CHRISTIAN VERGARA'S PUBLICATIONS

Books

B1. Quarteroni A., Dede' L., Manzoni A., Vergara C., Mathematical Modelling of the Human Cardiovascular System - Data, Numerical Approximation, Clinical Applications, *Cambridge Monographs on Applied and Computational Mathematics*, Cambridge University Press, 2019.

B2. Miglio E., Parolini N., Scotti A., Vergara C., Matematica e Design, *La Matematica per il 3+2*, Springer-Verlag Mailand, 2019.

Peer-reviewed Journal Papers

J1. Veneziani A., Vergara, Flow rate defective Boundary Conditions in Haemodynamics Simulations, *Int. Journ. Num. Meth. Fluids*, 47, pp. 803–816, 2005.

J2. Ponzini R., Vergara C., Redaelli A., Venenziani A., Reliable CFD-based estimation of flow rate in haemodynamics measures, *Ultrasound in Med. and Biol.*, 32(10), pp. 1545–1555, 2006.

J3. Veneziani A., Vergara C., An approximate method for solving incompressible Navier-Stokes problem with flow rate conditions, *Comp. Meth. Appl. Mech. Eng.*, 196(9-12), pp.1685-1700, 2007.

J4. Nobile F., Vergara C., An effective fluid-structure interaction formulation for vascular dynamics by generalized Robin conditions, *SIAM J. Sc. Comp.*, 30(2), pp. 731-763, 2008.

J5. Vergara C., Zunino P., Multiscale modeling and simulation of drug release from cardiovascular stents, *SIAM Multiscale Modeling and Simulation.*, 7(2), pp. 565-588, 2008.

J6. Badia S., Nobile F., Vergara C., Fluid-structure partitioned procedures based on Robin transmission conditions, *J. Comp. Phys.*, 227, pp. 7027-7051, 2008.

J7. Formaggia L., Veneziani A., Vergara C., A new approach to numerical solution of defective boundary problems in incompressible fluid dynamics, *SIAM J. Num. Anal.*, 46(6), pp. 2769-2794, 2008.

J8. Zunino P., D'Angelo C., Petrini L., Vergara C., Capelli C., Migliavacca F., Numerical simulation of drug eluting coronary stents: mechanics, fluid dynamics and drug release, *Comp. Meth. Appl. Mech. Eng.*, 198(45-46), pp. 3633-3644, 2009.

J9. Badia S., Nobile F., Vergara C., Robin-Robin preconditioned Krylov methods for fluid-structure interaction problems, *Comp. Meth. Appl. Mech. Eng.*, 198 (33-36), pp. 2768-2784, 2009.

J10. Vergara C., Ponzini R., Veneziani A., Redaelli A., Neglia D., Parodi O., Womersley number-based estimation of flow rate with Doppler Ultrasound: Sensitivity analysis and first clinical application, *Computer Methods and Programs in Biomedicine*, 98(2), pp. 151-160, 2010.

J11. Formaggia L., Veneziani A., Vergara C., Flow rate boundary problems for an incompressible fluid in deformable domains: formulations and solution methods, *Comp. Meth. Appl. Mech. Eng.*, 199 (9-12), pp. 677-688, 2010.

J12. Ponzini R., Vergara C., Rizzo G., Veneziani A., Redaelli A., Roghi A., Vanzulli A., Parodi O., Computational Fluid Dynamics-based estimation of blood flow rate in Doppler analysis: In vivo validation by means of Phase Contrast Magnetic Resonance Imaging, *IEEE Transaction on Biomedical Engineering*, 57 (7), pp. 1807-1815, 2010.

J13. Vergara C., Nitsche's method for defective boundary value problems in incompressibile fluid-dynamics, *Journal of Scientific Computing*, 46, pp. 100-123, 2011.

J14. Viscardi F., Vergara C., Antiga L., Merelli S., Veneziani A., Puppini G., Faggian G., Mazzucco A., Luciani G.B., Comparative finite-element model analysis of ascending aortic flow in bicuspid and tricuspid aortic valve, *Artificial Organs*, 34(12), pp. 1114-1120, 2010.

J15. Gerardo-Giorda L., Nobile F., Vergara C., Analysis and optimization of Robin-Robin partitioned procedures in fluid-structure interaction problems. *SIAM J. Num. Anal.*, 48(6), pp. 2091-2116, 2010.

