders and Pathology in the 2nd semester of the academic year.

(2) Medical students are offered 3 elective classes:
- Sports Medicine
(Th. Karachalios, M. Hantes)
- Microsurgery
(Z. Dailiana, S. Varitimidis, K.N. Malizos)
- Biomechanics of the Musculoskeletal System and Joint function
(Th. Karachalios)

4.2.2. Postgraduate Teaching and Tutoring activities

(1) The faculty is actively participating in the teaching programme of 2 postgraduate courses (at Master's level) in collaboration with the

a. Physical Education School:
"Exercise and Health"

b. Basic Sciences Department:
"Molecular basis of disease"

(2) Postgraduate physicians and graduates from Biomedical Sciences may develop PhD research activity with minimum duration of 4 years in collaboration with Basic Sciences and clinical/diagnostic labs as well as with the Department of Engineering of the Polytechnic School and the Institute of Biomedical Research and Technology/CERETETH.

(3) Residents training in Orthopaedics are also offered 2 additional semesters (*as electives*) in:

- Sports Injuries
- Pediatric Orthopaedics
- Hand Surgery and Microsurgery

(4) Residents, fellows and faculty participate in:

- weekly instructional courses program
- journal clubs
- Visiting Professorship scientific meetings (3-4 yearly)
- 2 annual Symposia (national and international), yearly.

4.3. Post - Residency Training

4.3.1. Fellowships

There are numerous demands and requirements placed upon physicians today - for certification, licensure, accreditation, and development of special skills. "Fellowship" is a concept which is based on the collaboration across boards, societies, health plans, institutions and states to get the majority of reporting bodies' requirements aligned.

4.3.1.1. Fellowship scheme and training programme in collaboration with centres in Europe and the USA

We give incentives to those residents who have completed or are about to complete their training at the Department of Orthopaedic Surgery of the University of Thessaly by offering them the opportunity to pursue their high educational goals becoming fellows, either clinical or research, at top-level Universities of Europe and the United States. The clinical and research fellows seek to develop their expertise in areas of recognized practice within the orthopaedic specialty and its subspecialties with the ultimate goal of obtaining best skills through international learning and

information sharing. It is expected that our country will benefit from the broadened knowledge they will have acquired upon completion of the fellowship and return to Greece. Moreover, the theoretical and practical knowledge training in the specialised centres will be beneficial to their scientific and professional, as well as their personal development. The fellows are offered the unique opportunity to act in an international arena and exchange knowledge and experiences in established networks, which opens up new horizons, enhances their perception and contributes



to their maturation both as scientists and as individuals.

The ultimate aim of the concept of fellowship is to enhance innovative thinking and promote patient health care outcomes to standards approved by the international community of the Or-

thopaedic field.

The Universities that have accepted our residents and registrars who have completed or are currently attending a fellowship programme abroad, are the following (15):

1. Department of Orthopaedic Surgery, Keck School of Medicine, University of Southern California LAC + USC Medical Center, Los Angeles, CA
Ioannis Gelalis, MD
Vasilios Zachos, MD
Nikolaos Rigopoulos, MD
Lazaros Poultsides, MD [in two rotations]
Efthymios Papasoulis, MD
Apostolos Lagaras, MD
Sofia Bougioukli, MD
2. Duke University Medical Centre, Division of Orthopaedic Surgery, Durham, NC, USA
Apostolos Dimitroulias, MD
Nikolaos Rigopoulos, MD
Loukia Papatheodorou, MD
3. Pennsylvania State University, Ms Hersey Medical Center, PA, USA
Aristidis Zibis, MD
4. Allegheny General Hospital, Department of Orthopaedic Surgery, Pittsburgh, PA, USA
Konstantinos Bargiotas, MD
Apostolos Dimitroulias, MD
Aaron Venouziou, MD
Loukia Papatheodorou, MD
5. Department of Shoulder and Elbow surgery, ST. Joseph Hospital, Kupferdreh, Essen, Germany
Athanasios Papachristos, MD
6. Orthopaedic Research Foundation of Southern Illinois, Mount Vernon, Illinois, USA
Athanasios Papachristos, MD
7. Institut de l'Appareil Locomoteur Nolle, Paris, France
George Basdekis, MD
8. CCST Orthopaedic Surgery, Royal Surrey & Frimley Park Hospitals Oxford University, UK
Nikolaos Gougoulis, MD
9. Heart of England, NHS Foundation Trust, Birmingham, UK
Nikolaos Roidis, MD
10. Hospital for Special Surgery – Cornell University, New York, USA
Lazaros Poultsides, MD
11. Spine Unit, Orthopaedic Department, University of Magdeburg, Magdeburg, Germany
Sotirios Michalitsis, MD
12. Orthopaedic Department of Joint Reconstruction surgery, Sahlgrenska University Hospital, Göteborg, Sweden
Nikolaos Karamanis, MD
13. The Pulvertaft Hand Centre, Derby, UK
Petros Mikalef, MD
14. Klinikum Dortmund, Department of Spine Surgery, University of Münster, Dortmund, Germany
Katerina Veloni, MD
15. Department of Bioengineering at the University of California Davis, USA
Eleftherios Makris, MD

4.3.1.2. Travelling Fellowship experience

Konstantinos Malizos, Professor and Chairman:

Scholarship "A. Kavvadias" from the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST) as International Travelling Fellow of the American Orthopaedic Association (AOA), during which he gave lectures at 16 Universities in the USA (a 8-week course, summer 1997).

Theofilos Karachalios, Professor:

Scholarship "A. Kavvadias" from the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST) as International Travelling Fellow of the American Orthopaedic Association (AOA), during which he gave lectures at 12 Universities in the USA (a 8-week course, 1995).

Zoe Dailiana, Associate Professor:

Scholarship from the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST) which included a travelling fellowship programme with practical experience in the USA (a 6-week course, 2008).

Michael Hantes, Associate Professor:

Scholarship from the European Society of Arthroscopy which included a travelling fellowship programme with practical experience in hospitals in the following countries: Australia, New Zealand, Thailand, Hong Kong, Korea (a 5-week course, 2006).

Vasileios Kontogeorgakos, Lecturer:

International Hand Travelling Fellowship Scholarship awarded by the American Association for Surgery of the Hand (A.A.S.H.)

Lazaros Poultsides, Orthopaedic surgeon:

Scholarship from the European Bone & Joint Infection Society (EBJIS), which included a Travelling Fellowship programme with practical experience in the area of Bone & Joint Infections (a 2-week course, 2009)

Efthymios Papasoulis, Orthopaedic surgeon:

Scholarship from the European Bone & Joint Infection Society (EBJIS), which included a Travelling Fellowship programme with practical experience in the area of Bone & Joint Infections (a 2-week course, 2011)

Apostolos Lagaras, Orthopaedic surgeon:

Scholarship from the European Bone & Joint Infection Society (EBJIS), which included a Travelling Fellowship programme with practical experience in the area of Bone & Joint Infections (a 2-week course, 2012)

Marianthi Papanagiotou, Resident in Orthopaedics:

Scholarship from the European Bone & Joint Infection Society (EBJIS), which included a Travelling Fellowship programme with practical experience in the area of Bone & Joint Infections (a 2-week course, 2012).

Ioannis Antoniou, Resident in Orthopaedics:

FESSH (Federation of the European Societies for Surgery of the Hand) Travel Award, which included a travelling fellowship programme with practical experience in Hand Surgery (a three-week course, 2013).

4.3.1.2.1. ESSKA – APKASS DJO Travelling Fellowship 2014

The Orthopaedic Department of the University of Thessaly as official teaching center of ESSKA (European Society of Sports Traumatology Knee Surgery and Arthroscopy) hosted the ESSKA – APKASS DJO Travelling Fellowship 2014

through organizing a scientific event with lectures given by exceptional visiting scholars, who were invited to educate the audience on certain topics in the area of Knee Surgery – Sports Injuries. The meeting took place on May 12, 2014 in



the small Auditorium I in the premises of the School of Medicine, University of Thessaly. Exchange of current trends in the field of Knee Surgery was an invaluable experience for all of the attendants of the meeting, i.e. faculty members, specialized Orthopaedic Surgeons from our Department and Central Greece, residents in Orthopaedic Surgery, medical students, as well as physicians of other specialties, since the fellows are internationally acknowledged to expertise in this

particular field. The Travelling Fellows came from Australia, Japan, and Taiwan:

1. **Julian Ashley Feller, F.R.A.C.S. (Australia)** – Godfather - OrthoSport Victoria, Epworth HealthCare
2. **Atsuo Nakamae, MD (Japan)** – Fellow - Hiroshima University Hospital
3. **Jia-Lin Wu, MD (Taiwan, Republic of China)** – Fellow - Taipei Medical University Hospital
4. **Brett Andrew Fritsch, MD (Australia)** – Fellow - North Shore Knee Clinic



Fig. 11A



Fig. 11B

Fig. 11A-B: Photos from ESSKA Travelling Fellows' visit (May 2014).

4.3.1.3. Fellowship programme at the Orthopaedic Department open to applicants

For the rationale explained above, the Department of Orthopaedic Surgery and M/Sk Trauma of the University of Thessaly offers a series of such programmes for applicants from Greece or abroad. Fellows' education has been designed to be mostly clinical and hands-on, promoting in that way learning by "seeing and doing". The teaching environment is supportive, and the trainees work side-by-side with faculty and senior residents, who are willing to help them develop their skills. The fellows may optionally have a stipend, complemented by other benefits such as accreditation, instruction, work experience, food and/or accommodation.

Fellows have to attend Orthopaedic Grand Rounds and all the departmental educational

sessions. They are involved in a day-to-day ward rounds, clinics, operating rooms in patient-related experiences and they may represent the Department at national meetings. They are expected to be involved in at least one publication while in the fellowship.

The doctors who were accepted and completed a course of the fellowship at our Department are the following: **V. Zachos, N. Rigopoulos, L. Poultsides, L. Papatheodorou, D. Paridis, M. Papanagiotou, K. Veloni, Ippolyti Papakostidou** (from the Military Nursing School), **Eleftherios Makris, Sofia Bougioukli, Georgios Komnos**, while **Konstantina Kolonia, Anna Ziogou**, and **Ioannis Babis** are currently working in the programme.

4.3.1.3.1. Hand fellowship programme (Ortho-UTH: an official training centre of the Federation of European Societies for Surgery of the Hand (FESSH))

At the Unit of Hand and Upper Extremity Surgery and Microsurgery training opportunities are offered to residents in the last year of their residency in Orthopaedics or Plastic Surgery, while a fellowship is offered to Orthopaedic or Plastic surgeons who have selected to specialize in this field. Fellows are required to actively participate in the clinical activities, outpatient clinics, operating room sessions (3-4 days/week). They are also trained in the use of local and regional

anaesthesia techniques and in the application of ultrasound for the diagnosis of musculoskeletal upper extremity problems. They are also required to complete a research protocol, a review study, or a clinical study. The Department of Orthopaedic Surgery of University of Thessaly has been accredited to act as an official training center for Hand Trauma by the Federation of European Societies for Surgery of the Hand (FESSH).

4.4. Continuing Medical Education (CME) programmes

The attending surgeons at our Orthopaedic Surgery Department are fully certified and continuously update the necessary competencies to provide quality patient care. We are in line with the notion that all certified physicians be lifelong learners to keep track of the rapid advances in medical science occurring over a professional lifetime.

Therefore, a series of courses, seminars and symposia have been organized, aiming to enhance the specialists' and especially the residents' awareness of the current advancements in the field of Orthopaedic Surgery. This programme is strongly supported by the Orthopaedic surgeons who serve in the region of Thessalia and Central Greece. Each activity is cited below in more detail:

4.4.1 Weekly Academic Education and Training programmes

To demonstrate the relationship between learning and implementation of acquired knowledge and skills in clinical practices, we have established a program of educational conferences, which takes place every Monday. It comprises of 'learning from each other' breakout sessions to maintain up-to-date knowledge on the challenging issues faced with in everyday clinical prac-

tice. The sessions are held at the "K. Houliaras" University Library (Tower B, 3rd floor). Challenging cases are presented in a teaching format so that discussions about the diagnostic and management approaches are initiated as well as the decision-making processes are facilitated.

These conferences are a way to perform needs assessment, which is fulfilled by observations of

actual performance of the residents-trainees when seeing cases unusual in nature, worthy of discussion and thus, of high educational value.

Practice performance assessment, in this way, helps each new physician to define more clearly and enlarge the scope of self-assessment.

4.4.2. Visiting Professorship programme

The Department of Orthopaedic Surgery & Musculoskeletal Trauma of the University of Thessaly has been supporting international education through its International Visiting Professor Programme since 1998. Since its introduction, and as an integral part of our teaching programme, the Visiting Professorship concept has been valued, with internationally-acknowledged professors and scholars invited to contribute to and enrich the local community's intellectual and

research endeavours. Hosting the exceptional visiting scholar we expect from him or her (a) to deliver formal lectures or a faculty seminar, and (b) to engage in formal or informal discussions with the faculty, the residents, and graduate or undergraduate students. In this way, the Visiting Professor participates in a range of local institutional activities, promotes international projection, and opens up the possibility of undertaking collaborate research with our faculty.

ΕΠΙΣΚΕΠΤΕΣ ΚΑΘΗΓΗΤΕΣ				
MICHAEL J. PATZAKIS, M.D. PROFESSOR AND CHAIRMAN University of Southern California 17 & 18/9/1998	DEAN G. SOTEREANOS, M.D. ASSOCIATE PROFESSOR University of Pittsburgh 18-4-2001	LANE E. SHEPHERD, M.D. AS. PROFESSOR OF ORTHOPAEDIC SURGERY University of Southern California 31/05/2001	Rena Bizios, M.D. Professor Rensselaer Polytechnic Institute 09/06/2001	HARILAOS SAKELLARIDES ASSOCIATE PROFESSOR BOSTON UNIVERSITY 15-10-2001
ΓΕΩΡΓΙΟΣ ΧΑΡΤΟΦΥΛΑΚΙΔΗΣ ΟΜΟΤΙΜΟΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝ/ΜΙΟΥ ΑΘΗΝΩΝ 17 ΚΑΙ 18/10/2001	ΘΕΟΔΩΡΟΣ ΞΕΝΑΚΗΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΙΩΑΝΝΙΝΩΝ 18/11/2001	Mr Partha Sarangi, M.D., FRCS Consultant Orthopaedic Surgeon Bristol U.K.	ΑΛΕΞΑΝΔΡΟΣ ΜΠΕΡΗΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΙΩΑΝΝΙΝΩΝ 21/2/2002	ΑΛΕΞΑΝΔΡΟΣ ΧΑΤΖΗΠΑΥΛΟΥ ΚΑΘΗΓΗΤΗΣ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΚΡΗΤΗΣ 21/3/2002
ΠΑΝΑΓΙΩΤΗΣ Ν. ΣΟΥΚΑΚΟΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΙΩΑΝΝΙΝΩΝ 13/4/2002	ΓΕΩΡΓΙΟΣ ΛΥΡΙΤΗΣ ΑΝΑΡΧΑΡΩΤΗΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΑΘΗΝΩΝ 18/12/2002	ΠΑΝΑΓΙΩΤΗΣ ΣΥΜΕΩΝΙΔΗΣ ΟΜΟΤΙΜΟΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝ/ΜΙΟΥ ΒΕΣ/ΝΙΚΗΣ ΑΝΤΕΠΙΣΤΗΛΩΝ ΜΕΛΟΣ ΑΚΑΔΗΜΙΑΣ ΑΘΗΝΩΝ 14 & 15/1/2003	JAMES R. URBANIAK, M.D. VIRGINIA FLOWERS BAKER PROFESSOR VICE CHAIRMAN DEPARTMENT OF SURGERY Duke University Medical Center 29 & 21/1/2003	ΗΛΙΑΣ ΛΑΜΠΙΡΗΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΠΑΤΡΩΝ 18/12/2003
ΙΩΑΝΝΗΣ ΠΟΥΡΝΑΡΑΣ ΚΑΘΗΓΗΤΗΣ ΠΑΝ/ΜΙΟΥ ΒΕΣ/ΝΙΚΗΣ 15/1/2004	P. HOLTOM ASS. PROFESSOR University of Southern California 24-25/5/2004	ANDREAS EISENSCHENK PROFESSOR OF ORTHOPAEDICS University of Berlin 18/11/2004	MILAN V. STEVANOVIC, M.D. PROFESSOR OF ORTHOPAEDIC SURGERY University of Southern California 8-7/4/2005	ΛΥΚΟΥΡΓΟΣ ΔΙΑΡΟΠΟΥΛΟΣ ΚΑΘΗΓΗΤΗΣ ΟΡΘΟΠΑΔΕΣ ΥΠΟΡΡΕΙΩΝ ΥΓΕΙΑΣ ΤΜΗΜΑ ΑΝΟΜΑΤΙΚΩΝ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΑΘΗΝΩΝ 14/4/2005
ROBERT W. BUCHOLZ, M.D. PROFESSOR AND CHAIRMAN University of Texas Southwestern Medical Center 9/5/2005	MARYBETH EZAKI, M.D. ASSOCIATE PROFESSOR University of Texas Southwestern Medical Center 9/5/2005	PASCAL S. CHRISTEL, M.D. PROFESSOR OF ORTHOPAEDIC SURGERY Institut de l'Appareil Locomoteur 27/9/2005	DAVID B. THORDARSON, M.D. PROFESSOR AND VICE CHAIR University of Southern California 11/10/2005	CARLO ROMANO, MD ORTHOPAEDIC SURGEON Istit.ale. Ortopedico. Gaetano Pini 20/10/2005
John Minoru ITAMURA	James BINSKI	Panayotis MEGAS	Peter BRÜSER	Alastair Mitchell BUCHAN
Frank BURKE	Enzo MEANI	Susan M. STEELE	Karen NILSEN	Panayotis KOROVESIS
Pavlos KATONIS	Anastasios CHRISTODOULOU	Georgios KAPETANOS	Minos TYLLIANAKIS	Panayotis DIMAKOPOULOS

Fig. 12: The names of some of the Professors who have visited the Department engraved on plates in "K. Houliaras" University Library.

Below the names of the Visiting Professors who have visited the Department of Orthopaedic Surgery & M/Sk Trauma of the University of Thessaly are listed by country of origin and year of presentation:

U.S.A.

Michael J. PATZAKIS (Oct. 1998)

Professor, Department of Orthopaedic Surgery, Keck School of Medicine, University of Southern California, LAC+USC Medical Center, Los Angeles, CA

Dean G. SOTEREANOS (Apr. 2001)

Professor of Orthopaedic Surgery, Drexel University College of Medicine, Co-Director of the Hand Surgery Fellowship, Allegheny General Hospital Pittsburgh, PA

Lane E. SHEPHERD (May 2001)

Professor of Orthopaedic Surgery, Department of Orthopaedics, Keck School of Medicine, LAC+USC Medical Center, University of Southern California, Los Angeles, CA

Rena BIZIOS (Jun. 2001)

Professor of Biomedical Engineering, Department of Biomedical Engineering, UTSA College of Engineering, University of Texas, San Antonio, TX

Harilaos T. SAKELLARIDES (Oct. 2001)

Associate Professor of Orthopaedic Surgery, Boston University School of Medicine, Boston, MA

Susan M. STEELE (Aug. 2002)

Associate Professor of Anesthesiology, Duke University Department of Anesthesiology, Division of Ambulatory Anesthesia, Durham, NC

James R. URBANIAK (Nov. 2003)

Professor of Orthopaedic Surgery, Duke University Medical Center, Durham, NC

Karen NILSEN (Nov. 2003)

Assistant Professor of Anesthesiology, Duke University Department of Anesthesiology, Division of Ambulatory Anesthesia, Durham, NC, USA

Paul HOLTOM (May 2003) (International Symposium on Infection)

Associate Professor of Medicine and Orthopedics, Department of Medicine, Keck School of Medicine, University of Southern California, LAC+USC Medical Center, Los Angeles, CA

Milan V. STEVANOVIC (Apr. 2005)

Professor of Orthopedics and Surgery, University of Southern California, Keck School of Medicine, Los Angeles County Medical Center, CA

Robert W. BUCHOLZ (May 2005)

Professor and Chairman, Department of Orthopaedic Surgery, University of Texas Southwestern Medical Center, Dallas, TX
President of the American Academy of Orthopaedic Surgeons (AAOS) 2004-2005

Marybeth EZAKI (May 2005)

Associate Professor, Department of Orthopaedic Surgery, Southwestern Medical Center, University of Texas, Dallas, TX

David B. THORDARSON (Oct. 2005)

Professor and Vice Chair, Department of Orthopaedic Surgery, Keck School of Medicine, University of Southern California, LAC+USC Medical Center, Los Angeles, CA

John Minoru ITAMURA (Jun. 2006)

Associate Professor, Department of Orthopaedic Surgery, Keck School of Medicine, University of Southern California, LAC+USC Medical Center, Los Angeles, CA

James BINSKI (Dec. 2007)

Associate Professor of Orthopaedic Surgery, Boonshoft School of Medicine, Wright State University, Director, Midwest Center of Ilizarov Limb Reconstruction Dayton, OH

Charalampos G. ZALAVRAS (April 2009 & April 2012)

Professor of Clinical Orthopaedics, Department of Orthopaedic Surgery, University of Southern California Keck School of Medicine, LAC+USC Medical Center, Los Angeles, CA



James D. HECKMAN (*June 2009*)
MD, Editor and Chairman,
Board of Editors, Journal of Bone and Joint Surgery [Am]

Robert FITCH (*Sept. 2009*)
Professor of Orthopaedics, Duke University,
Durham, NC

Maria TSOKOS (*March 2010*)
Division of pediatric tumor biology and Ultrastructural Pathology,
National Cancer Institute, NIH, Bethesda, Maryland

Ken YAMAGUCHI (*June 2010*)
Professor, Chief of the Shoulder and Elbow Service,
Washington University School of Medicine, St. Louis, MO

Kyriacos A. ATHANASIOU (*Sept. 2012*)
Professor of Biomedical Engineering and Orthopaedic Surgery,
University of California, Davis, CA

Jerry C. HU (*Sept. 2012*)
Assistant Professor of Biomedical Engineering,
University of California, Davis, CA

Brian BRIGMAN (*Oct. 2012*)
Associate Professor of Orthopaedic Surgery & Pediatrics,
Duke University School of Medicine, Durham, NC

Robert GORAB (*Sept. 2014*)
Associate Professor,
University of California, Irvine Department of Orthopaedic Surgery, CA
Chairman, Department of Orthopaedic Surgery
St Joseph Hospital, Orange, CA
Chief Medical Officer, Hoag Orthopedic Institute
Irvine, CA

GERMANY

Andreas EISENSCHENK (*Nov. 2004*)
Professor of Orthopaedic Surgery,
Department of Hand, Replantation, and Microsurgery, Unfallkrankenhaus Berlin,
Academic School of Free University of Berlin, Berlin

Peter BRÜSER (*May 2006*)
Professor of Hand and Plastic Surgery,
University of Cologne, Cologne

Christof WAGNER (*March 2011 & April 2013*)
Professor of Orthopaedics,
Department of Trauma & Orthopaedic Surgery
BG Trauma Center Ludwigshafen,
Clinic for Trauma Surgery at Heidelberg University Hospital,
Ludwigshafen & Ingolstadt Clinic, Germany

AUSTRIA

Martin KRISMER (*Dec. 2012*)
Professor, Department of Orthopaedics, University of Innsbruck, Austria

U.K.

