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GoogleScholar: https://scholar.google.com/citations?user=tTYJS6IAAAAJ&hl=en

ΠΡΟΦΙΛ

Βιοϊατρική μηχανική και προσομοίωση φαινομένων και ασθενειών.
Μαθηματικές και υπολογιστικές προσεγγίσεις για την κατανόηση των μηχανισμών που ευθύνονται για τις ασθένειες.
Μοντελοποίηση της αθηροσκλήρωσης και των μηχανισμών σχηματισμού και ανάπτυξης αθηροσκληρωτικών πλακών.
Μοντελοποίηση της ροής αίματος και παραμόρφωση αρτηριακού τοιχώματος.
Επεξεργασία ιατρικής απεικόνισης και 3D ανακατασκευή αρτηριών.
Εικονική ανάπτυξη αρτηριακών ενδοπροθέσεων και σχεδιασμός τους
Συστήματα υποστήριξης αποφάσεων για διάγνωση, πρόβλεψη και διαστρωμάτωση της καρδιαγγειακής νόσου.
Μοντελοποίηση μηχανικών διεργασιών.
Μοντελοποίηση της δυναμικής των ρευστών σε προβλήματα μηχανικής.
Μοντελοποίηση της λειτουργίας της ακοής στο μέσο και στο έσω αυτί.
3D ανακατασκευή με χρήση τμηματοποίησης εικόνων για εφαρμοσμένη μηχανική και βιοϊατρική.
Προσομοίωση αντικειμένων και συστημάτων με τη μέθοδο των πεπερασμένων στοιχείων.
Παραμετρική ανάλυση με βάση την αντίστροφη μηχανική.
CAD, CAM, CAE.

- Διδακτορικό στη Βιοϊατρική Μηχανική και Επιστήμη των Υλικών
- Εξειδίκευση στη ρευστομηχανική και τη μεταφορά μάζας
- Μελέτη της ενδοθηλιακής λειτουργίας και της διαπερατότητας στις αρτηρίες
- Αλληλεπίδραση στερεού – υγρού
- Ανάπτυξη μοντέλων για κάθε ασθενή
- Γνώση της γονιδιακής έκφρασης στην αθηροσκλήρωση
- Υπολογιστική χρήση της γονιδιακής, της λιπιδικής και της μεταβολιμικής της στεφανιαίας νόσου
- Ανάλυση μεγάλου όγκου δεδομένων
- Σχεδιασμός 3D και δημιουργία αντικειμένων
- Άριστες δεξιότητες σχεδιασμού και προγραμματισμού, με έμφαση στη λεπτομέρεια και το σχεδιασμό
- Ικανότητα χρήσης και εκμάθησης οποιασδήποτε τεχνολογίας, γλώσσας ή περιβάλλοντος ανάπτυξης
- Γλώσσες: Αγγλικά, Γερμανικά
- Άριστες επικοινωνιακές δεξιότητες με τους συναδέλφους και τους μαθητές
- Εμπειρία στη διδασκαλία μαθημάτων βιοϊατρικής μηχανικής
- Σημαντική εμπειρία στη συγγραφή και διαχείριση ερευνητικών προτάσεων και προγραμμάτων (FP7, HORIZON 2020)

ΕΚΠΑΙΔΕΥΣΗ

Ίδρυμα Τεχνολογίας και Έρευνας - Ελλάδα, Τμήμα Βιοϊατρικής Έρευνας, Ιωάννινα, Ελλάδα **Μεταδιδακτορικό στην τρισδιάστατη μοντελοποίηση και προσομοίωση της δημιουργίας της αθηροσκλήρωσης και πρόβλεψη των περιοχών ανάπτυξης σε μεγάλες βάσεις δεδομένων ασθενών**	2016 – Σήμερα
Πανεπιστημίο Ιωαννίνων, Τμήμα Μηχανικών Επιστήμης Υλικών, Ιωάννινα, Ελλάδα **Διδακτορικό δίπλωμα στην Μοντελοποίηση των Βιολογικών Μηχανισμών Ανάπτυξης της Αθηρωματικής Πλάκας**	2008 – 2016
Πανεπιστημίο Ιωαννίνων, Σχολή Επιστημών και Τεχνολογίας Τμήμα Βιολογικών Εφαρμογών και Τεχνολογιών, Ιωάννινα, Ελλάδα **B.Sc., Πτυχίο Βιολογικών Εφαρμογών και Τεχνολογιών** (πενταετούς φοίτησης, ισότιμο με **M.Sc**.) **Θέμα Διπλωματικής:** Εφαρμογή και αξιολόγηση προγραμμάτων βιοπληροφορικής για αυτοματοποιημένη πρόβλεψη γονιδιακής έκφρασης	2001 – 2006

ΕΠΑΓΓΕΛΜΑΤΙΚΗ ΕΜΠΕΙΡΙΑ

Πανεπιστήμιο Άμστερνταμ Εξωτερικός συνεργάτης του Τμήματος Κοινωνικών και Επιστημών Συμπεριφοράς	Σεπτ. 2022 - Σήμερα
Ίδρυμα Τεχνολογίας και Έρευνας - Ελλάδα, Τμήμα Βιοϊατρικής Έρευνας, Ιωάννινα, Ελλάδα **Ερευνητής στο ερευνητικό έργο TIMELY project " A patient-centered early risk prediction, prevention, and intervention platform to support the continuum of care in coronary artery disease (CAD) using eHealth and artificial intelligence".**	Ιαν. 2021 - Ιουλ. 2023
Επιτροπή Ερευνών, Πανεπιστήμιο Ιωαννίνων, Ελλάδα **Διαχειριστής του προγράμματος To_Aition project "A high-dimensional approach for unwinding immune-metabolic causes of cardiovascular disease-depression multimorbidities".**	Απρ. 2020 – Σήμερα
Ίδρυμα Τεχνολογίας και Έρευνας - Ελλάδα, Τμήμα Βιοϊατρικής Έρευνας, Ιωάννινα, Ελλάδα **Κύριος εξωτερικός ερευνητής στο ερευνητικό έργο InSILC "InSilc: In-silico trials for drug-eluting BVS development and evaluation".**	Ιαν. 2018 – Δεκ. 2021
Ίδρυμα Τεχνολογίας και Έρευνας - Ελλάδα, Τμήμα Βιοϊατρικής Έρευνας, Ιωάννινα, Ελλάδα **Ερευνητής στο ερευνητικό έργο MyPal project "Fostering Palliative Care of Adults and Children with Cancer through Advanced Patient Reported Outcome Systems"**	Δεκ. 2019 – Δεκ. 2020
Ινστιτούτο Τεχνολογίας και Υπολογιστών «Διόφαντος», Πάτρα, Ελλάδα **Ανάπτυξη, προσαρμογή και επικαιροποίηση Ανοικτών Ακαδημαϊκών Πόρων. Συγκεκριμένα: ανάπτυξη τρισδιάστατων μοντέλων για τα Ανοικτά Μαθησιακά Αντικείμενα και συμμετοχή στον τεχνικό έλεγχο, επιλογή, διόρθωση και βελτίωση των υφισταμένων Αντικειμένων.**	Ιαν. 2018 – Δεκ. 2018
Ίδρυμα Τεχνολογίας και Έρευνας, Τμήμα Βιοϊατρικής Έρευνας, Ιωάννινα, Ελλάδα **Διαχειριστής του προγράμματος SMARTOOL "Simulation Modeling of coronary ARTery disease: a tool for clinical decision support".**	Ιαν. 2016 – Ιουν. 2019
Ίδρυμα Τεχνολογίας και Έρευνας - Ελλάδα, Τμήμα Βιοϊατρικής Έρευνας, Ιωάννινα, Ελλάδα **Κύριος ερευνητής (Post-doc) στο ερευνητικό έργο SMARTOOL "Simulation Modeling of coronary ARTery disease: a tool for clinical decision support".**	Απρ. 2016 – Ιουν. 2019

Ερευνητικό Πανεπιστημιακό Ινστιτούτο Συστημάτων Επικοινωνιών και Υπολογιστών (ΕΠΙΣΕΥ), ΕΜΠ, Αθήνα, Ελλάδα **Διαχειριστής του προγράμματος SIFEM "Semantic Infostructure interlinking an open source Finite Element tool and libraries with a model repository for the multi-scale Modelling and 3d visualization of the inner-ear".**	Ιαν. 2015 – Ιαν. 2016
Ελληνική Εταιρία Καρδιολογίας **Ανάπτυξη μαθηματικού μοντέλου πρόβλεψης της αθηροσκλήρωσης βασισμένο στην προσομοίωση της ενδοθηλιακής δυσλειτουργίας.**	Ιαν. 2014 – Δεκ. 2014
Επιτροπή Ερευνών, Πανεπιστήμιο Ιωαννίνων, Ελλάδα **Ανάθεση έργου για την υλοποίηση εφαρμογής εκπαίδευσης και σεναρίων εκπαίδευσης σε καρδιολόγους στο έργο: TELECARDIOLOGY: A training application for medical doctors and cardiologists.**	Ιαν. 2013 – Δεκ. 2013
Πολυτεχνείο Χανιών, Κρήτη, Ελλάδα **Ανάθεση έργου για την υλοποίηση εργασιών στο πρόγραμμα RT3S «Μοντελοποίηση και δημιουργία εκπαιδευτικής εφαρμογής για την τοποθέτηση ενδοαγγειακών stent σε περιφερικές αρτηρίες».**	Ιαν. 2011 – Δεκ. 2012
Ίδρυμα Τεχνολογίας και Έρευνας - Ελλάδα, Τμήμα Βιοϊατρικής Έρευνας, Ιωάννινα, Ελλάδα **Ανάθεση έργου για την υλοποίηση των: «Σχεδιασμός και Ανάπτυξη Υπολογιστικών Μοντέλων Βιολογικών Λειτουργειών» στα Πλαίσια του Συγχρηματοδοτούμενου Προγράμματος της Ευρωπαϊκής Ένωσης «Multi-level Patient Specific Artery and Atherogenesis Model for Outcome Prediction, Decision Support Treatment, and Virtual Hand-on Training» (ARTreat) (Grant Agreement n0) από το Ινστιτούτο Βιοϊατρικών Ερευνών του Ιδρύματος Τεχνολογίας και Έρευνας.**	Σεπτ. 2008 – Δεκ. 2010
Επιτροπή Ερευνών, Πανεπιστήμιο Ιωαννίνων, Ελλάδα **Εργασία στα πλαίσια του έργου «Διαδρομές Ανάδειξης, Αξιοποίησης και Προβολής των Ρωμαϊκών και Παλαιοχριστιανικών Μνημείων στους Νομούς Πρεβέζης και Θεσπρωτίας και των Ελληνικών Μνημείων στους Νομούς Μπάρι και Λέτσε» της Επιτροπής Ερευνών του Πανεπιστημίου Ιωαννίνων.**	Ιουλ. 2008 – Νοέμ. 2008
Επιτροπή Ερευνών, Πανεπιστήμιο Ιωαννίνων, Ελλάδα **Συμμετοχή στο έργο «Πιλοτικό Σύστημα Πλοήγησης και Ξενάγησης στο Δήμο Αρταίων – Υποέργο 2Q, Σχεδιασμός και Ανάπτυξη Εφαρμογών Πλοήγησης και Ξενάγησης» της Επιτροπής Ερευνών του Πανεπιστημίου Ιωαννίνων.**	Μαΐος 2008 – Αυγ. 2008
Επιτροπή Ερευνών, Πανεπιστήμιο Ιωαννίνων, Ελλάδα **Συμμετοχή στο έργο «Σύστημα Προνοσοκομειακής Επείγουσας Ιατρικής και Νοσηλευτικής για την Περιφέρεια Ηπείρου, Υποέργο 2 – Σχεδιασμός και Ανάπτυξη Εφαρμογής για τη Διαχείριση Στόλου Ασθενοφόρων και για την Μετάδοση – Επεξεργασία Ιατρικών Δεδομένων» της Επιτροπής Ερευνών του Πανεπιστημίου Ιωαννίνων".**	Ιουν. 2007 – Δεκ. 2007
Κρατικό νοσοκομείο Κοζάνης, Ελλάδα **Πρακτική άσκηση στο Παθολογοανατομικό και Κυτταρολογικό Τμήμα του Κρατικού «Μαμάτσιου» Νοσοκομείου Κοζάνης.**	Ιουλ. 2005 – Σεπ. 2005
Κρατικό νοσοκομείο Κοζάνης, Ελλάδα **Πρακτική άσκηση στο Μικροβιολογικό Τμήμα του Κρατικού «Μαμάτσιου» Νοσοκομείου Κοζάνης.**	Ιουλ. 2004 – Αυγ. 2004

