Βιογραφικό σημείωμα - Γεώργιος Κ. Νίκας

Μηχανολόγος-Μηχανικός Εθνικού Μετσοβίου Πολυτεχνείου, D.I.C., Ph.D.

Σελίδα

Σύνοψη

Τίτλος και όνομα: Δρ Γεώργιος Κ. Νίκας
Χώρα και έτος γεννήσεως: Ελλάδα, 1969. **Υπηκοότητα:** Ελληνική εκ γενετής και Βρετανική από το 2001.
E-mail: gnikas@teemail.gr και george.nikas94@alumni.imperial.ac.uk. **Web:** www.tribology.me.uk

Εκπαίδευση

- **Διδακτορικό δίπλωμα (Ph.D.)** και **Δίπλωμα του Imperial College (D.I.C.)** στην Τριβολογία και Μηχανική Επαφών. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, Λονδίνο, Αγγλία, 1994-1999.
- **Δίπλωμα Μηχανολόγου Μηχανικού**. Εθνικό Μετσόβιο Πολυτεχνείο, Σχολή Μηχανολόγων Μηχανικών, Αθήνα, 1988-1994.
- Φοίτηση πρώτου έτους της Σχολής Μηχανολόγων Μηχανικών του Αριστοτελείου Πανεπιστημίου Θεσσαλονίκης, 1987-1988.

Επαγγελματική εμπειρία

- **Μηχανολόγος Μηχανικός** με άδεια του Τεχνικού Επιμελητηρίου Ελλάδος από το 1995.
- **Σύμβουλος, Research Assistant** και **Research Associate**. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 1996-2007.
- **Υπότροφος Jacob Wallenberg Foundation** – Βασιλική Σουηδική Ακαδημία Μηχανικών Επιστημών. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 2007-2008.
- **Ακαδημαϊκός Επισκέπτης**. Imperial College London, Τμήμα Μηχανολογίας, 2007-2013.
- **Director**. KADMOS Engineering Ltd (UK company registration number: 09139353), 2014-2025.

Μέλος επιστημονικών εταιριών

Πλήρες μέλος: **American Society of Mechanical Engineers** (Η.Π.Α., 2005-2017), **Society of Tribologists and Lubrication Engineers** (Η.Π.Α., 2005-2017), **Society of Automotive Engineers** (Η.Π.Α., 2005-2013), **ASM International** (Η.Π.Α., 2018), **Τεχνικό Επιμελητήριο Ελλάδος** (1995-), **Πανελλήνιος Σύλλογος Διπλωματούχων Μηχανολόγων – Ηλεκτρολόγων** (1995-).

Ερευνητική δραστηριότητα και συναφή θέματα

- **Επιστημονικές δημοσιεύσεις (62):** 49 εργασίες + 2 διατριβές + 3 κεφάλαια βιβλίων + 1 βιβλίο + 8 τεχνικές εκθέσεις. Κύριος συγγραφέας στο 94% (59/63) και αποκλειστικός συγγραφέας στο 70% (44/63) αυτών.
- **Ετεροαναφορές:** 2543 ετεροαναφορές σε 1512 επιστημονικές δημοσιεύσεις.
- ***h*-index** = 24 (εκάστη 24 δημοσιεύσεων έχει λάβει τουλάχιστον 24 ετεροαναφορές). **i10-index** = 39.
- **Associate Editor** του περιοδικού ASME Journal of Tribology (2009-2016) και **Μέλος της Συντακτικής Επιτροπής** σε άλλα 5 διεθνή επιστημονικά περιοδικά.
- **Κριτής άρθρων** σε 56 επιστημονικά περιοδικά και 2 διεθνή συνέδρια με 874 κριτικές εκθέσεις.
- **Κριτής** του εκδοτικού οίκου Elsevier (2 βιβλία και 1 πρόταση βιβλίου).
- **Διεθνής κριτής** του Ιδρύματος Επιστήμης της Τσεχίας (4 ερευνητικά προγράμματα), του Εθνικού Ιδρύματος Επιστήμης της Ελβετίας (2 προγράμματα), και της Ευρωπαϊκής Ενώσεως (EIC – 18 προγράμματα).
- **Τακτικό εξωτερικό μέλος** επιτροπής του Ελληνικού Υπουργείου Παιδείας και Θρησκευμάτων για την αξιολόγηση ακαδημαϊκού προσωπικού και Ελληνικών Πανεπιστημιακών τμημάτων.
- **Συνεπιβλέπων** μεταπτυχιακών φοιτητών στο Imperial College London, Τμήμα Μηχανολογίας (1996-2004).
- **Δημιουργός και διαχειριστής (webmaster)** του ιστοχώρου του Τομέος Τριβολογίας, Τμήμα Μηχανολογίας, Imperial College London, 1998-2011.

Διακρίσεις

- Υψηλότερος βαθμός πτυχίου μεταξύ των 47 αποφοίτων κύκλου σπουδών Κατασκευαστού της Σχολής Μηχανολόγων Μηχανικών του Εθνικού Μετσοβίου Πολυτεχνείου, 1994.
- Διπλωματική εργασία προταθείσα για το ετήσιο βραβείο καλύτερης εργασίας του Τεχνικού Επιμελητηρίου Ελλάδος (19 προταθείσες διατριβές σε σύνολο 333), 1996.
- Χορηγία Jacob Wallenberg Foundation της Βασιλικής Σουηδικής Ακαδημίας Μηχανικών Επιστημών, 100,000 Σουηδικών κορωνών (11,000 Ευρώ) για έρευνα στην επιστήμη υλικών, 2007.
- Associate Editor and Μέλος Συντακτικής Επιτροπής σε 6 επιστημονικά περιοδικά. Κριτής άρθρων σε 56 επιστημονικά περιοδικά και επιστημονικών βιβλίων του εκδοτικού οίκου Elsevier.
- Συγγραφέας επιστημονικών άρθρων, κεφαλαίων βιβλίων, εκδότης βιβλίου και λέκτορας κατόπιν προσκλήσεως.
- Βιογραφικό σημείωμα περιληφθέν σε 14 βιβλία Marquis Who's Who ("Who's Who in Science and Engineering", "Who's Who of Emerging Leaders" και "Who's Who in the World"), 2003-2017.
- Πρωτεύσας σε όλες τις τάξεις του Δημοτικού σχολείου, Γυμνασίου και Λυκείου (1975-87). Ετήσια Βραβεία Προόδου και Αριστεία σε όλες τις τάξεις Γυμνασίου και Λυκείου. Ετήσια βραβεία του Δήμου Αθηναίων για την υψηλότερη βαθμολογία στο Γυμνάσιο, 1982-85. Σημαιοφόρος στο Δημοτικό σχολείο και στο Γυμνάσιο.

Γενικές πληροφορίες

Όνομα: Γεώργιος Κ. Νίκας
Χώρα και έτος γεννήσεως: Ελλάδα, 1969
Ιθαγένεια: Ελληνική
Υπηκοότητα: Βρετανική από το 2001.
Τελευταίος εργοδότης: Imperial College London, Exhibition Road, Λονδίνο, SW7 2AZ, Αγγλία
E-mail: gnikas@teemail.gr και george.nikas94@alumni.imperial.ac.uk
Ιστοχώρος: www.tribology.me.uk

Εκπαίδευση

- **Διδακτορικό δίπλωμα (Ph.D.)** με ειδίκευση στην τριβολογία. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, Λονδίνο, Αγγλία, 1999. Επίβλεψη από τον Δρ. R. Sayles και τον Δρ. Ε. Ιωαννίδη.
- **Δίπλωμα του Imperial College (D.I.C.) στην Τριβολογία.** Imperial College London, Τμήμα Μηχανολογίας, Λονδίνο, Αγγλία, 1999.
- **Δίπλωμα Μηχανολόγου Μηχανικού** (5-ετές δίπλωμα (ισοδύναμο M.Sc.), 64 μαθήματα). Εθνικό Μετσόβιο Πολυτεχνείο, Σχολή Μηχανολόγων Μηχανικών, Αθήνα, 1994. Ο υποφαινόμενος είναι επαγγελματίας Μηχανολόγος Μηχανικός, μέλος του Τεχνικού Επιμελητηρίου Ελλάδος με αριθμό αδείας 71969.
- Φοίτηση πρώτου έτους της Σχολής Μηχανολόγων Μηχανικών του Αριστοτελείου Πανεπιστημίου Θεσσαλονίκης, 1987-1988.

