



# Michele Conti

## *Curriculum Vitæ*

(last update: March 2020)

### 1 Personal data

- Born in Scicli (RG) on 08 April 1982
- Address: Department of Civil Engineering and Architecture - structural division, Università degli Studi di Pavia, via Ferrata 3, 27100 Pavia (PV)
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- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=26427976600>
- Scopus: <https://orcid.org/0000-0003-1275-0653>

### 2 Studies and career

#### Studies:

- *September 2001 - November 2004*: **Bachelor degree in Biomedical engineering** at Università degli Studi di Pavia.
- *September 2004 - July 2007*: **Master Degree in Biomedical engineering** at Università degli Studi di Pavia.
- *November 2007 - November 2010 (Graduation 11/02/2011)*: **PhD in Bioengineering and Bioinformatics** at Università degli Studi di Pavia - (Joint diploma with Ghent University, Ghent, Belgium).

#### Accademic position

- *December 2019 - currently*: **Associate Professor** - at Department of Civil Engineering and Architecture (ex Dept. of Structural Mechanics), Università degli Studi di Pavia, Pavia.
- *November 2016 - November 2019*: **Assistant Professor - RTD-B** - at Department of Civil Engineering and Architecture (ex Dept. of Structural Mechanics), Università degli Studi di Pavia, Pavia.
- *April 2017*: **National Scientific Qualification** as Associate Professor in Industrial Bioengineering (ING-IND/34)
- *November 2012 - October 2016*: **Assistant Professor - RTD-A** - at Department of Civil Engineering and Architecture (ex Dept. of Structural Mechanics), Università degli Studi di Pavia, Pavia.
- *November 2010 - October 2012*: **Post-doc fellow** at Department of Civil Engineering and Architecture (ex Dept. of Structural Mechanics), Università degli Studi di Pavia, Pavia.

#### Awards and Honours

- June 2019. Recipient of research grant by LivaNova Donations & Grants. [<http://www-2.unipv.it/compmech/cardiac-surgery.html>]
- April 2016. Winner of European Society of Cardiology (ESC) Research Grant. [<https://www.escardio.org/Research/Research-Funding/ESC-research-grants>] supporting embolflow project (see related article [<https://www.ncbi.nlm.nih.gov/pubmed/30341729>])

- December 2014. Winner of E. Kieffer Prize for the study 'Impact of TEVAR on thoracic Aortic Elasticity'. 6th International Congress Aortic Surgery and Anesthesia *How to do it*, Milan, Dec. 11-13, 2014.
- 2013-2015. President of Italian Chapter of European Society of Biomechanics (ESB-ITA) [<http://www.esb-ita.it/main/info/executive-board/>].
- 2010: PhD thesis selected as the Italian candidate for the ECCOMAS (European Community on Computational Methods in Applied Sciences) Award for the Best PhD Theses 2010.

## Teaching experience

- *2018-currently*: **Professor for Fluidodinamica applicata - Biomacchine** course held at the Faculty of Engineering of Università degli Studi di Pavia (I year master degree in Bioengineering).
- *2014-currently*: **Professor for Biomeccanica e simulazione di dispositivi biomedici** course held with Prof. F. Auricchio at the Faculty of Engineering of Università degli Studi di Pavia (II year bachelor degree in Bioengineering).
- *Years: 2008 / 2010 / 2011/ 2012 / 2013*: **Tutor for Biomechanics** course held by Prof. F. Auricchio at the Faculty of Engineering of Università degli Studi di Pavia.
- *Years: 2009-2010 / 2013-2014-currently*: **Tutor for Mechanics of Biological Materials** held by Prof. F. Auricchio at the Faculty of Engineering of Università degli Studi di Pavia.
- *15/05/2017 - currently* [Member of PhD committee]: Università degli Studi di PAVIA - TECNOLOGIE PER LA SALUTE, BIOINGEGNERIA E BIOINFORMATICA - Ciclo: XXXIII.
- *15/03/2016 - currently* [Member of PhD committee]: Università degli Studi di PAVIA - INGEGNERIA CIVILE E ARCHITETTURA - Ciclo: XXXII.
- *09/04/2015 - 30/05/2018* [Member of PhD committee]: Università degli Studi di PAVIA - INGEGNERIA CIVILE E ARCHITETTURA - Ciclo: XXXI.
- *12/05/2014 - 30/05/2017* [Member of PhD committee]: Università degli Studi di PAVIA - INGEGNERIA CIVILE E ARCHITETTURA - Ciclo: XXX.
- *14/09/2013 - 30/09/2016* [Member of PhD committee]: I.U.S.S. - Istituto Universitario di Studi Superiori - PAVIA - *MECCANICA COMPUTAZIONALE E MATERIALI AVANZATI*