Mr Partha SARANGI (*Nov. 2002 & Jan. 2014*)
Consultant Orthopaedic Surgeon,
University Dept. of Orthopaedic Surgery,
Bristol Royal Infirmary and the Avon Orthopaedic Centre, Bristol

Alastair Mitchell BUCHAN (*Nov. 2007*)
Professor, NIHR Biomedical Research Centre,
Nuffield Department of Clinical Medicine, University of Oxford, Headington, Oxford

Frank BURKE (*Sept. 2008*)
Professor of Hand Surgery,
Pulvertaft Hand Centre, Derby

Robert GRIMER (*March 2010*)
Consultant Orthopaedic Oncologist & Reader in Orthopaedic Surgery,
University of Birmingham & The Royal Orthopaedic Hospital, Birmingham

S. ABUDU (*March 2010*)
Consultant Orthopaedic Oncologist,
The Royal Orthopaedic Hospital, Birmingham

Andy WILLIAMS (*Feb 2015*)
Consultant Orthopaedic Surgeon, London

ITALY

Carlo ROMANÓ (*Oct. 2005*)
Professor of Orthopaedics,
Istituto Ortopedico Gaetano Pini, Milan

Enzo MEANI (*Nov. 2006*)
Professor of Orthopaedics, Director,
Centro per il Trattamento delle Complicanze settiche,
Istituto Ortopedico Gaetano Pini, Milan

Marco INNOCENTI (*Nov. 2011*)
Professor, Director Reconstructive Microsurgery Unit,
Dpt of Orthopaedics, Oncology Dpt, Careggi University Hospital, Florence

PIETRO RUGGIERI (*Nov. 2011*)
Director, IV Dpt of Orthopedics,
University of Bologna, Rizzoli Institute, Bologna

Pietro RANDELLI (*Jan. 2014*)
Professor, Orthopaedic Dept,
University of Milan, Milan

ISRAEL

Gershon VOLPIN (*March. 2015*)
Professor of Orthopaedic Surgery
Galilee Medical Faculty, Zefat, Bar-Ilan University, Israel

SWEDEN

John KÄRRHOLM (*Jan. 2010*)
Professor in Orthopaedic Surgery,
University of Göteborg, Göteborg

NORWAY

Eivind WITSØ (*Jan. 2011*)
Associate Professor,
Faculty of Medicine, Norwegian University of Science and Technology, Trondheim

Lars ENGESAETER (*April 2013*)
Professor/Consultant Orthopaedic Surgeon,
Department of Surgical Sciences, Department of Orthopaedic Surgery,
Haukeland University Hospital Bergen, Bergen

FRANCE

Pascal S. CHRISTEL (Sept. 2005 & Sept. 2007)
Professor, Department of Orthopaedic Surgery,
Institut de l'Appareil Locomoteur - Centre de Consultation Nollet, Paris

TURKEY

Kemal AKTUĞLU (Nov. 2009)
Professor of Orthopaedics,
Department of Orthopaedic Surgery,
Ege University, İzmir

SERBIA

Marko BUMBASIREVIC (Sept. 2010)
Professor of Orthopaedic Surgery & Traumatology,
Chair of Orthopaedic Surgery Department,
School of Medicine University of Belgrade, Belgrade

GREECE

Georgios CHARTOFILAKIDIS (Oct. 2001)
Professor Emeritus, Department of Orthopaedic Surgery,
University of Athens, School of Medicine, Athens

Theodoros XENAKIS (Jan. 2000 & Nov. 2001)
Professor of Orthopaedics,
University of Ioannina School of Medicine, Ioannina

Alexandros BERIS (Febr. 2002)
Professor of Orthopaedic Surgery,
University of Ioannina, School of Medicine, Ioannina

Panayotis N. SOUCACOS (Apr. 2002 & Febr. 2012)
Professor of Orthopaedic Surgery,
University of Athens, School of Medicine, Athens

Georgios LYRITIS (Sep. 1999 & Dec. 2002)
Professor of Orthopaedic Surgery,
Department of Orthopaedic Surgery, University of Athens,
School of Medicine, Athens

Panayotis SYMEONIDIS (Jan. 2003)
Professor Emeritus of Orthopaedic Surgery,
Aristotle University of Thessaloniki, Thessaloniki

Elias LAMBIRIS (Dec. 2003)
Professor of Orthopaedic Surgery,
University of Patra School of Medicine, Patra

Ioannis POURNARAS (Jan. 2004)
Professor of Orthopaedic Surgery,
Aristotle University of Thessaloniki, Thessaloniki

Georgios KAPETANOS (Dec. 2004)
Professor of Orthopaedic Surgery,
Aristotle University of Thessaloniki, Thessaloniki

Lycurgus LIAROPOULOS Professor, (April 2005)
Center for Health Services Management and Evaluation,
Department of Nursing, University of Athens, Athens

Anastasios CHRISTODOULOU Professor, (Jan. 2009)
Orthopaedic Department, Aristotle University of Thessaloniki, Thessaloniki
Pavlos KATONIS Associate Professor, (Jan. 2009)
Orthopaedic Department, University of Crete, Heraklion

Panayotis KOROVESIS Director, (Jan. 2009)
Orthopaedic Department, General Hospital of Patras, Patra

Panayiotis PAPAGGELOPOULOS Professor of Orthopaedics, (Oct. 2012)
A' Orthopaedic Department, "Attiko" Hospital,
National & Kapodestrian University of Athens, Athens

Anastasios KANELLOPOULOS Lecturer in Orthopaedics, (Dec. 2012)
National & Kapodistrian University of Athens, Athens

Alexandros VERETTAS Emeritus Professor of Orthopaedics, (April 2013)
Faculty of Medicine, Demokriteion University of Thrace, Alexandroupolis



Fig. 13:
Photo from Professor Wagner's visit
(March 2011).
Prof Malizos with
Prof Christof Wagner
and Dr Dimitra Kotsougiani.



Fig. 14:
Photos from Pro-
fessors Ruggieri &
Innocenti's visit
(Nov. 2011).



Fig. 15:
Photo from Professor
Bumbasirevic's visit
(Sept 2010) – The
Visiting Professor
with members of the
faculty of our Depart-
ment



Fig. 16:
Prof Urbaniak's
visit to Greece (Holy
Cliffs of Meteora)
(Nov. 2003).

4.4.3. Congresses – Seminars for CME

Starting from the first year of the Department's operation, a series of congresses and seminars have been organized to promote continuing education and disseminate up-to-date knowledge, with a broad range of topics having been covered so far. Special hands-on workshops were carried out under the surveillance of more than 210 acknowledged academics and specialized surgeons from all the continents who lectured and chaired the sessions. With each one of our guest speakers a warm, friendly and creative relationship has been established through an open network of educational collaborations and exchange programmes. Interactive discussions, exhibitions of medical orthopaedic products, and live-surgery sessions were additional means of communication.

Congresses Organized (since 1998):

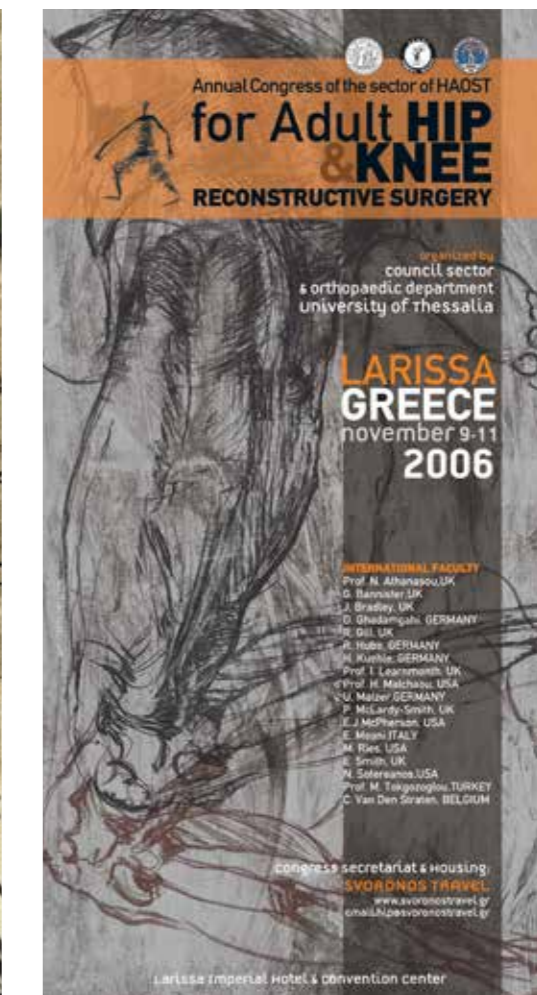
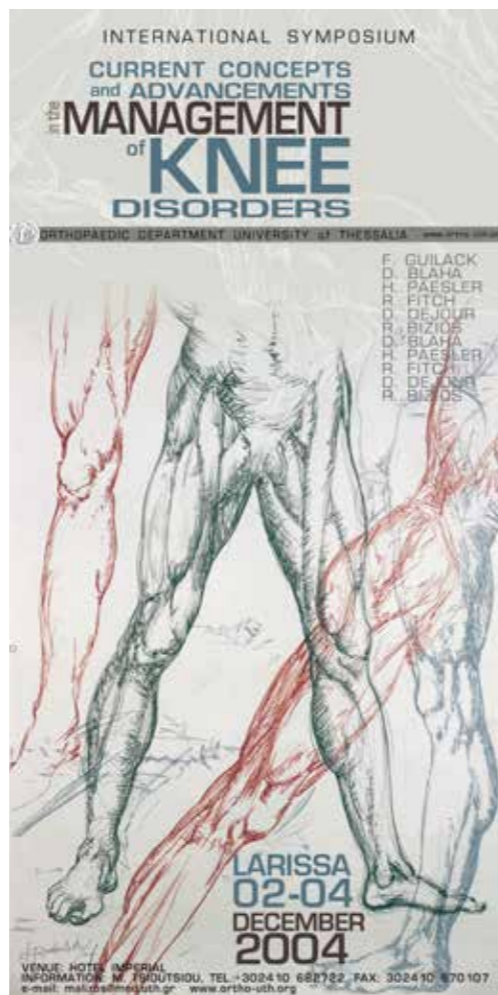
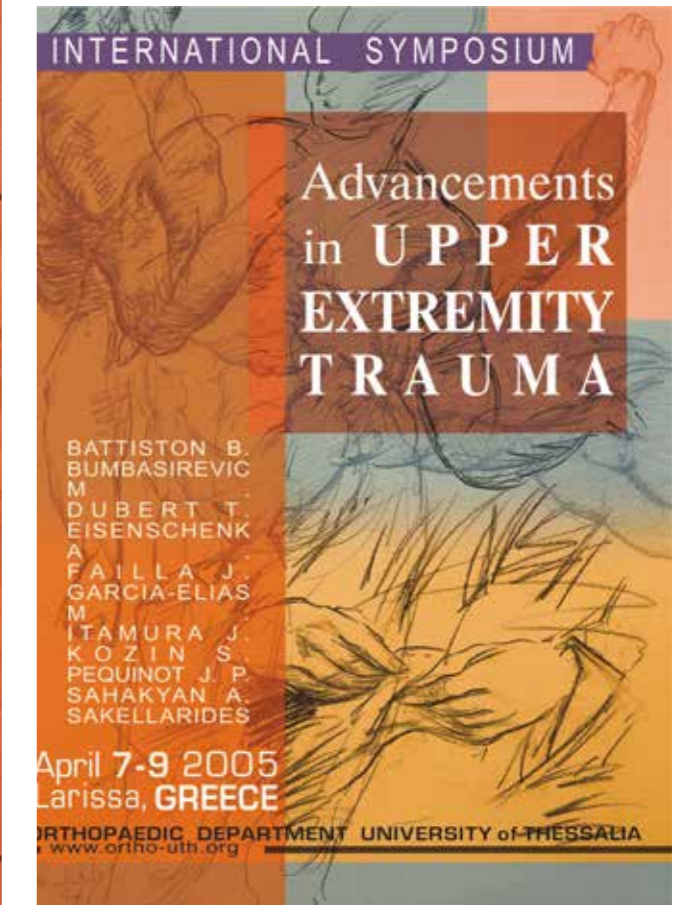
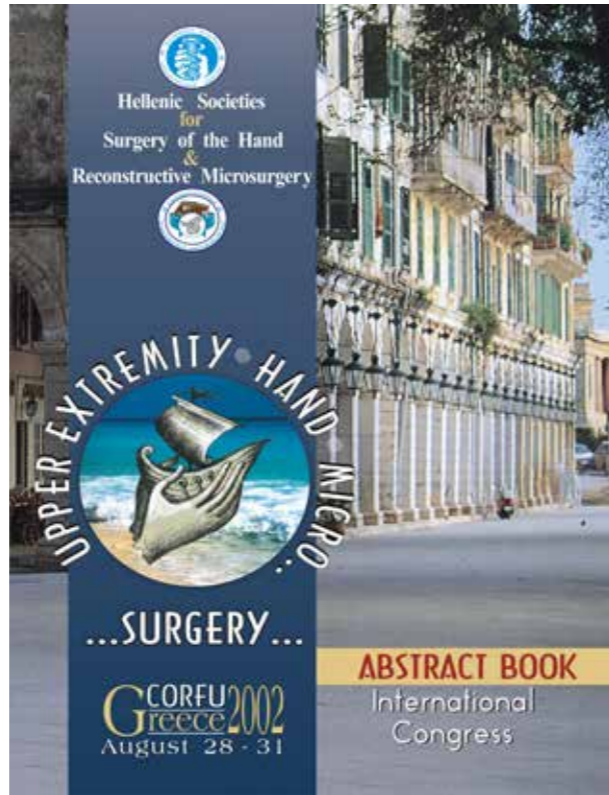
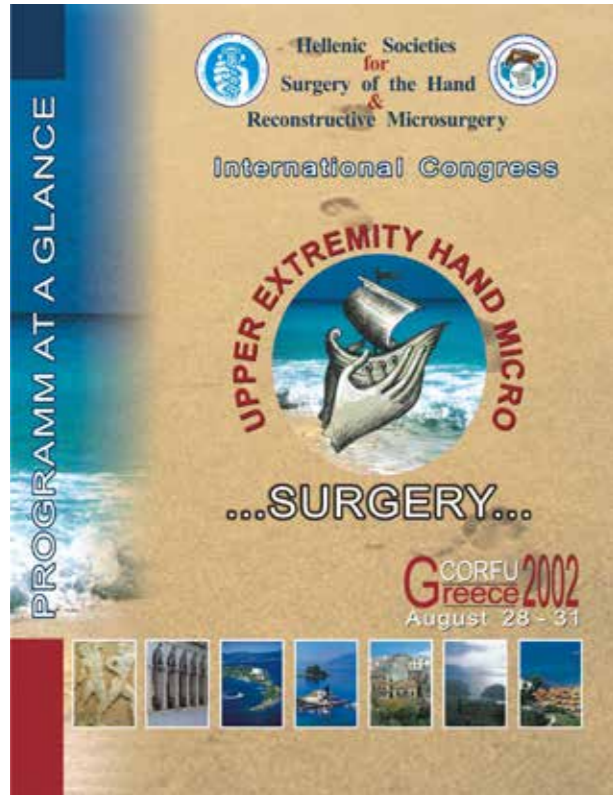
1. 4th Congress of the European Federation of Societies for Microsurgery (E.F.S.M.) & 14th Congress of the International Microsurgical Society (I.M.S.).
Corfu, Greece, 25 -29 August, 1998.
2. 3rd Review Course on Contemporary Orthopaedics and Traumatology.
Larissa, Greece, 22 January, 2000.
3. One-day session on Challenges in Fracture Treatment.
Athens, Greece, 31 March, 2001.
4. 1st Inter-University seminar on Infections of the Musculoskeletal System.
Larissa, Greece, 10 February, 2001.
5. Postgraduate course organized by the Thessaly and Sterea Hellas Peripheries.
Academic year: 2000-2001.
6. 11th Inter-University course on Osteosynthesis.
Larissa, Greece, 7-10 March, 2002.
7. International Congress on Upper Extremity & Hand Microsurgery.
Corfu, Greece, 28-31 August, 2002.
8. International Symposium on Musculoskeletal Infections.
Larissa, Greece, 15-17 May, 2003.
9. 19th Educational Seminar on Microsurgery (hands-on seminar).
(Co-Chairman: K.N. Malizos)
Ioannina, Greece, 2-6 July, 2003.
10. 1st Annual Seminar organized by the Orthopaedic Research section of the Hellenic Society for Orthopaedic Surgery and Traumatology (HAOST).
Larissa, Greece, 12-13 September, 2003.
11. International Symposium on Prevention and Treatment of Sport Injuries.
Larissa, Greece, 27-29 November, 2003.
12. 1st International Seminar on Minimally Invasive Total Hip and Knee Arthroplasty, in collaboration with the Orthopaedic Department, "Voula" Hospital, Athens.
Athens, 15-16 October, 2004.
13. International Symposium on Current Concepts in the Management of Knee Disorders.
Larissa, 2-5 December, 2004.
14. International Symposium on Advancements in the Upper Extremity Trauma.
Larissa, Greece, 7-9 April, 2005.
15. 1st Congress of the Hellenic Association for Distraction Histogenesis (ASAMI).
Larissa, Greece, 8-10 December, 2005.