Επαγγελματική δραστηριότητα

♦ **Εργασία και συναφή θέματα**

- **Σύμβουλος.** Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 1996.
- **Βοηθός Έρευνας (Research Assistant).** Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 1997-1999.
- **Σύμβουλος Imperial College (Imperial College Consultant – ICON).** IC Consultants Ltd. (εταιρεία υπαγομένη στο Imperial College London), Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 2000-2002.
- **Υπεύθυνος Έρευνας (Research Associate)**. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 1999-2004 και 2005-2007.
- **Υπότροφος Jacob Wallenberg Foundation – Βασιλική Σουηδική Ακαδημία Μηχανικών Επιστημών**. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 2007-2008.
- **Ακαδημαϊκός Επισκέπτης**. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας, 2007-2013.
- **Director**. KADMOS Engineering Ltd (UK company registration number: 09139353), 2014-2025.
- **Associate Editor** του περιοδικού τριβολογίας της Ενώσεως Μηχανολόγων Μηχανικών Αμερικής (ASME Journal of Tribology), 2009-2016.
- **Μέλος της Συντακτικής Επιτροπής** (Editorial Board member) του περιοδικού ISRN Tribology (Hindawi), 2012-2014.
- **Μέλος της Συντακτικής Επιτροπής** (Editorial Board member) του περιοδικού Conference Papers in Science (τμήμα Μηχανολογίας) (Hindawi), 2012-2015.
- **Μέλος της Συντακτικής Επιτροπής** (Editorial Board member) του περιοδικού The Scientific World Journal – τμήμα Μηχανολογίας (Hindawi), 2013-2016.
- **Μέλος της Συντακτικής Επιτροπής** (Editorial Board member) του περιοδικού International Scholarly Research Notices – τμήμα Μηχανολογίας (Hindawi), 2014-2017.
- **Μέλος της Συντακτικής Επιτροπής** (Editorial Board member) του περιοδικού Strojniški vestnik – Journal of Mechanical Engineering (πανεπιστήμιο της Ljubljana, Σλοβενία), 2015-2023.
- **Κριτής άρθρων** από το 2000 σε 56 επιστημονικά περιοδικά. **Κριτής επιστημονικών βιβλίων** του εκδοτικού οίκου Elsevier. **Κριτής επιστημονικών προγραμμάτων** των ιδρυμάτων Επιστήμης της

Τσεχίας και της Ελβετίας, καθώς και της Ευρωπαϊκής Ενώσεως. **Κριτής** του Υπουργείου Παιδείας και Θρησκευμάτων για μέλη Δ.Ε.Π. και τμήματα Ελληνικών Πανεπιστημίων.

♦ Επίβλεψη μεταπτυχιακών φοιτητών

Ο υποφαινόμενος έχει συνεπιβλέψει μεταπτυχιακούς φοιτητές στο Τμήμα Μηχανολογίας του Imperial College London. Για παράδειγμα:

- Atul S. Rana: "A tribological study of elastomeric reciprocating seals for hydraulic actuators" ("*Τριβολογική μελέτη ελαστομερών παλινδρομικών τσιμουχών για υδραυλικούς κυλίνδρους*"), διδακτορική διατριβή (Ph.D.) στην Τριβολογία, 1999-2005.
- Ismail S. Z. Jalisi: "A numerical method for the simulation of rough elastomeric contact" ("*Μια αριθμητική μέθοδος για την προσομοίωση επαφής ελαστομερούς υλικού με τραχύτητα*"), διδακτορική διατριβή (Ph.D.) στην Τριβολογία, 1998-2003.
- Κωνσταντίνος Τσουρινάκης: "Numerical solution of the 1-D Euler equations using total variation diminishing schemes" ("*Αριθμητική επίλυση των μονοδιάστατων εξισώσεων Euler με εφαρμογή σχημάτων ελαχιστοποίησης ολικής μεταβολής*"), 12-μηνο M.Sc. στη Μηχανολογία, 1995.

♦ Κρίση άρθρων σε επιστημονικά περιοδικά και συνέδρια

Ο υποφαινόμενος έχει διατελέσει Associate Editor του περιοδικού Τριβολογίας της Ενώσεως Μηχανολόγων Μηχανικών Αμερικής (ASME Journal of Tribology), 2009-2016 και μέλος της συντακτικής επιτροπής των περιοδικών ISRN Tribology (2012-2014), Conference Papers in Science (2012-2015), The Scientific World Journal (2013-2016), International Scholarly Research Notices (2014-2017) και Strojniški vestnik - Journal of Mechanical Engineering (2015-2023). Συνολικά, από το 2000, έχει υποβάλει 874 κριτικές εκθέσεις άρθρων ως εξεταστής στα ακόλουθα 56 επιστημονικά περιοδικά και 2 συνέδρια.

Περιοδικό	**Εκθέσεις**
Journal of Tribology, American Society of Mechanical Engineers (Ένωση Μηχανολόγων Μηχανικών Αμερικής) * 86 κριτικές εκθέσεις ως Κριτής και 222 εκθέσεις ως Associate Editor του περιοδικού.	308*
Tribology International, Elsevier	101
Tribology Transactions, Society of Tribologists and Lubrication Engineers (Ένωση Τριβολόγων και Μηχανικών Λίπανσης Αμερικής)	73
Journal of Engineering Tribology, Institution of Mechanical Engineers (Ίδρυμα Μηχανολόγων Μηχανικών Αγγλίας)	67
Journal of Mechanical Engineering Science, Institution of Mechanical Engineers (Ίδρυμα Μηχανολόγων Μηχανικών Αγγλίας)	33
Journal of Automobile Engineering, Institution of Mechanical Engineers (Ίδρυμα Μηχανολόγων Μηχανικών Αγγλίας)	28
Lubricants, MDPI	25
Journal of Aerospace Engineering, Institution of Mechanical Engineers (Ίδρυμα Μηχανολόγων Μηχανικών Αγγλίας)	22
Strojniški vestnik - Journal of Mechanical Engineering (Πανεπιστήμιο της Λουμπλιάνα, Σλοβενία)	20
Metals, MDPI	18
Journal of Power and Energy, Institution of Mechanical Engineers (Ίδρυμα Μηχανολόγων Μηχανικών Αγγλίας)	17
The Scientific World Journal – Mechanical Engineering section (Hindawi) * 15 κριτικές εκθέσεις ως Κριτής και 1 έκθεση ως Αναπληρωτής Συντάκτης του περιοδικού.	16*
ISRN Tribology, Hindawi	16
Wear, Elsevier	11
Materials, MDPI	11
Journal of Process Mechanical Engineering, Institution of Mechanical Engineers – IMechE (Ίδρυμα Μηχανολόγων Μηχανικών Αγγλίας)	10
Entropy, MDPI	8

Tribology Letters, Springer	7
Journal of Materials: Design and Applications, Institution of Mechanical Engineers (Ίδρυμα Μηχανολόγων Μηχανικών Αγγλίας)	7
Conference Papers in Science, Hindawi	5
Defence Technology, Elsevier	5
Sensors, MDPI	5
Energies, MDPI	5
Machining Science and Technology, Taylor & Francis	4
Applied Sciences, MDPI	4
International Scholarly Research Notices – Mechanical Engineering section, Hindawi * 3 εκθέσεις ως Αναπληρωτής Συντάκτης του περιοδικού.	3*
International Journal of Materials and Product Technology, Inderscience Publishers	3
Applied Mathematical Modelling, Elsevier	3
Mechanics of Materials, Elsevier	3
Tribology in Industry, Serbian Tribology Society	2
International Journal of Vehicle Design, Inderscience Publishers	2
Journal of Microelectromechanical Systems, Institute of Electrical and Electronics Engineers, (Ίδρυμα Ηλεκτρολόγων και Ηλεκτρονικών Μηχανικών Αμερικής)	2
Water, MDPI	2
SAE Technical Papers, SAE	2
Nanomaterials, MDPI	2
Recent Patents on Mechanical Engineering, Bentham Science Publishers	1
Scientific Research and Essays, Academic Journals	1
Archives of Mechanics, Polish Academy of Sciences	1
TriboTest, Wiley	1
International Journal of Mechanical Sciences, Elsevier	1
Journal of Applied Mathematics, Hindawi	1
International Journal of Surface Science and Engineering, Inderscience Publishers	1
Meccanica, Springer	1
Journal of Mechanical Design, American Society of Mechanical Engineers (Ένωση Μηχανολόγων Μηχανικών Αμερικής)	1
Journal of Zhejiang University – SCIENCE A (Applied Physics & Engineering), Springer	1
International Journal of Manufacturing Technology and Management, Inderscience Publishers	1
International Journal of Mechanisms and Robotic Systems, Inderscience Publishers	1
World Review of Science, Technology and Sustainable Development, Inderscience Publishers	1
Technologies, MDPI	1
Mathematical and Computational Applications, MDPI	1
SAE International Journal of Engines, SAE	1
International Journal of Computer Applications in Technology, Inderscience Publishers	1
SAE International Journal of Fuels and Lubricants, SAE	1
Engineering Failure Analysis (Elsevier)	1
Soft Materials, Taylor & Francis	1
Lubrication Science, Wiley	1

Συνέδρια	**Εκθέσεις**
20th International Conference on Wear of Materials, 12-16 Απριλίου 2015, Τορόντο, Καναδάς	2
2nd International Conference on Advanced Tribology, 3-5 Δεκεμβρίου 2008, Σιγκαπούρη	1

♦ **Κρίση αιτήσεων για χρηματοδοτούμενα ερευνητικά προγράμματα**

Ο υποφαινόμενος έχει διατελέσει εξωτερικός κριτής αιτήσεων χρηματοδότησης 4 ερευνητικών προγραμμάτων που έχουν υποβληθεί στο Ίδρυμα Επιστήμης της Τσεχίας (Czech Science Foundation) κατά τα έτη 2007-2009, 2 ερευνητικών προγραμμάτων για το Εθνικό Ίδρυμα Επιστήμης της Ελβετίας (Swiss National Science Foundation) το 2017, καθώς και 18 ερευνητικών προγραμμάτων της Ευρωπαϊκής Ενώσεως (H2020 κλπ), 2019-2021.