ΕΚΠΑΙΔΕΥΤΙΚΗ ΕΜΠΕΙΡΙΑ

Διδάσκων με το πρόγραμμα απόκτησης Ακαδημαϊκής Εμπειρίας στο Τμήμα Μηχανικών Επιστήμης Υλικών του Πανεπιστημίου Ιωαννίνων	Ιαν. 2018 – Ιουν. 2023
Διδασκαλία των μαθημάτων:	

- Υπολογιστική Μοντελοποίηση στη Βιοϊατρική Τεχνολογία
- Μιγαδική ανάλυση
- Ρευστομηχανική

Επιβλέπων σε φοιτητές προπτυχιακού και μεταπτυχιακού επιπέδου στο Τμήμα Μηχανικών Επίστήμης Υλικών του Πανεπιστημίου Ιωαννίνων (αναλαμβάνονται τουλάχιστον 4 προπτυχιακοί φοιτητές ανά έτος). Εξαιρετική επικοινωνία με τους φοιτητές.	Σεπτ. 2013 – Σήμερα
Ινστιτούτο Τεχνολογίας και Υπολογιστών «Διόφαντος», Πάτρα, Ελλάδα Ανάπτυξη, προσαρμογή και επικαιροποίηση Ανοικτών Ακαδημαϊκών Πόρων και συγκεκριμένα: συμμετοχή στην επιστημονική επιμέλεια και έλεγχο ποιότητας του περιεχομένου των Αντικειμένων, συμμετοχή στην περιγραφή των Αντικειμένων με μεταδεδομένα. .	Ιαν. 2018 - Δεκ. 2018
Βοηθός καθηγητή στον κύριο Δημήτριο Ι. Φωτιάδη, Καθηγητή Βιοιατρικής Τεχνολογίας στο Τμήμα Μηχανικών Επίστήμης Υλικών του Πανεπιστημίου Ιωαννίνων, Ελλάδας.	Σεπτ. 2011 – 2016
Διδασκαλία του μαθήματος : • Υπολογιστική Μοντελοποίηση στη Βιοϊατρική Τεχνολογία στο Τμήμα Μηχανικών Επιστήμης Υλικών του Πανεπιστημίου Ιωαννίνων.	Σεπτ. 2011 – 2016
Διδασκαλία των εργαστηριακών μαθημάτων: • Υπολογιστική Μοντελοποίηση στη Βιοϊατρική Τεχνολογία • Βιοϊατρική Τεχνολογία.	Σεπτ. 2011 – 2016
Ανάπτυξη διαδικτυακού ακαδημαϊκού υλικού των μαθημάτων Βιοχημείας και Γεωργικής Χημείας του Τμήματος Αγροτικής Τεχνολογίας του Τ.Ε.Ι. Ηπείρου στην Ελλάδα.	Ιαν. 2015 – Δεκ. 2015
Διδασκαλία του μαθήματος: • Βιοϊατρική Τεχνολογία στο Τμήμα Μηχανικών Επίστήμης Υλικών του Πανεπιστημίου Ιωαννίνων. • Βιοϋλικά	Σεπτ. 2012 – Φεβ. 2014
Ανάπτυξη εκπαιδευτικού υλικού για καρδιολόγους και χειρουργούς κατά τη διάρκεια του ερευνητικού προγράμματος TELECARDIOLOGY.	Ιαν. 2013 – Δεκ. 2013
Ανάπτυξη εκπαιδευτικού υλικού και πραγματικών ιατρικών σεναρίων για ακαδημαϊκούς σκοπούς για καρδιολόγους και αγγειοχειρουργούς κατά τη διάρκεια του ερευνητικού προγράμματος RT3S.	Ιαν. 2011 – Δεκ. 2012

ΠΙΣΤΟΠΟΙΗΤΙΚΑ

Big Data, Genes, and Medicine by The State University of New York on Coursera. Ημερομηνία απόκτησης της πιστοποίησης: Σάββατο, 23 Δεκέμβρη, 2017, Βαθμός: 91.6%

ΓΛΩΣΣΕΣ

Ελληνικά: Μητρική γλώσσα
Αγγλικά: Άριστα
Γερμανικά: Καλά

ΙΚΑΝΟΤΗΤΕΣ ΜΕ ΤΟΥΣ ΥΠΟΛΟΓΙΣΤΕΣ

Λογισμικά & Τεχνολογίες

- Εργαλεία προσομοίωσης: ANSYS, ANSYS workbench, ANSYS-CFX, ICEM-CFD, COMSOL
- Προγράμματα: Solidworks, Geomagic, Slicer3D, GMSH, LAMS, Photoshop, Dreamweaver, Flash

Γλώσσες προγραμματισμού

- Matlab, Γνώση των: HTML, CSS, JavaScript, jQuery

ΥΠΟΤΡΟΦΙΕΣ ΚΑΙ ΔΙΑΚΡΙΣΕΙΣ

- **2012**: **Ελληνική Εταιρεία Καρδιολογίας:** Εφαρμογή ενός μαθηματικού μοντέλου ανάπτυξης πλάκας σε καρωτιδικές αρτηρίες λαμβάνοντας υπόψη την ενδοθηλιακή δυσλειτουργία.

Σύνταξη της ερευνητικής πρότασης και συντονισμός της επιτυχούς ολοκλήρωσης.

- **2015**: Βραβείο καλύτερης ψηφιοποίησης του μαθήματος «**Γεωργική Χημεία (Θεωρία)**» του Γεωργίου Κ. Παπαδόπουλου, Καθηγητή του Τμήματος Τεχνολόγων Γεωπόνων του ΤΕΙ Ηπείρου. Το εν λόγω μάθημα διακρίθηκε λόγω του υψηλού επιπέδου του διδακτικού υλικού και του καινοτόμου τρόπου ψηφιοποίησης ανάμεσα σε 2500 ανοιχτά μαθήματα από όλα τα Πανεπιστήμια και τα ΤΕΙ της χώρας.
- **2016**: **Βραβείο Νέου Ερευνητή από την Ευρωπαϊκή Εταιρεία Αθηροσκλήρωσης:** Μελέτη για την επαναληπτικότητα της απεικόνισης αξονικής τομογραφίας στον υπολογισμό της ροής αίματος και της μοντελοποίησης της μεταφοράς των μορίων LDL**.**
- **2017**: **Βραβείο Νέου Ερευνητή από την Ευρωπαϊκή Εταιρεία Αθηροσκλήρωσης**.
- **2017**: Το άρθρο "Prediction of atherosclerotic plaque development in a realistic coronary arterial segment based on a multi-level modeling approach," παρουσιάστηκε στο εξώφυλλο και στην διαδικτυακή σελίδα του τεύχους Αυγούστου του περιοδικού «**IEEE Transactions of Biomedical Engineering**».
- **2018**: **NVIDIA GPU Grant Program**. Παροχή μίας GeForce Titan Xp GPU για την υποστήριξη της έρευνας μου.

ΕΝΔΙΑΦΕΡΟΝΤΑ

- Βιοιατρική μηχανική
- Καρδιαγγειακή νόσος
- Μοντελοποίηση και προσομοίωση παθολογικών καταστάσεων
- Συστήματα υποστήριξης αποφάσεων
- Ανάλυση μεγάλου όγκου δεδομένων
- Πεπερασμένα στοιχεία
- Ανάπτυξη λογισμικού
- Βιολογία
- Γενετική και σχέση με μηχανικές αποκρίσεις
- Ιατρική Πληροφορική και Ηλεκτρονικά Αρχεία Υγείας

ΔΡΑΣΤΗΡΙΟΤΗΤΕΣ

- Υπαίθριες δραστηριότητες (πεζοπορία, ποδηλασία, τρέξιμο)
- Ποδόσφαιρο, μπάσκετ, τένις
- Ανάγνωση (τεχνολογικά θέματα, εγκυκλοπαιδική γνώση), λογοτεχνία
- Θέατρο, κινηματογράφος

<u>Δημοσιεύσεις σε έγκριτα περιοδικά:</u>

[1] A. I. Sakellarios, P. Siogkas, T. Exarchos, K. Stefanou, C. V. Bourantas, L. Athanasiou, et al., "Modelling LDL accumulation in the case of endothelial dysfunction," Journal of the Serbian Society for Computational Mechanics, vol. 5, pp. 90-100, 2011.