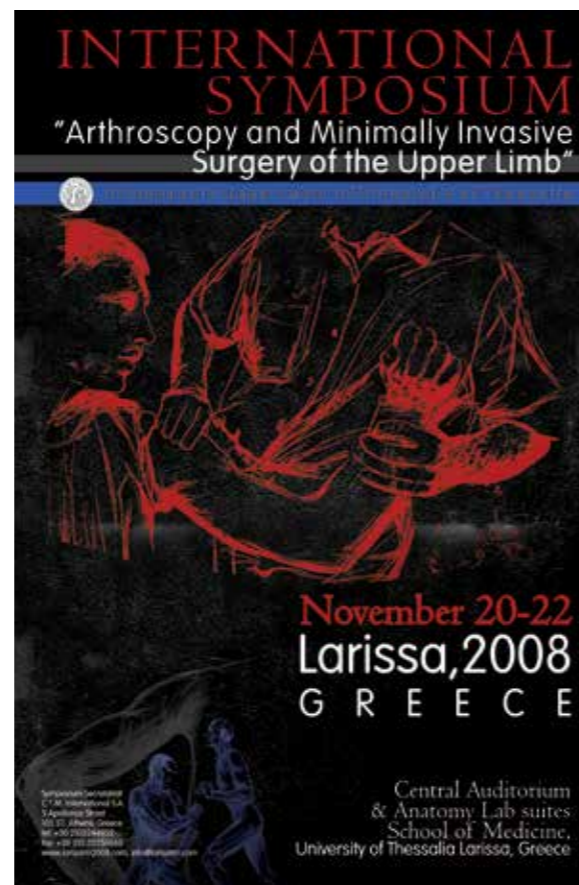
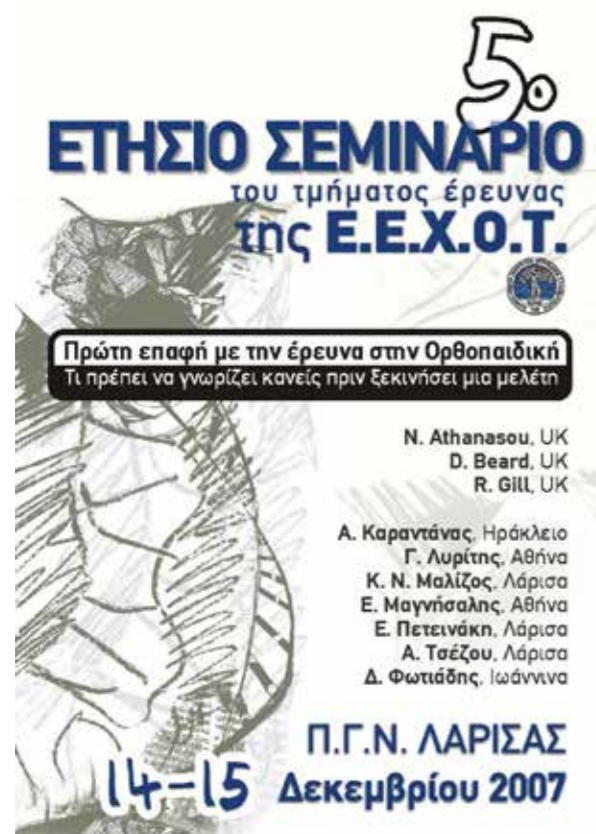
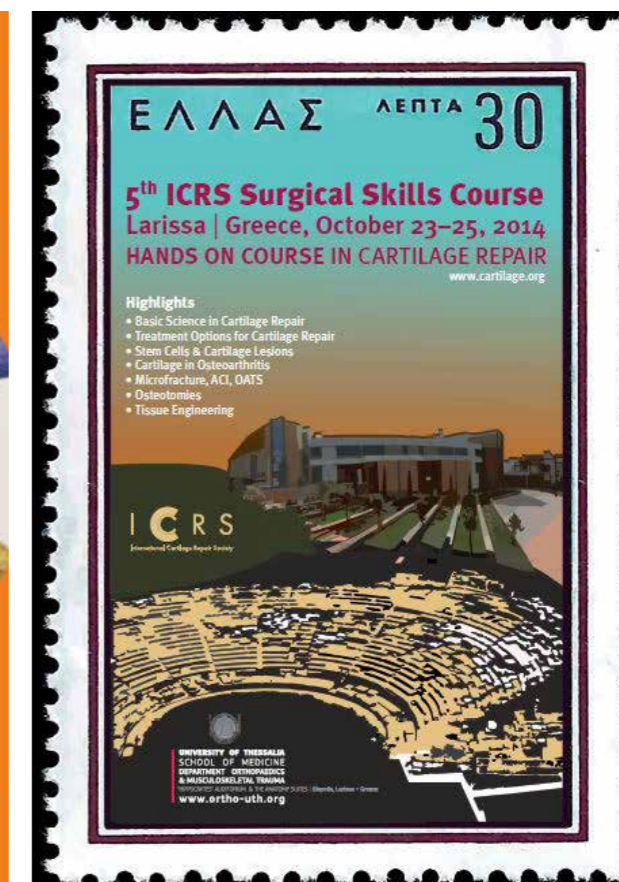
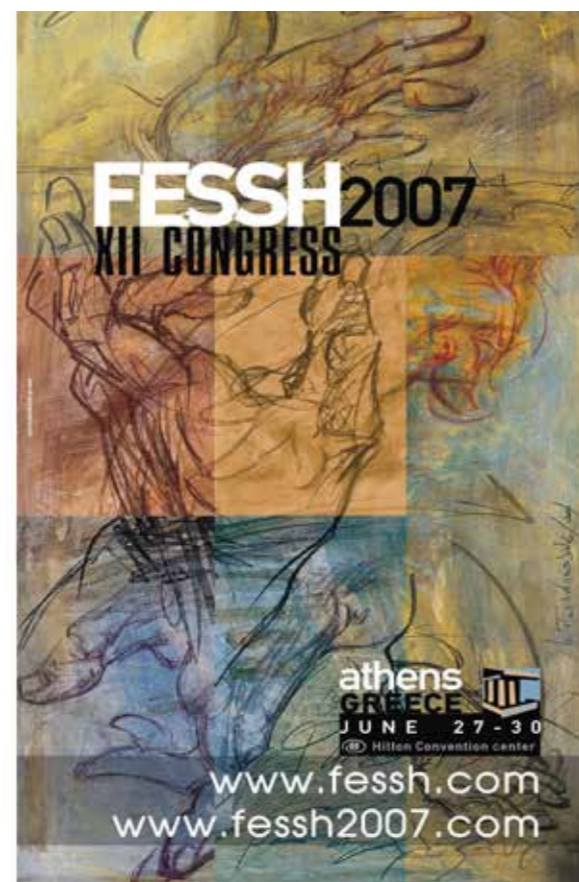


16. 12th Panhellenic Congress of Medical School Undergraduate Students. Larissa, Greece, 5-7 May 2006.
17. 1st Educational Seminar on Arthroplasty of the Knee with Minimally Invasive Techniques. Larissa, Greece, 20-21 October, 2006.
18. Annual Congress of the sector of the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST) for Adult Hip and Knee Reconstructive Surgery. Larissa, Greece, 9-11 November, 2006.
19. 12th Congress of the Federation of European Societies for Surgery of the Hand (FESSH). Athens, Greece, 27-30 June, 2007 (K.N. Malizos: Organizing Committee Chairman)
20. 14th Congress of the Hellenic Society of the Hand and Reconstructive Microsurgery. Athens, Greece, 27 June, 2007 (Z. Dailiana: Organizing Committee Chairwoman)
21. International Symposium " ...omics & Nanotechnology in Biomedicine", Larissa, November 30 – December 1, 2007.
22. 26th Congress of the European Bone and Joint Infection Society (EBJIS) Corfu, Greece, 20-22 September, 2007 (K.N. Malizos: Organizing Committee Chairman, President EBJIS 2007-2009).
23. 1st combined Seminar of the Hellenic Society for Surgery of the Hand with the Section of Foot Surgery of HAOST. Athens, Greece, 8 December, 2007.
24. 5th Annual Seminar of the Research Sector of the Hellenic Society for Orthopaedic Surgery and Traumatology (HAOST), "First steps in Orthopaedic Research: What one should know to start a research study". Larissa, Greece, 14-15 December, 2007.
25. 3rd Scientific Seminar of the Hellenic Society for the Study of the Metabolism of the Bones (EEMMO) on Histologic Reaction in Orthopaedic Implants. Portaria, Pilio, Greece, 29 February – 1 March, 2008.
26. International Symposium on Arthroscopic and Minimally Invasive Surgery of the Upper Limb. Larissa, 20-22 November, 2008.
27. 1st Hands-on Arthroscopy Course, Department of Orthopaedic Surgery & Larissa Arthroscopy & Minimally Invasive Learning Center (LAMILC), entitled "Anterior cruciate ligament reconstruction and menisci injuries / repair". Larissa, Greece, 13-15 May, 2009.
28. International Symposium on Cartilage Biology, Institute of Biomedical Research and Technology (IBET) – BIOMED. Larissa, 18-20 June, 2009.
29. 2nd Hands-on Arthroscopy Course, Department of Orthopaedic Surgery & Larissa Arthroscopy & Minimally Invasive Learning Center (LAMILC), entitled "Anterior cruciate ligament reconstruction and menisci injuries / repair". Larissa, Greece, 25-27 September, 2009.
30. 3th Hands-on Arthroscopy Course, Department of Orthopaedic Surgery & Larissa Arthroscopy & Minimally Invasive Learning Center (LAMILC), entitled "Shoulder Arthroscopy, Instability, Arthroscopy Subacromial Decompression, Distal Clavicle Resection, Rotator Cuff Repair". Larissa, Greece, 4-5 December, 2009.
31. 4th Hands-on Arthroscopy Course, Department of Orthopaedic Surgery & Larissa Arthroscopy & Minimally Invasive Learning Center (LAMILC). Larissa, Greece, 14-15 May, 2010.
32. International Symposium on Orthopaedic Infections – Current approaches. Athens, Greece, 10 September, 2010.
33. Hands-on seminar "Taylor Spatial Frame Applications", organized by the Department of Orthopaedic Surgery & Larissa Arthroscopy and Minimally Invasive Learning Center (LAMILC). Larissa, Greece, 17-18 December, 2010.
34. 5th Hands-on Arthroscopy Course organized by the Department of Orthopaedic Surgery, Department of Anatomy, University of Thessaly & Larissa Arthroscopy and Minimally Invasive Learning Center (LAMILC), entitled "Anterior cruciate ligament reconstruction and meniscal injuries/repair". Larissa, Greece, 28-29 January, 2011.
35. 6th Hands-on Arthroscopy Course organized by the Department of Orthopaedic Surgery & Larissa Arthroscopy and Minimally Invasive Learning Center (LAMILC), entitled "Shoulder Arthroscopy". Larissa, Greece, 11-12 March, 2011.
36. 2nd Taylor Spatial Frame course organized by the Department of Orthopaedic Surgery & M/SK Trauma & Larissa Arthroscopy and Minimally Invasive Learning Center (LAMILC). Larissa, Greece, March 2012.
37. 3rd Taylor Spatial Frame course organized by the Department of Orthopaedic Surgery & M/SK Trauma & Larissa Arthroscopy and Minimally Invasive Learning Center (LAMILC). Larissa, Greece, 11-12 May 2012.
38. 5th Congress of the Hellenic Society for Arthroscopic Surgery & Sports Traumatology "George Noulis", Auditorium "Hippocrates" of the Faculty of Medicine, School of Health Sciences, Biopolis, Larissa, Greece, 3-6 April 2013.
39. 69th Congress of the Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST-Greece). Athens, 2-5 October, 2013.
40. 4th Taylor Spatial Frame course organized by the Department of Orthopaedic Surgery & M/SK Trauma & Larissa Arthroscopy and Minimally Invasive Learning Center (LAMILC). Larissa, Greece, 21-22 February, 2014.
41. Hosting of ESSKA-APKASS DJO Travelling Fellowship 2014, an international exchange programme run by the European Society of Sports Traumatology, Knee Surgery & Arthroscopy (ESSKA) in collaboration with the Asia-Pacific Knee, Arthroscopy and Sports Medicine Society (APKASS). Larissa, Greece, 11-13 May, 2014.
42. Surgical Skills Course of International Cartilage Repair Society (ICRS) & LAMILC - Larissa Arthroscopy & Minimally Invasive Learning Center. Larissa 23-25 October, 2014.



Posters from the Congresses





4.4.4. Larissa MIS Arthroscopy and Training Center (LaMISATC)

The Orthopaedic Department of the University General Hospital of Larissa in collaboration with the Anatomy laboratory of the University of Thessaly since 2009 has established the Minimally Invasive and Training Center (LaMISATC) organizing seminars on a regular basis with the aim of educating young physicians in the field of Minimally Invasive Arthroscopic Surgery and Sports Medicine. Associate Professor Michael Hantes, following the relevant suggestion of Prof

Malizos, Head of the Department, is responsible for the scientific contents and the organization of those events.

Those seminars have provided more than 160 Orthopaedic Surgeons from Greece, Cyprus, and all over the world with the unique opportunity to acquire further knowledge and improve their skills on state-of-the-art arthroscopic techniques and enhance their theoretical background in Sports Medicine, having the following features:

- A 2-day intensive seminar
- Limited number of participants (10-12)
- Attendance of live surgery operations
- Analytic approach-oriented lectures on various techniques
- Clinical practice on cadaveric workshops
- Two trainees per cadaveric station with one trainer-instructor.

Each seminar handles a specific training unit in order that the trainee could acquire detailed knowledge on the field of his/her training. The units (and the educational programme) instructed are:

- Knee 1:** Anterior Cruciate Ligament & Menisci
- Knee 2:** Posterior Cruciate Ligament and Posterolateral Corner
- Knee 3:** Patella Instability and Cartilage Lesions
- Shoulder:** Shoulder Instability and Rotator Cuff Lesion
- Ankle:** Cartilage Lesions, Arthroscopic Management
- Elbow-Hand & Wrist:** Arthroscopy and Minimally Invasive Surgery
- MIS Joint Replacement**



The seminar takes place in the premises of the University Hospital of Larissa and those of the School of Health Sciences of the University of Thessaly. More specifically:

- The lectures are held at the university library "K. Houliaras" of the University Hospital of Larissa (Tower B, 3rd level).
- The hands-on cadaveric workshops take place at the anatomy lab of the Medical School (Wing B, 2nd level).
- The live surgery takes place at the operative suites of the University General Hospital of Larissa.

The following scientific meetings have been organized so far:

- International Congress entitled: "Arthroscopy and Minimally Invasive Surgery of the Upper Limb", November 2008
- 1st seminar "Arthroscopy and Minimally Invasive Surgery", March 2009
- 2nd seminar "Arthroscopy and Minimally Invasive Surgery", September 2009
- 3rd seminar "Arthroscopy and Minimally Invasive Surgery", December 2009
- 4th seminar "Arthroscopy and Minimally Invasive Surgery", May 2010
- 1st Taylor Spatial Frame Applications course: December 2010
- 5th seminar "Arthroscopy and Minimally Invasive Surgery", January 2011
- 6th seminar "Arthroscopy and Minimally Invasive Surgery", 11-12 March 2011
- 2nd Taylor Spatial Frame Applications course: March 2012
- 3rd Taylor Spatial Frame Applications course: May 2012
- 5th Congress of the Greek Arthroscopic Society: April 2013
- 4th Taylor Spatial Frame Applications course: February 2014
- 5th International Cartilage Repair Society (ICRS) Surgical Skills Course: October 2014



Fig.17A



Fig.17B



Fig.17C



Fig.17D

Figures 17A-D. Photos from the hands-on seminar during the International Congress on Arthroscopic and Minimally Invasive Surgery of the Upper Limb, November 20-22, 2008, Larissa.



Fig.18A



Fig.18B



Fig.18C



Fig.18D

Figures 18A-D. Photos from the hands-on seminars on Arthroscopic and Minimally Invasive Surgery organized in Larissa.



Fig.19A



Fig.19B



Figures 19A-C. Photos from the hands-on seminar on "Taylor Spatial Frame Applications", December 17-18, 2010, Larissa.

Fig.19C

4.4.5. Collaboration with ESSKA (European Society of Sports Traumatology, Knee Surgery & Arthroscopy)

Since 2010 the Orthopaedic Department of the University of Thessaly host has been recognized as Centre for Arthroscopic Surgery by ESSKA (European Society of Sports Traumatology, Knee Surgery & Arthroscopy), which represents Europe in the field of degenerative joint-disease

and sports-traumatology. In this framework, the Orthopaedic Department of the University of Thessaly hosts ESSKA travelling fellows from all over the world to train them in Arthroscopic Surgery.

4.4.6. Collaboration with ICRS (International Cartilage Repair Society)

The 5th ICRS Surgical Skills Cadaver Course 2014 took place between October 23 – 25, 2014, in Larissa, Greece, through collaboration of the University of Thessaly, School of Medicine, Department Orthopaedics & Musculoskeletal Trauma and the International Cartilage Repair Society (ICRS), which brings together basic scientists and clinical researchers engaged or interested in the field of cartilage biology and cartilaginous tissue engineering, with the ultimate goal the stimulation of education and research within the field of cartilage repair.

The course included core lecture modules for cartilage and osteochondral repair including biomaterials, biomechanics with osteotomies and patella balancing, histology, mini implants and surgical techniques. The hands-on cadaver

workshops included microfracture, AMIC, SAMIC, transplantation of stem cell aspirates, OATS, osteotomies, MPFL-repair, tuberosity transfer, trochleoplasty, mini implants as well as first and advanced generations of autologous chondrocyte implantation. Over 100 registrants from all over the world participated in the course.

The motto of the course was: “Understand it, see it, do it”. Therefore each module started with keynote lectures in the area, followed by live demonstrations by leading experts and finally a hands-on learning on human cadaver specimens under assistance of a top international faculty. The hands-on workshop was held at the Anatomy laboratory: LAMILC - Larissa Arthroscopy & Minimally Invasive Learning Center in the premises of the School of Medicine, University of Thessaly.



Fig.20A



Fig.20B



Fig.20C



Fig.20D



Fig.20E



Fig.20F



Fig.20G

Figures 20 A-G. Photos from the 5th ICRS Surgical Skills Cadaver Course 2014.



5. Research activity

5.1. Doctoral Candidates

5.1.1. Completed Dissertations approved by the Faculty of Medicine, UTH

Researchers work under the supervision and the scientific sponsoring of either a 3-member Advisory Committee (authorized faculty members) for a minimum of 3 years, on either clinical or applied scientific research topics. Also in collaboration with labs from the Basic Sciences there are non-physician scientists who are collaborating on Basic Research fields related to Musculoskeletal System Pathology.

[in alphabetic order]

1. **Avramidis, Kyriacos, MD**
“Electric stimulation of the Vastus Medialis Muscle in the rehabilitation of patients after Total Knee Replacement”
2. **Agorastakis, Dimitrios, MD**
“Fractures and bone loss of the metacarpals and phalanges. State-of-the-art osteosynthesis methods”
3. **Alevrogiannis, Stavros, MD**
“Long-term clinical and radiological results of total knee replacement with HA coating”
4. **Bargiotas Konstantinos, MD**
“Mid- and long-term clinical and radiological results of the Trabecular Metal acetabular cups in patients with Total Hip replacement”
5. **Basdekis Georgios, MD**
“Classification and treatment of the combined injuries of the carpal bones and the distal forearm”
6. **Boursinos Loucas, MD**
“Comparative study of short-term administration of Meloxicam, Rofecoxibe, Indomethacin and Prednisolone in fracture healing. Experimental study in New Zealand rabbits”
7. **Chasanidis, Christos, Biologist**
“Gene and protein expression in human periosteal cells. Clinical applications”
8. **Fytili Pelagia, MD**
“Genetic investigation of Knee Osteoarthritis”
9. **Kostopoulou, Fotini, Molecular Biologist & Geneticist**
“Genetic Investigations of Genes involved in Lipid Metabolism in Osteoarthritis. In vitro and in vivo study”
10. **Krallis Panayotis, MD**
“Application of the “Penteli” outrigger and the Crane Technique for the correction of Scoliosis”
11. **Liantsis, Athanasios, MD**
“Treatment algorithm for the Spastic Upper Extremity”
12. **Makris Eleftherios, MD**
“Molecular interventions to halt cartilage degeneration in Osteoarthritis”
13. **Paleochorlidis, Elias, MD**
“Mid-term results of Metal-on-Metal Total Hip Replacement”
14. **Papachristos Athanasios, MD**
“Transosseous application of low-intensity Ultrasound for the monitoring of fracture healing process”
15. **Papakostidou, Ippolyti, Military Nurse (2 awards)**
“Health-related quality of life (hRQOL) after Total Knee and Hip Replacement. A comparative study”
16. **Papanagiotou, Marianthi, MD**
“The use of Bone Morphogenetic Proteins (BMPs) in Healing of Non-Unions of Bone Defects”

17. **Papathanasiou, Ioanna, Biologist**
“Investigation of genes involved in the hypertrophic phenotype of Osteoarthritic chondrocytes”
18. **Papatheodorou, Loukia, MD**
“Transosseous Application of Low-Intensity Ultrasound for enhancement and monitoring of bone healing of long bone fractures”
19. **Pavlopoulos Dimitrios, MD**
“Shoulder Hemiarthroplasty for fractures of the Proximal Humerus”
20. **Poultides Lazaros, MD**
“Haematogenous infection in stable and unstable orthopaedic implants. Experimental study in rabbits”
21. **Rigopoulos Nikolaos, MD**
“Staging and treatment algorithm of Hand and Wrist Infections”
22. **Sakkas, Athanasios, MD**
“The natural history of developmental Dysplasia of the Hip in patients with delayed diagnosis and treatment”
23. **Samara, Stavroula, Biologist**
“Gene expression and proteins in the pathogenesis of Avascular Bone Necrosis”
24. **Tsionos Ioannis, MD**
“Ectopic ossification of the elbow. Results of early rejection”
25. **Zachos Vassilios, MD**
“Pedicular Vascularized Grafting in the Reconstructive Surgery of the Wrist”
26. **Zibis Aristidis, MD**
“Femoral Head Necrosis Investigation with related pathology”

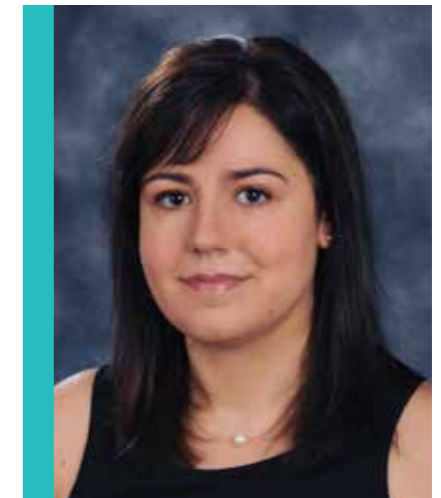
Research Fellows



Leonidas Spyrou
PhD
Computer Science –
Biomechanics
[PhD student in collaboration
with Polytechnic Schools]



Ioanna Papathanasiou
Biologist, Mc.S., Ph.D.
Laboratory of Cytogenetics
and Molecular Genetics
Faculty of Medicine
University of Thessaly
Larissa, Greece



Fotini Kostopoulou
**Molecular Biologist and
Geneticist, Ph.D.**
Laboratory of Cytogenetics
and Molecular Genetics
Faculty of Medicine
University of Thessaly
Larissa, Greece

5.2. Publications

5.2.1. International Publications in Peer-review Journals

Publications/Year

1998

1. **Malizos KN, Gelalis ID, Ioachim EE, Soucacos PN.**
Pathologic fracture of the scaphoid due to enchondroma: treatment with vascularized bone grafting. Report of a case.
J Hand Surg Am. 1998 Mar; 23(2): 334-7.
2. **Pneumatikos J, Frangides C, Malizos K, Tsagourias M, Nakos G.**
Acute myelinolysis in the cervical spinal cord.
J Trauma. 1998 Mar; 44(3): 562-4.
3. **Hartofilakidis G, Stamos K, Karachalios T.**
Treatment of high dislocation of the hip in adults with total hip arthroplasty. Operative technique and long-term clinical results.
J Bone Joint Surg Am. 1998 Apr; 80(4): 510-7.
4. **Soucacos PN, Diznitsas LA, Beris AE, Malizos KN, Xenakis TA, Papadopoulos GS.**
Clinical criteria and treatment of segmental versus upper extremity reflex sympathetic dystrophy.
Acta Orthop Belg. 1998 Sep; 64(3): 314-21.
5. **Flieger J, Karachalios T, Khaldi L, Raptou P, Lyritis G.**
Mechanical stimulation in the form of vibration prevents postmenopausal bone loss in ovariectomized rats.
Calcif Tissue Int. 1998 Dec; 63(6): 510-4.
6. **Mathoulin C, Dailiana Z.**
Palmaris profundus associé a un syndrome du canal carpien. A propos d'un cas et revue de la bibliographie.
La Main 1998; 3: 261-265.