♦ **Κρίση επιστημονικών βιβλίων και προτάσεων για βιβλία**

Κατόπιν προσκλήσεως του διεθνούς εκδοτικού οίκου Elsevier, ο υποφαινόμενος έχει υποβάλει κριτικές εκθέσεις για τα ακόλουθα βιβλία:

- **Flitney R. K.** *Seals and Sealing Handbook* (5η έκδοση). Elsevier (Butterworth-Heinemann), Οξφόρδη, Αγγλία, 2007. ISBN: 978-1856174619.
- **Astakhov V. P.** *Tribology of Metal Cutting*. Tribology and Interface Engineering Series No. 52 (Εκδότης σειράς: B. J. Briscoe). Elsevier, Οξφόρδη, Αγγλία, 2006. ISBN: 978-0-444-52881-0.
- **Sethuramiah A.** and **Kumar R.** *Modelling of Chemical Wear and Its Relevance to Practice*. Πρόταση βιβλίου για τον εκδοτικό οίκο Elsevier, 2013.

♦ **Σύνταξη βιβλίου**

Κατόπιν προσκλήσεως του εκδοτικού οίκου Research Signpost (εκδοτικός οίκος βιβλίων ανασκόπησης στις Φυσικές Επιστήμες), ο υποφαινόμενος διετέλεσε συντάκτης ενός βιβλίου τριβολογίας 8 κεφαλαίων, συγκροτώντας και επιβλέποντας ομάδα 11 διακεκριμένων συγγραφέων και 8 εξεταστών από τις Η.Π.Α., την Αγγλία, τη Σουηδία, και το Ισραήλ. Για περισσότερες πληροφορίες, παρακαλώ δείτε υπό την επικεφαλίδα “Βιβλίο” στο τμήμα “Δημοσιεύσεις” του παρόντος βιογραφικού.

♦ **Άλλη**

- Ο υποφαινόμενος, υπό την καθοδήγηση του πατέρα του Κωνσταντίνου Νίκα, δημιούργησε το υλικό διήμερων και τριήμερων σεμιναρίων στην θεωρία, τεχνολογία, άρμοση/εξάρμοση και στις ζημιές εδράνων κύλισης. Τα σεμινάρια αυτά αποτελούνται από πέντε αρχεία Microsoft PowerPoint με συνολικά 538 διαφάνειες και έχουν παρουσιαστεί επί σειρά ετών από τον πατέρα του υποφαινομένου (πρώην Γενικού και Τεχνικού Διευθυντή της SKF Hellas) στην Ελλάδα, έχοντας εκπαιδεύσει χιλιάδες μηχανικούς και τεχνίτες στην βιομηχανία και σε πανεπιστήμια.
- Ο υποφαινόμενος δημιούργησε και επιμελήθηκε τον ιστοχώρο της Τριβολογίας στο Τμήμα Μηχανολογίας του Imperial College London από το 1998 μέχρι το 2011. Τον Ιούνιο του 2006 παρακολούθησε το σεμινάριο CMS (Content Management System – Σύστημα Διαχείρισης Περιεχομένου) στο Imperial College και κατόπιν τούτου μετασχημάτισε τον αρχικό ιστοχώρο της Τριβολογίας στη νέα του μορφή υπό το Oracle Portal CMS.
- Τακτικό μέλος της επιτροπής του Υπουργείου Παιδείας και Θρησκευμάτων για την αξιολόγηση μελών Δ.Ε.Π. και τμημάτων Ελληνικών Πανεπιστημίων από το 2013.

Μέλος επιστημονικών εταιριών

- Μέλος της Ενώσεως Μηχανολόγων Μηχανικών Αμερικής (**American Society of Mechanical Engineers - ASME**), 2005-2017.
- Μέλος της Ενώσεως Τριβολόγων και Μηχανικών Λίπανσης της Αμερικής (**Society of Tribologists and Lubrication Engineers - STLE**), 2005-2017.
- Μέλος της **Society of Automotive Engineers - SAE** (Η.Π.Α.), 2005-2013.
- Μέλος της **ASM International** (American Society for Metals) (Η.Π.Α.) (2018).
- Μέλος του **Τεχνικού Επιμελητηρίου Ελλάδος** (αριθμός μητρώου 71969) από το 1995.
- Μέλος του **Πανελληνίου Συλλόγου Διπλωματούχων Μηχανολόγων – Ηλεκτρολόγων** από το 1995.

Διακρίσεις και βραβεία

- Υψηλότερος βαθμός πτυχίου μεταξύ των 47 αποφοίτων του κύκλου σπουδών Κατασκευαστού της Σχολής Μηχανολόγων Μηχανικών του Εθνικού Μετσοβίου Πολυτεχνείου (πιστοποιητικό ΕΜΠ, 1994).
- Διπλωματική διατριβή προταθείσα για το ετήσιο βραβείο καλύτερης διπλωματικής εργασίας του Τεχνικού Επιμελητηρίου Ελλάδος το 1996 (19 διπλωματικές διατριβές προτάθηκαν από τριμελή επιτροπή του ΤΕΕ επί συνόλου 333 διατριβών).
- Χορηγία Jacob Wallenberg Foundation της Βασιλικής Σουηδικής Ακαδημίας Μηχανικών Επιστημών, ύψους 100,000 Σουηδικών κορωνών (11,000 Ευρώ), για έρευνα στην επιστήμη υλικών (2007).
- Associate Editor του περιοδικού Τριβολογίας της Ενώσεως Μηχανολόγων Μηχανικών Αμερικής (ASME Journal of Tribology), 2009-2016.
- Μέλος της Συντακτικής Επιτροπής (Editorial Board member) του περιοδικού τριβολογίας του ISRN Tribology (Hindawi), 2012-2014.
- Μέλος της Συντακτικής Επιτροπής (Editorial Board member) του περιοδικού Conference Papers in Science (Hindawi), 2012-2015.
- Μέλος της Συντακτικής Επιτροπής (Editorial Board member) του περιοδικού The Scientific World Journal (Hindawi), 2013-2016.
- Μέλος της Συντακτικής Επιτροπής (Editorial Board member) του περιοδικού International Scholarly Research Notices (Hindawi), 2014-2017.
- Μέλος της Συντακτικής Επιτροπής (Editorial Board member) του περιοδικού Strojniški vestnik - Journal of Mechanical Engineering (πανεπιστήμιο της Ljubljana, Σλοβενία), 2015-2023.
- Βιογραφικό σημείωμα περιληφθέν κατόπιν προσκλήσεως στα ακόλουθα βιβλία: "Marquis Who's Who in Science and Engineering", εκδόσεις 7 (2003-2004), 8 (2005-2006), 10 (2008-2009), 11 (2010-2011) και 12 (2016-2017), στο "Marquis Who's Who of Emerging Leaders", 1η Έκδοση (2007), καθώς και στο "Marquis Who's Who in the World", εκδόσεις 26 έως 33 (2009-2016).
- Πρωτεία σε όλες τις τάξεις του Δημοτικού σχολείου, Γυμνασίου και Λυκείου (1975-1987) κι απονομή όλων των ετησίων Βραβείων Προόδου και Αριστείων Γυμνασίου και Λυκείου, καθώς και του ετησίου βραβείου του Δήμου Αθηναίων για την υψηλότερη βαθμολογία στο σχολείο (1982-1985). Σημαιοφόρος στο Δημοτικό σχολείο και στο Γυμνάσιο ως πρωτεύσας μαθητής.
- Για περισσότερα στοιχεία, δείτε υπό τις ακόλουθες επικεφαλίδες στις επόμενες σελίδες του παρόντος βιογραφικού: (α) Δημοσιεύσεις κατόπιν προσκλήσεως σε επιστημονικά περιοδικά, (β) Κεφάλαια σε βιβλία κατόπιν προσκλήσεως, και (γ) Παρουσιάσεις και διαλέξεις κατόπιν προσκλήσεως.