[2] P. Siogkas, A. Sakellarios, T. Exarchos, D.I. Fotiadis, K. Naka, L. Michalis, N. Filipovic, O. Parodi, "Blood Flow in Arterial Segments: Rigid vs. Deformable Walls Simulations" Journal of Internet Research, Special Issue on Computational Bioengineering. Vol. 5, (1), pp. 69-77, 2011.

[3] P. Siogkas, A. Sakellarios, T. P. Exarchos, L. Athanasiou, E. Karvounis, K. Stefanou, et al., "Multiscale - Patient-Specific Artery and Atherogenesis Models," Ieee Transactions on Biomedical Engineering, vol. 58, pp. 3464-3468, Dec 2011.

[4] T. P. Exarchos, K. Stefanou, P. Siogkas, A. Sakellarios, D. I. Fotiadis, K. Naka, et al., "ARTool: A Platform for the development of multi-level patient-specific artery and atherogenesis models," Transactions on Internet Research, Special Issue on Computational Bioengineering, vol. 7(2), 2011.

[5] O. Parodi, T. P. Exarchos, P. Marraccini, F. Vozzi, Z. Milosevic, D. Nikolic, et al., "Patient-Specific Prediction of Coronary Plaque Growth From CTA Angiography: A Multiscale Model for Plaque Formation and Progression," IEEE Transactions on Information Technology in Biomedicine, vol. 16, pp.

952-965, Sep 2012.
[6] A. I. Sakellarios, K. Stefanou, P. Siogkas, V. D. Tsakanikas, C. V. Bourantas, L. Athanasiou, et al., "Novel methodology for 3D reconstruction of carotid arteries and plaque characterization based upon magnetic resonance imaging carotid angiography data," Magn Reson Imaging, vol. 30, pp. 1068-82, Oct 2012.
[7] L. S. Athanasiou, P. S. Karvelis, A. I. Sakellarios, T. P. Exarchos, P. K. Siogkas, V. D. Tsakanikas, et al., "A hybrid plaque characterization method using intravascular ultrasound images," Technology and Health Care, vol. 21, pp. 199-216, 2013.
[8] C. V. Bourantas, H. M. Garcia-Garcia, K. K. Naka, A. Sakellarios, L. Athanasiou, D. I. Fotiadis, et al., "Hybrid intravascular imaging: current applications and prospective potential in the study of coronary atherosclerosis," J Am Coll Cardiol, vol. 61, pp. 1369-78, Apr 2 2013.
[9] N. Filipovic, M. Radovic, V. Isailovic, Z. Milosevic, D. Nikolic, I. Saveljic, et al., "Plaque formation and stent deployment with heating thermal effects in arteries," Journal of the Serbian Society for Computational Mechanics vol. 6, pp. 11-28, 2013.
[10] E. C. Karvounis, T. P. Exarchos, E. Fotiou, A. I. Sakellarios, D. Iliopoulou, D. Koutsouris, et al., "ART-ML: A new markup language for modelling and representation of biological processes in cardiovascular diseases," Technology and Health Care, vol. 21, pp. 241-259, 2013.
[11] D. Nikas, C. Bourantas, A. I. Sakellarios, A. Ramos, K. K. Naka, L. K. Michalis, et al., "New Developments in Hybrid Optical Coherence Tomographic Imaging: Current Status and Potential Implications in Clinical Practice and Research," Current Cardiovascular Imaging Reports, vol. 6, pp. 411-420, 2013.
[12] A. I. Sakellarios, M. I. Papafaklis, P. Siogkas, L. S. Athanasiou, T. P. Exarchos, K. Stefanou, et al., "Patient-specific computational modeling of subendothelial LDL accumulation in a stenosed right coronary artery: effect of hemodynamic and biological factors," American Journal of Physiology-Heart and Circulatory Physiology, vol. 304, pp. H1455-H1470, Jun 2013.
[13] L. Athanasiou, A. I. Sakellarios, C. V. Bourantas, G. Tsirka, P. Siogkas, T. P. Exarchos, et al., "Currently available methodologies for the processing of intravascular ultrasound and optical coherence tomography images," Expert Rev Cardiovasc Ther, vol. 12, pp. 885-900, Jul 2014.
[14] L. S. Athanasiou, C. V. Bourantas, G. Rigas, A. I. Sakellarios, T. P. Exarchos, P. K. Siogkas, et al., "Methodology for fully automated segmentation and plaque characterization in intracoronary optical coherence tomography images," Journal of Biomedical Optics, vol. 19, Feb 2014.
[15] C. V. Bourantas, M. I. Papafaklis, L. Lakkas, A. Sakellarios, Y. Onuma, Y. J. Zhang, et al., "Fusion of optical coherence tomographic and angiographic data for more accurate evaluation of the endothelial shear stress patterns and neointimal distribution after bioresorbable scaffold implantation: comparison with intravascular ultrasound-derived reconstructions," Int J Cardiovasc Imaging, vol. 30, pp. 485-94, Mar 2014.
[16] L. S. Athanasiou, G. Rigas, A. Sakellarios, C. V. Bourantas, K. Stefanou, E. Fotiou, et al., "Error propagation in the characterization of atheromatic plaque types based on imaging," Comput Methods Programs Biomed, vol. 121, pp. 161-74, Oct 2015.
[17] L. S. Athanasiou, G. A. Rigas, A. I. Sakellarios, T. P. Exarchos, P. K. Siogkas, K. K. Naka, et al., "Computerized methodology for micro-CT and histological data inflation using an IVUS based translation map," Comput Biol Med, Mar 6 2015.
[18] C. Bourantas, S. Papadopoulou, P. Serruys, A. Sakellarios, P. Kitslaar, P. Bizopoulos, et al., "Non-Invasive Prediction of Atherosclerotic Progression: Analysis from the PROSPECT-MSCT study. JACC Imaging," Jacc-Cardiovascular Imaging, vol. 9(8), pp. 1009-11, Aug 2016.
[19] C. V. Bourantas, L. Raber, S. Zaugg, A. Sakellarios, M. Taniwaki, D. Heg, et al., "Impact of local endothelial shear stress on neointima and plaque following stent implantation in patients with ST-elevation myocardial infarction: A subgroup-analysis of the COMFORTABLE AMI-IBIS 4 trial," Int J Cardiol, vol. 186, pp. 178-85, May 1 2015.
[20] K. P. Exarchos, C. Carpegianni, G. Rigas, T. P. Exarchos, F. Vozzi, A. Sakellarios, et al., "A Multiscale Approach for Modeling Atherosclerosis Progression," IEEE Journal of Biomedical and Health Informatics, vol. 19, pp. 709-719, Mar 2015.
[21] P. K. Siogkas, M. I. Papafaklis, A. I. Sakellarios, K. A. Stefanou, C. V. Bourantas, L. S. Athanasiou, et al., "Patient-Specific Simulation of Coronary Artery Pressure Measurements: An In Vivo Three-

Dimensional Validation Study in Humans," Biomed Research International, Article ID 628416, 11 pages, 2015.
[22] A. Sakellarios, C.V. Bourantas, S. Papadopoulou, Z. Tsirka, T. de Vries, P.H. Kitslaar, C. Gyrasis, K.K. Naka, D.I. Fotiadis, S. Veldhof, G. Stone, J.H.C. Reiber, L.K. Michalis, P.W. Serruys, P.J. de Feyter, H. Garcia Garcia, "Prediction of Atherosclerotic Disease Progression Using LDL Transport Modeling: a Serial Computed Tomographic Coronary Angiographic Study," European Heart Journal - Cardiovascular Imaging, vol. 18 (1), pp. 11-18, 2017.
[23] A.I. Sakellarios, P. Bizopoulos, M. Papafaklis, L. Athanasiou, T. Exarchos, C.V. Bourantas, K.K. Naka, A.J. Patterson, V.EL. Young, J.H. Gillard, O. Parodi, L.K. Michalis and D.I. Fotiadis, "Natural history of carotid atherosclerosis in relation to hemodynamics: a serial study of low density lipoprotein transport modeling in humans," Angiology, Vol. 68 (2), pp. 109-118, 2016.
[24] A.I. Sakellarios, L. Raber, C.V Bourantas, TP. Exarchos, L.S. Athanasiou, G. Pelosi, K.C. Koskinas, O. Parodi, K.K. Naka, L.K. Michalis, P.W. Serruys, H.M. Garcia-Garcia, S. Windecker, D.I. Fotiadis, "Prediction of atherosclerotic plaque development in a realistic coronary arterial segment based on a multi-level modeling approach," IEEE Trans Biomed Eng. 2017 Aug;64(8):1721-1730.
[25] A. Sakellarios, C.V. Bourantas, S.L. Papadopoulou, T. de Vries, P.H. Kitslaar, C. Girasis, K.K. Naka, S. Veldhof, G.W. Stone, J.H.C. Reiber, L.K. Michalis, P.W. Serruys, P.J. de Feyter, H.M. Garcia Garcia, D.I. Fotiadis, "Reproducibility of endothelial shear stress and low density lipoprotein transport modeling in computed tomography angiographic imaging data", Atherosclerosis,. Vol. 252, e214-e215, 2016.
[26] A.I. Sakellarios, G. Karanasiou, P. Siogkas, V. Kigka, T. Exarchos, G. Rigas, L.K. Michalis, D.I. Fotiadis, Available computational techniques to model atherosclerotic plaque progression implementing a multi-level approach, CBM: Computational Biomechanics of Medicine XI Workshop in MICCAI, Special issue published by SPRINGER, 2016.
[27] A.I. Sakellarios, N.S. Tachos, G. Rigas, T. Bibas, G. Ni, F. Böhnke and D.I. Fotiadis, A validated methodology for the 3D reconstruction of cochlea geometries using human microCT images, Measurement Science and Technology, Accepted for publication, vol. 28(5), 054001, 2017.
[28] M. Mehdi, Y. Khan, J. Jares, A. Freitas, A. K. Jha, A. Sakellarios and Ratnesh Sahay, A Linked Data Visualiser for Finite Element Biosimulations. International Journal of Semantic Computing, Vol. 10(2), 219–245, 2016.
[29] A.I. Sakellarios, C.V. Bourantas, S. Papadopoulou, T. de Vries, P.H. Kitslaar, C. Gyrasis, K.K. Naka, S. Veldhof, G. Stone, J.H.C. Reiber, L.K. Michalis, P.W. Serruys, P.J. de Feyter, H. Garcia Garcia, D.I. Fotiadis, "The effect of coronary bifurcation and boundary conditions in prediction of atherosclerotic plaque development: a Serial Computed Tomographic Coronary Angiographic study," EuroIntervention. 2017 Oct 13;13(9):e1084-e1091.
[30] V. Kigka, G. Rigas, A. Sakellarios, P. P Siogkas, T. Exarchos, D. Loggitsi, C. Anagnostopoulos, L. Michalis, D. Neglia, G. Pelosi, O. Parodi, D. Fotiadis, 3D Reconstruction of Coronary Arteries and Atherosclerotic Plaques based on Computed Tomography Angiography images" Just accepted article in "Biomedical Signal Processing & Control" (BSPC), 2017.
[31] C. V. Bourantas, A. Ramasamy, A. Karagiannis, A. Sakellarios, T. Zanchin, K. Yamaji, Y. Ueki, X. Shen, D. Fotiadis, L. Michalis, A. Mathur, P. Serruys, H. Garcia-Garcia, K. Koskinas, R. Torii, S. Windecker, L. Raber, Angiographic derived endothelial shear stress: a new predictor of atherosclerotic disease progression, European Heart Journal – Cardiovascular Imaging. 2018, 00, 1-9.
[32] P. K. Siogkas, C. D. Anagnostopoulos, R. Liga, T. P. Exarchos, A.I. Sakellarios, G. Rigas, A. J.H.A. Scholte, M.I. Papafaklis, D. Loggitsi, G. Pelosi, O. Parodi, T. Maaniitty, L. K. Michalis, J. Knuuti, D. Neglia, D. I. Fotiadis, “Noninvasive CT-based hemodynamic assessment of coronary lesions derived from fast computational analysis: a comparison against fractional flow reserve” European Journal of Radiology, Just accepted article.
[33] V. I Kigka, A. Sakellarios, S. Kyriakidis, G. Rigas, L. Athanasiou, P. Siogkas, P. Tsompou, D. Loggitsi, D. C Benz, R. Buechel, P. A Lemos, G. Pelosi, L. K Michalis, D. I Fotiadis, “A three-dimensional quantification of calcified and non-calcified plaques in coronary arteries based on computed tomography coronary angiography images: Comparison with expert” Computers in biology and medicine, Volume 113, Pages 103409, 2019.
[34] C. V. Bourantas, T. Zanchin, A. Sakellarios, A. Karagiannis, A. Ramasamy, K. Yamaji, M.