J16. Vergara C., Modular algorithms for the numerical solution of the flow rate boundary value problem, *Communications in Applied and Industrial Mathematics*, 1(1), pp. 237-257, 2010;

J17. Perego M., Veneziani A., Vergara C., A variational approach for estimating the compliance of the cardiovascular tissue: An Inverse fluid-structure interaction problem. *SIAM J. Sc. Comp.*, 33(3), pp. 1181-1211, 2011.

J18. Dubini G. et al., Trends in biomedical engineering: focus on Patient Specific Modeling and Life Support Systems. J. Appl. Biomater. Biomech., 9(2), pp. 109 - 117, 2011.

J19. Vergara C., Viscardi F., Antiga L., Luciani G.B., Influence of bicuspid valve geometry on ascending aortic fluid-dynamics: a parametric study. *Artificial Organs*, 36(4), pp. 368-378, 2012.

J20. Porpora A., Zunino P., Vergara C., Piccinelli M., Numerical treatment of boundary conditions to replace lateral branches in haemodynamics. *Int. J. Num. Meth. Biomed. Eng.*, 28(12), pp. 1165-1183, 2012.

J21. Formaggia L. and Vergara C., Prescription of general defective boundary conditions in fluid-dynamics. *Milan Journal of Mathematics*, 80(2), pp. 333-350, 2012.

J22. Nobile F. and Vergara C., Partitioned algorithms for fluid-structure interaction problems in haemodynamics. *Milan Journal of Mathematics*, 80(2), pp. 443-467, 2012.

J23. Formaggia L., Quarteroni A., Vergara C., On the physical consistency between three-dimensional and one-dimensional models in haemodynamics. *Journal of Computational Physics*, 244, pp. 97-112, 2013.

J24. Faggiano E., Antiga L., Puppini G., Quarteroni A., Luciani G.B., Vergara C., Helical flows and asymmetry of blood jet in dilated ascending aorta with normally functioning bicuspid valve. *Biomechanics and Modeling in Mechanobiology*, 12(4), pp. 801-813, 2013.

J25. Piccinelli M., Vergara C., Antiga L., Forzenigo L., Biondetti P., Domanin M., Impact of hemodynamics on lumen boundary displacements in abdominal aortic aneurysms by means of dynamic computed tomography and computational fluid dynamics. *Biomechanics and Modeling in Mechanobiology*, 12(6), pp. 1263-1276, 2013.

J26. Nobile F., Pozzoli M., Vergara C., Time accurate partitioned algorithms for the solution of fluid-structure interaction problems in haemodynamics. *Computer and Fluids*, 86, pp. 470-482, 2013.

J27. Gigante G., Pozzoli M., Vergara C., Optimized Schwarz Methods for the diffusion-reaction problem with cylindrical interfaces. *SIAM J. Num. Anal.*, 51(6), pp. 3402-3430, 2013.

J28. Nobile F., Pozzoli M., Vergara C., Inexact accurate partitioned algorithms for fluid-structure interaction problems with finite elasticity in haemodynamics. *Journal of Computational Physics*, 273, pp. 598-617, 2014.

J29. Vergara C., Palamara S., Catanzariti D., Pangrazzi C., Nobile F., Centonze M., Faggiano E., Maines M., Quarteroni A., Vergara G., Patient-specific generation of the Purkinje network driven by clinical measurements of a normal propagation. *Medical & Biological Engineering & Computing*, 52(10), pp. 813–826, 2014.

J30. Palamara S., Vergara C., Catanzariti D., Faggiano E., Centonze M., Pangrazzi C., Nobile F., Maines M., Quarteroni A., Computational generation of the Purkinje network driven by clinical measurements: The case of pathological propagations. *Int. J. Num. Meth. Biomed. Eng.*, 30(12), pp. 1558–1577, 2014.

J31. Gigante G., Vergara C., Analysis and optimization of the generalized Schwarz method for elliptic problems with application to fluid-structure interaction. *Numer. Math.*, 131(2), pp. 369–404, 2015.

J32. Palamara S., Vergara C., Faggiano E., Nobile F., An effective algorithm for the generation of patient-specific Purkinje networks in computational electro-cardiology. *J. Comp. Phys.*, 283, pp. 495–517, 2015.