Ερευνητική δραστηριότητα

Αποκλειστικός ερευνητής στο Imperial College London σε 6 ερευνητικά προγράμματα χρηματοδοτούμενα από την Αγγλική βιομηχανία, 1 ερευνητικό πρόγραμμα χρηματοδοτούμενο από το Ερευνητικό Ίδρυμα Μηχανικών και Φυσικών Επιστημών Βρετανίας (EPSRC), 1 ερευνητικό πρόγραμμα χρηματοδοτούμενο από την Ευρωπαϊκή Ένωση, και μία χορηγία για έρευνα από την Βασιλική Σουηδική Ακαδημία Μηχανικών Επιστημών. Συγγραφέας 54 δημοσιεύσεων (2 διατριβών διαθέσιμων σε επιστημονικές βιβλιοθήκες, 42 εργασιών σε επιστημονικά περιοδικά με κριτές, 7 εργασιών σε πρακτικά διεθνών συνεδρίων και 3 κεφαλαίων σε βιβλία). Παρουσίαση 6 εργασιών σε διεθνή συνέδρια. Συγγραφέας 8 τεχνικών εκθέσεων που χρηματοδοτήθηκαν από την Αγγλική βιομηχανία, το Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας, το Ίδρυμα Μηχανικών και Φυσικών Επιστημών Βρετανίας (EPSRC), την Ευρωπαϊκή Ένωση και την Βασιλική Σουηδική Ακαδημία Μηχανικών Επιστημών. Η συνολική χρηματοδότηση των ερευνητικών προγραμμάτων του υποφαινομένου στο Imperial College London (Τμήμα Μηχανολογίας, Τομέας Τριβολογίας) σε περίοδο 8 ετών ανήλθε σε 680,000 λίρες Αγγλίας (1 εκατομμύριο Ευρώ ή περίπου 1.3 εκατομμύρια δολάρια ΗΠΑ). Επίσης, ο υποφαινόμενος έχει διατελέσει συντάκτης (Editor) ενός αγγλικού βιβλίου τριβολογίας 8 κεφαλαίων με 11 συγγραφείς. Τέλος, έχει διατελέσει Associate Editor του περιοδικού Τριβολογίας της Ενώσεως Μηχανολόγων Μηχανικών Αμερικής (ASME Journal of Tribology, 2009-2016) καθώς και Μέλος της Συντακτικής Επιτροπής (Editorial Board member) των περιοδικών ISRN Tribology (Hindawi, 2012-2014), Conference Papers in Science (Hindawi, 2012-2015), The Scientific

World Journal (Hindawi, 2013-2016), International Scholarly Research Notices (Hindawi, 2014-2017) και Strojniški vestnik - Journal of Mechanical Engineering (πανεπιστήμιο της Ljubljana, Σλοβενία, 2015-2023), κριτής άρθρων σε 56 επιστημονικά περιοδικά, κριτής επιστημονικών βιβλίων για τον εκδοτικό οίκο Elsevier, εξωτερικός κριτής χρηματοδότησης επιστημονικών προγραμμάτων των εθνικών ιδρυμάτων επιστήμης της Τσεχίας και της Ελβετίας, καθώς και της Ευρωπαϊκής Ενώσεως (Horizon 2020), και τακτικό μέλος της επιτροπής του Υπουργείου Παιδείας και Θρησκευμάτων για την αξιολόγηση μελών Δ.Ε.Π. και τμημάτων Ελληνικών Πανεπιστημίων.

Χρηματοδοτηθέντα ερευνητικά προγράμματα

1. **2007-2008** (12-μηνο πρόγραμμα με χορηγία 100,000 Σουηδικών κορωνών (περίπου 11,000 Ευρώ). Απενεμήθη στον Γ. Νίκα για συνέχιση της έρευνάς του στην επιστήμη υλικών.
   Χορηγός: Jacob Wallenberg Foundation μέσω της Βασιλικής Σουηδικής Ακαδημίας Μηχανικών Επιστημών.
2. **2005-2007** (18-μηνο πρόγραμμα, κόστους 209,000 λιρών Αγγλίας για το Imperial College).
   - Υπεύθυνος Έρευνας (Research Associate) για το Imperial College: Γ. Νίκας.
   - Τίτλος προγράμματος: FOREMOST: Fullerene-based opportunities for robust engineering: Making optimised surfaces for tribology (Κατασκευή βέλτιστων επιφανειών στην Τριβολογία με χρήση νανο-υλικών Fullerene).
   - Συμμετέχοντες: 31 Ευρωπαϊκές εταιρίες και Πανεπιστήμια.
   - Χρηματοδότης: Ευρωπαϊκή Ένωση.
3. **2003-2004** (18-μηνο πρόγραμμα, κόστους 112,000 λιρών Αγγλίας για το Imperial College).
   - Υπεύθυνος Έρευνας (Research Associate): Γ. Νίκας.
   - Τίτλος προγράμματος: Research of fundamental sealing mechanisms needed for zero-leakage high-reliability rotary vane actuators (Έρευνα βασικών μηχανισμών στεγανοποίησης για την επίτευξη μηδενικής διαρροής σε περιστροφικούς πτερυγωτούς ενεργοποιητές υψηλής-αξιοπιστίας).
   - Πελάτες: Smiths Aerospace Mechanical Systems (Αγγλία) και Busak+Shamban (Αγγλία).
   - Χρηματοδότης: Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας.
4. **2000-2002** (18-μηνο πρόγραμμα, κόστους 51,000 λιρών Αγγλίας).
   - Σύμβουλος Imperial College (ICON) και Υπεύθυνος Έρευνας (Research Associate): Γ. Νίκας.
   - Τίτλος προγράμματος: Traction modelling for a toroidal CVT (Μοντελοποίηση μετάδοσης ισχύος για ένα τοροειδές σύστημα συνεχώς μεταβαλλόμενης μετάδοσης κίνησης).
   - Πελάτης: Torotrak (Development) Ltd (Αγγλία).
   - Χρηματοδότης: Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας μέσω του προγράμματος Foresight Vehicle LINK LAMTRAK.
5. **1999-2001** (18-μηνο πρόγραμμα, κόστους 172,000 λιρών Αγγλίας για το Imperial College).
   Υπεύθυνος Έρευνας (Research Associate): Γ. Νίκας.
   Τίτλος προγράμματος: Determination of polymeric sealing principles for end user high reliability (*Καθορισμός αρχών στεγανοποίησης πολυμερών τσιμουχών για εφαρμογές υψηλής αξιοπιστίας*).
   Πελάτες: Smiths Aerospace Actuation Systems – Cheltenham (Αγγλία), Smiths Aerospace Actuation Systems – Wolverhampton (Αγγλία), και Polymer Sealing Solutions Ltd (Αγγλία).
   Χρηματοδότης: Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας.
6. **1998-1999** (18-μηνο πρόγραμμα, κόστους 83,500 λιρών Αγγλίας για το Imperial College).
   - Βοηθός Έρευνας (Research Assistant) – αποκλειστικός ερευνητής: Γ. Νίκας.
   - Τίτλος προγράμματος: Development of a contact fatigue model for Continuously Variable Transmissions (Ανάπτυξη ενός μοντέλου υπολογισμού της διάρκειας ζωής για συστήματα συνεχώς μεταβαλλόμενης μετάδοσης κίνησης).
   - Πελάτης: Torotrak (Development) Ltd (Αγγλία).
   - Χρηματοδότης: Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας.
7. **1997-1998** (12-μηνο πρόγραμμα, κόστους 44,000 λιρών Αγγλίας για το Imperial College).
   - Βοηθός Έρευνας (Research Assistant) – αποκλειστικός ερευνητής: Γ. Νίκας.
   - Τίτλος προγράμματος: A study of lubrication mechanisms using 2-phase fluids with porous bearing materials (Μελέτη μηχανισμών λίπανσης με χρήση διφασικών ρευστών σε πορώδη υλικά εδράνων).

- Χρηματοδότης: Ίδρυμα Μηχανικών και Φυσικών Επιστημών Βρετανίας (EPSRC), χορηγία GR/89658.

8. **1996** (3-μηνο πρόγραμμα, κόστους 1,000 λιρών Αγγλίας).
   - Σύμβουλος για το Imperial College: Γ. Νίκας.
   - Τίτλος προγράμματος: Particle entrapment in an EHD contact of a ball rolling-sliding on a flat surface (Παγίδευση σωματιδίων σε ελαστοϋδροδυναμική επαφή σφαίρας ολισθαίνουσας-κυλιόμενης σε επίπεδη επιφάνεια).
   - Πελάτης: SKF (Ολλανδία).
9. **1996** (μηνιαίο πρόγραμμα).
   - Σύμβουλος για το Imperial College: Γ. Νίκας.
   - Τίτλος προγράμματος: Trajectories of particles in sliding contacts (Υπολογισμός τροχιών σωματιδίων σε ολισθαίνουσες επαφές).
   - Πελάτης: SKF (Ολλανδία).