Taniwaki, D. Heg, A. Moschovitis, D. I. Fotiadis, L. K. Michalis, A. Baumbach, R. Torii, P. W. Serruys, H. M. Garcia Garcia, S. Windecker,L. Räber, "Implications of the local hemodynamic forces on the phenotype of coronary plaques: a serial multimodality intravascular ultrasound – optical coherence tomography study" Heart 105 (14), 1078-1086, 2019.

[35] C.D. Anagnostopoulos, P.K. Siogkas, R. Liga, G. Benetos, T. Maaniitty, A.I. Sakellarios, I. Koutagiar, I. Karakitsios, M.I. Papafaklis, A.J.H.A. Scholte, L.K. Michalis, O. Gaemperli, P.A. Kaufmann, G. Pelosi, O. Parodi, J. Knuuti, D.I. Fotiadis and D. Neglia, "Characterization of functionally significant coronary artery disease by a coronary computed tomography angiography (CCTA) based index: a comparison with Positron Emission Tomography (PET)" Eur Heart J Cardiovasc Imaging, 20 (8), 897-905, 2019.

[36] A. Sakellarios, J. Correia, S. Kyriakidis, E. Georga, N. Tachos, P. Siogkas, F. Sans, P. Stofella, V. Massimiliano, A. Clemente, S. Rocchiccioli, G. Pelosi, N. Filipovic, D. I Fotiadis, "A cloud-based platform for the non-invasive management of coronary artery disease" Enterprise Information Systems, 1-22, 2020.

[37] C. V Bourantas, L. Räber, A. Sakellarios, Y. Ueki, T. Zanchin, K. C Koskinas, K. Yamaji, M. Taniwaki, D. Heg, M. D Radu, M. I Papafaklis, F. Kalatzis, K. K Naka, D. I Fotiadis, A. Mathur, P. W Serruys, L. K Michalis, H. M Garcia-Garcia, A. Karagiannis, S. Windecker, "Utility of multimodality intravascular imaging and the local hemodynamic forces to predict atherosclerotic disease progression" JACC: Cardiovascular Imaging, 13(4), 1021-1032, 2020.

[38] AI Sakellarios, DI Fotiadis "Editorial commentary: The pleiotropic effect of statins on the atherosclerotic plaque and coronary heart disease" Trends in cardiovascular medicine 29 (8), 456, 2020.

[39] D. S. Pleouras, A. I. Sakellarios, P. Tsompou, V. Kigka, S. Kyriakidis, S. Rocchiccioli, D. Neglia, J. Knuuti, G. Pelosi, L. K. Michalis, D. I. Fotiadis, "Simulation of atherosclerotic plaque growth using computational biomechanics and patient-specific data" Nature Scientific Reports, Sci Rep 10, 17409, 2020.

[40] A. I. Sakellarios, P. Tsompou, V. Kigka, P. Siogkas, S. Kyriakidis, N. Tachos, G. Karanasiou, A. Scholte, A. Clemente, D. Neglia, O. Parodi, J. Knuuti, L. K. Michalis, G. Pelosi, S. Rocchiccioli, and D. I. Fotiadis, "Non-Invasive Prediction of Site-Specific Coronary Atherosclerotic Plaque Progression using Lipidomics, Blood Flow, and LDL Transport Modeling," Appl. Sci., 11(5), 2021.

[41] S. Seitun, A. Clemente, C. De Lorenzi, S. Benenati, D. Chiappino, C. Mantini, A. I. Sakellarios, F. Cademartiri, G. P. Bezante, and I. Porto, "Cardiac CT perfusion and FFRCTA: pathophysiological features in ischemic heart disease," Cardiovasc. Diagn. Ther., 10(6), pp. 1954–1978, 2020.

[42] G.-E. Kalykakis, A.S. Antonopoulos, T. Pitsargiotis, P. Siogkas, T. Exarchos, A. Sakellarios, P. Kafouris, R. Liga, A. Tzifa, A. Giannopoulos, A.J.H.A. Scholte, P.A. Kaufmann, O. Parodi, J. Knuuti, D. I Fotiadis, D. Neglia, C.D Anagnostopoulos, "Relationship of endothelial shear stress with plaque features with coronary CT angiography and vasodilating capability with PET" Radiology, 300(3), pp. 549-556, 2021.

[43] Y. Ozaki, K. O. Kuku, A. Sakellarios, M. Haude, A. Hideo-Kajita, S. Desale, P. Siogkas, S. Sioros, H. Ince, A. Abizaid, R. Tölg, P. Lemos, C. von Birgelen, E. Christiansen, W. Wijns, J. Escaned, L. Michalis, D. I. Fotiadis, J. Djikstra, R. Waksman, H. M. Garcia-Garcia, "Impact of endothelial shear stress on absorption process of resorbable magnesium scaffold: A BIOSOLVE-II substudy", Cardiovascular Revascularization Medicine, 29, pp. 9-15, 2021.

[44] D. S. Pleouras, A. I. Sakellarios, G. Rigas, G. Karanasiou, P. Tsompou, G. Karanasiou, V. Kigka, S. Kyriakidis, V. Pezoulas, G. Gois, N. Tachos, A. Ramos, G. Pelosi, S. Rocchiccioli, L. K. Michalis, D. I. Fotiadis, "A novel approach to generate a virtual population of human coronary arteries for in silico clinical trials of stent design", IEEE Open J Eng Med Biol. 2021 May 20;2:201-209.

[45] P.K. Siogkas, L. Lakkas, A.I. Sakellarios, George Rigas, S. Kyriakidis, K.A. Stefanou, C.D. Anagnostopoulos, R. Liga, G. Pelosi, O. Parodi, D. Neglia, L.K. Michalis and D.I. Fotiadis "SmartFFR: A new functional assessment index of coronary stenosis: comparison with invasive FFR data" Front Cardiovasc Med., 8,714471, 2021.

[46] V.I. Kigka, E. Georga, V. Tsakanikas, S. Kyriakidis, P. Tsompou, P. Siogkas, L.K. Michalis, K.K. Naka, D. Neglia, S. Rocchiccioli, G. Pelosi, D.I. Fotiadis, A. Sakellarios. Machine Learning Coronary Artery Disease Prediction Based on Imaging and Non-Imaging Data. Diagnostics (Basel).

14;12(6):1466, 2022.

[47] I. J. van den Hoogen, J. Schultz, J. H. Kuneman, M. A. de Graaf, V. Kamperidis, A. Broersen, J. W. Jukema, A. Sakellarios, S. Nikopoulos, S. Kyriakidis, K. K. Naka, L. Michalis, D. I. Fotiadis, T. Maaniitty, A. Saraste, J. J. Bax, J. Knuuti, Detailed behaviour of endothelial wall shear stress across coronary lesions from non-invasive imaging with coronary computed tomography angiography, European Heart Journal - Cardiovascular Imaging, 2022; jeac095.

[48] A.I. Sakellarios, P.;Siogkas, V. Kigka, P. Tsompou, D. Pleouras, S. Kyriakidis, G. Karanasiou, G. Pelosi, S. Nikopoulos, K.K. Naka, S. Rocchiccioli, L.K. Michalis, D.I. Fotiadis, Error Propagation in the Simulation of Atherosclerotic Plaque Growth and the Prediction of Atherosclerotic Disease Progression. Diagnostics 2021, 11, 2306.

[49] N. Tsiknakis, C. Spanakis, P. Tsoumpou, G. Karanasiou, G. Karanasiou, A. Sakellarios, G. Rigas, S. Kyriakidis, M. I. Papafaklis, S. Nikopoulos, F. Gijsen, L. Michalis, D. I. Fotiadis, K. Marias, "OCT sequence registration before and after percutaneous coronary intervention (stent implantation)", Biomedical Signal Processing and Control, 79 (1), 104251, 2023.