J33. Bonomi D., Vergara C., Faggiano E., Stevanella M., Conti C., Redaelli A., Puppini G., Faggian G., Formaggia L., Luciani G.B., Influence of the aortic valve leaflets on the fluid-dynamics in aorta in presence of a normally functioning bicuspid valve. *Biomechanics and Modeling in Mechanobiology*, 14(6), pp. 1349–1361, 2015.

J34. Guerciotti B., Vergara C., Azzimonti L., Forzenigo L., Buora A., Biondetti P., Domanin M., Computational study of the fluid-dynamics in carotids before and after endarterectomy. *Journal of Biomechanics*, 49(1), pp. 26–38, 2016.

J35. Vergara C., Lange M., Palamara S., Lassila T., Frangi A.F., Quarteroni A., A coupled 3D-1D numerical monodomain solver for cardiac electrical activation in the myocardium with detailed Purkinje network. *J. Comp. Phys.*, 308, pp. 218–238, 2016.

J36. Quarteroni A., Veneziani A., Vergara C., Geometric multiscale modeling of the cardiovascular system, between theory and practice. *Comp. Meth. Appl. Mech. Eng.*, 302, pp. 193–252, 2016.

J37. Nestola M.G.C., Faggiano E., Vergara C., Lancellotti R.M., Ippolito S., Filippi S., Quarteroni A., Scrofani R., Computational comparison of aortic root stresses in presence of stentless and stented aortic valve bioprostheses. *Computer Methods in Biomechanics and Biomedical Engineering*, 20(2), pp. 171-181, 2017.

J38. Guerciotti B., Vergara C., Ippolito S., Quarteroni A., Antona C., Scrofani R., Computational study of the risk of restenosis in coronary bypasses. *Biomechanics and Modeling in Mechanobiology*, 16(1), pp. 313-332, 2017.

J39. Lange M., Palamara S., Lassila T., Vergara C., Quarteroni A., Frangi A.F., Improved hybrid/GPU algorithm for solving cardiac electrophysiology problems on Purkinje networks. *Int. J. Num. Meth. Biomed. Eng.*, 33(6), e2835, 2017.

J40. Lancellotti R.M., Vergara C., Valdettaro L., Bose S., Quarteroni A., Large Eddy Simulations for blood fluid-dynamics in real stenotic carotids. *Int. J. Num. Meth. Biomed. Eng.*, 33(11), e2868, 2017.

J41. Quarteroni A., Manzoni A., Vergara C., The Cardiovascular System: Mathematical Modeling, Numerical Algorithms, Clinical Applications. *Acta Numerica*, 26, pp. 365-590, 2017.

J42. Scardulla S., Pasta S., D'Acquisto L., Sciacca S., Agnese V., Vergara C., Quarteroni A., Clemenza F., Bellavia D., Pilato M., Shear Stress Alterations in the Celiac Trunk of Patients with Continuous-Flow Left Ventricular Assist Device by In-Silico and In-Vitro Flow Analysis. *Journal of Heart and Lung Transplantation*, 36(8), pp. 906-913, 2017.

J43. Domanin M., Buora A., Scardulla F., Guerciotti B., Forzenigo L., Biondetti P., Vergara C., Computational fluid-dynamic analysis of carotid bifurcations after endarterectomy: closure with patch graft versus direct suture. *Annals of Vascular Surgery*, 44, pp. 325-335, 2017.

J44. Guerciotti B., Vergara C., Ippolito S., Quarteroni A., Antona C., Scrofani R., A computational fluid-structure interaction analysis of coronary Y-grafts. *Medical Engineering & Physics*, 47, pp. 117-127, 2017.

J45. Vergara C., Le Van D., Quadrio M., Formaggia L., Domanin M., Large Eddy Simulations of blood dynamics in abdominal aortic aneurysms. *Medical Engineering & Physics*, 47, pp. 38-46, 2017.

J46. Domanin M., Bissacco D., Le Van D., Vergara C., Computational fluid-dynamic comparison between patch-based and direct suture closure techniques after carotid endarterectomy. *Journal of Vascular Surgery*, 67(3), pp. 887-897, 2018.

J47. Zonca S., Vergara C., Formaggia L., An unfitted formulation for the interaction of an Incompressible fluid with a thick structure via an XFEM/DG approach. *SIAM J. Sc. Comp.*, 40(1), pp. B59–B84, 2018.