Δημοσιεύσεις (οι πιο πρόσφατες εκάστης κατηγορίας εμφανίζονται πρώτες)

- **Δημοσιεύσεις σε επιστημονικά περιοδικά με κριτές**

1. **Nikas G. K.** An analytical solution of the Reynolds equation for finite, hydrodynamic, fixed-incline slider bearings in dynamic operation (Μια αναλυτική λύση της εξίσωσης Reynolds για πεπερασμένα, επίπεδα, υδροδυναμικά ωστικά έδρανα ολίσθησης σταθερής κλίσης σε δυναμική λειτουργία). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2026, **240**(5), 807-824.
2. **Nikas G. K.** Performance mapping of rectangular-rounded hydraulic reciprocating seals to minimize leakage, frictional work and abrasive wear with the aid of a duty parameter (Χαρτογράφηση της απόδοσης ορθογωνικο-καμπυλωτών υδραϋλικών παλινδρομικών τσιμουχών για ελαχιστοποίηση της διαρροής, του έργου τριβής και της φθοράς εκτριβής με την βοήθεια μιας παραμέτρου κύκλου λειτουργίας). *Tribology International* (Elsevier), 2023, **179**, 108191. [Ετεροαναφορές: 26]
3. **Nikas G. K.** Approximate analytical solution for the pile-up (lip) profile in normal, quasi-static, elastoplastic, spherical and conical indentation of ductile materials (Προσεγγιστική αναλυτική λύση για την κατατομή pile-up σε κάθετη, ημιστατική, ελαστοπλαστική, σφαιρική και κωνική διείσδυση σε όλκιμα υλικά). *International Journal of Solids and Structures* (Elsevier), 2022, **234-235**, 111240. [Ετεροαναφορές: 14]
4. **Nikas G. K.** Particle entrapment in elliptical, elastohydrodynamic, rough contacts and the influence of intermolecular (van der Waals) forces (Παγίδευση σωματιδίων σε ελλειπτικές ελαστοϋδροδυναμικές επαφές με επιφανειακή τραχύτητα και η επίδραση διαμοριακών (van der Waals) δυνάμεων). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2021, **235**(11), 2227-2246. [Ετεροαναφορές: 8]
5. **Nikas G. K.** Particle entrapment in line elastohydrodynamic contacts and the influence of intermolecular (van der Waals) forces (Παγίδευση σωματιδίων σε γραμμικές ελαστοϋδροδυναμικές επαφές και η επίδραση διαμοριακών (van der Waals) δυνάμεων). *Lubricants* (MDPI), 2020, **8**(5), άρθρο 60. [Ετεροαναφορές: 5]
6. **Nikas G. K.** Profile optimization of hydraulic, polymeric, sliding seals by minimizing an objective function of leakage, friction and abrasive wear (Βελτιστοποίηση κατατομής υδραυλικών, πολυμερών, ολισθαινουσών τσιμουχών μέσω ελαχιστοποίησης μιας αντικειμενικής συνάρτησης της διαρροής, της τριβής και της φθοράς εκτριβής). *Lubricants* (MDPI), 2020, **8**(4), άρθρο 40. [Ετεροαναφορές: 13]
7. **Nikas G. K.** Parametric and optimisation study of rectangular-rounded, hydraulic, elastomeric, reciprocating seals at temperatures between –54 and +135 °C (Παραμετρική μελέτη και βελτιστοποίηση ορθογωνικο-καμπυλωτών, υδραυλικών, ελαστομερών, παλινδρομικών τσιμουχών σε θερμοκρασίες μεταξύ –54 και +135 °C). *Lubricants* (MDPI), 2018, **6**(3), άρθρο 77. [Ετεροαναφορές: 22]
8. **Nikas G. K.** Fast performance-analysis of rectangular-rounded hydraulic reciprocating seals: mathematical model and experimental validation at temperatures between –54 and +135 °C (Ταχεία ανάλυση απόδοσης ορθογωνικο-καμπυλωτών υδραυλικών παλινδρομικών τσιμουχών:

μαθηματικό μοντέλο και πειραματική επικύρωση σε θερμοκρασίες μεταξύ –54 και +135 °C). *Tribology International* (Elsevier), 2018, **128**, 34-51. [Ετεροαναφορές: 39]

9. **Nikas G. K.** Miscalculation of film thickness, friction and contact efficiency by ignoring tangential tractions in elastohydrodynamic contacts (Εσφαλμένος υπολογισμός πάχους λιπαντικής μεμβράνης, τριβής και βαθμού απόδοσης ελαστοϋδροδυναμικών επαφών όταν αγνοούνται οι επιφανειακές διατμητικές τάσεις). *Tribology International* (Elsevier), 2017, **110**, 252-263. [Ετεροαναφορές: 6]
10. **Nikas G. K.** Particle extrusion in elastohydrodynamic line contacts: dynamic forces and energy consumption (Εξόλκευση σωματιδίων σε ελαστοϋδροδυναμικές γραμμικές επαφές: δυναμικά φορτία και κατανάλωση ενέργειας). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2017, **231**(10), 1320-1340. [Ετεροαναφορές: 2]
11. **Nikas G. K.** Algebraic equations for the pile-up geometry in debris particle indentation of rolling elastohydrodynamic contacts (Αλγεβρικές εξισώσεις για την γεωμετρία pile-up κατά την διείσδυση σωματιδίων σε κυλιόμενες ελαστοϋδροδυναμικές επαφές). *Trans. American Society of Mechanical Engineers (ASME), Journal of Tribology*, 2016, **138**(2), 021503-14. [Ετεροαναφορές: 16]
12. **Nikas G. K.** Modelling dark and white layer formation on elastohydrodynamically lubricated steel surfaces by thermomechanical indentation or abrasion by metallic particles (Μοντελοποίηση δημιουργίας σκούρων και λευκών στρωμάτων σε ελαστοϋδροδυναμικά λιπαινόμενες μεταλλικές επιφάνειες μέσω θερμομηχανικής διείσδυσης ή εκτριβής από μεταλλικά σωματίδια). *Trans. American Society of Mechanical Engineers (ASME), Journal of Tribology*, 2015, **137**(3), 031504-20. [Ετεροαναφορές: 11]
13. **Nikas G. K.**, Almond R. V., Burridge G. Experimental study of leakage and friction of rectangular, elastomeric, hydraulic seals for reciprocating motion from –54 to +135 °C and pressures from 3.4 to 34.5 MPa (Πειραματική μελέτη διαρροής και τριβής ορθογωνικών, ελαστομερών, υδραϋλικών τσιμουχών για παλινδρομική κίνηση από –54 έως +135 °C και πιέσεις από 3.4 έως 34.5 MPa). *Tribology Transactions (STLE)*, 2014, **57**(5), 846-865. [Ετεροαναφορές: 106]
14. **Nikas G. K.** Strain-rate effects on the plastic indentation and abrasion of elastohydrodynamic contacts by debris particles (Συνέπειες του ρυθμού τροπής στην πλαστική παραμόρφωση και εκτριβή ελαστοϋδροδυναμικών επαφών από ξένα σωματίδια). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2014, **228**(1), 22-45. [Ετεροαναφορές: 8]
15. **Nikas G. K.** Debris particle indentation and abrasion of machine-element contacts: an experimentally validated, thermoelastoplastic numerical model with micro-hardness and frictional heating effects (Εντομές και εκτριβές από ξένα σωματίδια σε επαφές στοιχείων μηχανών: ένα πειραματικά επικυρωμένο, θερμοελαστοπλαστικό αριθμητικό μοντέλο με στοιχεία μικροσκληρότητας και θερμικά φαινόμενα λόγω τριβής). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2013, **227**(6), 579-617. [Ετεροαναφορές: 5]
16. **Nikas G. K.** An experimentally validated numerical model of indentation and abrasion by debris particles in machine-element contacts considering micro-hardness effects (Ένα πειραματικά επικυρωμένο μοντέλο δημιουργίας εντομών και εκτριβών από ξένα σωματίδια σε επαφές στοιχείων μηχανών λαμβανομένης υπόψη της επίδρασης της μικροσκληρότητας). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2012, **226**(5), 406-438. [Ετεροαναφορές: 20]
17. **Nikas G. K.** A state-of-the-art review on the effects of particulate contamination and related topics in machine-element contacts (Ανασκόπηση των συνεπειών σωματιδιακής μόλυνσης και συναφών θεμάτων σε επαφές στοιχείων μηχανών). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2010, **224**(5), 453-479. [Ετεροαναφορές: 104]
18. **Nikas G. K.** Eighty years of research on hydraulic reciprocating seals: review of tribological studies and related topics since the 1930s (Ογδόντα χρόνια έρευνας στις υδραυλικές τσιμούχες για παλινδρομική κίνηση: ανασκόπηση τριβολογικών μελετών και συναφών θεμάτων από την δεκαετία του 1930). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2010, **224**(1), 1-23. [Ετεροαναφορές: 315]
19. **Nikas G. K.,** Sayles R. S. Surface coatings and finite-element analysis of layered fretting contacts (Επιφανειακές επικαλύψεις και ανάλυση με πεπερασμένα στοιχεία επικεκαλυμμένων επαφών σε συνθήκες fretting). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2009, **223**(2), 159-181. [Ετεροαναφορές: 16]
20. **Nikas G. K.,** Sayles R. S. Finite-element analysis of layered rolling contacts (Ανάλυση με πεπερασμένα στοιχεία επαφών με επιφανειακές επικαλύψεις σε συνθήκες κύλισης). *Proc.*

Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology, 2008, **222**(7), 865-886. [Ετεροαναφορές: 15]

21. **Nikas G. K.**, Sayles R. S. A study of lubrication mechanisms using two-phase fluids with porous bearing materials (Μελέτη μηχανισμών λίπανσης με χρήση διφασικών ρευστών σε πορώδη υλικά εδράνων). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology* (*Πρακτικά Ιδρύματος Μηχανολόγων Μηχανικών Αγγλίας, Περιοδικό Μηχανικής Τριβολογίας*), 2008, **222**(6), 771-783 (ειδικό τεύχος περί "granular lubrication"). [Ετεροαναφορές: 14].
22. **Nikas G. K.** Effects of operating conditions and friction on the entrapment of spherical debris particles in elliptical contacts (Συνέπειες συνθηκών λειτουργίας και τριβής στην παγίδευση σφαιρικών ξένων σωματιδίων σε ελλειπτικές επαφές). *Proc. Institution of Mechanical Engineers (IMechE), Part J: Journal of Engineering Tribology*, 2007, **221**(6), 727-741. [Ετεροαναφορές: 13]
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- **Βιβλίο**