1999

7. **Dailiana ZH, Drapé JL, Le Viet D.**
A glomus tumour with four recurrences.
J Hand Surg Br. 1999 Feb; 24(1): 131-2.
8. **Varitimidis SE, Plakseychuk AY, Sotereanos DG.**
Reconstruction of the elbow: surgeons' perspective.
J Hand Ther. 1999 Apr-Jun; 12(2): 66-72. Review.
9. **Sotereanos DG, Varitimidis SE, Giannakopoulos PN, Westkaemper JG.**
Results of surgical treatment for radial tunnel syndrome.
J Hand Surg Am. 1999 May; 24(3): 566-70.
10. **Varitimidis SE, Sotereanos DG.**
Palmar oblique ligament reconstruction for carpometacarpal joint dislocation in an 11-year-old: a case report.
J Hand Surg Am. 1999 May; 24(3): 505-7.
11. **Dailiana ZH, Malizos KN, Zacharis K, Mavrodontidis AN, Shiamishis GA, Soucacos PN.**
Distal tibial epiphyseal fractures in adolescents.
Am J Orthop. 1999 May; 28(5): 309-12.
12. **Bassounas A, Siafakas M, Fotiadis DI, Likas A, Malizos C.**
A quantitative method for the classification of osteonecrosis.
Medical & Biological Engineering & Computing, 1999; 37 (Suppl.2): 996-997.

13. **Le Viet D, Dailiana ZH.**
Third and fourth finger ray amputations by intracarpal osteotomy.
Tech Hand Up Extrem Surg. 1999 Jun; 3(2): 110-5.
14. **Foucher G, Le Viet D, Dailiana Z, Pajardi G.**
[Glomus tumor of the nail area. Apropos of a series of 55 patients]
Rev Chir Orthop Reparatrice Appar Mot. 1999 Jul; 85(4): 362-6. French.
15. **Westkaemper JG, Varitimidis SE, Sotereanos DG.**
Posterior interosseous nerve palsy in a patient with rheumatoid synovitis of the elbow: a case report and review of the literature.
J Hand Surg Am. 1999 Jul; 24(4): 727-31. Review.
16. **Varitimidis SE, Herndon JH, Sotereanos DG.**
Failed endoscopic carpal tunnel release. Operative findings and results of open revision surgery.
J Hand Surg Br. 1999 Aug; 24(4): 465-7.
17. **Karachalios T, Sofianos J, Roidis N, Sapkas G, Korres D, Nikolopoulos K.**
Ten-year follow-up evaluation of a school screening program for scoliosis. Is the forward-bending test an accurate diagnostic criterion for the screening of scoliosis?
Spine. 1999 Nov 15; 24(22): 2318-24.
18. **Lyritis GP, Ioannidis GV, Karachalios T, Roidis N, Kataxaki E, Papaioannou N, Kaloudis J, Galanos.**
Analgesic effect of salmon calcitonin suppositories in patients with acute pain due to recent osteoporotic vertebral crush fractures: a prospective double-blind, randomized, placebo-controlled clinical study.
Clin J Pain. 1999 Dec; 15(4): 284-9.
19. **Malizos C, Hantes M, Mavrodontides A, Plissiti M, Fotiadis D, Massalas C, Moukarika A, Bakas T, Evangealakis G.**
Quantitative Monitoring and Prognosis of Osteogenesis.
Medical & Biological Engineering & Computing, 1999; 37: 288-289

2000

20. **Varitimidis SE, Fox RJ, King JA, Taras J, Sotereanos DG.**
Trapeziometacarpal arthroplasty using the entire flexor carpi radialis tendon.
Clin Orthop Relat Res. 2000 Jan; (370):164-70.
21. **Xu J, Varitimidis SE, Fisher KJ, Tomaino MM, Sotereanos DG.**
The effect of wrapping scarred nerves with autogenous vein graft to treat recurrent chronic nerve compression.
J Hand Surg Am. 2000 Jan; 25(1): 93-103.
22. **Varitimidis SE, Sotereanos DG.**
Partial nerve injuries in the upper extremity.
Hand Clin. 2000 Feb; 16(1):141-9. Review.
23. **Zalavras C, Dailiana Z, Elisaf M, Bairaktari E, Vlachogiannopoulos P, Katsaraki A, Malizos KN.**
Potential aetiological factors concerning the development of osteonecrosis of the femoral head.
Eur J Clin Invest. 2000 Mar; 30(3): 215-21.
24. **Karachalios T, Lyritis GP.**
New horizons in applied musculoskeletal research.
Calcif Tissue Int. 2000 Mar; 66(3): 165-7.



25. **Karachalios T, Roidis N, Papagelopoulos PJ, Karachalios GG.**
The efficacy of school screening for scoliosis.
Orthopedics. 2000 Apr; 23(4): 386-91. Review.
26. **Dailiana ZH, Roulot E, Le Viet D.**
Surgical treatment of compression of the lateral antebrachial cutaneous nerve.
J Bone Joint Surg Br. 2000 Apr; 82(3): 420-3.
27. **Dailiana Z, Fink C, Baust J, Seaber AV, Urbaniak JR.**
A new canine model of osteonecrosis with the use of cryosurgery.
Surgical Forum LI, 2000; 462-463.
28. **Mitsionis GI, Varitimidis SE, Sotereanos GG.**
Treatment of chronic injuries of the ulnar collateral ligament of the thumb using a free tendon graft and bone suture anchors.
J Hand Surg Br. 2000 Apr; 25(2): 208-11.
29. **Varitimidis SE, Riano F, Sotereanos DG.**
Recalcitrant post-surgical neuropathy of the ulnar nerve at the elbow: treatment with autogenous saphenous vein wrapping.
J Reconstr Microsurg. 2000 May; 16(4): 273-7.
30. **Sotereanos DG, Pierce TD, Varitimidis SE.**
A simplified method for repair of distal biceps tendon ruptures.
J Shoulder Elbow Surg. 2000 May-Jun; 9(3): 227-33.
31. **Varitimidis SE, Riano F, Vardakas DG, Sotereanos DG.**
Recurrent compressive neuropathy of the median nerve at the wrist: treatment with autogenous saphenous vein wrapping.
J Hand Surg Br. 2000 Jun; 25(3):271-5.
32. **Korres DS, Karachalios T, Roidis N, Bargiotas K, Stamos K.**
Pain pattern in multiple vertebral hemangiomas involving non-adjacent levels: report of two cases.
Eur Spine J. 2000 Jun; 9(3): 256-60.
33. **Mastrokalos D, Tibesku C, Hantes M, Paessler H.**
Resorbierbare bioschrauben in der behanlung von meniskusverletzungen.
Sport Orthopadie und Traumatologie 2000 Jun;16 (2): 71-75.
34. **Karachalios T, Babis G, Tsarouchas J, Sapkas G, Pantazopoulos T.**
The clinical performance of a small diameter tibial nailing system with a mechanical distal aiming device.
Injury. 2000 Jul; 31(6): 451-9.
35. **Hartofilakidis G, Karachalios T, Stamos KG.**
Epidemiology, demographics, and natural history of congenital hip disease in adults.
Orthopedics. 2000 Aug; 23(8): 823-7.
36. **Karachalios T, Scambardonis D, Khaldi L, Raptou P, Papagelopoulos PJ, Nikiforidis PA, Lyritis G.**
Influence of orthotopic placement on the incorporation and mechanical strength of a loaded structural cortical graft: an experimental study in rabbits.
Orthopedics. 2000 Aug; 23(8): 815-21.
37. **Stamos KG, Karachalios T, Papagelopoulos PJ, Xenakis T, Korres DS, Koroneos E, Hartofilakidis G.**
Long-term mechanical stability of the impacted morselized graft-cement interface in total joint replacement: an experimental study in dogs.
Orthopedics. 2000 Aug; 23(8): 809-14.

38. **Grewal R, Varitimidis SE, Vardakas DG, Fu FH, Sotereanos DG.**
Ulnar nerve elongation and excursion in the cubital tunnel after decompression and anterior transposition.
J Hand Surg Br. 2000 Oct; 25(5):457-60.
39. **Fox RJ, Varitimidis SE, Plakseychuk A, Vardakas DG, Tomaino MM, Sotereanos DG.**
The Compass Elbow Hinge: indications and initial results.
J Hand Surg Br. 2000 Dec; 25(6): 568-72.

2001

40. **Foucher G, Medina J, Malizos K.**
Percutaneous Needle Fasciotomy in Dupuytren Disease.
Techniques in Hand & Upper Extremity Surgery, 2001; 5(3): 161-164.
41. **Vardakas DG, Varitimidis SE, Sotereanos DG.**
Findings of exploration of a vein-wrapped ulnar nerve: report of a case.
J Hand Surg Am. 2001 Jan; 26(1): 60-3.
42. **Karachalios T, Roidis N, Karoutis D, Bargiotas K, Karachalios GG.**
Trimalleolar fracture with a double fragment of the posterior malleolus: a case report and modified operative approach to internal fixation.
Foot Ankle Int. 2001 Feb; 22(2):144-9.
43. **Karachalios Th, Papagelopoulos P.**
Letter to the Editor. Efficacy of school scoliosis screening.
Orthopaedics. 2001; 24(4): 317.
44. **Varitimidis SE, Vardakas DG, Goebel F, Sotereanos DG.**
Treatment of recurrent compressive neuropathy of peripheral nerves in the upper extremity with an autologous vein insulator.
J Hand Surg Am. 2001 Mar; 26(2): 296-302.
45. **Kostas JP, Dailiana Z, Xenakis T, Beris AE, Kitsoulis P, Arnaoutoglou CM, Soucacos PN.**
Back pain caused by benign tumors and tumor-like lesions of the thoracolumbar spine.
American Journal of Orthopaedics. 2001; 30(1): 50-56.
46. **Dailiana ZH, Mehdian H, Gilbert A.**
Surgical anatomy of spinal accessory nerve: is trapezius functional deficit inevitable after division of the nerve?
J Hand Surg Br. 2001 Apr; 26(2): 137-41.
47. **Zhang Z, Soucacos PN, Bo J, Beris AE, Malizos KN, Ioachim E, Agnantis NJ.**
Reinnervation after end-to-side nerve coaptation in a rat model.
Am J Orthop. 2001 May; 30(5): 400-6; discussion 407.
48. **Theodorou DJ, Malizos KN, Beris AE, Theodorou SJ, Soucacos PN.**
Multimodal imaging quantitation of the lesion size in osteonecrosis of the femoral head.
Clin Orthop Relat Res. 2001 May; (386): 54-63.
49. **Soucacos PN, Beris AE, Malizos K, Korompilias A, Zalavras H, Dailiana Z.**
Treatment of avascular necrosis of the femoral head with vascularized fibular transplant.
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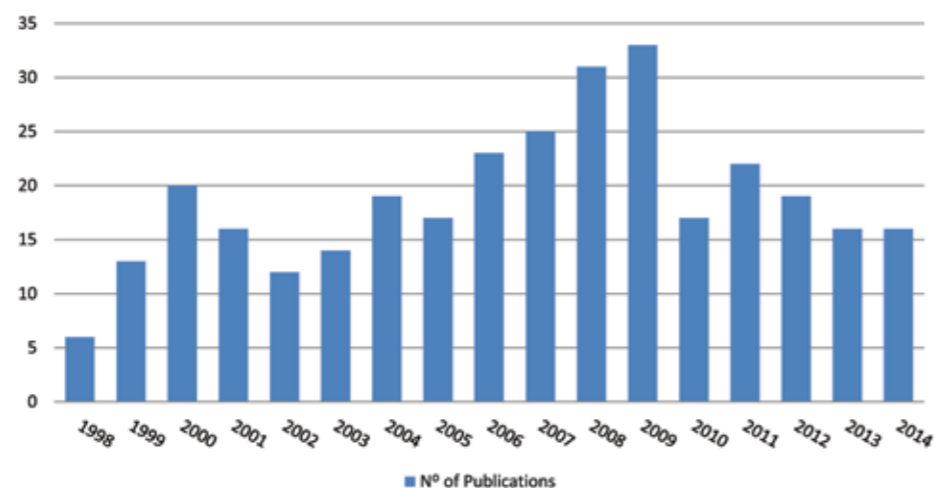


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320. **Makridis KG, Karachalios T, Kontogeorgakos VA, Badras LS, Malizos KN.**
The effect of osteoporotic treatment of the functional outcome, re-fracture rate, quality of life and mortality in patients with hip fractures: A prospective functional and clinical outcome study on 520 patients.
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Hirsch index (citations received since 1996):

- K.N. Malizos: 40
- Th. Karachalios: 24
- S. Varitimidis: 20
- Z. Dailiana: 19
- M. Hantes: 18

Number of Peer-Review Publications / Year



5.2.2. Publications in National (Hellenic) Peer-Review Journals

1. **Malizos KN, Zalavras CG, Mavrodontidis AN, Beris A, Soukagos PN.**
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Acta Orthopaedica et Traumatologica Hellenica, 1999; 50(1): 71- 76.
2. **Malizos KN.**
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Acta Orthopaedica et Traumatologica Hellenica, 1999; 50(1): 124-125.
3. **Hantes ME, Malizos KN, Xanakis Th, Beris A, Soukagos PN.**
Complications in Limb Lengthening. A prospective study of 42 patients.
Acta Orthopaedica et Traumatologica Hellenica, 1999; 50(3): 411-416.
4. **Soultanis K, Hantes M, Zalavras C, Soukagos PN.**
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Acta Orthopaedica et Traumatologica Hellenica, 1999; 50 (1):58-63
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Acta Orthopaedica et Traumatologica Hellenica, 1999; 50 (2):186-190
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7. **Zervou E, Zisiadis K, Dailiana ZH, Karabini F, Xenakis Th.**
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12. **Karachalios T.**
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13. **Kateros K, Petrou C, Vavliakis, Karachalios T.**
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Οστούν, 2000; 11 (3): 139-149.
14. **C.K. Giannakopoulos, Kalogera K, Karachalios T, Katsiri M, Galanos A, Lyritis G.**
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5.2.3. Book Chapters

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3. **Soucacos PN, Beris AE, Xenakis TH, Malizos KN.**
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- 14. Le Viet D, Dailiana ZH.**
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- 20. Malizos KN, Karachalios TS, Moraitis T, Gelalis J.**
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Practice with biological and non-biological models.

In: E-book: Greek Academic Books and Electronic Devices: “*Microsurgery*”, Education and Lifelong Learning (KALIPPOS programme) [Internet] [in process].

73. Varitimidis S, Dailiana Z.

Microsurgical techniques of nerve reconstruction.

In: E-book: Greek Academic Books and Electronic Devices: “*Microsurgery*”, Education and Lifelong Learning (KALIPPOS programme) [Internet] [in process].

5.2.4. E-Book “MICROSURGERY”

1. Microsurgery: Past, present and future

2. Applications of Microsurgery

- A. Reconstructive Microsurgery
- B. Neurosurgery
- C. Urology and Gynecology
- D. Oncology

3. Amputations and replantations of the extremities and digits

4. Skeletal defect reconstruction with bone flaps

- 5. A. Reconstruction of soft-tissue defects of the upper extremity with bone flaps
- B. Reconstruction of soft-tissue defects of the lower extremity with bone flaps

6. Congenital anomalies of the hand and foot

- 7. A. Brachial plexus injuries
- B. Neonatal brachial plexus palsy
- C. Peripheral nerve injuries

8. The microsurgery lab

9. The use of micorsurgical instruments

10. Practice with biological and non-biological models

11. Techniques of microvascular reconstruction

12. Microsurgical techniques of nerve reconstruction

5.2.5. Books

- Title:** Reconstructive Microsurgery
Author: Malizos K.N. (ed.)
Publisher: Landes Bioscience
City of publication: Georgetown, TX, USA
Year: 2003
ISBN: 1-57059-650-6



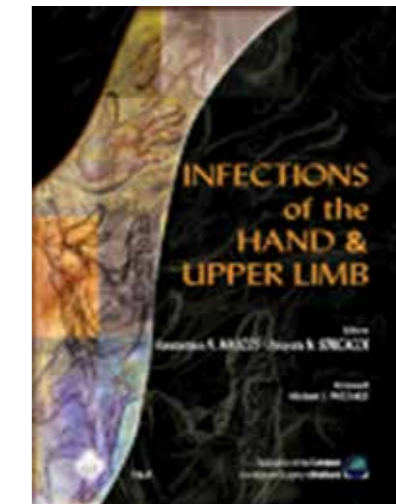
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2. **Title:** Infections of the Hand and Upper Limb
Author: Malizos K.N., Soucacos P.N. (eds.)
Publisher: Paschalidis (distributed by Elsevier)
City of publication: Athens, Greece
Year: 2007
ISBN: 978-960-399-593-7



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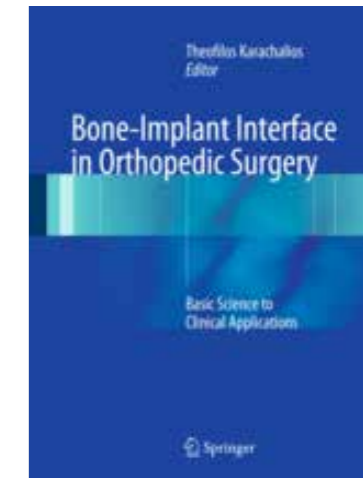
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3. Title: Bone-Implant Interface in Orthopedic Surgery
Author: Karachalios, Theofilos (Ed.)
Publisher: Springer
City of publication: Athens, Greece
Year: 2014
ISBN: 978-1-4471-5408-2



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5.3. Awards - Distinctions - Prizes

1. 7th Congress of the International Federation of Societies for Surgery of the Hand (IFSSH)
Vancouver, Canada, 24-28 May, 1998

Award of Excellence

Long-term results of end-to-side neurorrhaphy
Zhang Z, Bo J, Soucacos PN, Malizos KN, Beris AE.

2. American Journal of Orthopaedics, January 2001

2nd prize for best publication of residents

Back pain caused by benign tumors and tumor-like lesions of the thoracolumbar spine.
Kostas JP, Dailiana Z, Xenakis T, Beris AE, Kitsoulis P, Arnaoutoglou CM, Soucacos PN.