[50] J. Schultz, I. J. van den Hoogen, J. H. Kuneman, M. A. de Graaf, V. Kamperidis, A. Broersen, J. W. Jukema, A. Sakellarios, S. Nikopoulos, K. Tsarapatsani, K. Naka, L. Michalis, D. I. Fotiadis, T. Maaniitty, A. Saraste, J. J. Bax, J. Knuuti, "Coronary Computed Tomography Angiography-Based Endothelial Wall Shear Stress in Normal Coronary Arteries", The International Journal of Cardiovascular Imaging, *Just Accepted Article*.

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<u>Εργασίες σε έγκριτα περιοδικά που βρίσκονται υπό αξιολόγηση:</u>

[33] N. S. Tachos, A. I. Sakellarios, G. A. Rigas, A. Bibas, F. Böhnke and D. I. Fotiadis, "The Influence of Ossicular Ligaments in Middle Ear Transfer Function: Insights into Normal Physiology and Pathology", Journal of Engineering in Medicine, Submitted, under revision.

<u>Κεφάλαια σε επιστημονικά βιβλία:</u>

[1] A.I. Sakellarios, C. Bourantas, L. Athanasiou, K.K. Naka, L. Michalis, D.I. Fotiadis, "IVUS image processing methodologies in Intravascular imaging: Current applications and Research Developments", In Intravascular Imaging: Current Applications and Research Developments. IGI global.

[2] A. Rammos, A. Sakellarios, D. I. Fotiadis, C. V. Bourantas, L. Athanasiou, K.K. Naka, L. K. Michalis. "3D reconstruction of coronary arteries anatomy using imaging modalities methods: Methods applications and challenges." In 3D Imaging: Theory, technology and applications. Nova Science Publishers Inc, Chapter 5, Page 45-66.

[3] V. Kigka, T. Exarchos, G. Rigas, A. Sakellarios, P. Siogkas, L.K. Michalis and D.I. Fotiadis. "IVUS tracking: Advantages and Disadvantages of Intravascular Ultrasound in the Detection of Artery Geometrical Features and Plaque Type Morphology" submitted in "Handbook of Speckle Filtering and Tracking in Cardiovascular Ultrasound Imaging and Video", published by "The Institution of Engineering and Technology".

[4] E.I. Georga, N.S. Tachos, A.I. Sakellarios, V.I. Kigka, T.P. Exarchos, G. Pelosi, O. Parodi, L.K. Michalis, D.I. Fotiadis. "Artificial Intelligence and Data Mining Methods for Cardiovascular Risk Prediction" In Cardiovascular Computing - Methodologies and Clinical Application, Series in BioEngineering, Springer.

<u>Επιστημονικά βιβλία:</u>

[1] Multiscale Modelling in Biomedical Engineering, Dimitrios I. Fotiadis, Antonis I. Sakellarios, and Vassiliki T. Potsika, The IEEE and Wiley Publishing.

<u>Δημοσιεύσεις εργασιών σε πρακτικά συνεδρίων</u>

[1] A.I. Sakellarios, D.I. Fotiadis and L.K. Michalis, "Finite Element Modeling of LDL Transfer in Carotid Artery Bifurcation," 4th European Congress for Medical and Biomedical Engineering 2008 "Engineering for Health" Antwerp, Belgium.

[2] A.I. Sakellarios, V. D. Tsakanikas, N. D. Filipovic, L. K. Michalis, "ARTool: A platform for

atherosclerosis multi-level modeling", 2nd South East European Conference on Computational Mechanics, 2009, Rhodes, Greece.
[3] A. Sakellarios, V. Tsakanikas, L. Michalis, D. Fotiadis, N. Filipovic, "A tool for the automated processing of artery imaging modalities and modelling of atherosclerotic plaque development" CARS, Computer Assisted Radiology and Surgery 2009, Berlin, Germany.
[4] A.I. Sakellarios, M.I. Papafaklis, D.I. Fotiadis and L.K. Michalis, "Prediction of atherosclerotic plaque formation based on LDL transport for a 3D patient specific coronary artery with deformable walls" The 9th International Workshop on Mathematical Methods in Scattering Theory and Biomedical Engineering 2009, Patra, Greece.
[5] D. Petsios, A. I. Sakellarios, V. D. Tsakanikas, D. I. Fotiadis. A method for atherosclerotic plaque growth based on a markup representation of blood flow simulation, 17th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB) & 8th European Conference on Computational Bilogy (ECCB) 2009, Stocholm June 27 - July 2.
[6] A. I. Sakellarios, P. Siogkas, V. Tsakanikas, K. Stefanou, K. Naka, L. Michalis, D. Fotiadis, "Blood Flow Simulation in 3D Patient-Specific MRI Reconstructed Carotid Arteries" International VPH Conferences, 2010, Brussels, Belgium.
[7] A. Sakellarios, P. Siogkas, V. Tsakanikas, L. Michalis, D. Fotiadis, "Simulation of the effect of tachycardia on atherosclerotic plaque development based on the LDL transport in coronary arteries" 2010 Computing in Cardiology conference, Belfast, Northern Ireland, United Kingdom.
[8] P. K. Siogkas, I. Sakellarios, K. A. Stefanou, T. P. Exarchos, L. Athanasiou, K.G. Siogkas, L. K. Michalis, . K. Naka,.C. V. Bourantas, C. B.-Philipp and D. I. Fotiadis. "Exploring the Effect of Arterial Geometry in a Realistic 3D Coronary Arterial Model" 10th International Workshop on Biomedical Engineering, 2011.
[9] P. K. Siogkas, A. I. Sakellarios, K. A. Stefanou, T. P. Exarchos, V. D. Tsakanikas, L. K. Michalis, K. K. Naka, M. I. Papafaklis, C. V. Bourantas, D. I. Fotiadis. "Blood Flow in Coronary Arteries with Deformable Walls" 9th HSTAM International Congress on Mechanics, 2010.
[10] P. Siogkas, A. Sakellarios, V. Tsakanikas, K. Stefanou, T. Exarchos, K. Naka, L. Michalis, C. Bludszuweit-Philipp, D. I. Fotiadis. "Quantification of the Effect of Percutaneous Coronary Angioplasty on a Stenosed Right Coronary Artery" 10th IEEE International Conference on Information Technology and Applications in Biomedicine, ITAB 2010, Corfu, Greece.
[11] A.I. Sakellarios, T. Exarchos, P. Siogkas, K. Stefanou,, C.V. Bourantas, E. Fotiou, K.K. Naka, L.K. Michalis, D. Koutsouris, D.I. Fotiadis "Influence of arterial geometry and stenosis on LDL accumulation in arteries", 7th GRACM International Congress on Computational Mechanics.
[12] A.I. Sakellarios, K. Stefanou, P. Siogkas. T. Exarchos, K. Naka, L.K. Michalis, D.I. Fotiadis, "The effects of rheology in the atheromatous plaque development. Presentation of a novel model for the prediction of regions prone to atheromatous plaque formation based upon both wall shear stress and LDL transportation to the arterial wall" 32o Panhellenic Cardiology Conference, HCS 2011.
[13] A.I. Sakellarios, K. Stefanou, P. Siogkas, T. Exarchos, K. Naka, L.K. Michalis, D.I. Fotiadis, "Computation blood flow modeling validation using MRI carotid angiography" 32o Panhellenic Cardiology Conference, HCS 2011.
[14] A. I Sakellarios, P. Siogkas, T.P. Exarchos, K. Stefanou, L. Athanasiou, C.V. Bourantas, M. Papafaklis, E. Fotiou, K.K. Naka, L.K. Michalis, D.I. Fotiadis, O. Parodi, "Augmented low density lipoprotein accumulation in coronary regions with endothelial dysfunction and low shear stress: A computational modeling study". European Atherosclerosis Society Congress, 2012.
[15] E.Tripoliti, A. Sakellarios, M. Peroulis, E. Petrakis, J. Berends, E. Tinsson, "Training Scenarios for Vascular Surgeons of Peripheral Arteries", Modeling of Patient Safety Workshop, VPH2012 Conference, Sept. 18-20, London, UK.
[16] E. Tripoliti, A. Sakellarios, M. Peroulis, E. Petrakis M., Zervakis. "Real-Time Simulation for Safer Vascular Stenting – The Training Application" 34th Annual International Conference of the IEEE in Medicine and Biology Society (EMBC'2012), San Diego, California.
[17] E. Tripoliti, A. Sakellarios, M. Peroulis, E. Petrakis. "The Vascular Training Medicine Application" 26th International Congress and Exhibition, Computer Assisted Radiology and Surgery (CARS'2012), June 27-30, 2012, Pisa, Italy.
[18] L.S. Athanasiou, C.V. Bourantas, P.K. Siogkas, A.I. Sakellarios, T.P. Exarchos, K.K. Naka, M.I.