55. Κατόπιν προσκλήσεως του εκδοτικού οίκου Research Signpost (εκδοτικός οίκος βιβλίων ανασκόπησης στις Φυσικές Επιστήμες), ο υποφαινόμενος διετέλεσε συντάκτης ενός βιβλίου 8 κεφαλαίων στην αγγλική γλώσσα με τίτλο "Recent Developments in Wear Prevention, Friction

and Lubrication", για το οποίο συγκρότησε και επέβλεψε ομάδα 11 συγγραφέων, πανεπιστημιακών καθηγητών και διδακτόρων από τις Η.Π.Α., την Αγγλία, τη Σουηδία, και το Ισραήλ, καθώς και 9 εξεταστών όπως ακολουθεί. [Ετεροαναφορές: 200]

Τίτλος βιβλίου: Recent Developments in Wear Prevention, Friction and Lubrication 326 σελίδες. Έκδοση: Φεβρουάριος 2010. **ISBN**: 978-81-308-0377-7. **Εκδοτικός οίκος:** Research Signpost (Kerala, Ινδία) **Συντάκτης**: **Γεώργιος Κ. Νίκας**
Κεφάλαιο 1 (43 σελίδες): **The thin film approximation in hydrodynamic, including elastohydrodynamic, lubrication.** **Συγγραφέας**: **Καθηγητής Andras Szeri** (Καθηγητής Μηχανολογίας, Τμήμα Μηχανολογίας, Πανεπιστήμιο Delaware, Η.Π.Α.).
Κεφάλαιο 2 (92 σελίδες): **Rolling bearing life prediction, theory, and application.** **Συγγραφέας**: **Δρ. Erwin Zaretsky** (Αρχιμηχανικός, NASA Glen Research Center, Η.Π.Α. Επίσης, Adjunct Professor, Πανεπιστήμιο Case Western Reserve, Οχάιο, Η.Π.Α.).
Κεφάλαιο 3 (21 σελίδες): **Laser Surface Texturing and applications.** **Συγγραφέας**: **Καθηγητής Izhak Etsion** (Έδρα στη Μηχανική Ρευστών και Μεταφορά Θερμότητας, Τμήμα Μηχανολογίας, Technion – Israel Institute of Technology, Ισραήλ).
Κεφάλαιο 4 (38 σελίδες): **Unification of friction and wear.** **Συγγραφέας**: **Καθηγητής Michael Bryant** (Καθηγητής Συστημάτων Παραγωγής και Μηχανικής, Τμήμα Μηχανολογίας, Πανεπιστήμιο Texas at Austin, Τέξας, Η.Π.Α.).
Κεφάλαιο 5 (29 σελίδες): **Tribofilms – On the crucial importance of tribologically induced surface modifications.** **Συγγραφείς**: **Καθηγητής Staffan Jacobson** (Καθηγητής Επιστήμης Υλικών, Τμήμα Μηχανικών Επιστημών, Πανεπιστήμιο Uppsala, Σουηδία) και **Καθηγητής Sture Hogmark** (Καθηγητής Επιστήμης Υλικών και Τριβολογίας, Τμήμα Μηχανικών Επιστημών, Πανεπιστήμιο Uppsala, Σουηδία).
Κεφάλαιο 6 (36 σελίδες): **Transient phenomena in elastohydrodynamic lubrication.** **Συγγραφέας**: **Δρ. Romeo Glovnea** (Αναπληρωτής Καθηγητής στη Μηχανολογία, Σχολή Μηχανικής και Σχεδιασμού, Πανεπιστήμιο Sussex, Αγγλία).
Κεφάλαιο 7 (16 σελίδες): **On the Stribeck curve.** **Συγγραφείς**: **Καθηγητής Michael Khonsari** (Καθηγητής, Τμήμα Μηχανολογίας, Louisiana State University, Η.Π.Α.) και **Δρ. E. R. Booser** (Engineering Consultant, Η.Π.Α.).
Κεφάλαιο 8 (36 σελίδες): **Surface characterization, adhesion measurements and modeling of microelectromechanical systems.** **Συγγραφείς**: **Δρ. Xiaojie Xue** (Analog Devices Inc, Η.Π.Α.) και **Καθηγητής Andreas Polycarpou** (Καθηγητής, Τμήμα Μηχανολογίας και Μηχανικής, University of Illinois at Urbana-Champaign, Η.Π.Α.).

Εξεταστές κεφαλαίων (με αλφαβητική σειρά)

- **Καθηγητής George Adams** (Καθηγητής Μηχανολογίας, Τμήμα Μηχανολογίας και Βιομηχανικής Τεχνολογίας, Πανεπιστήμιο Northeastern, Η.Π.Α.).
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- **Καθηγητής Rob Dwyer-Joyce** (Καθηγητής Μηχανικής Λίπανσης, Πρόεδρος του Τμήματος Μηχανολογίας και επικεφαλής του Τομέα Τριβολογίας, Τμήμα Μηχανολογίας, Πανεπιστήμιο Sheffield, Αγγλία).
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- **Τεχνικές εκθέσεις**

1. **Nikas G. K.** Jacob Wallenberg Foundation grant for research and development in materials science. Τεχνική έκθεση συνταχθείσα το 2008 για το Jacob Wallenberg Foundation (Σουηδία) και την Βασιλική Σουηδική Ακαδημία Μηχανικών Επιστημών. (23 σελίδες, 9 σχήματα, 5 παραρτήματα.)
2. **Nikas G. K.** FOREMOST: Fullerene-based opportunities for robust engineering: Making optimised surfaces for tribology (Κατασκευή βέλτιστων επιφανειών στην Τριβολογία με χρήση νανο-υλικών Fullerene). Τεχνική έκθεση συνταχθείσα το 2007 για την Ευρωπαϊκή Ένωση. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας. (117 σελίδες, 73 σχήματα με 225 διαγράμματα, 16 πίνακες, 13 αριθμημένες εξισώσεις, 7 παραρτήματα.)
3. **Nikas G. K.** Research of fundamental sealing mechanisms needed for zero-leakage high-reliability rotary vane actuators (Έρευνα βασικών μηχανισμών στεγανοποίησης για την επίτευξη μηδενικής διαρροής σε περιστροφικούς πτερυγωτούς ενεργοποιητές υψηλής-αξιοπιστίας). Τεχνική έκθεση συνταχθείσα το 2004 για τις εταιρείες Smiths Aerospace Mechanical Systems (Αγγλία), Busak+Shamban (Αγγλία), και το Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας. (121 σελίδες, 98 σχήματα με 189 διαγράμματα, 94 αριθμημένες εξισώσεις.) [Ετεροαναφορές: 7]
4. **Nikas G. K.** Traction modelling for a toroidal CVT (Μοντελοποίηση μετάδοσης ισχύος για ένα τοροειδές σύστημα συνεχώς μεταβαλλόμενης μετάδοσης κίνησης). Τεχνική έκθεση συνταχθείσα το 2002 για την εταιρία Torotrak (Development) Ltd (Αγγλία) και το Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας. (77 σελίδες, 29 σχήματα, 46 αριθμημένες εξισώσεις.) [Ετεροαναφορές: 1]
5. **Nikas G. K.** Determination of polymeric sealing principles for end user high reliability (Καθορισμός αρχών στεγανοποίησης πολυμερών τσιμουχών για εφαρμογές υψηλής αξιοπιστίας). Τεχνική έκθεση συνταχθείσα το 2001 για τις εταιρίες Smiths Aerospace Actuation Systems - Cheltenham (Αγγλία), Smiths Aerospace Actuation Systems - Wolverhampton (Αγγλία), TISPP UK Ltd (Αγγλία), και το Βρετανικό Υπουργείο Εμπορίου και Βιομηχανίας. Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας. (124 σελίδες, 60 σχήματα, 94 αριθμημένες εξισώσεις.) [Ετεροαναφορές: 10]
6. **Nikas G. K.** Development of a contact fatigue model for Continuously Variable Transmissions (Ανάπτυξη ενός μοντέλου υπολογισμού της διάρκειας ζωής για συστήματα συνεχώς μεταβαλλόμενης μετάδοσης κίνησης). Τεχνική έκθεση συνταχθείσα το 1999 για την εταιρία

Torotrak (Development) Ltd (Αγγλία). IC Consultants Ltd., Λονδίνο, Αγγλία. (88 σελίδες, 19 σχήματα, 86 αριθμημένες εξισώσεις.)

7. **Nikas G. K.** A study of lubrication mechanisms using 2-phase fluids with porous bearing materials (Μελέτη μηχανισμών λίπανσης με χρήση διφασικών ρευστών σε πορώδη υλικά εδράνων). Τεχνική έκθεση συνταχθείσα το 1998 για το Ίδρυμα Μηχανικών και Φυσικών Επιστημών Βρετανίας (EPSRC) (κωδικός προγράμματος GR/K 89658). Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας.
8. **Nikas G. K.** Particle entrapment in an EHD contact of a ball rolling/sliding on a flat surface (Παγίδευση σωματιδίων σε ελαστοϋδροδυναμική επαφή σφαίρας ολισθαίνουσας-κυλιομένης σε επίπεδη επιφάνεια). Τεχνική έκθεση συνταχθείσα το 1996 για την εταιρία SKF (Ολλανδία). Imperial College London, Τμήμα Μηχανολογίας, Τομέας Τριβολογίας. (79 σελίδες, 56 σχήματα, 103 αριθμημένες εξισώσεις.)