J48. Landajuela M., Vergara C., Gerbi A., Dede' L., Formaggia L., Quarteroni A., Numerical approximation of the electromechanical coupling in the left ventricle with inclusion of the Purkinje network. *Int. J. Num. Meth. Biomed. Eng.*, 34, e2984, 2018.

J49. Quarteroni A., Vergara C., Computational models for hemodynamics. *Encyclopedia of Continuum Mechanics*, doi:10.1007/978-3-662-53605-6_35-1, 2018.

J50. Formaggia L., Vergara C., Zonca S., Unfitted Extended Finite Elements for composite grids. *Computers and Mathematics with Applications*, 76(4), pp. 893-904, 2018.

J51. Gigante G., Vergara C., Optimized Schwarz methods for the coupling of cylindrical geometries along the axial direction. *Mathematical Modelling and Numerical Analysis (M2AN)*, 52, pp.1597-1615, 2018.

J52. Domanin M., Gallo D., Vergara C., Biondetti P., Forzenigo L.V., Morbiducci U., Prediction of long term restenosis risk after surgery in the carotid bifurcation by hemodynamic and geometric analysis. *Annals of Biomedical Engineering*, 47(4), pp. 1129-1140, 2019.

J53. Antonietti P., Verani M., Vergara C., Zonca S., Numerical solution of fluid-structure interaction problems by means of a high order Discontinuous Galerkin method on polygonal grids. *Finite Elements in Analysis and Design*, 159, pp. 1-14, 2019.

J54. Stella S., Vergara C., Giovannacci L., Quarteroni A., Prouse G., Assessing the disturbed flow and the transition to turbulence in the arteriovenous fistula. *Journal of Biomechanical Engineering*, 141(10), 101010, 2019.

J55. Gigante G., Sambataro G., Vergara C., Optimized Schwarz methods for spherical interfaces with application to fluid-structure interaction. *SIAM J. Sc. Comp.*, 42(2), pp. A751-A770, 2020.

J56. Prouse G., Stella S., Vergara C., Quarteroni A., Engelberger S., Canevascini R., Giovannacci L., Computational Analysis of Turbulent Hemodynamics in Radiocephalic Arteriovenous Fistulas to Determine the Best Anastomotic Angles. *Annals of Vascular Surgery*, 68, pp. 451–459, 2020.

J57. Domanin M., Piazzoli G., Trimarchi S., Vergara C., Image-based displacements analysis and computational blood dynamics after endovascular aneurysm repair. *Annals of Vascular Surgery*, in press.

J58. Fumagalli I., Fedele M., Vergara C., Dede' L., Ippolito S., Nicolo' F., Antona C., Scrofani R., Quarteroni A., An Image-based Computational Hemodynamics Study of the Systolic Anterior Motion of the Mitral Valve. *Computers in Biology and Medicine*, 123, 103922, 2020.

J59. Morbiducci U., Mazzi V., Domanin M., De Nisco G., Vergara C., Steinman D.A., Gallo D., Wall shear stress topological skeleton independently predicts long-term restenosis after carotid bifurcation endarterectomy. *Annals of Biomedical Engineering*, in press.

J60. Di Gregorio S., Fedele M., Pontone G., Corno A.F., Zunino P., Vergara C., Quarteroni A., A multiscale computational model of myocardial perfusion in the human heart. *Journal of Computational Physics*, 424, 109836, 2021.

J61. Piersanti R., Africa P.C., Fedele M., Vergara C., Dede' L., Corno A.F., Quarteroni A., Modeling cardiac muscle fibers in ventricular and atrial electrophysiology simulations. *Comp. Meth. Appl. Mech. Eng.*, 373, 113468, 2021.

J62. Stella S., Vergara C., Maines M., Catanzariti D., Africa P., Dematte' C., Centonze M., Nobile F., Del Greco M., Quarteroni A., Integration of activation maps of epicardial veins in computational cardiac electrophysiology. *Computers in Biology and Medicine*, 127, 104047, 2020.

Papers Submitted to peer-reviewed international journals (now Technical Reports)

S1. Gigante G., Vergara C., On the stability of a loosely-coupled scheme based on a Robin interface condition for fluid-structure interaction. *MOX Report* n. 25/2019.

S2. Pozzi S., Domanin M., Forzenigo L., Votta E., Zunino P., Redaelli A., Vergara C., Image-based displacements analysis and computational blood dynamics after endovascular aneurysm repair. *MOX Report* n. 13/2020.