Papafaklis, D.I Fotiadis, “3D reconstruction of coronary arteries using Frequency Domain Optical Coherence Tomography images and biplane angiography” Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS 2012 art. no. 6346508 , pp. 2647-2650.
[19] T.P. Exarchos, A. Sakellarios, P.K. Siogkas, D.I. Fotiadis, Z. Milosevic, D. Nikolic, N. Filipovic, O. Parodi, “Patient specific multiscale modelling for plaque formation and progression” Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS 2012, art. no. 6346568 , pp. 2893-2896.
[20] A.I. Sakellarios, P.K. Siogkas, L.S. Athanasiou, T.P. Exarchos, M.I. Papafaklis, C.V. Bourantas, K.K. Naka, L.K. Michalis, N. Filipovic, O. Parodi, D.I. Fotiadis, “Three-dimensional modeling of oxidized-LDL accumulation and HDL mass transport in a coronary artery: A proof-of-concept study for predicting the region of atherosclerotic plaque development” Conf Proc IEEE Eng Med Biol Soc. 2013 Jul;2013:4513-6.
[21] P.K. Siogkas, M.I. Papafaklis, A.I. Sakellarios, K.A. Stefanou, C.V. Bourantas, L.M. Athanasiou, C.V. Bellos, T.P. Exarchos, K.K. Naka, L.K. Michalis, O. Parodi, D.I. Fotiadis, “Computational assessment of the fractional flow reserve from intravascular ultrasound and coronary angiography data: A pilot study” Conf Proc IEEE Eng Med Biol Soc. 2013 Jul;2013:3885-8.
[22] L.S. Athanasiou, C.V. Bourantas, G.A. Rigas, T.P. Exarchos, A.I. Sakellarios, P.K. Siogkas, M.I. Papafaklis, K.K. Naka, L.K. Michalis, F. Prati, D.I. Fotiadis, “Fully automated calcium detection using optical coherence tomography” Conf Proc IEEE Eng Med Biol Soc. 2013 Jul;2013:1430-3.
[23] G.S. Karanasiou, A.I. Sakellarios, E.E. Tripoliti, E.G.M. Petrakis, M.E. Zervakis, F. Migliavacca, G. Dubini, E. Dordoni, L.K. Michalis, D.I. Fotiadis, “Modeling stent deployment in realistic arterial segment geometries: The effect of the plaque composition” 13th IEEE International Conference on BioInformatics and BioEngineering, IEEE BIBE 2013, Article number 6701537.
[24] G. Karanasiou, A. Sakellarios, E. Tripoliti, E. Petrakis, M. Zervakis, F. Migliavacca, G. Dubini, E.Dordoni, L. Michalis, D. Fotiadis, “Modeling of stent implantation in a human stenotic artery” XIII Mediterranean Conference on Medical and Biological Engineering and Computing, September 25-28, 2013, Sevilla Spain.
[25] G. Rigas, L. Athanasiou, A. Sakellarios, T.P. Exarchos, O. Parodi and D.I. Fotiadis, An automated method for three-dimensional reconstruction of coronary arteries and plaque characterization using computed tomography. 2013 5ο Πανελλήνιο Συνέδριο Βιοϊατρικής Τεχνολογίας, Athens.
[26] G. A. Rigas, L. S. Athanasiou, A. I. Sakellarios, T. P. Exarchos, P. K. Siogkas, K. K. Naka, D. Panetta, G. Pelosi, L. K. Michalis, O. Parodi, and D. I. Fotiadis, “Methodology for micro-CT data inflation using Intravascular Ultrasound images” Engineering in Medicine and Biology Society (EMBC), 2014 36th Annual International Conference of the IEEE, pp. 1099 – 1102, 2014.
[27] P.A. Bizopoulos, A.I. Sakellarios, D.D. Koutsouris, D. Iliopoulou, L.K. Michalis, D.I. Fotiadis, “Randomly generated realistic vessel geometry using spline interpolation and 2D Perlin noise” 2014 IEEE-EMBS International Conference on Biomedical and Health Informatics, BHI 2014. Article number 6864328, Pages 157-160.
[28] P. A. Bizopoulos, A. I. Sakellarios, D. D. Koutsouris, J. Kountouras, L. Kostretzis, S. Karagergou, et al., "Prediction of atheromatic plaque evolution in carotids using features extracted from the arterial geometry," Conf Proc IEEE Eng Med Biol Soc, vol. 2015, pp. 6556-9, Aug 2015.
[29] A. I. Sakellarios, P. Bizopoulos, K. Stefanou, L. S. Athanasiou, M. I. Papafaklis, C. V. Bourantas, et al., "A proof-of-concept study for predicting the region of atherosclerotic plaque development based on plaque growth modeling in carotid arteries," Conf Proc IEEE Eng Med Biol Soc, vol. 2015, pp. 6552-5, Aug 2015.
[30] L. S. Athanasiou, G. A. Rigas, A. I. Sakellarios, T. P. Exarchos, P. K. Siogkas, L. K. Michalis, et al., "Three-dimensional reconstruction of coronary arteries and plaque morphology using CT angiography - comparison and registration using IVUS," Conf Proc IEEE Eng Med Biol Soc, vol. 2015, pp. 5638-41, Aug 2015.
[31] P. K. Siogkas, L. S. Athanasiou, A. I. Sakellarios, K. A. Stefanou, T. P. Exarchos, M. I. Papafaklis, et al., "Validation study of a 3D-QCA coronary reconstruction method using a hybrid intravascular ultrasound and angiography reconstruction method and patient-specific Fractional Flow Reserve data," Conf Proc IEEE Eng Med Biol Soc, vol. 2015, pp. 973-6, Aug 2015.

[32] I. F. Spiridon, A. I. Sakellarios, G. A. Rigas, A. Tagaris, C. V. Bellos, A. Bibas, et al., "Effect of modeling parameters on the frequency response of the middle ear by means of finite element analysis," Conf Proc IEEE Eng Med Biol Soc, vol. 2015, pp. 925-8, Aug 2015.
[33] A. I. Sakellarios, N. S. Tachos, G. Rigas, T. Bibas, G. Ni, F. Böhnke, et al., "3D reconstruction of cochlea geometries using human microCT images," In: Kyriacou E., Christofides S., Pattichis C. (eds) XIV Mediterranean Conference on Medical and Biological Engineering and Computing 2016. IFMBE Proceedings, vol 57. Springer, Cham, 2016, pp. 320-325.
[34] P. A. Bizopoulos, M. Vavuranakis, T. G. Papaioannou, D. A. Vrachatis, A. I. Sakellarios, D. Iliopoulou, et al., "A preliminary study on In-Vivo 3-D imaging of Bioprosthetic Aortic Valve deformation," In: Kyriacou E., Christofides S., Pattichis C. (eds) XIV Mediterranean Conference on Medical and Biological Engineering and Computing 2016. IFMBE Proceedings, vol 57. Springer, Cham, 2016, pp. 332-336.
[35] K. M. Tsiouris, S. Konitsiotis, S. Markoula, D. D. Koutsouris, A. I. Sakellarios, and D. I. Fotiadis, "An unsupervised methodology for the detection of epileptic seizures in long-term EEG signals," in 2015 IEEE 15th International Conference on Bioinformatics and Bioengineering, BIBE, 2015.
[36] N. S. Tachos, A. I. Sakellarios, G. A. Rigas, I. Spiridon, A. Bibas, F. Böhnke, et al., "A computational study of ligaments effect in middle ear chain anatomy behavior," in 2015 IEEE 15th International Conference on Bioinformatics and Bioengineering, BIBE 2015, 2015.
[37] G. S. Karanasiou, D. A. Gatsios, M. G. Lykissas, K. A. Stefanou, G. A. Rigas, I. E. Lagaris, et al., "Fluid-structure interaction analysis of anastomosis in patient specific arterial segment," in 2015 IEEE 15th International Conference on Bioinformatics and Bioengineering, BIBE 2015, 2015.
[38] AI Sakellarios, NS Tachos, G Rigas, T Bibas, DI Fotiadis, A visualization system for histological image annotation and 3D reconstruction of parametric geometries of the inner ear, in IEEE International Conference Imaging Systems and Techniques (IST), 2016, 549-553, Chania, Greece.
[39] AI Sakellarios, G Rigas, TP Exarchos, DI Fotiadis, A methodology and a software tool for 3D reconstruction of coronary and carotid arteries and atherosclerotic plaques, IEEE International Conference Imaging Systems and Techniques (IST), 2016, 549-553, Chania, Greece.
[40] V. Isailovic, M. Nikolic, T. Bibas, A. Sakellarios, N. Tachos, M. Milosevic and N. Filipovic, Numerical simulation of human hearing system, 2nd EAI International Conference on Future Access Enablers of Ubiquitous and Intelligent Infrastructures, 2016, Belgrade, Serbia.
[41] NS Tachos, AI Sakellarios, G Rigas, V Isailovic, G Ni, F Böhnke, N Filipovic, T Bibas, DI Fotiadis, Middle and inner ear modelling: From microCT images to 3D reconstruction and coupling of models, IEEE 38th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2016, 5961-5964, Orlando, Florida.
[42] P A Bizopoulos, A Sakellarios, L K Michalis, D D Koutsouris, D I Fotiadis, 3-D Registration on Carotid Artery imaging data: MRI for different timesteps, IEEE 38th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2016, 1159-1162, Orlando, Florida.
[43] S. Rocchiccioli, D. Panetta, A. Sakellarios, T. Exharcos, M. Azzarone, M., M. Ferrari, D. Fotiadis, O. Parodi, G. Pelosi, A feasibility study of integrated clinical risk assessment in carotid artery disease based on a multilevel pipeline associating molecular and hemodynamic factors with plaque pathology. 5th International Work-Conference on Bioinformatics and Biomedical Engineering, 2017, Granada, Spain.
[44] I. O. Andrikos, A. I. Sakellarios, P. K. Siogkas, T. P. Exarchos, A. Karanasos, K. Toutouzas, L. K. Michalis, D. I. Fotiadis, A semi-automate reconstruction of coronary bifurcations using angiography and OCT. International Conference on Biomedical and Health Informatics (BHI), 2017, Orlando, Florida, USA.
[45] P. Siogkas, K. Vassiliki, G. Rigas, A. Sakellarios, T. P. Exarchos, D. I. Fotiadis, Analysis of coronary CTA for 3D reconstruction of arterial trees and plaque detection. International Conference on Biomedical and Health Informatics (BHI), 2017, Orlando, Florida, USA.
[46] T. Bampali, L. Lakkas, A. Sakellarios, P. Siogkas, J. Andrikos, A. Kotsia, M. Papafaklis, C. Katsouras, D. I. Fotiadis, D. Karmpaliotis, E. Brilakis, L. Michalis, The correlation of Near-Infrared-Spectroscopy lipid pools with computationally measured accumulation of low density lipoprotein in coronary arteries. European Atherosclerosis Society Congress, 2017, Prague, Czech Republic.
[47] V. I. Kigka, . Rigas, A. I. Sakellarios, P. Siogkas, T. P. Exarchos, J. Knuuti, G. Pelosi, O. Parodi, D. I.