Παρουσιάσεις και διαλέξεις κατόπιν προσκλήσεως

1. **Nikas G. K.** Fundamentals of sealing and tribology of hydraulic reciprocating seals (Θεμελιώδη θέματα στεγανοποίησης και τριβολογία υδραυλικών τσιμουχών παλινδρομικής κίνησης). Διάλεξη κατόπιν προσκλήσεως στο σεμινάριο "*Focus on Reciprocating Seals*" («*Τσιμούχες Παλινδρομικής Κίνησης*») που οργανώνεται από το τμήμα Τριβολογίας του Ιδρύματος Μηχανολόγων Μηχανικών Αγγλίας (IMechE), Λονδίνο, Αγγλία, 25 Ιουνίου 2008. Πρόσκληση από τον καθηγητή Rob Dwyer-Joyce (Καθηγητής Τριβολογίας, Πανεπιστήμιο Sheffield, Αγγλία) εκ μέρους του IMechE.
2. **Nikas G. K.** Theoretical modelling in tribology: some real applications and solutions (Θεωρητική μοντελοποίηση στην Τριβολογία: μερικές πραγματικές εφαρμογές και λύσεις). Παρουσίαση κατόπιν προσκλήσεως στο club house της εταιρείας SKF στο Slottsviken (Gothenburg, Σουηδία) την 30η Οκτωβρίου 2007 ως ένας εκ των βραβευθέντων με την χορηγία του Jacob Wallenberg Foundation και της Βασιλικής Σουηδικής Ακαδημίας Μηχανικών Επιστημών το έτος 2007. Πρόσκληση από τον κύριο Tom Johnstone, Πρόεδρο και Γενικό Διευθυντή του Group της SKF. Το κοινό αποτελείτο από πλέον των 20 προσκεκλημένων του τεχνικού και διευθυντικού τμήματος της SKF.
3. **Nikas G. K.** Determination of polymeric sealing principles for end-user high reliability (Καθορισμός αρχών στεγανοποίησης πολυμερών τσιμουχών για εφαρμογές υψηλής αξιοπιστίας). Παρουσίαση κατόπιν προσκλήσεως στην εταιρεία Busak-Shamban (Gloucestershire, Αγγλία) την 24η Απριλίου 2001. Πρόσκληση από τον κύριο Guy Burridge, Τεχνικό Διευθυντή (Αεροδιαστημική) της Busak-Shamban. Το κοινό αποτελείτο από πλέον των 20 προσκεκλημένων του τεχνικού και διευθυντικού τμήματος της Busak-Shamban και της Dowty Seals (Αγγλία).

Ερευνητικά ενδιαφέροντα και ειδίκευση

Τα ερευνητικά ενδιαφέροντα του υποφαινομένου εστιάζονται στη μαθηματική ανάλυση και υπολογιστική μοντελοποίηση στα πεδία της Τριβολογίας και της Μηχανικής Επαφών χρησιμοποιώντας αναλυτικές και αριθμητικές μεθόδους. Ο υποφαινόμενος έχει πραγματοποιήσει έρευνα στα ακόλουθα επιστημονικά πεδία.

- Μηχανικές και θερμικές συνέπειες ξένων σωματιδίων και μόλυνσης λιπαντικών από σωματίδια.
- Ελαστοϋδροδυναμική λίπανση και μηχανική πολυμερών και συνθέτων τσιμουχών, εδράνων κύλισης και μετωπικών οδοντωτών τροχών.
- Ελαστοϋδροδυναμική λίπανση και κόπωση σε συστήματα απείρως μεταβαλλόμενων σχέσεων μετάδοσης κίνησης.
- Ανάλυση επιφανειακών επικαλύψεων με πεπερασμένα στοιχεία.
- Υδροδυναμική λίπανση ωστικών και στροφικών εδράνων.
- Κόπωση και υπολογισμός διάρκειας ζωής στοιχείων μηχανών.
- Ελαστικότητα, θερμοελαστικότητα, ποροελαστικότητα και ελαστικότητα ελαστομερών.
- Ανάλυση πεπερασμένων διαφορών και πεπερασμένων στοιχείων. Αναλυτική επίλυση διαφορικών εξισώσεων.

Ανάπτυξη τεχνικού λογισμικού

Ο υποφαινόμενος έχει εμπειρία τεσσάρων δεκαετιών σε χρήση προσωπικών υπολογιστών με προγραμματισμό σε γλώσσα Fortran, έως και προγραμματισμό σε γλώσσα Assembly για συμβατούς επεξεργαστές 8086 και σειριακό προγραμματισμό σε DOS. Έχει επίσης προχωρημένη γνώση του λειτουργικού συστήματος Microsoft Windows έως και την έκδοση 10. Χρησιμοποιεί τα προγράμματα Microsoft Office (Word, Excel, PowerPoint), λογισμικό γραφικών, αριθμητικής και στατιστικής ανάλυσης (π.χ. Grapher, Surfer, DataFit). Έχει πολυετή εμπειρία δημιουργίας ιστοχώρων (δημιούργησε δύο ιστοχώρους, ένας από τους οποίους ήταν ο ιστοχώρος του Τομέα Τριβολογίας στο Imperial College London, 1998-2011). Επίσης έχει εμπειρία στην ανάλυση πεπερασμένων στοιχείων με το εμπορικό λογισμικό ADINA. Από το 1990, έχει αναπτύξει πολλά πολύπλοκα υπολογιστικά προγράμματα. Ακολουθεί λίστα των κυρίων προγραμμάτων που ο υποφαινόμενος έχει αναπτύξει με την γλώσσα προγραμματισμού Fortran. Μερικά εξ αυτών έχουν διανεμηθεί σε βιομηχανικές εταιρίες στα πλαίσια χρηματοδοτούμενων ερευνητικών προγραμμάτων στο Imperial College London.

- Πρόγραμμα **ROVAS** (έκδοση: 1.1.3, μέγεθος κώδικα: 1421 γραμμές). Ανάλυση χρονικά μεταβλητής ελαστοϋδροδυναμικής ανάλυσης ομαλών επιφανειών, μηχανική και υπολογισμός απόδοσης συνθέτων τσιμουχών (PTFE-ελαστομερές-PTFE) σχήματος Π για περιστροφικούς πτερυγωτούς ενεργοποιητές. Το πρόγραμμα καλύπτει επίσης ορθογωνικο-καμπυλωτές πολυμερείς τσιμούχες για γραμμικούς υδραυλικούς ενεργοποιητές. Αδειοδοτημένοι χρήστες: Smiths Aerospace (Αγγλία) και Busak+Shamban (Trelleborg) (Αγγλία).
- Πρόγραμμα **SEAL** (έκδοση: 1.1.1, μέγεθος κώδικα: 2549 γραμμές). Ανάλυση χρονικά μεταβλητής ελαστοϋδροδυναμικής λίπανσης τραχειών επιφανειών, μηχανική και υπολογισμός απόδοσης ορθογωνικών ελαστομερών τσιμουχών και δακτυλίων στήριξης για γραμμική παλινδρομική κίνηση. Αδειοδοτημένοι χρήστες: Smiths Aerospace (Αγγλία) και Busak+Shamban (Trelleborg) (Αγγλία).
- Πρόγραμμα **TORO** (έκδοση: 2.5.2, μέγεθος κώδικα: 2393 γραμμές). Ανάλυση χρονικά μεταβλητής ελαστοϋδροδυναμικής λίπανσης τραχειών επιφανειών, τρισδιάστατος υπολογισμός τάσεων και κόπωσης υλικού για τοροειδή συστήματα μετάδοσης κίνησης απείρων σχέσεων. Αδειοδοτημένος χρήστης: Torotrak (Development) Ltd (Αγγλία).
- Πρόγραμμα **PhD** (έκδοση: 7.5.5, μέγεθος κώδικα: 4232 γραμμές). Θερμομηχανικές επιδράσεις σωματιδίων σε ορθογωνικές ελαστοϋδροδυναμικές επαφές. Τρισδιάστατη ανάλυση υπο-επιφανειακών ελαστικών τάσεων και θερμοκρασιών, επιφανειακές θερμοβισκοπλαστικές παραμορφώσεις από διείσδυση και παγίδευση σωματιδίων, δημιουργία τριβοχημικών στρώσεων. Πρόγραμμα που αναπτύχθηκε αρχικά για την διδακτορική διατριβή του υποφαινομένου.
- Πρόγραμμα **ROSEAL** (έκδοση 1.3.3, μέγεθος κώδικα: 1256 γραμμές). Ανάλυση θερμο-ελαστοϋδροδυναμικής λίπανσης τραχειών επιφανειών, μηχανική και υπολογισμός απόδοσης ορθογωνικο-καμπυλωτών ελαστομερών τσιμουχών για παλινδρομική κίνηση.
- Πρόγραμμα **MINISEAL** (έκδοση 1.0.4, μέγεθος κώδικα: 602 γραμμές). Βελτιστοποίηση της κατατομής υδραυλικών, πολυμερών τσιμουχών ολίσθησης για την ελαχιστοποίηση μιας αντικειμενικής συνάρτησης ρυθμού διαρροής μάζας, δύναμης τριβής και φθοράς λόγω τριβής, υπό περιορισμούς διαρροής, τριβής, δομικής αντοχής και κατασκευασιμότητας της τσιμούχας.
- Πρόγραμμα **ENTRAP** (έκδοση: 1.5.2, μέγεθος κώδικα: 1467 γραμμές). Μοντελοποίηση παγίδευσης σφαιρικών σωματιδίων σε λιπαινόμενες ορθογωνικές και ελλειπτικές επαφές.
- Πρόγραμμα **SKF** (έκδοση: 1.4.1, μέγεθος κώδικα: 798 γραμμές). Ανάλυση εισδοχής και παγίδευσης ξένων σωματιδίων σε ελαστοϋδροδυναμικές επαφές. Αναπτύχθηκε για την SKF (ερευνητικό κέντρο ERC, Ολλανδία).
- Πρόγραμμα **NIVAC** (έκδοση 1.8.4, μέγεθος κώδικα: 589 γραμμές). Υπολογισμός αναρροφητικής ικανότητας και βελτιστοποίηση μονοσωλήνιων συστημάτων για την επιλογή φορτηγών αναρρόφησης (vacuum trucks) και μηχανημάτων αναρρόφησης υλικών. Αναπτύχθηκε για την εταιρεία KADMOS Engineering Ltd του υποφαινομένου και για την συνεργασία με την Σουηδική εταιρεία φορτηγών και αναρροφητικών μηχανημάτων DISAB.
- Πρόγραμμα **POROUS** (έκδοση: 1.5.1, μέγεθος κώδικα: 365 γραμμές). Υπολογισμός απόδοσης πορωδών υλικών εδράνων, κορεσμένων με διφασικό μείγμα λαδιού και μικροσωματιδίων. Αναπτύχθηκε από τον υποφαινόμενο στα πλαίσια του ερευνητικού προγράμματος που χρηματοδοτήθηκε από το Ίδρυμα Μηχανικών και Φυσικών Επιστημών Αγγλίας (EPSRC) το 1997.