S3. Zonca S., Antonietti P.F., Vergara C., A Polygonal Discontinuous Galerkin formulation for contact mechanics in fluid-structure interaction problems. *MOX Report* n. 26/2020.

S4. Martinolli M., Biasetti J.,Zonca S., Polverelli L., Vergara C., Extended Finite Element Method for Fluid-Structure Interaction in Wave Membrane Blood Pumps. *MOX Report* n. 39/2020.

S5. Pozzi S., Redaelli A., Vergara C., Votta E., Zunino P., Mathematical and numerical modeling of atherosclerotic plaque progression based on fluid-structure interaction. *MOX Report* n. 61/2020.

S6. Tuveri M., Milani E., Marchegiani G., Landoni L., Torresani E., Capelli P., Sperandio N., D'onofrio M., Salvia R.. Vergara C., Bassi C., Hemodynamics and remodeling of the portal confluence in patients with cancer of the pancreatic head: a pilot study. *MOX Report* n. 63/2020.

S7. Dede' L., Regazzoni F., Vergara C., Zunino P., Guglielmo M., Scrofani R., Fusini L., Cogliati C., Pontone G., Quarteroni A., Modeling the effect of COVID-19 on the cardiac function: A computational study. *MOX Report* n. 43/2020.

Peer-reviewed Conference Proceedings, Lecture Notes, Book Chapters

P1. Fernandez M., Moura A., Vergara C., Defective Boundary Conditions Applied to Multiscale Analysis of Blood Flow, *ESAIM ESAIM Proceedings & Surveys, CEMRACS 2004*, 14, pp. 89-99, 2005;

P2. Moura A., Vergara C., Flow rate boundary conditions and multiscale modelling of the cardiovascular system in compliant domains, in *Modelling in Medicine and Biology VI*, (eds. Ursino, Brebbia, Pontrelli, Magosso),

pp. 351-359, related to *Sixth International Conference on Modelling in Medicine and Biology*, Bologna - September 7-9, 2005;

P3. Veneziani A., Vergara C., Flow Rate Boundary Conditions in Fluid-Dynamics, *PAMM Proceedings in Applied Mathematics and Mechanics (Proceedings of the GAMM meeting 2006, Berlin)*, 6, pp. 35–38, 2006;

P4. Ponzini R., Vergara C., Rizzo G., Veneziani A., Redaelli A., Vanzulli A., Parodi O., Computational fluid dynamics-based estimation of blood flow rate in Doppler analsys: in vivo validation by means of phase contrast magnetic resonance imaging, Proceedings of the *ASME summer conference*, pp. 227-228, 2009;

P5. Arimon A., Balossino R., D'Angelo C., Doorly D., Dubini G., Fernandez M., Gerbeau J.F.,Giordana S., Migliavacca F., Pennati G., Peiro' J., Prosi M., Sherwin S., Vergara C., Vidrascu M., Zunino P.,Applications and test cases, in *Cardiovascular Mathematics*, Formaggia L., Quarteroni A., Veneziani A. eds., Springer, 2009;

P6. D'Elia M., Mirabella L.,Passerini T., Perego M., Piccinelli M., Vergara C., Veneziani A., Applications of variational data assimilation in computational hemodynamics, in *Modeling of Physiological Flows*, Ambrosi D., Quarteroni A., Rozza G. eds., Springer, 2011.

P7. Pozzoli M., Vergara C., Nobile F., Efficient algorithms for the solution of fluid-structure interaction problems in haemodynamic applications, Proceedings of the Conference *Numerical Methods for Hyperbolic Equations Theory and Applications*, Santiago de Compostela, Taylor and Francis group, pp. 355-364, 2012;

P8. Gigante G., Vergara C., Optimized Schwarz method for the fluid-structure interaction with cylindrical interfaces. *Domain Decomposition Methods in Science and Engineering XXII - Lecture Notes in Computational Science and Engineering - Proceedings of the 22nd International Conference on Domain Decomposition Methods*, 104, pp. 521-529, 2016.

P9. Lange M., Palamara S., Lassila T., Vergara C., Quarteroni A., Frangi A.F., Efficient Numerical Schemes for Computing Cardiac Electrical Activation over Realistic Purkinje Networks: Method and Verification, in "Functional Imaging and Modeling of the Heart", *Proceedings of the 8th International Conference, FIMH 2015*, Springer, pp. 430-438, 2015.