Fotiadis. A Hybrid Median to improve image quality in Computed Tomography Angiography Images" IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2017.
[48] I.O. Andrikos, A.I. Sakellarios, P.K. Siogkas, G. Rigas, T.P. Exarchos, L.S. Athanasiou, A. Karanasos, K. Toutouzas, D. Tousoulis, L.K. Michalis, D.I. Fotiadis, A novel hybrid approach for reconstruction of coronary bifurcations using angiography and OCT. IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2017.
[49] A. I. Sakellarios, G. Rigas, V. Kigka, P. Siogkas, P. Tsompou, G. Karanasiou, T. Exarchos, I. Andrikos, N. Tachos, G. Pelosi, O. Parodi, D. I. Fotiadis. SMARTool: A Tool for Clinical Decision Support for the Management of Patients with Coronary Artery Disease Based on Modeling of Atherosclerotic Plaque Process. IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2017.
[50] A. Karanasos, K. Toutouzas, I. Andrikos, A. Sakellarios, P. Siogkas, G. Rigas, T. Exarchos, A. Synetos, G. Latsios, E. Tsiamis, L. Michalis, D. Fotiadis, D. Tousoulis. Evaluation of flow dynamics in bifurcations by fusion of 3d angiography and two-vessel OCT. European Society of Cardiology Congress, 2017, Barcelona, Spain.
[51] P. K. Siogkas, A. I. Sakellarios, T. P. Exarchos, R. Liga, J. Knuuti, A. J.H.A. Scholte, M. I. Papafaklis, O. Parodi, L. K. Michalis, D. Neglia, D. I. Fotiadis, C. D. Anagnostopoulos. Non-invasive quantification of coronary artery disease based on CCTA images and Computational Fluid Dynamics: comparison to PET derived perfusion values. European Society of Cardiology Congress, 2017, Barcelona, Spain.
[52] G. Karanasiou, N. Tachos, A. Sakellarios, C. Conway, L. Michalis, E. Edelman, D. Fotiadis. In silico assessment of the effects of material on stent deployment. 17th IEEE International Conference on Bio-Informatics and Bio-Engineering (BIBE - 2017), Washington DC.
[53] E. I. Georga, N. S. Tachos, A. I. Sakellarios, T. P. Exarchos, S. Rocchiccioli, G. Pelosi, O. Parodi, L. K. Michalis, and D. I. Fotiadis, Towards Precise Predictive Modelling of Coronary Artery Disease Elaborating on Omics Data. 2018 IEEE International Conference on Biomedical and Health Informatics, March 4-7, 2018, Las Vegas, NV, USA.
[54] P. I. Tsompou, P. K. Siogkas, A. I. Sakellarios, P. A. Lemos, L. K. Michalis, D. I. Fotiadis, Non-invasive Assessment of Coronary Stenoses and Comparison to Invasive Techniques: A Proof-of-Concept Study, 2017 IEEE 30th International Symposium on Computer-Based Medical Systems (CBMS), Thessaloniki, Greece.
[55] A. Sakellarios, P. Siogkas, E. Georga, N. Tachos, V. Kigka, P. Tsompou, I. Andrikos, G. S. Karanasiou, S. Rocchiccioli, J Correia, G. Pelosi, P. Stofella, N. Filipovic, O. Parodi, D. I. Fotiadis, Clinical Decision Support Platform for the Risk Stratification, Diagnosis, and Prediction of Coronary Artery Disease Evolution, IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2018, Hawaii.
[56] G. S. Karanasiou, N. S. Tachos, A. Sakellarios, C. Conway, G. Pennati, L. Petrini, L. K. Michalis, E. R. Edelman, D. I. Fotiadis, In Silico analysis of stent deployment - effect of stent design, IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2018, Hawaii.
[57] G. S. Karanasiou, G. A. Rigas, S. K. Kyriakidis, N. S. Tachos, A. I. Sakellarios, D. I. Fotiadis, InSilc: 3D Reconstruction and plaque characterization tool, IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2018, Hawaii.
[58] V. I. Kigka, E. I. Georga, A. I. Sakellarios, N. S. Tachos, I. Andrikos, P. Tsompou, S. Rocchiccioli, G. Pelosi, O. Parodi, L. K. Michalis, D. I. Fotiadis, A Machine Learning Approach for the Prediction of the Progression of Cardiovascular Disease based on Clinical and Non-Invasive Imaging Data, IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2018, Hawaii.
[59] P. I. Tsompou, A. I. Sakellarios, P. K. Siogkas, I. O. Andrikos, V. I. Kigka, P. A. Lemos, L. K. Michalis, and D. I. Fotiadis, Comparison of 3D reconstruction methods based on different cardiovascular imaging: a study of multimodality reconstruction method, IEEE 39th Annual International Conference of the Engineering in Medicine and Biology Society (EMBC), 2018, Hawaii.
[60] T. Zanchin, A. Karagiannis, A. Sakellarios, K. C. Koskinas, K. Yamaji, Y. Ueki, D. Fotiadis, M. Roffi,

G. Pedrazzini, C. Matter, L. K. Michalis, A. Baumbach, T. Lüscher, S. Windecker, L. Räber, The Effect of Endothelial Shear Stress on Fibroatheroma Progression: A Serial Intravascular Ultrasound, Optical Coherence Tomography and Blood Flow Simulation Study, European Society of Cardiology, 2018, Munich.
[61] T. Zanchin, A. Karagiannis, A. Sakellarios, K. C. Koskinas, K. Yamaji, Y. Ueki, D. Fotiadis, M. Roffi, G. Pedrazzini, C. Matter, L. K. Michalis, A. Baumbach, T. Lüscher, S. Windecker, L. Räber, Angiographic derived endothelial shear stress: a new predictor of atherosclerotic
disease progression, EuroPCR, 2018, Paris.
[62] G. Pelosi, A. Sakellarios, N.Tachos, E. Georga, A.J.H.A. Scholte, D. Neglia, R. Buechel, J. Knuuti, F. Barbon, J. Correia, M. Brivio, M. Schuette, O. Parodi, S. Rocchiccioli, D. I. Fotiadis on behalf of SMARTool Study Investigators, An e-Health platform for coronary artery disease management: The SMARTool H2020 project, VPH Conference, 2018, Zaragoza.
[63] S. Rocchiccioli, M. Shuette, N.Tachos, E. Georga, S. Sbrana, J. Campolo, C. Caselli, A. Sakellarios, F. Vozzi, JM. Smit, AJHA. Scholte, D. Neglia, D. I. Fotiadis, O. Parodi, G. Pelosi, on behalf of SMARTool Study Investigators, The impact of genomics in the development of a diagnostic model for stable, coronary artery disease, VPH Conference, 2018, Zaragoza.
[64] A. I. Sakellarios, N. Tachos, P. Tsompou, V. Kigka, S. Kyriakidis, G. Karanasiou, G. Pelosi, O. Parodi, D. I. Fotiadis, A computational multi-level patient-specific model for the simulation of the mechanisms of atherosclerotic plaque growth, World Congress of Biomechanics, 2018, Dublin.
[65] E. I Georga, N. S Tachos, A. I Sakellarios, G. Pelosi, S. Rocchiccioli, O. Parodi, L. K Michalis, D. I Fotiadis, “A Multimodal Machine Learning Approach to Omics-Based Risk Stratification in Coronary Artery Disease” World Congress on Medical Physics and Biomedical Engineering 879-882, 2018, Prague.
[66] V. I Kigka, A. Sakellarios, G. Rigas, P.Tsobou, I. O Andrikos, L. K Michalis, D. I Fotiadis, “A Three-Dimensional Quantification of Calcified and Non-calcified Plaque Based on Computed Tomography Coronary Angiography Images: Comparison with Virtual Histology” World Congress on Medical Physics and Biomedical Engineering 207-211, 2018, Prague.
[67] A. I Sakellarios, N. Tachos, E. Georga, G. Rigas, V. Kigka, P. Siogkas, S. Kyriakidis, G. Karanasiou, P. Tsompou, I. Andrikos, S. Rocchiccioli, G. Pelosi, O. Parodi, D. I Fotiadis, “A Novel Concept of the Management of Coronary Artery Disease Patients Based on Machine Learning Risk Stratification and Computational Biomechanics: Preliminary Results of SMARTool Project” World Congress on Medical Physics and Biomedical Engineering, 629-633, 2018, Prague.
[68] I. O. Andrikos, A. I. Sakellarios, P. K. Siogkas, P. I. Tsompou, V. I. Kigka, L. K. Michalis, and D. I. Fotiadis, "A new method for the 3D reconstruction of coronary bifurcations pre and post the angioplasty procedure using the QCA," Conf Proc IEEE Eng Med Biol Soc, vol. 2019, pp. 5757-5760, Jul 2019, Berlin.
[69] V. I. Kigka, A. I. Sakellarios, P. Tsompou et al., "Site specific prediction of atherosclerotic plaque progression using computational biomechanics and machine learning," Conf Proc IEEE Eng Med Biol Soc, vol. 2019, pp. 6998-7001, Jul 2019, Berlin.
[70] D. Pleouras, S. Rocchiccioli, G. Pelosi et al., "A computational multi-level atherosclerotic plaque growth model for coronary arteries," Conf Proc IEEE Eng Med Biol Soc, vol. 2019, pp. 5010-5013, Jul 2019, Berlin.
[71] A. I. Sakellarios, G. Pelosi, D. I. Fotiadis et al., "Predictive Models of Coronary Artery Disease Based on Computational Modeling: The SMARTool System," Conf Proc IEEE Eng Med Biol Soc, vol. 2019, pp. 7002-7005, Jul 2019, Berlin.
[72] P. K. Siogkas, A. I. Sakellarios, S. K. Kyriakidis et al., "The effect of error propagation in the 3D reconstruction of coronary segments using CTCA images on crucial hemodynamic parameters," Conf Proc IEEE Eng Med Biol Soc, vol. 2019, pp. 5006-5009, Jul 2019, Berlin.
[73] P. I. Tsompou, P. K. Siogkas, A. I. Sakellarios et al., "A comparison of three multimodality coronary 3D reconstruction methods," Conf Proc IEEE Eng Med Biol Soc, vol. 2019, pp. 5812-5815, Jul 2019, Berlin.
[74] G. I Grigoriadis, A. I Sakellarios, K. Naka, I. Kosmidou, C. Ellis, L. K Michalis, D. I Fotiadis. “Computational Fluid Dynamics of Blood Flow at the Left Atrium and Left Atrium Appendage,” Mediterranean Conference on Medical and Biological Engineering and Computing, Publisher Springer,