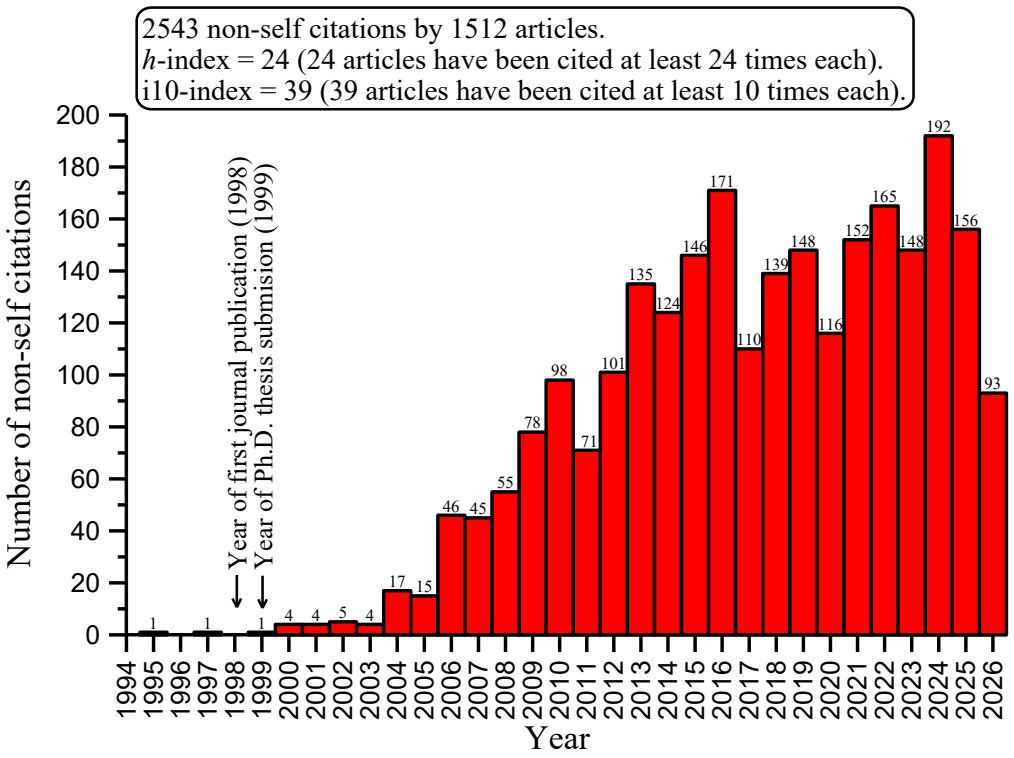
- Πρόγραμμα **LOAD** (έκδοση: 1.5.0, μέγεθος κώδικα: 1055 γραμμές). Υπολογισμός της κατανομής στατικού φορτίου και μετασχηματισμός κατατομών οδόντων για την ελαχιστοποίηση της δυναμικής φόρτισης μετωπικών οδοντωτών τροχών ευθέων οδόντων και γενικής γεωμετρίας κατατομών. Το πρόγραμμα αναπτύχθηκε από τον υποφαινόμενο στα πλαίσια της διπλωματικής του εργασίας στο Εθνικό Μετσόβιο Πολυτεχνείο.
- Πρόγραμμα **PILE** (έκδοση: 1.3.6; μέγεθος κώδικα: 623 γραμμές). Υπολογισμός της γεωμετρικής κατατομής επιφανειακά συσσωρευόμενου υλικού (pile-up) υπό συνθήκες κάθετης ημιστατικής διείσδυσης συμπαγών κώνων και συμπαγών ή πλαστικά παραμορφούμενων σφαιρών σε μεταλλικούς ημιχώρους.
- Πρόγραμμα **SLIDER_c** (version 1.0.0; μέγεθος κώδικα: 1091 γραμμές). Υπολογισμός της απόδοσης πεπερασμένων, υδροδυναμικών ωστικών εδράνων ολίσθησης, με μονότονη καμπυλότητα στην κατεύθυνση ολίσθησης, υπό σταθερές ή χρονικά μεταβαλλόμενες συνθήκες (π.χ. κίνησης ή φορτίου).
- Πρόγραμμα **SLIDER_s** (έκδοση: 1.3.5; μέγεθος κώδικα: 974 γραμμές). Υπολογισμός της απόδοσης πεπερασμένων, επιπέδων υδροδυναμικών ωστικών εδράνων ολίσθησης με σταθερή κλίση σε σταθερές ή χρονικά μεταβαλλόμενες συνθήκες (π.χ. κίνησης ή φορτίου).
- Πρόγραμμα **TRAJECTOR** (έκδοση: 1.1.2, μέγεθος κώδικα: 232 γραμμές). Υπολογισμός τροχιών στερεών σωματιδίων παγιδευμένων σε επαφές εδράνων. Αδειοδοτημένος χρήστης: SKF (ερευνητικό κέντρο ERC, Ολλανδία).
- Πρόγραμμα **FILM** (έκδοση: 1.3.2, μέγεθος κώδικα: 176 γραμμές). Υπολογισμός του κεντρικού και του ελάχιστου πάχους λιπαντικής μεμβράνης, της μέσης και της μέγιστης πίεσης, των διαστάσεων της επαφής, της ελαστικής μετατόπισης και του λόγου λ γραμμικών και ελλειπτικών επαφών, συμπεριλαμβανομένης της επίδρασης της αναπτυσσόμενης θερμότητας τριβής και της επιφανειακής τραχύτητας.
- Πρόγραμμα **EHL** (έκδοση: 1.0.0, μέγεθος κώδικα: 366 γραμμές). Επίλυση του ελαστοϋδροδυναμικού προβλήματος για γραμμικές επαφές και Νευτώνεια ρευστά υπό σταθερές συνθήκες. Το πρόγραμμα αναπτύχθηκε από τον υποφαινόμενο στα πλαίσια της διπλωματικής του εργασίας στο Εθνικό Μετσόβιο Πολυτεχνείο.

Γλώσσες

Ελληνικά και Αγγλικά. Ο υποφαινόμενος μετοίκισε στο Λονδίνο το 1994 και έλαβε την Βρετανική υπηκοότητα το 2001.

Ετεροαναφορές δημοσιεύσεων

Οι δημοσιεύσεις του υποφαινομένου έχουν αναφερθεί σε τουλάχιστον 1512 δημοσιεύσεις άλλων ερευνητών με τουλάχιστον 2543 αναφορές. *h*-index = 24 (εκάστη 24 δημοσιεύσεων έχει τουλάχιστον 24 ετεροαναφορές). i10-index = 39 (εκάστη 39 δημοσιεύσεων έχει τουλάχιστον 10 ετεροαναφορές). Το ακόλουθο διάγραμμα συνοψίζει αυτά τα στοιχεία.



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Συστατικές επιστολές

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