3. XXXVII Congress de la Societe Francaise de Chirurgie de la Main
Paris, France, 13 -15 December, 2001

Raoul Tubiana Award

Lambeaux de perioste vascularisé de l'avant-bras, poignet et main. Étude anatomique.
Dailiana ZH, Malizos KN, Urbaniak JR.
(published in the Journal of Trauma)

4. 21st Congress of the Arthroscopy Association of North America
Washington, DC, USA, April 2002

Resident/Fellow Essay Award (prize: \$ 3,000)

Autologous osteochondral transplantation for the treatment of knee cartilage defects.
A 2- to 5-year follow up.
Hantes M.

5. 55th Annual Meeting of the Association of Bone and Joint Surgeons
Paris, 14 -18 May, 2003

Marshall R. Urist Young Investigator Award

*Genetic Background of Femoral Head Osteonecrosis:
Is an Association with Thrombophilic Mutations Present?*
Zalavras CG, Vartholomatos G, Dokou E, Malizos KN.

6. The **USBone** project FP5 IST-2000-26350 (109 participants)
ranked 4th (finalist) at its section "Homecare and Telemedicine Tools and Services for citizens"
Cork, Ireland, 5 - 6 May, 2004

eEurope Award for eHealth-2004
Baga D, Protopappas V, Fotiadis DI, Malizos KN.

7. 2nd International Conference on Telemedicine and Multimedia Communication,
Warsaw-Kajetany, Poland, 8-9 October, 2004

Award for best presentation in the category of telemedicine

An ultrasound wearable system for the monitoring and acceleration of fracture healing in long bones.
[the USBone project, EU funded]
Protopappas VC, Baga D, Fotiadis DI, Likas A, Papachristos A, Malizos KN.

8. 24th Annual Meeting European Bone and Joint Infection Society (EBJIS)
Ljubljana, Slovenia, 19 - 25 May, 2005

1st prize for best presentation

*Late haematogenous infection with MRSA strains carrying Panton-Valentine leucocidin (PVL)
and ica A and D genes in an experimental model of implant-related infection (IRI).*
Poultides LA, Papatheodorou L, Karachalios Th, Petinaki E, Maniatis A, Khaldi L, Malizos KN.

9. 61st Annual Meeting of the Hellenic Association of Orthopaedic Surgery & Trauma (HAOST)
in cooperation with British Trauma Society
Athens, Greece 12-15 October, 2005

1st prize (Ioannis Vamvas) for best research study

*Late haematogenous infection with MRSA strains carrying Panton-Valentine Leucocidin (PVL)
and ica A and D genes in an experimental model of implant-related infection (IRI).*
Poultides LA, Papatheodorou L, Karachalios Th, Petinaki E, Khaldi L, Malizos KN.

10. 3rd European Medical and Biological Engineering Conference (EMBEC) organized by the International
Federation of Medical and Biology Engineering (IFMBE).
Prague, Czech Republic, 20-25 November, 2005

EMBEC Scientific Award 2005 for best published paper in peer-reviewed international journal in the field of Biomedical Engineering

An ultrasound wearable system for the monitoring and acceleration of fracture healing in long bones.
Protopappas VC, Baga DA, Fotiadis DI, Likas AC, Papachristos AA, Malizos KN.
[published: IEEE Trans Biomed Eng 2005;52(9):1597-1608]

11. Hellenic College of Orthopaedists, January 2006.

3rd prize

Haematogenous infection in stable and unstable orthopaedic implants. Experimental study in rabbits.
Malizos KN, Poultides L, Papatheodorou L, Roidis N, Varitimidis S.



12. 14th Congress of the Hellenic Association for the Study of the Metabolism of the Bones
Thessaloniki, 7-9 April 2006

1st prize (Alexandros Kalos) for best basic science study

The effect of short-term administration of Prednisolone, Indomethacin, Meloxicam and Rofecoxib in fracture healing. An experimental study in New Zealand white rabbits.

Boursinos LA, Karachalios T, Poultsides LA, Khaldi L, Malizos KN.

13. 10th Congress of Hellenic Association of Medical Students,
Larissa, Greece, May 2006

1st prize for best presentation

Injection Injuries of the Hand.

Bakarozi M, Oikonomou K, Moka S, Dailiana Z, Malizos KN.

(published: Journal Hippokratia)

14. The European Society for Sports Traumatology, Knee Surgery and Arthroscopy [ESSKA]

Travelling fellowship scholarship (competitive grant)

Hantes M.

This scholarship is granted every 2 years to young scientists (under 40 years of age) who have been distinguished in the field of Arthroscopy in Europe. The scholarship had duration of 4 weeks (20 August – 17 September, 2006) and included lecture giving at 6 Universities of Australia, New Zealand, Thailand and Hong Kong.

15. The Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST)

Travelling fellowship scholarship “A. Kavvadias” (competitive grant)

Malizos K.N.

Scholarship to an International Travelling Fellow of the American Orthopaedic Association (AOA). The scholarship had duration of 6 weeks and included lecture giving at 16 Universities in the USA.

16. The Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST)

Travelling fellowship scholarship “A. Kavvadias” (competitive grant)

Karachalios TS.

Scholarship to an International Travelling Fellow of the American Orthopaedic Association (AOA). The scholarship had duration of 8 weeks and included lecture giving at 12 Universities in the USA.

17. The Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST)

Travelling fellowship scholarship “A. Kavvadias” (competitive grant)

Dailiana Z.

The scholarship is awarded to a young scientist (under 40 years of age) and includes visiting University hospitals of Europe and the USA. Duration: 3 weeks (November – December 2008).

18. 62^o Congress of the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST)
Athens, Greece, 4-8 October 2006.

1st Prize for best research study: “Ioannis Vamvas”

The effect of short-term administration of Prednisolone, Indomethacin, Meloxicam and Rofecoxib in fracture healing. An experimental study in New Zealand white rabbits.

Boursinos LA, Karachalios T, Poultsides LA, Khaldi L, Malizos KN.

19. 63rd Annual Meeting of the Hellenic Association of Orthopaedic
Surgery & Traumatology
Athens, Greece 9-13 October 2007

1st prize for best research study: “Ioannis Vamvas”

Epigenetic regulation of leptin affects MMP-13 expression in osteoarthritic chondrocytes: possible molecular target for osteoarthritis therapeutic intervention.

Tsezou A, Iliopoulos D, Simopoulou T, Stefanou N, Papatheodorou L, Varitimidis S, Malizos KN.

20. 2nd Congress of the Hellenic Association of Arthroscopy Knee Surgery & Sports Injuries “George Noulis”
Athens, Greece, 14 -16 June, 2007

1st prize for best scientific presentation

Gene expression analysis in healing at tendon graft-bone interface in rabbits after transosseous application of Low-Intensity Ultrasound.

Papatheodorou LK, Poultsides L, Hantes M, Grafanaki K, Stathopoulos C, Malizos KN.

21. 2nd Congress of the Hellenic Association of Arthroscopy Knee Surgery & Sports Injuries “George Noulis”
Athens, Greece, 14 -16 June, 2007

3rd prize for the scientific presentation

The use of 3-D CT scan as a new method to validate the position of the femoral tunnels in anatomic double-bundle ACL reconstruction.

Basdekis GK, Christel P, Anne F, Abi-Safi C

22. 13th ESSKA Meeting
(European Congress of the European Society of Sports Traumatology, Knee Surgery and Arthroscopy),
Porto, Portugal, 21 – 24 May 2008

National Award Winning Paper

Gene expression analysis in healing at tendon – bone interface in rabbits after transosseous application of low-intensity ultrasound.

Papatheodorou LK, Poultsides L, Hantes M, Grafanaki K, Stathopoulos C, Malizos KN.

23. 27th Annual Meeting of European Bone and Joint Infection Society (EBJIS)
Barcelona, Spain, 18 - 20 September, 2008.

Biomet Award for the most innovative oral presentation

The Role of Toll-like Receptors in Septic Arthritis.

Tsezou A, Siomou M, Poultsides L, Oikonomou P, Malizos KN.

29. The American Association for Surgery of the Hand (A.A.S.H.)

International Hand Travelling Fellowship Scholarship

12 Sept - 7 Oct. 2011.

Kontogeorgakos V.

24, 25. 64th Annual Meeting of the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST)
Athens, Greece, 8-11 October, 2008

1st prize for best clinical study

[The prize was shared between the two following studies]

Papakostidou I, Dailiana ZH, Varitimidis S, Mixelinakis M, Liaropoulos L, Malizos KN.

Assessment of Health-Related Quality of Life following Total Hip Arthroplasty.

Papakostidou I, Dailiana ZH, Karachalios Th, Papapolixroniou Th, Zintzaras E, Malizos KN.

Assessment of Health-Related Quality of Life following Total Knee Arthroplasty.

30. 17th Annual Combined Meeting of Hellenic Society for Reconstructive Microsurgery and
Hellenic Society for Hand & Upper Extremity Surgery
Thessaloniki, Greece, 1-3 December, 2011.

1st prize for the best presentation on Hand & Upper Extremity Surgery

Treatment of scaphoid nonunions in adolescents with vascularized bone grafts from distal radius.

Dailiana Z, Oikonomou Ch, Papatheodorou L, Varitimidis S, Hantes M, Malizos KN.

26. 18th Congress of the Hellenic Association for the Study on Bone Metabolism (E.E.M.M.O.)
Athens, 14-16 May, 2010

“Alexandros Kalos” prize for best oral presentation

Association of CER1 gene and bone markers with osteoporosis.

Koromila Th, Kollia P, Georgoulas P, Samara S, Chassanidis Ch, Aleporou-Marinou V, Dailiana Z.

31. Federation of European Societies for Surgery of the Hand (FESSH)

FESSH Travel Award: Scholarship for training at FESSH centres in Europe

Jan 23-Febr 28, 2013.

Antonou I.

27. 66th Annual Meeting of the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST),
Athens, Greece, 13-16 October, 2010.

“Dimitris Manios” prize for best oral presentation

Association of CER1 gene novel polymorphisms with bone markers and osteoporotic fractures.

Koromila Th, Kollia P, Georgoulas P, Samara S, Chassanidis Ch, Aleporou-Marinou V, Dailiana Z.

32. 21st Congress of the Hellenic Association for the Study on Bone Metabolism (E.E.M.M.O.)
Volos, Greece, 8-10 November, 2013.

“Alexandros Kalos” prize for best oral presentation

Study of the expression of RUNX2 and bone markers in osteoporosis.

Koromila Th, Bougioukli S, Georgoulas P, Aleporou-Marinou V, Dailiana Z, Kollia P.

33. 70th Annual Meeting of the Hellenic Association of Orthopaedic Surgery and Traumatology (HAOST),
Athens, Greece, 1-4 October, 2014.

Award for best oral presentation

Systemic biology and biomechanical approach to modelling of chondrocyte response.

Samara S, Melas I, Hantes M, Varitimidis, Katopodi Th, Kollia P, Alexopoulos L, Dailiana Z.

28. 5th Congress of the Hellenic Society of Bioscientists
Athens, Greece, 25-27 November, 2010.

Award for best oral presentation

DNA Microarrays Identification of TGFbeta-BMP Signalling Pathway Genes.

Expression in Osteoporotic Postmenopausal Women.

Koromila Th, Dailiana Z, Samara S, Chassanidis Ch, Aleporou-Marinou V, Kollia P.

5.4. Patents

1) Thettalos™

Title: An external fixation system for fracture management in long bones

Patent N°: EP 1016381

Investigators: K.N. Malizos
L. Ch. Kourtis
H. Ch. Kourtis

Description: Thettalos™ is a novel external fixation system, in order to offer maximum flexibility for pin placement within long-bone fractures offering 5 degrees of freedom, and thus cover the absence of an easily adjustable and installable external fixator.



The system's main configuration consists of one bar (*alternatively two can be accommodated*) placed usually in parallel to the bone axis as well as a number of single or double pin holders adhering each pin to the bar. Versatility has been integrated in order to allow for variations for adapting to lower and upper limb bone fractures.

In a typical configuration where 2 or 3 pins are placed on each side of the fracture and a bar is positioned parallel to the bone, the following translational and rotational adjustments can be achieved:

- Proximal axial movement of the clamp along the bar
- Proximal rotational movement of the clamp around the bar
- Distal telescopic movement in and out
- Distal rotation of the telescope mechanism
- Distal rotation of the pin holding mechanism

Using all these possible adjustments, the surgeon can showcasefully reach and hold a pin that is already placed in the bone. Therefore, there is no need for a template form to serve as a guide for pin placement prior to the external fixation system installation. The surgeon can easily avoid soft vulnerable tissues like nerves, arteries etc, by placing in a safer manner.

The innovative aspect is the notion of single pin holding for each clamp that connects a pin to the supporting bar through a versatile 5 degrees of freedom design. This simplifies the operation, rendering it easier, shorter and safer.

Main advantages include:

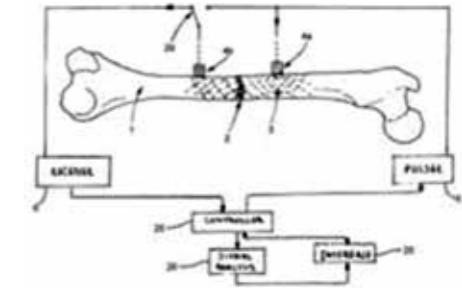
- High degree of versatility and flexibility
- Independent as well as safer pin placement avoiding nerves, arteries infected sites etc.
- No need for template guide
- Multiplanar fixation

2) U - Heal

Title: Method and System for the Enhancement and Monitoring of the Healing Process of Bones

Patent N°: WO 2007023320 20070301

Investigators: K.N. Malizos
D. Fotiadis
H. Ch. Kourtis
L. Ch. Kourtis
N. K. Malizos



Description: The present invention relates to a method and a system to therapeutically treat bone fractures, nonunions, deformities and also to monitor their healing process using ultrasound waves. The invention concerns one or more ultrasound transducers that are implanted in contact with the bone adjacent to the affected region, as well as an electronic unit that is either surgically implanted or located extracorporeally and operating altogether as a system, it enhances the healing process of bones and monitors the course of healing. The electronic unit **a)** generates appropriate signal that excite the transducers (*that are in transmitter mode of operation*) so that they emit ultrasound waves that are suitable for treating the bones, **b)** generates appropriate signal that excite the transducers (that are in transmitter mode of operation) so that they emit ultrasound waves, and subsequently acquires the signals that are generated by the transducers (that are in receiver mode of operation) during the reception of the propagating ultrasound waves, and c) is also capable of transmitting the acquired signals to a local or remote computing unit in order to store and analyze the signals so that the physician can evaluate bone healing.

5.5. Research Activity and Fund Raising

A variety of research projects are carried out at the hospital. All research projects are approved and managed by the Research Committee of the University of Thessaly.

5.5.1. Funding from the EU and the USA

National Programs			
#	Funding Source	Project Title	Year
1	General Administrative Office for Research and Technology, Greece	Human network for the study and Education for the use of “smart” implants and prosthetics in Medicine. Principal Investigator (P.I.): Malizos KN.	2003
2	General Administrative Office for Research and Technology, Greece	PENED 2003: Evaluation and Clinical Application of an ultrasound system for the monitoring and healing of long bones fractures and the acceleration of therapy time. (P.I.): Malizos KN.	2006
3	Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST), Greece	Risk factors for the development of Deep Venous Thrombosis in patients undergoing total hip and knee replacement. (P.I.): Dailiana Z	2006
4	Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST), Greece	Gene expression and potential drug use in osteoarthritis. (P.I.): Malizos KN	2006
5	Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST), Greece	Molecular aspects in healing at tendon graft-bone interface after transosseous application of low-intensity ultrasound. Experimental study in rabbits (P.I.): Malizos KN	2006
6	Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST), Greece	Haematogenous Infection in stable and unstable orthopaedic implants. Experimental study in rabbits. (P.I.): Malizos KN	2006
7	Hellenic Association of Orthopaedic Surgery & Traumatology (HAOST), Greece	Inhibition of gene expression in Osteoarthritis: New therapeutic approaches. (P.I.): Malizos KN	2008
8	Research Committee of the University of Thessalia, Greece	Expression of biochemical markers of joint fluid in patients with Osteonecrosis. (P.I.): Dailiana Z	2008
9	Hellenic Association of Orthopaedic Surgery and Trauma	New therapeutic approach: inhibition of the expression of genes that are implicated in osteoarthritis. Study of the role of genes encoding transcription factors which are involved in lipid metabolism and are associated directly with osteoarthritis pathogenesis, as well as discovering methods for their inhibition. (P.I.): Aspasia Tsezou	2009

#	Funding Source	Project Title	Year
10	Region of Thessaly -Framework “POLITEIA”	“Extremity Care” Study of the application and development of tele-medicine system in the region of Thessaly. Main objective of the project is the development of a telemedical system for better support and faster management of amputation cases in the extremities in patients who can possibly be transferred to the Orthopaedics Clinic of the University Hospital of Larissa. (P.I.): Z. Dailiana	2009
11	Hellenic Association of Orthopaedic Surgery and Trauma	Gene expression and potential administration of drugs for osteoarthritis. Identification of novel therapeutic methods and ways to reverse the osteoarthritic phenotype of chondrocytes (P.I.): Malizos KN	2009
12	Hellenic Association of Orthopaedic Surgery and Trauma	Infection in stable and non-stable intra-bone implants without cement. Development of an experimental animal model for the study of the association of the dose of microbial suspension and the development of hematogenic infection around the implant, and assessment of the effect of implant variables in the development of acute and mature infection around the implant (P.I.): Malizos KN	2009
13	Hellenic Association of Orthopaedic Surgery and Trauma	Molecular investigation of healing process in the bone-tendon-implant surface using low intensity ultrasounds (LiUS). Investigation of the process of collagen differentiation in the bone-tendon and implant surface following reconstructive ligand surgery and application of low intensity ultrasounds, as well as assessment of the effect of ultrasounds in the ligand healing process. (P.I.): Malizos KN	2009
14	COOPERATION 2009-NSRF 2007-2013 [Ministry of Development, General Secretariat of Research and Technology	OASYS: complete and systematic analysis for targeted biological therapy in osteoarthritis. Investigation of the mechanisms involved in osteoarthritis pathogenesis combining in vitro cellular and molecular techniques with genomics, proteomics and bioinformatics as well as in vivo studies, with the ultimate goal of discovering new biomarkers and therapeutics for osteoarthritis. (P.I.): Aspasia Tsezou	2010
15	National Strategic Reference Framework – NSRF 2007-2015)	The Heraclitus programme: Research scholarship to PhD candidate Papanagiotou M. “The use of Bone Morphogenetic Proteins (BMPs) in Healing of Non-Unions and Bone Defects” (Principal Supervisor) Ass Prof Dailiana ZH	2010
16	European Social Fund – ESF & National Strategic Reference Framework) NSRF 2007-2013	Education and lifelong learning (THALES programme): Tackling arthritis using a biomechanical and systems biology approach (TABS) (P.I. - 3rd scientific team): Ass Prof Dailiana ZH	2012
17	European Social Fund (ESF) & National Funds	Education and Lifelong Learning (KALIPPOS programme) E-book: Greek Academic Books and Electronic Devices: “Microsurgery” (Scientific Coordinator): Ass Prof Dailiana ZH	2014

European – U.S.A. Programs

#	Funding Source	Partner	Project Title	Year
1	The Piedmont Orthopaedic Foundation, USA	Partner	Increased osteogenesis by bone grafts and vascularized tissues (Principal Investigator): Ass Prof Dailiana ZH	1999
2	The Piedmont Orthopaedic Foundation, USA	Partner	Growth factors for the treatment of osteonecrosis of the femoral head (Principal Investigator): Ass Prof Dailiana ZH	2000
3	National Orthopaedic Surgery Fellows Foundation, USA	Partner	Vascular endothelial growth factor (VEGF) and free vascularized bone grafting for the treatment of osteonecrosis of the femoral head (Principal Investigator): Ass Prof Dailiana ZH	2000
4	E.U. (DROMEAS project)	Partner	The DROMEAS project: A Wearable Platform for the Monitoring of Health Condition and Sport Performance of Athletes and the real-time Prevention of Sport Injuries (Scientific Coordinator): Prof. Konstantinos Malizos	2001
5	EU	Partner	The U/S BONE project: Monitoring of fracture healing: Experimental study for the role of ultrasound in the diagnosis and promotion of bone healing -experimental study in mature sheep. (Scientific Coordinator): Prof. Konstantinos Malizos	2001
6	FP7 – EU sponsored project	Partner	Genetic analysis and underlying mechanisms in osteoporosis in Greece – GROS as part of the project on genetics of osteoporosis GEFOS/GENOMOS consortium. (Scientific Coordinator): Ass Prof Dailiana ZH	2007
7	FP7-ICT-2007-1-(ICT-1-5.1)	Partner	An Open, Ubiquitous and Adaptive Chronic Disease Management Platform for COPD and Renal Insufficiency (CHRONIOUS). (Scientific Coordinator): Prof. Konstantinos Malizos	2009
8	Leonardo da Vinci - Transfer of Innovation	Partner	On-line Performance Support Environment for Minimally Invasive Orthopaedic Surgery (On-Line Ortho). (Scientific Coordinator): Prof. Konstantinos Malizos	2009
9	FP7-Health. 2011.2.3.1-5	Partner	Implant Disposable Antibacterial Coating (I.D.A.C.): a Novel Approach to Implant-Related Infections in Orthopaedics and Trauma Surgery. (Scientific Coordinator): Prof. Konstantinos Malizos	2012
10	National & European (European Regional Development Fund – ERDF) funding	Partner	KRIPIS (ΚΡΗΠΙΣ): Developmental Study of co-operation programmes between Biopolis – FP7-Health	2012
11	Leonardo da Vinci – Transfer of Innovation 2013-1-BG1-LE005-08711		Osteosynthesis for Surgical Management of Fractures for Orthopaedic Surgeons and Biomedical Engineers (OrthoBioMed) (Scientific Coordinator): Ass Prof Dailiana ZH	2013

5.5.2. Private Company Funds

5.5.2.1. International Educational Activities – Seminars – Symposia

International educational activities, seminars, and symposia the Orthopaedic Department of the University of Thessaly organized (42 in total), have been funded by various sponsors (through the Research Committee of the UTH).