Cham, Pages 938-946.
[75] I. O. Andrikos, A. I. Sakellarios, P. K. Siogkas, P. I. Tsompou, V. I. Kigka, L. K. Michalis, and D. I. Fotiadis, “A new method for the 3D reconstruction of coronary bifurcations pre and post the angioplasty procedure using the QCA,” in 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Jul. 2019, pp. 5757–5760.
[76] V. I. Kigka, A. I. Sakellarios, P. Tsompou, S. Kyriakidis, P. Siogkas, I. Andrikos, L. K. Michalis, and D. I. Fotiadis, “Site specific prediction of atherosclerotic plaque progression using computational biomechanics and machine learning,” in 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Jul. 2019, pp. 6998–7001.
[77] A. I. Sakellarios, P. Tsompou, P. Siogkas, V. Kigka, I. Andrikos, N. Tachos, E. Georga, S. Kyriakidis, S. Rocchiccioli, G. Pelosi, and D. I. Fotiadis, “Predictive Models of Coronary Artery Disease Based on Computational Modeling: The SMARTool System,” in 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Jul. 2019, pp. 7002–7005.
[78] P. K. Siogkas, A. I. Sakellarios, S. K. Kyriakidis, C. D. Anagnostopoulos, G. Pelosi, S. Rocchiccioli, L. K. Michalis, and D. I. Fotiadis, “The effect of error propagation in the 3D reconstruction of coronary segments using CTCA images on crucial hemodynamic parameters,” in 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Jul. 2019, pp. 5006–5009.
[79] P. I. Tsompou, P. K. Siogkas, A. I. Sakellarios, I. O. Andrikos, V. I. Kigka, P. A. Lemos, L. K. Michalis, and D. I. Fotiadis, “A comparison of three multimodality coronary 3D reconstruction methods,” in 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Jul. 2019, pp. 5812–5815.
[80] G. Karanasiou, S. Kyriakidis, D. Pleouras, A. Sakellarios, A. Moulas, A. Semertzioglou, and D. Fotiadis, “BioCoStent: A Holistic Approach for Development of a Drug-Eluting Stent with Retinoic Acid,” in 2019 IEEE 19th International Conference on Bioinformatics and Bioengineering (BIBE), Oct. 2019, pp. 667–670.
[81] S. Kyriakidis, A. Sakellarios, G. Karanasiou, and D. I. Fotiadis, “A Novel Methodology for Detection of Lumen, Outer Wall, Plaques and Stent Struts in Coronary Arteries Using Optical Coherence Tomography,” in 2019 IEEE 19th International Conference on Bioinformatics and Bioengineering (BIBE), Oct. 2019, pp. 697–701.
[82] D. Pleouras, A. Sakellarios, G. Karanasiou, S. Kyriakidis, P. Tsompou, V. Kigka, and D. I. Fotiadis, “Atherosclerotic Plaque Growth Prediction in Coronary Arteries using a Computational Multi-level Model: The Effect of Diabetes,” in 2019 IEEE 19th International Conference on Bioinformatics and Bioengineering (BIBE), Oct. 2019, pp. 702–705.
[83] I. Kosmidou, G. Grigoriadis, A. Sakellarios, M. Liu, K. Naka, L. K. Michalis, D. Fotiadis, and C. R. Ellis, “DEVELOPMENT OF A NOVEL COMPUTATIONAL FLUID DYNAMICS MODEL APPLIED ON CARDIAC COMPUTED TOMOGRAPHY FOR ASSESSMENT OF REGIONAL HEMODYNAMIC CHANGES IN THE LEFT ATRIAL APPENDAGE DURING ATRIAL FIBRILLATION OR SINUS RHYTHM,” J. Am. Coll. Cardiol., vol. 75, no. 11, p. 3494, Mar. 2020.
[84] Ozaki Yuichi et al., “CRT-500.01 Impact of Endothelial Shear Stress on Absorption Process of Resorbable Magnesium Scaffold: A BIOSOLVE-II Substudy,” JACC Cardiovasc. Interv., vol. 13, no. 4 Supplement S, pp. S42–S42, Feb. 2020.
[85] G. I. Grigoriadis, A. I. Sakellarios, I. Kosmidou, K. K. Naka, C. Ellis, L. K. Michalis, and D. I. Fotiadis, “Wall shear stress alterations at left atrium and left atrial appendage employing abnormal blood velocity profiles,” in 2020 42nd Annual International Conference of the IEEE Engineering in Medicine Biology Society (EMBC), Jul. 2020, pp. 2565–2568.
[86] V. I. Kigka, A. I. Sakellarios, E. I. Georga, P. Siogkas, P. Tsompou, S. Kyriakidis, S. Rocchiccioli, G. Pelosi, K. Naka, L. K. Michalis, and D. I. Fotiadis, “Site specific prediction of PCI stenting based on imaging and biomechanics data using gradient boosting tree ensembles,” in 2020 42nd Annual International Conference of the IEEE Engineering in Medicine Biology Society (EMBC), Jul. 2020, pp. 2812–2815.
[87] D. S. Pleouras, A. I. Sakellarios, V. S. Loukas, S. Kyriakidis, and D. I. Fotiadis, “Prediction of the development of coronary atherosclerotic plaques using computational modeling in 3D reconstructed coronary arteries,” in 2020 42nd Annual International Conference of the IEEE Engineering in Medicine Biology Society (EMBC), Jul. 2020, pp. 2808–2811.

[88] A. I. Sakellarios, V. C. Pezoulas, C. Bourantas, K. K. Naka, L. K. Michalis, P. W. Serruys, G. Stone, H. M. Garcia-Garcia, and D. I. Fotiadis, “Prediction of atherosclerotic disease progression combining computational modelling with machine learning,” in 2020 42nd Annual International Conference of the IEEE Engineering in Medicine Biology Society (EMBC), Jul. 2020, pp. 2760–2763.
[89] P. K. Siogkas, L. Lakkas, A. I. Sakellarios, L. K. Michalis, and D. I. Fotiadis, “The effect of the stenosis location at a coronary arterial bifurcation: a parametric study,” in 2020 42nd Annual International Conference of the IEEE Engineering in Medicine Biology Society (EMBC), Jul. 2020, pp. 2804–2807.
[90] P. I. Tsompou, I. O. Andrikos, G. S. Karanasiou, A. I. Sakellarios, N. Tsigkas, V. I. Kigka, S. Kyriakidis, L. K. Michalis, D. I. Fotiadis, and S. B. Author, “Validation study of a novel method for the 3D reconstruction of coronary bifurcations,” in 2020 42nd Annual International Conference of the IEEE Engineering in Medicine Biology Society (EMBC), Jul. 2020, pp. 1576–1579.
[91] V. I. Kigka, S. Kyriakidis, A. Sakellarios, V. Potsika, V. Tsakanikas, D. Loggitsi, L. K. Michalis, and D. I. Fotiadis, “Three-Dimensional Reconstruction of Carotid Arteries Using Computed Tomography Angiography,” in 8th European Medical and Biological Engineering Conference, Cham, 2021, pp. 1130–1136.
[92] V. S. Loukas, D. S. Pleouras, G. S. Karanasiou, S. Kyriakidis, A. I. Sakellarios, A. Semertzioglou, L. K. Michalis, and D. I. Fotiadis, “Investigation of Drug Eluting Stents Performance Through in silico Modeling,” in 8th European Medical and Biological Engineering Conference, Cham, 2021, pp. 712–721.
[93] D. Katsarou, A. I. Sakellarios, S. Agathopoulos, and D. I. Fotiadis, “Modeling Approach of Blood Hemodynamics in the Left Ventricle,” in 8th European Medical and Biological Engineering Conference, Cham, 2021, pp. 814–823.
[94] V. I. Kigka et al., "A Machine Learning Model for the Identification of High risk Carotid Atherosclerotic Plaques," 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 2021, pp. 2266-2269.
[95] A. I. Sakellarios et al., "A proof-of-concept study for the prediction of the de-novo atherosclerotic plaque development using finite elements," 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 2021, pp. 4354-4357.
[96] V. S. Loukas et al., "Investigation of Drug Eluting Stents performance in human atherosclerotic artery through in silico modeling," 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 2021, pp. 5433-5436.
[97] G. S. Karanasiou et al., "An in silico trials platform for the evaluation of effect of the arterial anatomy configuration on stent implantation," 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 2021, pp. 4213-4217.
[98] M. D. Mantzaris et al., "Computational modeling of atherosclerotic plaque progression in carotid lesions with moderate degree of stenosis," 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 2021, pp. 4209-4212.
[99] V. C. Pezoulas et al., "A hybrid data harmonization workflow using word embeddings for the interlinking of heterogeneous cross-domain clinical data structures," 2021 IEEE EMBS International Conference on Biomedical and Health Informatics (BHI), 2021, pp. 1-4.
[100] van den Hoogen I, Schultz J, Kuneman J, et al. “Feasibility of evaluating endothelial shear stress from coronary computed tomography angiography in patients with coronary artery disease”. J Am Coll Cardiol. 2022 Mar, 79 (9_Supplement) 1248.
[101] Karanasiou GS, Tsompou PI, Tachos N, Karanasiou GE, Sakellarios A, Kyriakidis S, Antonini L, Pennati G, Petrini L, Gijsen F, Vaughan T, Katsouras C, Michalis L, Fotiadis DI. An in silico trials platform for the evaluation of stent design effect in post-implantation outcomes. Annu Int Conf IEEE Eng Med Biol Soc. 2022 Jul;2022:4970-4973. doi: 10.1109/EMBC48229.2022.9871483. PMID: 36086562.
[102] Pleouras DS, Mantzaris MD, Siogkas PK, Tsakanikas VD, Potsika VT, Sakellarios A, Tsompou P, Sigala F, Fotiadis DI. Prediction of the atherosclerotic plaque development in carotid arteries; the effect of T-cells. Annu Int Conf IEEE Eng Med Biol Soc. 2022 Jul;2022:1590-1593. doi: 10.1109/EMBC48229.2022.9871632. PMID: 36085734.
[103] Tsarapatsani K, Sakellarios AI, Pezoulas VC, Tsakanikas VD, Kleber ME, Marz W, Michalis LK, Fotiadis DI. Machine Learning Models for Cardiovascular Disease Events Prediction. Annu Int Conf IEEE Eng Med Biol Soc. 2022 Jul;2022:1066-1069. doi: 10.1109/EMBC48229.2022.9871121. PMID:

36085658.
[104] Loukas VS, Karanasiou GS, Pleouras D, et al. Investigation of crimping effects on the stent deployment through in silico modeling. Annu Int Conf IEEE Eng Med Biol Soc. 2022;2022:621-624. doi:10.1109/EMBC48229.2022.9871622
[105] Karanasiou GE, Loukas VS, Tsompou PI, et al. A proof-of-concept study for the simulation of blood flow in a post arterial segment for different blood rheology models. Annu Int Conf IEEE Eng Med Biol Soc. 2022;2022:3985-3988. doi:10.1109/EMBC48229.2022.9871397
[106] Kigka VI, Sakellarios AI, Tsakanikas VD, Potsika VT, Koncar I, Fotiadis DI. Detection of Asymptomatic Carotid Artery Stenosis through Machine Learning. Annu Int Conf IEEE Eng Med Biol Soc. 2022;2022:1041-1044. doi:10.1109/EMBC48229.2022.9870927
[107] Grigoriadis GI, Zaridis D, Pezoulas VC, et al. Segmentation of left atrium using CT images and a deep learning model. Annu Int Conf IEEE Eng Med Biol Soc. 2022;2022:3839-3842. doi:10.1109/EMBC48229.2022.9871623

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