P10. Guerciotti B., Vergara C., Computational comparison between Newtonian and non-Newtonian blood rheologies in stenotic vessels. In "Biomedical Technology", Lecture Notes in Applied and Computational Mechanics 84 (P. Wriggers and T. Lenarz eds.), Springer, pp. 169-183, 2018.

P11. Vergara C., Zonca S., Extended Finite Elements method for fluid-structure interaction with an immersed thick non-linear structure. In "Mathematical and Numerical Modeling of the Cardiovascular System and Applications", SEMA SIMAI Springer Series (D. Boffi, L. Pavarino, G. Rozza, S. Scacchi, C. Vergara eds.), pp. 209-243, 2018.

P12. Formaggia L., Vergara C., Defective boundary conditions for PDEs with applications in haemodynamics. In "Numerical Methods for PDEs", SEMA SIMAI Springer Series (D. Di Pietro, A. Ern, L. Formaggia eds.), 15, pp. 285-312, 2018.

P13. Quarteroni A., Vergara C., Landajuela M., Mathematical and Numerical Description of the Heart Function. In "Imagine Math 6" (M. Emmer and M. Abate eds.), Springer, pp. 171-177, 2018.

P14. Pozzi S., Vergara C., Mathematical and numerical models of atherosclerotic plaque progression in carotid arteries. ENUMATH2019 Proceedings. In press.

Peer reviewed Abstracts and Short Communications

C1. Balossino R., Migliavacca F., Pennati G., Dubini G., Vergara C., Formaggia L., Venenziani A., Multiscale Models of the Cardiovascular System Applied to the Study of the Flow in a Carotid Bifurcation, In *Technological innovation and evaluation of medical devices for the cardiovascular system*, Rapporti Istisan, 05/46, 2004;

C2. Vergara C., Modellazione numerica di problemi con condizioni al contorno deficitarie in fluidodinamica incomprimibile, Bollettino della Unione Matematica Italiana A, 10(2), pp. 371-374, 2007;

C3. Ponzini R., Vergara C., Veneziani A., Redaelli A., Design of new reliable CFD-based estimation of flow rate in haemodynamics measures, *Journal of Biomechanics*, (41), Supplement 1, page S214, 2008;

C4. Ponzini R., Vergara C., Veneziani A., Redaelli A., Design of new reliable CFD-based estimation of flow rate: Early in-vivo results, *Computers in Cardiology*, pp. 953-955, 2008;

C5. Ponzini R., Rizzo G., Vergara C., Veneziani A., Morbiducci U., Montevecchi F.M., Redaelli A., Computational modeling of local hemodynamics phenomena: Methods, tools and clinical applications, *Nuovo Cimento C della Societa' Italiana di Fisica - Colloquia on Physics*, 32(2), pp. 77-80, 2009;

C6. Corno A., Vergara C., Subramanian C., Johnson R.A., Passerini T., Veneziani A., Formaggia L., Alphonso N., Quarteroni A., Jarvis J.C., Assisted Fontan procedure: animal and in vitro models and computational fluid dynamics study, *Interactive CardioVascular and Thoracic Surgery*, 10, pp. 679-684, 2010;

C7. Luciani G.B., Antiga L., Puppini G., Viscardi F., Faggian G., Mazzucco A., Vergara C., Commissure Orientation Influences Aortic Aneurysm Morphology in Normally Functioning Bicuspid Aortic Valves: A Parametric, Computational Fluid Dynamic Study. *Circulation. In: Abstracts From Scientific Sessions 2011. Orlando, USA, 13-15.11.2011, vol. 124(21 S)*;

Editorials

E1. Veneziani A., Vergara C., Inverse problems in Cardiovascular Mathematics: toward patient-specific data assimilation and optimization, Editorial of the special issue "Inverse Problems in Cardiovascular Mathematics", *International Journal for Numerical Methods in Biomedical Engineering*, 29(7), pp. 723-725, 2013.

Letters to Editors

L1. Domanin M., Vergara C., Regarding "closure technique after carotid endarterectomy influences local hemodynamics", *Journal of Vascular Surgery*, 63(5), p. 1409, 2016.

H-index and citation overview (Source Scopus, October 2020)

- H-index = 21;
- Total number of documents = 74;
- Total number of citations = 1409;
- Total number of citations excluding self citations of all authors = 987.

Milan, November 8th, 2020
Christian Vergara