That amount of money has been used as a funding source from which multiple expenses such as the speakers' airfares, transfers to and from the congresses venues, and accommodation expenses have been covered. Furthermore, it covered renting for the congresses venues and audiovisual equipment, faculty dinners, programme print-outs, advertising, simultaneous translation support and organizing secretariat salaries.

5.5.2.2. Research as part of Multicentre Trials

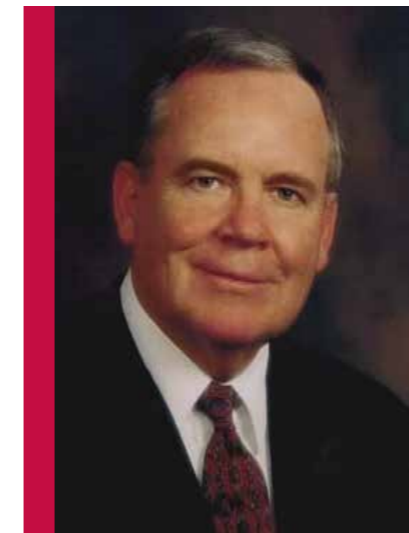
Since 2000 our unit has actively participated in a number of multicenter clinical trials supported by funding agencies, the administration of which was carried out mostly through the Research Committee of the University of Thessaly. The projects are presented in the following table:

YEAR	Company	Title
2001	ZIMMER - ARTHROSIS	Integration of acetabular prosthesis on tantalum uncemented Hip Arthroplasty.
2001	NOVARTIS	An international, multicenter, stratified, randomized, double-blind, double-dummy, parallel-group, 52-week gastrointestinal clinical safety study to demonstrate that COX189 (400mg od) reduces the risk to develop complicated ulcers as compared to NSAIDs (naproxen 500 mg bid and ibuprofen 800 mg tid), in osteoarthritis patients.
2001-2002	ZIMMER Ltd	A Clinical Outcome Study: Hip Arthroplasty Using Trabecular Metal Technology Acetabular Cup.
2002	BOEHRINGER INGELHEIM	The influence of non-steroidal anti-inflammatory drugs on fracture union.
2002	NOVARTIS AE	Distal Radius fractures and Calcitonin.
2002	Various Sponsors	Research protocol on Hand Fractures.
2002	IMPLEX CORP. – New Jersey, USA	HEDROCEL Trabecular Metal Technology of IMPLEX
	Various Sponsors	Maintenance – functional outcome of the Arthroplasty of the Hip and Knee.
	Various Sponsors	The relevance of the expansion of the lesion in avascular necrosis of the femoral head with the clinical outcome. Three dimensional analysis and estimation of the volume of the lesion with the ANALYZE system
2002	ZIMMER Ltd	Porous Tantalum (Trabecular Metal) implants for femoral head osteonecrosis: (a) the Acetabular metal ring, (b) the Intra-lesion implant.
2004	SANOFI SYNTHELABO	EXPERT: C8843 The use of Fondaparinux sodium (Arixtra®) on a daily basis in patients undergoing major Orthopaedic surgery in the lower limb.
2004	SANOFI SYNTHELABO	A prospective, uncontrolled, multi-centre, post-marketing surveillance study to evaluate the long-term performance of summit tapered Hip in Cemented Total Hip Arthroplasty.

6. Collaborations

The work compiled throughout the fifteen years, i.e. 1998 – 2014, was only possible through creative, productive, ongoing collaboration among a number of distinguished colleagues who strive together for obtaining best results stimulated by the advance of knowledge. In this way, an “inter-university learning community” is established. Furthermore, the faculties are committed to an interdisciplinary approach: they carry our research projects that cut across several disciplines, connecting and integrating fields of study, technologies and perspectives in the pursuit of a common task. Researchers from two or more disciplines pool their approaches and modify them so that they are better

suited to the problem at hand. The recursive process of collaboration values the notion that teams working collaboratively can obtain greater access, recognition and reward when facing competition for finite resources. Working all together, specialized doctors, researchers and students unite their intellectual endeavours, by sharing knowledge, learning and building consensus to improve performance in current and future projects. Below are cited the most important collaborators with the faculty of the Orthopaedic Surgery Department of the University of Thessaly:



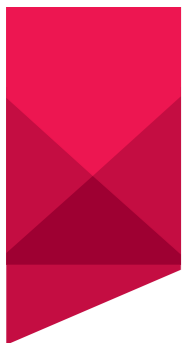
James R. URBANIAK, M.D.
Virginia Flowers Baker Professor of Orthopaedic Surgery
Duke University Medical Center
Durham, North Carolina, U.S.A.

“The Department of Orthopaedic Surgery at Duke University Medical Center has had a rewarding and rich relationship with Greek Orthopaedic Surgery since 1970. The training of Orthopaedic Fellows from Greece originated with the arrival of Professor Panayotis N. Soucacos from Athens to Duke in 1970. Since that time more than 21 Greek Fellows have trained at Duke University Medical Center for a period of one to three and one half years. Five of these trainees have progressed to positions of full Professor and/or Chairs of Orthopaedic Surgery Departments in Greece. Unquestionably two of the most outstanding and successful Greek Fellows have been Professor Konstantinos Malizos (Duke 1990) and Associate Professor Zoe Dailiana (Duke 2002) from the University of Thessaly.

Soon after Konstantinos Malizos became Professor and Chairman of Orthopaedic Surgery at the University of Thessalia in 1998 we immediately established a strong academic bond between our orthopaedic surgery programs. From my collegial relationship with him for the past quarter of a century, I have been totally confident that this industrious and brilliant scholar and academic leader would establish and maintain a clinical, educational and research university orthopaedic program that would be second to none in all of Europe. Through his wise and consistent leadership, he has attracted an outstanding faculty who has continued to collaborate with our university on research projects over the past two decades. In addition, Professor Malizos has developed similar relationships with a half dozen other leading orthopaedic programs in the United States.

In the beginning, the Duke Program served as teachers in the recent Duke collaboration, but with the maturation of the University of Thessaly Program there has definitely been an equal exchange of state-of-the-art orthopaedic surgery projects. Several years ago I was fortunate to be a guest of the Orthopaedic Program at Larissa and was thoroughly impressed by the physical facilities, up-to-date technology and overall mission incorporating clinical, research and education to make an all-around outstanding orthopaedic program. The Orthopaedic Faculty at Duke cherishes our strong academic collaboration with the Orthopaedic Surgery Department at the University of Thessaly.”

YEAR	Company	Title
2004	NOVARTIS	CZOL446H 2310: A multinational, multicentre, multiple-dose, randomized, double-blind, double dummy, parallel group study with a long term open-label extension phase for the evaluation of the zoledronic acid in the prevention of future osteoporotic hip fractures.
2004-2005	VIANEX	A double-blind, parallel-group, 4-week trial to assess the efficacy and safety of Etoricoxib 60 mg and Diclofenac 150 mg in patients with Chronic Low Back Pain.
2006	Various Sponsors	Use of ultrasound for the enhancement of healing of Cartilage Tissues.
2006	NOVARTIS AE	The effect of the calcitonin administration on the healing of fracture and osteopenia of the patient, in patients with fractures in the periphery of the fibula.
2006	ROCHE (HELLAS) A.E.	BEATRIS study: A randomized, open, multinational study of the effect of information related to osseous markers (in a two-month period) on the total compliance in the monthly treatment with ibandronate acid in postmenopausal osteoporosis.
2007	SANOFI AVENTIS	Trek – DRI 6243: a multi-centre, randomized, double-blind, double-dummy, parallel group dose-response study of subcutaneous AVE 5026 with an enoxaparin calibrator arm in the prevention of Venous Thromboembolism in patients undergoing Elective Total Knee Replacement Surgery.
2007	NOVARTIS Hellas AEBE	Eu-CORE SM : European CUBICIN [®] Outcomes Registry and Experience for the Treatment of Serious Gram-positive Infections.
2007	SANOFI AVENTIS	ETHOS Clinical Trial: Evaluation of duration Thromboembolic prophylaxis after major Orthopaedic Surgery.
2007	SANOFI AVENTIS AEBE	Clinical Trial EFC 10343 – SAVE HIP 2: A multinational, multi-centre, randomized, double-blind study comparing the efficacy and safety of AVE5026 with enoxaparin for the prevention of Venous Thromboembolism (VTE) in patients undergoing Hip Fracture Surgery.
2007	DEPUY	A prospective, international, multi-centre, uncontrolled, post-marketing surveillance study to monitor the long-time performance of a large Metal-on-Metal (MoM) bearing comprising a DePuy ASRTM cup in conjunction with either a DePuy ASRTM hip resurfacing femoral component or a DePuy ASR TM XL Head in subjects with indications suitable for either a primary resurfacing arthroplasty or primary Total Hip Arthroplasty.
2008	NYCOMED Danmark, Aps	PAREXEL Number: 90383 A 24-week, international, multi-centre, randomized, double-blind, double-dummy, parallel group, phase IV clinical trial investigating changes in postmenopausal women with an osteoporosis-related vertebral fracture(s) treated with either 100 µg PTH (1-84) daily or 70 mg alendronate weekly.
2008	PHARMASER-VE- LILLY	B3D-EW-GHDK (EudraCT: 2008-002693-35) A comparison of the effect of Teriparatide with that of Risedronate in the bone density of the lumbar spine in men and postmenopausal women with low bone mass and a recent intertrochanteric fracture.
2008	NOVARTIS	Multinational, multi-centre, double-blind, randomized, placebo-controlled, parallel group clinical trial investigating the effect of zoledronic acid in the prevention of future osteoporotic hip fractures.
2010	AMGEN	A multi-centre, randomized, double-blind, placebo-controlled study investigating the effectiveness, safety and the resistance of AMG 785 in adults with recent unilateral intertrochanteric fracture of the proximal femur, after fixation with sliding hip screw or intramedullary nail.
2010	AMGEN	A multi-centre, randomized, double-blind, placebo-controlled study of AMG 785 in skeletally mature adults with new unilateral fracture of the diaphysis of the tibia after definite intramedullary fracture fixation.



Michael J. Patzakis, MD
 Emeritus Professor and Former Chairman
 Department of Orthopaedic Surgery
 Keck School of Medicine
 University of Southern California
 Los Angeles, CA, USA

“The faculty and staff of the Department of Orthopaedic Surgery at the University of Thessaly under the superb leadership and mentorship of Professor Konstantinos N Malizos has distinguished it and brought outstanding international recognition upon the Orthopaedic Department, Medical School and University. The period between 1998-2014, and continuing after my receiving an Honorary Scholar Degree from the University of Thessaly, has been a period of very close and significant collaboration between the Department of Orthopaedic Surgery of the Keck School Of Medicine at the University of Southern California and the Department of Orthopaedic Surgery at the University of Thessaly.

During this period, the collaboration between our departments has been extremely productive and mutually beneficial. The faculty from both prestigious universities has participated in a number of international meetings held in the United States and Greece. Faculty members from both institutions have been visiting professors and invited guest speakers at each of our universities. Many orthopaedic residents from the University of Thessaly have spent a year or more as Clinical Research fellows at USC, which has led to numerous scientific publications in prestigious journals and oral podium presentations at many national and international meetings by the research fellows and faculty.

The research fellows have helped enhance the reputation of the University of Thessaly by becoming faculty members of University Orthopaedic Departments at outstanding medical schools in the United States, Greece and other countries. The faculty and alumni of the University of Thessaly have served, and continue to serve, as leaders of the Hellenic Association of Orthopaedic Surgery and Traumatogy, the national orthopaedic surgery organization of Greece, as well as other international orthopaedic organizations. More importantly, their outstanding scholarly activities, research, surgical skills, and patient care expertise have benefitted not only their patients, but also patients everywhere.

I am very honored and humbled to be holding an Honorary Scholar Degree from the University of Thessaly. The University should be very proud to have such an outstanding leader and visionary as Professor Malizos and his excellent faculty as representatives of their University.”



Charalampos G. ZALAVRAS
 Professor
 Department of Orthopaedic Surgery
 University of Southern California Keck School of Medicine
 LAC+USC Medical Center, Los Angeles, CA, USA

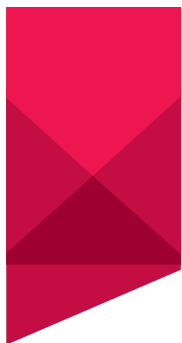
“The Orthopaedic Department of the University of Thessaly under the leadership of Prof. Malizos has become an excellent academic center and an important collaborator with our Department at the University of Southern California. This ongoing collaboration involves both research and education and has been very productive. Orthopaedic surgeons from Prof. Malizos’ Department worked as Research Fellows with us and had a key contribution to multiple projects. Our academic collaboration also includes published manuscripts, research projects, and many educational activities organized both in Greece and in the USA with extensive participation from both Departments. I look forward to the next decade!”



Dean G. SOTEREANOS
 Clinical Professor of Orthopaedic Surgery
 Orthopaedic Shoulder, Elbow and Hand Surgeon
 University of Pittsburgh School of Medicine
 Pittsburgh, PA, USA

“I am extremely pleased to have been given the honor of expressing my opinion in regard to your excellent department and surgeons. It should be noted that our relationship began on firm footing during the difficult but wonderful fellowship years at Duke University. Since then the foundation of our relationship has solidified and collaboration between your outstanding department and ours at Drexel University has been highly productive.

I have been honored to train some of your excellent staff, namely Sokratis Varitimidis, who has been an integral part of your department and a sincere friend to myself and department alike. The collaboration between our two departments has produced numerous publications, research projects and planned meetings alike. International friendships have grown from this relationship and continue to bloom into the future. In short, I have been blessed to have met Prof Malizos, Dr. Varitimidis and other members of your department as well. The friendships, relationships and collaboration in the past and future have led to great personal joy and satisfaction. I wish you sincere congratulations for the first decade of your department and hope that your outstanding success continues.”



Nicholas G. SOTEREANOS
 Chief, Division of the Adults Reconstruction
 Drexel University College of Medicine
 Allegheny General Hospital, Pittsburgh, PA, USA

“I wish you sincere congratulations for the first fifteen years of your department which was very creative and productive. I have been honored to train some of your excellent staff, in the Department of Orthopaedics at the Allegheny General Hospital at the beginning of their career, namely Sokratis Varitimidis and Kostas Bargiotas. During my visit to your Department, a few years ago, I had the opportunity to see and enjoy a very young team of surgeons working with great enthusiasm to achieve their goals for excellent clinical and academic outcomes. I am proud to be a friend of yours and your staff and I hope that collaboration between our Departments will continue in the future making the relations between the members of our Departments even stronger.”



Kyriacos A. ATHANASIOU, Ph.D., P.E.
 Distinguished Professor of Biomedical Engineering
 and Orthopaedic Surgery
 Chair, Department of Biomedical Engineering
 Child Family Professor of Engineering
 University of California Davis, USA

Editor-in-Chief
 Annals of Biomedical Engineering

“In 2005, my wife and I decided to spend a one-year sabbatical outside the US. We selected the area of Magnesia and the University of Thessaly. In 2006-07, our entire family, including our two elementary school age boys, spent an unforgettable year in the most beautiful country on earth. One of the most significant outcomes of that year was my getting to meet Professor Konstantinos Malizos and getting to spend time with him discussing a spectrum of topics, usually centered on our beloved topic of musculoskeletal science. His global view of the field, his incisive observations, but, most of all, his passion for excellence were a breath of fresh air at a time that the nation of Greece was beginning to battle its demons. That year was the beginning of a fruitful and exciting collaboration between my group at the University of California Davis and Professor Malizos’ group at the University of Thessaly. Tangible outcomes of that interaction have been the training of outstanding Greek medical doctors in Davis but also work on approaches toward regeneration of articular cartilage. Indeed, Kostas and I have established a conduit of selecting exceptional fellows

from Larissa who join my group as postdoctoral fellows. We have co-authored papers as, for example, an exhaustive review on approaches to resurface cartilage which is now under final review by the journal Nature Rheumatology Reviews. He, and members of my group and I have visited each other’s institutions toward strengthening our interactions. During our scientific visits, I have had ample opportunity to meet other outstanding scientists and clinicians in Larissa, including Zoe Daliliana, Michael Hantes, Theofilos Karahalios, Aspasia Tsezou, Sokratis Varitimidis, among many others. My group and I in Davis are eager and excited to continue our multifaceted interactions with Kostas Malizos and our colleagues at the University of Thessaly. I would be remiss though if I did not indicated that, during these days of darkness in Greece, Prof. Malizos and his colleagues stand out because of their heroic and relentless efforts to extract the country from the vises of despair and downhill procession. Their efforts toward scientific and clinical excellence make me and all Hellenes proud.”



Pascal CHRISTEL
 Professor of Orthopaedic Surgery
 Institut Nolle Paris, France

“My collaboration with the Orthopaedics department of the University Hospital of Larissa can be traced back to 2004 when Professor Malizos invited me for the conference on Current Concepts in Knee Disorders and Surgery to lecture on Double-bundle ACL reconstruction.

Following the first contact Prof Malizos invited me as visiting professor almost yearly for surgical demos and lectures. Anatomic double-bundle ACL reconstruction was the center of interest. I had the opportunity to appreciate the high activity and the multiple facets of competences of Prof Malizos’ department, in all fields of orthopaedic surgery clearly meeting the international western standards.

The exchange was strengthened by the venue in Paris during the 2006-2007 years, of a young surgeon from Prof Malizos’ team, Georgios Basdekis, MD, as research fellow. Several articles and book chapters witness this collaboration.

I have always enjoyed my stays in Larissa where the exchanges and discussion with my local colleagues have been regularly lively and fruitful. This was also a good opportunity for me to discover and appreciate the legendary Greek hospitality.

I wish Prof Malizos and his team a long successful continuity in leadership.”



Dominique Le VIET
 Professor of Orthopaedic Surgery
 Institut de la Main
 Paris, France

“In the last decade I had the chance to get to know and train hand surgeons from the Department of Orthopaedic Surgery of University of Thessaly.

During the year 2003, I visited the Department of Orthopaedic Surgery of University of Thessaly in Larissa, Greece and met the Chairman Professor Konstantinos Malizos and his colleagues, including Doctor Zoé Dailiana who had previously been my fellow at the “Institut de la Main”.

During my stay in Larissa, I have enjoyed the hospitality of Professor Malizos and had the chance to visit his service that is very well organized. At the University Hospital of Larissa, Professor Malizos leads both the Orthopaedic Department and the Emergency Service for Hand Trauma and Replantation that operates 24/7, all year long, with the hand surgery team consisting of the Assistant Professors Zoé Dailiana and Sokratis Varitimidis.

The department has a significant library and very important scientific activity, as in the last 10 years the team, consisting of 8 orthopaedic surgeons, has published over 200 articles in international journals and over 40 chapters in hand/orthopedic surgery textbooks.

Professor Malizos has remarkably organized in June 2007 the FESSH congress in Athens, while Doctor Dailiana was the President of the hosting Hellenic Society for Surgery of the Hand.

The collaboration with the hand surgeons of University of Thessaly was very fruitful and led to several publications in peer-reviewed journals and books. I would advise anyone who is interested in Orthopedic Surgery and in particular in Hand Surgery and Microsurgery, to visit the Orthopedic Department in Larissa.”

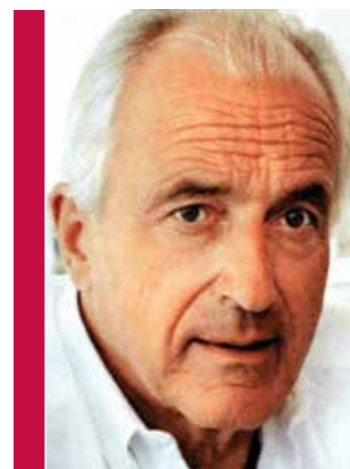


James CHOW
 President, Arthroscopy Association of North America 2005-2006
 Chairman, Orthopaedic Department, SSM Healthcare, Good Samaritan Hospital, Mt. Vernon, IL USA
 President and Founder of the Orthopaedic Center of Southern Illinois, Mt. Vernon, IL USA
 President and Founder of the Orthopaedic Research Foundation of Southern Illinois, Mt. Vernon, IL, USA

“In 2003, I had the honor of being invited as a Visiting Professor to participate in the International Symposium on Prevention and Treatment of Sports Injuries, sponsored by the Orthopaedic Department of the University of Thessaly. Professor Konstantinos Malizos, Associate Professor Theofilos Karachalios, and the

other members of the University of Thessaly’s Orthopaedic Department provided an excellent venue for the symposium in the beautiful city of Larissa. It was an exciting opportunity to exchange ideas with other scientists and enjoy the generous hospitality of the people in the Larissa Prefecture. My family and I have fond memories of the trip we took with Dr. Zoe Dailiana to the monastery above the city.

Dr. Michael Hantes was the Arthroscopy Fellow for one year at the Orthopaedic Center of Southern Illinois from 2001-2002. Although he learned arthroscopy for many different joints, his prime interest was shoulder arthroscopy. In addition to showing him my shoulder techniques, I also sent him to several of my friends; such as, Dr. Steve Snyder in California and Dr. Stephen Burkhart in Texas. He also learned from the Master Shoulder Instructors at the Orthopaedic Learning Center in Rosemont, Illinois. During his year with us, he worked extremely hard on his assigned research projects, several of which were published. One research paper was selected for the 2002 Resident/Fellow Essay Award from the Arthroscopy Association of North America. I must say that he is considered to be one of my best Fellows. I am very proud to learn that he finally earned a position at the University of Thessaly as I am positive that he will be a benefit to the University, his students, and his patients with his knowledge and skills.”



Hans H. PAESSLER
 Prof Sports Medicine (Hon), FRCSed
 ATOS Privatklinik Heidelberg, Germany

“In 1994, the George Noulis Fellowship was created by me during the First Arthroscopic Symposium of the University of Joannina (Prof. Soukagos, Prof. Georgoulis). Every year one Greek orthopaedic surgeon was invited to spend a one-year fellowship for specialization in arthroscopy and orthopaedic sports medicine in our Center of Knee and Foot Surgery at the ATOS-Clinic in Heidelberg.

Dr. Michael Hantes became elected by the Hellenic Society of Orthopaedic Surgery for the period of April 1999 to April 2000. It was for us a special and exciting experience to have Michael with us. His enthusiasm for our common field of interest, the cruciate ligaments and their reconstruction, meniscal and cartilage injuries, resulted in a number of excellent publications in international high profile journals.

We were very happy to hear that Michael achieved after his return to Greece a position at the University of Thessaly in Larissa, where he could very successfully continue his favorite fields of surgery under Prof. Konstantinos N. Malizos, one of the great leaders of orthopedic surgery in Greece, whom I have also known since he was still working in Ioannina.

Together with Prof. Malizos, Michael organized several international symposia with an always outstanding faculty. I was honored to participate and lecture at two of these meetings, and I was amazed about the number of participants, the excellent organization, and the unusual high scientific level.

In conclusion, I am happy about this very satisfying collaboration and hope it will continue for long time in the future. The contribution of the Orthopaedic Department of Thessaly to the field of sports traumatology and arthroscopy during the last ten years has enriched significantly our knowledge both in science and clinics significantly.”



Julian FELLER, F.R.A.C.S.
Orthopaedic Surgeon
OrthoSport Victoria
Level 5, 89 Bridge Rd
Richmond VIC 3121
Australia

Letter to Prof Malizos after the hosting of the APKASS ESSKA DJO Travelling Fellowship by the Orthopaedic Department of the University of Thessaly:

*Dear Kostas,
... [I'd like to express] how much we appreciated our time in Larissa and how much I admire your leadership and vision ... I can't really express how grateful we all were for our wonderful experience in Greece.
I really do hope that we can maintain contact with the potential for further collaboration.*

*With kind regards,
Julian*

Letter to Associate Professor Michael Hantes:
26 May 2014

Dear Michael,

I wanted to once again thank you for organizing such a memorable time in Larissa during our recent AP-KASS ESSKA DJO Travelling Fellowship.

You really went to a lot of effort and we were all very impressed.

Despite having been on the road for over two weeks by the time we got to Larissa we were all re-energized by the visit.

The trips to Vergina and to Meteora were of course absolute highlights of our whole trip. But the scientific and orthopaedic content was also very impressive. For a country that has been having financial troubles, Greece certainly can, from what we have seen, offer a high level of orthopaedic care with great surgical skill and expertise. We were all impressed by our time in the operating room with you. The scientific session was without doubt the most well attended of all our sessions during the Travelling Fellowship and we really enjoyed the orthopaedic discussions with all of the team.

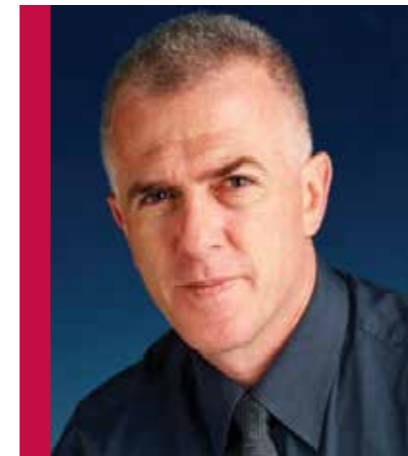
I was very impressed by the vision of Professor Malizos and would be grateful if you could pass on my thanks to him. He is clearly a great leader and has put together a great team.

Our Travelling Fellowship started with wonderful hospitality in Barcelona and finished with wonderful hospitality in Larissa. But perhaps no one does it better than the Greeks!

I look forward to staying in contact in the future.

With many thanks and kind regards,

Julian Feller
JULIAN FELLER



Apostolos KARANTANAS
Assoc. Professor of Radiology, University of Crete, Heraklion, Greece
Past President European Society of Musculoskeletal Radiology

"My collaboration with Prof Konstantinos Malizos dates back in the '80s in Ioannina. From a position of strategic planning in our city of birth, Larissa, Prof Malizos continued the essential - although in unfavourable conditions - initial period of professional development. From the position of the Director of the Departments of CT and MRI at the General Hospital of Larissa, I had the pleasure to experience from the first moment the balanced and effective steps of the Orthopaedic Department, a unit which is nowadays famous in our country. Collaborating with experts with whom he shared the same vision, it was possible to deeply search and develop several scientific fields. With those collaborators, I have completed scientific searches with studies the results of which benefited the patients. I remember with nostalgia the years of our common paths and I send my wishes to all those people who contributed to the development of the Orthopaedic Department of the University of Thessaly."



"It gives me a great pleasure to write about the cooperation between the department of Anatomy and the department of orthopaedics. Our cooperation has been a long lasting venue. As a result Dr Aris Zibis an orthopaedic surgeon who was trained at the orthopedic department under the leadership of professor K.N. Malizos constitutes an invaluable member of our Anatomy staff at the rank of assistant professor. Our cooperation was intensified, after the building of the new medical school complex, which includes a brand new spacious Anatomy laboratory. Two international meetings and four national on orthopaedic subjects and annual Greek meetings with mutual interests in Anatomy and orthopaedics have been taken place and will continue to do so regularly in the future, for the benefit of the orthopaedic surgeons, the anatomist, the medical students and the post-graduate medical students. Our cooperation is already strong and will continue to strengthen in the future for the benefit of our medical school."

Dimitrios L. Arvanitis
Professor and Chairman
Department of Anatomy
University of Thessaly, Larissa, Greece



Aristeidis Zibis
Assistant Professor
Department of Anatomy,
University of Thessaly, Larissa, Greece

“It is great honor for me to write about the team of this orthopedic department. My co-operation with the Orthopaedic department begins in 2000, when I was in the team of Professor and Chairman Dr. K.N.Malizos during my residency. Until 2005 I had the great opportunity to establish myself to residency at a very highly equipped department and to achieve great scientific experiences at clinical and research level. Each member of this team has provided to me exceptional skills and I want to publicly thank. The knowledge, intelligence, ethics and vision of Dr. Malizos inspired me to develop myself, to stand firmly on my feet and to claim a clinical fellowship in the University Hospital Penn State S. Hersey in the U.S.A. Six years after my first contact with the clinic, obtaining qualifications with honors, I felt a most worthy member of this unique, pioneering and eminent scientific group. The basic knowledge gained within the university clinic, the endless hours in the operative rooms and scientific laboratories were decisive in the development of my career. Being an experienced private orthopedic surgeon and Assistant Professor at Anatomy Lab in the University of Thessaly, today, it gives great pleasure and honor to continue the co-operation between the anatomy lab and the orthopaedic department in many scientific events. Partnerships that promote teamwork, respect and honor improve medical science and doctors themselves as scientists and individuals. I am sure that the orthopedic department under the leadership of prof. K.N. Malizos still has much to offer in the European and global scientific community but also to the number of patients who, despite the adversities of our age, he serves with generosity. I will always feel as a member of this group which gave me all that things, develop and establish myself scientifically.”



Dimitrios FOTIADIS
Professor

Unit of Medical Technology and Intelligent Information Systems, Dept. of Computer Science, University of Ioannina, Greece

“The collaboration between Professor K. Malizos and Professor D.I. Fotiadis lasts more than 17 years and concerns the modeling of hard tissues, the development of information systems for decision-support and medical diagnosis, therapeutic biophysical methods and telemedicine systems. The collaboration started in 1992 for the development of a Low-intensity Ultrasound System for enhancing bone fracture healing. This joint effort continued in the next years by developing an intelligent module for monitoring the healing process and also by introducing telemedicine solutions. The above research resulted in a series of papers in



Vasilios PROTOPAPPAS
Post-doc Researcher

peer-reviewed journals, three international awards and in an international patent. Research has also been conducted on computational methods for the evaluation of osteonecrosis and the quantitative analysis of images for the extraction of morphological features. The collaboration of the Unit of Medical Technology and Intelligent Information Systems with the Orthopaedics Department of the University Hospital has extended to new technologies and novel applications, such as the implementation and use of Computer Patient Records in Orthopaedic Surgery which was established for the first time in Greece in the year 2000.



Aspasia TSEZOU
Professor of Medical Genetics
University of Thessaly, Larissa, Greece

“The collaboration of my research group with Prof. Malizos and his team started 5 years ago at the University Hospital of Larissa and has been since then extremely productive. During this time we have worked in research fields relating to the genetic investigation of OsteoArthritis aiming at novel therapeutic strategies for osteoarthritis, as well as the genetic contribution of the host to musculoskeletal infections; topics which have not been investigated under this concept before by the Greek scientific community.

From this collaboration 5 PhD theses are undergoing and 20 original scientific papers in international biomedical peer-reviewed journals have been published so far. We are actively involved in large European Networks and Consortia dealing with the genetic research of OsteoArthritis and are closely collaborating with leading scientists in the field from the University of Tokyo, University of Santiago de Compostela- Spain and University of Leiden-The Netherlands.

In this extremely constructive collaboration Prof. Malizos has contributed the most, driven by his intense interest for the advance of biomedical research.”



Georgios HADJIGEORGIOU
1. Associate Professor of Neurology
Faculty of Medicine, University of Thessaly, Greece
2. Laboratory of Neurogenetics
Institute of Biomedical Research & Technology, CERETETH,
Larissa, Greece

“During the last five years my colleagues and myself are closely collaborating with the Department of Orthopaedics of the University of Thessaly under the leadership of Prof. Malizos. We are working on a two-sided project namely: a) clarification of the clinical significance of the brain white matter lesions in patients with osteonecrosis of the femoral head (a condition that we described in 2004 in collaboration with Dr Malizos and Dr Karantanas and designated as WMLeOn – White Matter Lesions in Osteonecrosis), and b) identification of the genetic basis of osteonecrosis and WMLeOn. All these years Prof. Malizos was very supportive to these projects and his enthusiasm along with constructive contribution was always a power of effectiveness. All these years, the Department of Orthopaedic of our University became a leader not only in clinical services but also in research field worldwide. It is always a pleasure to collaborate with them and wish them a more productive and fruitful next decade.”



Roidis Nikolaos, MD, PhD, DSc
 Consultant Orthopaedic Surgeon
 3rd Orthopaedic Department, KAT Hospital
 Athens, Greece

“I first met Professor K. Malizos back in 1998 when I was a resident Orthopaedic Surgeon at the Orthopaedic Department of the University of Athens, KAT Hospital, Athens. He was then - as a recently elected Professor of Orthopaedics - very enthusiastic in organizing a “state-of-the-art” Orthopaedic Department at the University of Thessaly, following international Academic standards. I immediately shared his vision and along with the strong recommendation of Professor Th. Karachalios, I was offered the unique opportunity to be trained as a Clinical Research Fellow at the University of Southern California, Los Angeles, USA. After 2.5 great years at USC, I was appointed as a Faculty Member at the newly established Orthopaedic Department of the University of Thessaly. Some wonderful years were to follow, as I was totally inspired by the real academic environment of the Department, unparalleled for the Greek University standards till now. Professor K. Malizos was unique in “brainstorming” scientific discussions and meetings and was always ready to support any interesting research idea both in basic science and clinical setting. After 6.5 prosperous years as a Consultant Orthopaedic Surgeon at the Orthopaedic Department of the University of Thessaly, I moved in Birmingham, UK as a Locum Consultant, Heartlands NHS Trust and then in Athens as a NHS Consultant at KAT Hospital. All the following years, I am being honored with an active collaboration with my home Department, involving both research and education. Published manuscripts came out of this intense collaboration along with a lot of well-organized educational activities and meetings under the auspices of the Hellenic Orthopaedic Association. The Orthopaedic Department of the University of Thessaly has gained both National and International recognition as an excellent Academic Center based on the efforts and hard work ethic of all the Faculty Members under the charismatic leadership of Professor K. Malizos.”



Vasileios Kontogeorgakos, MD
 Assistant Professor,
 National and Kapodistrian University of Athens
 Athens, Greece

“I joined the orthopaedic team of the University Hospital of Thessaly, Larissa in January 2011. At that time I was the junior attending of the Orthopaedic department. I joined the musculoskeletal tumor service that is the reference unit for the area of Thessaly. We introduced new treatment protocols and molecular research projects. Soon I became a solid part of the medical staff as my colleagues surrounded me with their kindness and professionalism.

What is very characteristic in this team is the high level of sub-specialization of each member covering almost all clinical topics in the adult and children orthopaedic surgery and musculoskeletal trauma. Under the leadership of Prof. K. N. Malizos this established department continues to offer high-level clinical and research output to the local community and international scientific community.”



Panagoula KOLLIA
 Associate Professor,
 Laboratory of Human Molecular Genetics, Faculty of Biology
 University of Athens, Greece

“The collaboration of the Laboratory of Human Molecular Genetics of the Faculty of Biology of University of Athens with the Department of Orthopaedic Surgery of University of Thessaly has started 9 years ago and has been focused on:

- the significance of gene and protein expression of periosteal cells in bone homeostasis and fracture healing
- avascular necrosis of the femoral head through the expression/differential expression of genes and proteins of the necrotic and normal parts of the femoral head
- osteogenic differentiation and microarrays analysis of genes
- osteoporosis and signaling pathways contributing to the disease (part of GEFOS Program, FP7 Health-2007-2.4.5-4)

The collaboration with Dr Malizos and Dr Dailiana was very fruitful and led to

- the supervision of three doctoral thesis candidates
- a National Grant from the Hellenic Society of Orthopaedic Surgery and Traumatology
- a European Osteoporosis Research Consortium, supported by an FP-7 grant.”



Efthymia Petinaki
 Associate Professor of Microbiology
 University of Thessaly, Larissa, Greece

“Since 2004, I have been collaborating with the team of the Orthopaedic Department of the University Hospital of Larissa, under the direction of Dr Malizos. During this collaboration, we have worked on the pathogenesis of orthopaedic infections, in order to identify rapidly and accurately the aetiological agent of infection and to apply the appropriate therapy. Conventional methods in correlation with a new molecular methodology revealed fastidious microorganisms as causative agents of infection in Thessaly. The results of these studies have been presented in national and international meetings and published in peer-reviewed international journals.”



Marianna VLYCHOU
Associate Professor
Department of Radiology
University of Thessaly, Larissa, Greece

“The Department of Orthopedics in collaboration with the Department of Radiology introduced a dedicated Musculoskeletal Ultrasound service to meet growing demands for the diagnosis of various pathological conditions using ultrasound. Ultrasound images of the musculoskeletal system provide diagnostic information of muscles, tendons, ligaments, joints and soft tissue throughout the body. Since 2005, such a diagnostic ultrasound service has been provided on an outpatient basis, with an afternoon list once a week at the University Hospital of Larissa. The diagnostic performance of ultrasound has been aided by the use of modern equipment (donated by Mrs S. Garani), with emphasis on rotator cuff pathology and trauma of peripheral tendons. The role of ultrasound in clinical routine has been considered complementary to other imaging modalities such as MRI and has also contributed to patients’ follow-up. The level of expertise of the above practice has been reflected in a number of scientific presentations and publications that have either appeared in the literature or are in progress.

At present, Associate Professor M.Vlychou, having been trained as musculoskeletal radiologist, is responsible for the operation of the above service.”



Maria G. IOANNOU
Associate Professor, Department of Pathology
University of Thessaly, Larissa, Greece

“I have participated in collaborative projects with the Orthopaedic Department of the University of Thessaly during the last eight years.

This collaboration included diagnostic histopathologic work on bone tumors and inflammatory conditions.

In addition, I have contributed histopathological and immunohistochemical data in various research projects. Several publications have included this data, as well as two theses.

Our collaboration has evolved into the development of a Musculoskeletal Pathology Research Unit for the primal handling of undecalcified “hard” tissue specimens.”



Constantin KAPPAS
Professor
Kiki THEODOROU
Ass. Professor
Panagiotis GEORGOULIAS
Associate Professor
Ioannis TSOUGOS
PhD fellow
*Medical Physics Dept. & Nuclear Medicine Dept.,
Medical School, University of Thessaly,
Larissa, Greece*

“The collaboration between the Department of Orthopaedics and the Medical Physics Department started immediately after our arrival at Larissa in 2001. In the beginning, this collaboration was restricted to daily clinical and academic matters but Prof. Malizos’ enthusiasm and creativity has opened up new horizons for common research projects. In the last few years, we have worked together on projects such as the creation of a new unit for functional and molecular imaging and telemedicine. The latest one is a novel telematic approach of emergency health services (e-Xtremity Care) in which the support, ideas and effectiveness of Prof. Malizos and Dr. Dailiana made it possible. The Department of Orthopaedics does credit to our University and we wish to Prof. Malizos and his team, the momentum gained from the last decade will lead them to a decade of excellence.”



Thomas D. GEORGIADIS, MSc
Military Veterinary Surgeon
Research associate
Larissa, Greece

“Professor Malizos Kostas through his innovative, creative and state-of-the-art surgical techniques, realizes the ancient Greek saying: “He who dares, wins”, opening new paths in orthopaedics. His academic contribution to basic research as well as to the clinical implementation of the experimental results from animal models studies proves to be unparalleled.”

“Professor Malizos Kostas follows in his life the saying: ‘Fortune favours the brave!’”



Athanasios A. Papachristos, MD
Consultant Orthopaedic Surgeon
Arryan Hospital
Dr Sulaiman Al Habib Medical Group
Riyadh, Kingdom of Saudi Arabia

“I joined the Department of Orthopaedic Surgery at the University of Thessaly under the leadership and mentorship of Professor Konstantinos N. Malizos, as senior resident, in the early 2000. The following four years I did my specialty training having the opportunity to pass almost through all the fields of modern Orthopaedics. During this period, Professor Malizos granted me my wish to participate in a scientific research program, named

USBONE aiming in the development of a wearable ultrasound device which will be used for the acceleration and monitoring of the fracture healing process in long bones. My Doctoral Thesis, an experimental study in a sheep osteotomy model for the enhancement and monitoring of fracture healing process in long bones with transosseous application of Low-intensity Ultrasound, was part of this program. This research resulted in a series of scientific publications in prestigious journals, several oral podium presentations at several national and international meetings, and three international awards. I consider it an honor that I had Professor Malizos as a teacher and mentor in Orthopaedics and I strongly believe that the scientific accoutrements gained from him have been supporting me throughout my career and especially at the present time, while working for the biggest private healthcare provider in the Middle East.”



Lazaros A. Poultsides, MD, MSc, PhD
Orthopaedic Surgeon
Adult Reconstruction and Joint Replacement
Hip Arthroscopy and Hip Joint Preservation
Department of Orthopaedic Surgery
Hospital for Special Surgery, New York, NY
Weill Cornell Medical College
USA

“For more than seven years (2002 - 2009), I had the pleasure and honor to work under the supervision of the Faculty and Staff of the Department of Orthopaedic Surgery of the University of Thessaly and the superb mentorship and leadership of Professor Konstantinos N. Malizos. From 2002 to 2004, I was awarded a clinical research fellowship and accepted as a PhD candidate at the Department of Orthopaedic Surgery, University of Thessaly. All PhD candidates, as well as formal trainees, were given an unparalleled opportunity to participate in the development of, and work at the modern Animal Microsurgery and Dissection Anatomy Laboratory of the University Hospital of Larissa. Based on his significant surgical and academic experience, Professor Malizos considered our involvement in the University of Thessaly lab as an integral component of our surgical training, which successfully introduced us to the field of bone, joint and soft-tissue surgery. Furthermore, our research endeavors were further enhanced and supported by the fruitful collaborations with the prestigious Departments of Microbiology, Biomechanics, Pathology and Molecular Genetics of University of Thessaly, further emphasizing the importance of interdisciplinary research. Based on the exceptional scientific and academic background of the entire Faculty of the Orthopaedic Department, all trainees were given a unique opportunity to develop skills in planning, initiating, executing, analyzing and presenting the results of clinical, translational and basic research, and finally, preparing and submitting original manuscripts for publication in major orthopaedic journals.

During the period from 2004 to 2009, I completed a comprehensive five-year orthopaedic residency program. The program encompassed education in the entire field of orthopaedic surgery, including inpatient and outpatient diagnosis and care as well as operative and non-operative management and rehabilitation. More specifically, the university educational program comprised of three years of General Orthopaedics, including Adult Reconstruction and Joint Replacement and Orthopaedic Trauma, six months of Hand Surgery, six months of Sports Medicine, and one year of Paediatric Surgery and Trauma. The rotations included daily rounds on inpatients, outpatient clinic, extensive surgical exposure -alternating in the role of primary surgeon and first assistant- which solidified our orthopaedic knowledge. The scientific activities included journal

clubs, conferences and grand rounds which enabled the trainees to develop skills as clinician-scientists. The outstanding faculty that Prof. Malizos has attracted provided us with the necessary cognitive, clinical, interpersonal, teaching, and research skills. Furthermore, the building facilities combined with the state-of-the-art technology infrastructure, and weekly access to Microsurgery Laboratory and the Psychomotor Skills Education Laboratory of our University, created an ideal environment for clinical and academic excellence. The Faculty behaved as mentors and role models as patient care specialists, disseminating also the value of ethical performance and team work. As for surgical volume and academic performance, the Orthopaedic Department of University of Thessaly has been recognized as a center for excellence in Microsurgery and Hand Surgery among numerous European centers and has been accredited by the Federation of European Societies for Surgery of the Hand as a training center for Hand Fellows. The Faculty enjoy extraordinary global recognition, which has been translated to fruitful and long-lasting collaborations with distinguished institutions worldwide. Prof. Malizos has always been an advocate for international travel and visit to other institutions. In particular, he has provided all his trainees with the opportunity to spend up to six months during residency in world-renowned institutions, further strengthening bonds and academic exchange between the Department of Orthopaedic Surgery of the University of Thessaly and different universities.

Having worked in the last five years in the United States, and specifically, in the Orthopaedic Department, Hospital for Special Surgery, New York, I would say that the educational residency program in the University of Thessaly offers equivalent training to analogous training programs in the United States. Undoubtedly, the Faculty of the Orthopaedic Department of University of Thessaly are committed to academic and clinical excellence. Under the exceptional leadership of Prof. Malizos, all graduate residents obtained the necessary knowledge, experience and skills to succeed in the certifying exams of the Hellenic Board of Orthopaedic Surgery and to be involved in medical practice as highly trained and competent orthopaedic surgeons.”



Nikolaos GOUGOULIAS, MD, PhD
Consultant Orthopaedic Foot & Ankle Surgeon
Frimley Park Hospital NHS Foundation Trust, Surrey,
United Kingdom

“Orthopaedics is art and science! Motivation and a global perspective are essential characteristics of an Orthopaedic Surgeon”. These are the principles I was inspired with, working as a senior trainee until 2007, in the Department of Orthopaedic Surgery of the University of Thessaly. A team of motivated, enthusiastic, people, under the lead of Prof. Malizos, continue to promote science and quality of clinical services, despite the economical hardship Greece is facing in the last five years. Personally - having moved on specializing in Foot and Ankle Surgery and practicing abroad - I feel always privileged to be invited, amongst many distinguished surgeons and scientists from Greece and abroad, to share my experience with the medical students, orthopaedic trainees and specialists participating in the departmental and regional scientific meetings organized by the Department of Orthopaedic Surgery of the University of Thessaly. It has been an honour and privilege to complete my residency training in this department, and I wish my ex-trainers a lot of success in the following years and may their efforts flourish.”



Apostolos Dimitroulias, MD, PhD
Pikeville Medical Center,
Pikeville, Kentucky, USA

“I have completed my Residency at the Orthopaedic Department of the University of Thessaly under the leadership of Prof. Malizos. The training I received was undoubtedly concise and formed a solid base for my fellowship training in US. Moreover the research opportunities were unparalleled as this is evident from the research output of the department. I feel privileged that I was trained at the Orthopaedic Department of the University of Thessaly.”



Loukia K. Papatheodorou, MD, PhD
Orthopaedic Surgeon, Hand & Upper Extremity Surgery
University of Pittsburgh Medical Center,
Pittsburgh, Pennsylvania, USA

“I had the privilege of being one of the Residents of the Department of Orthopaedic Surgery at the University of Thessaly. The training program of this Department, under the leadership of Prof. Konstantinos Malizos, has certainly broadened my scientific horizons, academically and clinically. The faculty members, all with high international post-doctoral training and outstanding international recognitions, share their expertise in clinical and research tasks and inspire residents to pursue their goals with hard work and dedication and to provide the best possible care to patients.

Equally valuable and beneficial to me was also the period when I worked as a Research Fellow in the Department of Orthopaedic Surgery at the University of Thessaly, prior to my residency. Under the valuable guidance of Prof. Malizos, I completed a MSc program and my PhD thesis learning the importance of combining the knowledge of basic research in biomedical sciences with the clinical applications in the field of Orthopaedics. Several publications in peer-reviewed scientific journals and scientific awards were achieved by participating in Department’s experimental and clinical studies.

Thanks to the Department’s principle to encourage its Residents’ further training in internationally renowned centers, I was able to serve part of my residency at Duke University, Durham, North Carolina, USA. Later, I had the privilege to attend Clinical Fellowship in Hand and Upper Extremity Surgery at Drexel University, College of Medicine, Pittsburgh, Pennsylvania, USA and at the University of Pittsburgh, Pennsylvania, USA under the guidance of Prof. Dean Sotereanos.

I would like to thank all the faculty of the Department of Orthopaedic Surgery at the University of Thessaly for the opportunity they offered me to work and train with them. I wish to express my deepest appreciation to my mentors Dr Malizos, Dr Dailiana, Dr Varitimidis, and Dr Sotereanos for leading me to the field of Hand and Upper Extremity Surgery.”



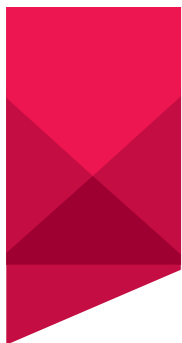
Sotirios G. MICHALITSIS, MD
Orthopaedic Surgeon
Consultant in Spine Clinic
Klinikum Dortmund Mitte
Dortmund, Germany

“It was not a long time ago that we managed our patients from the resident’s secure point of view. But once comes the moment that one must take responsibilities, make decisions, operate upon and face the outcome-good or even bad -as main surgeon. Everytime I find myself sweating in the OR or having a hard time with a complex situation, I recall how fundamental ‘decision making’ was - in theoretical or in surgical field- during our training. For that and for the constant motivation to make ‘a step forward’, I pay my teachers in the Orthopaedic Department of the University Hospital of Larisa the main credit. As ineptly put by Alexander the Great: ‘I m indebted to my father for living and to my teacher for well living’



Vasiliki Gkretsi, Ph.D
Researcher C (Research Assistant Professor)
Biomedical Sector, Institute for Research & Technology-Thessaly
(I.RE.TE.TH)/Centre for Research & Technology-Hellas (CE.R.T.H),
Larissa, Greece

“Professor Konstantinos Malizos was one of the founding members and the first director of the Institute of Biomedical Research & Technology/CERETETH that was recently renamed to Institute for Research & Technology-Thessaly (I.RE.TE.TH) and merged to the Centre for Research & Technology-Hellas (CE.R.T.H). The collaboration with the Department of Orthopaedics of the University of Thessaly started since IRETETH’s foundation in 2007 and has been very fruitful. As the institute aims to cover the gap between the rapidly developing basic research in biomedical sciences and the need for application of the results, a connection was immediately established between our research targets and clinical practice raised questions. Common research areas include the pathogenesis of Osteoarthritis and Osteonecrosis, the mechanisms for successful healing of the skeleton, as well studies on prevention of microbial biofilm formation around prosthetic implants. In collaboration with Professor Aspasia Tsezou from the Department of Biology of the University of Thessaly, our research output resulted in a number of scientific awards, the publication of more than 30 articles in peer-reviewed scientific journals and the successful acquisition of funds from the Greek industry, national and European research programs. We hope that this collaboration with the Department of Orthopaedics will continue to be rewarding and productive in the future as well.”



Petros Mikalef MD Eur Dipl Hand Surg
 Orthopaedic Hand Surgeon
 Senior Clinical Hand Fellow
 Birmingham Hand Centre
 United Kingdom

“I was appointed as a Hand Fellow in the department of Orthopaedic Surgery at the University of Thessaly in September 2008. This was a great opportunity to work with Professor Konstantinos Malizos, who mentored me during my stay in the Department. I was impressed and inspired by his enthusiasm and dedication.

I soon realised that this is a Department of Clinical and Educational Excellence. I was working with the best which is the key point of professional development. I was inspired, especially by Professor Malizos to seek further improving my skills and never put a full stop to my professional development. The experience and motivation gained here enabled me to enhance my knowledge and skills and have been a pivot point to my career. I am forever grateful to the faculty and staff of this department, especially to the visionary leader Professor Malizos, Professor Theophilos Karahalios, Associate Professor Zoe Dailiana and Associate Professor Socrates Varitimidis.

I personally feel that this world reputed Orthopaedic Department is a precious jewel of the University of Thessaly and the Orthopaedic and Academic family of Greece.”



Lampros Kourtis, PhD
 Director of Advance Technology
 Biomimedita Inc.
 USA

“It has been an honor to work and associate with the faculty and staff at the Department of Orthopedic Surgery at the University of Thessaly in Larisa. Our collaboration with Professor Malizos and his team goes back 17 years when we first started exploring the interactions between skeletal tissues and low intensity ultrasonic stimuli using theoretical and experimental models. This work, has resulted in a number of highly cited publications as well as several utility patents; the clinical outcomes of the study are extremely promising. Another fruit of this collaboration was the development and validation of a novel external fixator system that offers significant advantages over conventional designs. These are just a few of the innovative projects the faculty of the department has accomplished. The Department has thrived and continued to produce top tier research and clinical work even throughout the hardships of the recession period, a true sign of leadership and hard work. But more importantly, this small team of Academics and Clinicians have achieved something that is hard to find: a continuum of education and research that now has its own Diaspora well beyond the boundaries of a small country.”

6.1. International Collaborations

The Department collaborates with International Societies, and local institutions:

1. *The Hellenic Association of Orthopaedic Surgery & Traumatology*
 [Prof Malizos, President 2003 (Infection Department)]
2. *Hellenic Society for Reconstructive Microsurgery*
 [Prof Malizos: founding member, 1991; President, 1998]
3. *Hellenic Society for Surgery of the Hand*
 [K.N. Malizos: founding member, President 2002; Z. Dailiana: President 2007]
4. *Hellenic Society for Orthopaedic Research*
 [Prof Malizos, Ass Professor Karachalios: founding members]
5. *International Microsurgical Society*
6. *Hellenic Society for Distraction Histogenesis*
 [Prof Malizos: founding member].
7. *Yugoslavian Society of Orthopaedics*
 [K.N. Malizos, T. Karachalios, Z. Dailiana, S. Varitimidis: Honorary members, 2001]
8. *“Jack Michon” Hand Club, France*
9. *Club Raoul Tubiana*
10. *French Society for Surgery of the Hand (GEM)*
11. *European Federation of the Societies of Surgery of the Hand (FESSH)*
12. *European Bone and Joint Infection Society (EBJIS)*
 [Prof Malizos: President elect for 2005-2007]
13. *Duke Hand Club*
14. *Piedmont Orthopaedic Society, USA*
15. *American Society for Reconstructive Microsurgery*
16. *American Academy of Orthopaedic Surgeons (AAOS)*
 [K.N. Malizos, Th. Karachalios, Z. Dailiana, S. Varitimidis, M. Hantes, K. Bargiotas: Corresponding members]
17. *Orthopaedic Research Society (ORS)*
 [K.N. Malizos, Z. Dailiana: members]
18. *International Federation of the Societies of Surgery of the Hand (IFSSH)*
19. *World Society for Reconstructive Microsurgery*

Furthermore, the Department of Orthopaedic Surgery and Traumatology of the University of Thessaly has developed collaborative relationships with Greek, European and American Universities and Research Institutes:

1. Duke University Medical Center, Division of Orthopaedic Surgery
2. Department of Orthopaedic Surgery, Keck School of Medicine, University of Southern California LAC + USC Medical Center, Los Angeles, CA
3. Pennsylvania State University, Ms Hersey Medical Center
4. Allegheny General Hospital, Pittsburgh Pennsylvania, USA
5. Ial Nollet, Institut del' Appareil Locomoteur Nollet Paris, France
6. Institute of Biomedical Research, University of Ioannina, Greece
7. Laboratory of Medical Technology and Artificial Intelligence, Department of Computer Science, University of Ioannina
8. Institute for Research & Technology-Thessaly (I.RE.TE.TH) of the Centre for Research & Technology-Hellas (CE.R.T.H)
9. Hospital for Special Surgery, Cornell University, New York, USA

6.2. The Institute for Research & Technology-Thessaly (I.RE.TE.TH)/Centre for Research & Technology-Hellas (CE.R.T.H), Larissa, Greece



Founding Director: Professor Konstantinos N. MALIZOS

Location: Larissa, Greece

Web Page: <http://www.biomed.cereteth.gr/>

The **Institute for Research & Technology-Thessaly (I.RE.TE.TH), Larissa, Greece**, acts within the framework of translational research and in cooperation with Greek Universities, Hospitals, and other participants. More specifically, the Institute aims to cover the area between medical applications and the rapidly developing Basic Biomedical Research. Its research activities focus especially on the areas of diagnostic high output applications based on the developments of Genomics and Proteomics, the development of therapeutic applications, Neuroscience, Biochemistry, Biology of Reproduction, Biomedical Imaging and Radiation, Biomechanics, Histomechanics, and Biomechanic sensors of clinical physical output and rehabilitation. The Institute has adopted an interdisciplinary approach.

It is part of the **Centre for Research & Technology-Hellas (CE.R.T.H)**, which includes the institutes:

- Biomedical Research & Technology (*IBRT - BIOMED, Larissa*)
- Technology and Management of Agricultural Ecosystems (*ITEMA, Karditsa*)
- Human Performance & Rehabilitation (*PERFOTECH, Trikala*)
- Mechatronics (*IMTRONICS, Volos*)

The Institutes are spread in the region of Thessaly collaborating among them and are all staffed with internationally acknowledged scientific personnel. The clinical resources of BIOMED include 5 big hospitals and a number of private clinics, which sets the bases to support research protocols. The most important hospital is the University Hospital of Larissa.

The **I.RE.TE.TH** Institute consists of 9 research groups supported by the faculty of the School of Health Sciences of the University of Thessaly.

The Institute consists of the following research groups:

- Applied Biology
- Biochemical Toxicology
- Biomedical Imaging and Radiation
- Functional and Clinical Biochemistry
- Infectious Diseases of animals
- Investigational Medicine
- Molecular Biology and Genetics
- Molecular Microbiology
- Musculoskeletal Research Unit
- Neurogenetics
- Research - Nephrology

7. Opinions...

By **Christos V. Massalas**

- President of the Administrative Committee of the University of Western Macedonia
- President of the Council for higher-level University Education
- Ex-rector, University of Ioannina



Photo by V. Tloupa

“The academic institution passes from crisis to crisis. The requisite is that the present crisis be seen as an opportunity for the reforming power of the society to be revived and signal further developments.

As known, the University offers to the young: (a) the appropriate setting for their impregnation with the diachronic values of our civilization (and other civilizations), (b) education to enable them to meet the requirements of life and society, and (c) the research conditions for production of new knowledge and for creation of new researchers.

Science expresses the dignity of the University, the soul of the Institution, the basic principle that gives it the breath of existence and rescues it from being a mere mechanistic system. That is to say, it gives the University the sense based on which it becomes a synonym to Science. But it is also something more! The University needs contact with public life, the historical reality, with the present... The University should be open to reality that each time shapes itself, it should be in the centre of real life and impreg-

nated with it. The society needs the presence of the University as a calm intellectual force and as a critical conscience, which could intervene into the current social issues and indicate ways of confrontation and management of disagreement.

Its role...cultural, vocational, scientific and not only a role for students...

It is high time that the University, as a foundational institution, played a primary role in the actual play. As a dominant intellectual force it can lay the foundations for responsible citizens and make major contributions to the education of the society. Its current image does not meet the expectations of the citizen for the desired progress of our country in the future.

I slept on the above thoughts during my rehabilitation (after a surgery) at the Orthopaedic Department of the University of Thessaly, which is under the direction of Professor Konstantinos N. Malizos.

The environment of the Department, the faultless behaviour of the nursing personnel, the thoughtful approach to the patient by the scientific personnel

and the inspired management by its Director created the conditions for excretion of hope for the rebirth of the academic field. Dr Malizos, who started his career in another Orthopaedic Department (at the University of Ioannina, Greece) that has created tradition in quality treatment so much in the education and the provision of health care services as in the production of new knowledge, has become an exemplary case of a man, who honours the academic institution of the University (and the University of Ioannina) and together signals the level of quality in the area of health care services.

My reference to a personal experience aims at showing that hope has not been lost... and even that those unique cases of people have as a goal to signal the light that will show the way to the required future, a future of enhanced requirements.

It is a fact that our country does not survive due to

its functioning as a system of institutions but due to some people's enhanced efforts that supercede the duties corresponding to them.

The citizens of this country should understand that the power of the future is education... The societies who will survive in the future should be well-educated and the citizens should make the most of the knowledge they acquire in an intelligent way. The requisite is the understanding from all of us of the current situation and the expression of responsibility...

In the years we live in, we should bring into mind Hegel's laconic phrase describing world history (Lectures on the Philosophy of History, 1861): "Persia, the place of light, Greece the place of beauty, India, the place of dreaming", and to form those conditions that will allow us to add: "Greece, the place of education".

[published in the Eleftheria newspaper, November 2006 and translated into English by V. Boukouvala, MA]

8. Social & Scientific Events

In the course of the Orthopaedic Department's function at the University of Thessaly, and in parallel with their academic and research activities, the faculty members base their collaboration on social activities, attaching meaning to operating in an environment other than the one they work in. Interaction outside the usual workplace is a brilliant opportunity to socialize, exchange ideas and get entertainment through events specially organized to meet those needs. Among such social events there are some of scientific nature, like nominations for honorary degree recipients.

The Head of the Orthopaedic Department of UTH, Prof Malizos, has invited nominees - distinguished individuals who deserve special recognition for outstanding achievement, intellectual or creative, in their field of expertise, or in activities that contribute to the public good - to be awarded honorary degrees. Those academic awards reflecting the high ideals and values of the University bring credit to the university and inspire the graduates by projecting the virtues of the distinguished honoree.



Fig.21A



Fig.21B

Figures 21A, B: Photos from A. Professor George Stamatoyannopoulos' and B. Archbishop Anastasios' (Orthodox Church of Tirana and whole Albania) nominations as Honorary Scholars of the University of Thessaly.



Fig.22A



Fig.22B



Fig.22C

Figures 22A-C: Photos from Prof Patzakis' nomination as Honorary Scholar of the University of Thessaly.

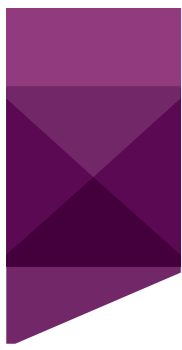


Fig.23A



Fig.23B

Fig. 23A, B: Photos from the social event organized by the Department of Orthopaedic Surgery & M/Sk Trauma honouring Dr Th. Moraitis, who has retired recently. A: Dr Moraitis with the nursing personnel of the Department, and the Chairman of the Department, Prof KN Malizos (B).



9. Address of Correspondence

Department of Orthopaedic Surgery & Musculoskeletal Trauma
Medical School, University of Thessaly
2 University str.
Biopolis, 41110 Larissa, Greece



Department of Orthopaedics & Musculoskeletal Trauma
University Hospital of Larissa [Tower B, Level 3].
Postal address: 41110 Biopolis, Larissa, Greece
Tel.: +30 2413 501199, -2213 Telefax: +30 2413 501011
email: malizos@med.uth.gr
www.ortho-uth.org