## Organization of Workshops, Scientific meetings, Schools

- Winter School 'Bioprinting From printing set-up to laboratory analysis and Biomechanics'. Pavia, Italy, 11-13/02/2020. Website: <http://bioprintingwinterschool.unipv.it>
- '3D printing and Biomechanics' 2° Congresso IDBN - Italian Digital Biomufacturing Network & III Thematic Conference ESB-ITA - European Society of Biomechanics-ITA (Pavia, Italy, 5-7/09/2018). National conference, member of the local organising committee: F. Auricchio, MC, S. Marconi. Website: [http://www-2.unipv.it/compmech/idbn\\_home.html](http://www-2.unipv.it/compmech/idbn_home.html)
- The third ECCOMAS thematic conference on Biomedical Technology - ICBT17 (Hannover, Germany, 6-8/11/2017). Mini-symposium entitled Simulations for cardiovascular diagnosis and treatment: from computer through devices to bedside. F. Auricchio, MC, S. Korossis, M. Marino, P. Triggers.
- The third ECCOMAS thematic conference on Biomedical Technology - ICBT17 (Hannover, Germany, 6-8/11/2017). Member of the scientific committee.
- ESB-ITA, 28-29/09/2017. co-organizer of VII Annual Meeting of ESB Italian Chapter, Rome (IT). <http://www.esb-ita.it/main/meetings/>
- AIMETA 2017 - XXIII Congresso dell'Associazione Italiana di Meccanica Teorica e Applicata, Salerno, 4-7/9/2017 Salerno, Italy. Mini-symposium entitled Theoretical and Applied Biomechanics for Cardiovascular Problems. MC, M. Marino, G. Vairo, M. Zingales.
- ECCOMAS Congress 2016 (VII European Congress on Computational Methods in Applied Sciences and Engineering). 5-10/6/2016, Crete, Greece. Mini-symposium entitled Simulation Of Cardiovascular Procedures And Devices. F. Auricchio, MC, S. Morganti, A. Veneziani.

- XXI Convegno Italiano di Meccanica Computazionale e dell’VIII Riunione del Gruppo Materiali AIMETA (Lucca, Italia, 27-29/06/2016). Mini-symposium entitled Caratterizzazione e modellazione multifisica di tessuti biologici e Biomateriali. M. Marino, P. Vena, MC, L. Cristofolini e D. Gallo.
- ESB-ITA thematic conference, 8-9/9/2016, Frontier Biomechanical Challenge in Cardiovascular Physiopathology, co-organizer and member of the scientific committee, Palermo (IT)
- ESB-ITA, 22/06/2016. co-organizer of VI Annual Meeting of ESB Italian Chapter, Naples (IT).
- ESB-ITA, 05/06/2015. co-organizer of V Annual Meeting of ESB Italian Chapter, Milan(IT).
- ESB-ITA, 27/06/2014. co-organizer of IV Annual Meeting of ESB Italian Chapter, Pavia (IT).

### 3 Participation in research projects

- [Unit Leader] *Apr 2019- currently: Impact of peripheral endovascular repair on femoral-popliteal artery kinematic: from clinical experience to in vivo biomechanical modeling (PERFEKT study)*, Ricerca finalizzata 2018 - Ministero della Salute, coordinator: Dr. B. Pane. Webpage: <http://www-2.unipv.it/compmech/perfekt.html>
- [Team Member] *Apr 2018 - currently: Mapping of aortic arch hemodynamics by biomechanical analysis and modeling for planning Thoracic Endovascular Aortic Repair (TEVAR)*, Ricerca finalizzata 2016 - Ministero della Salute, coordinator: Dr. M. Marrocco.
- [Unit Leader] *February 2018 - currently: Cryoballoon atrial fibrillation ablation: in vivo evaluation of tissue effects and predictors of durable lesions*, Ricerca finalizzata 2016 - Ministero della Salute, coordinator: Dr. M. Anselmino. Webpage: <http://www-2.unipv.it/compmech/cryoballoon.html>
- [Team Member] *2016 - 2018: CINECA, Bando L.I.S.A., B-BeST Bringing Biomedical Simulations to clinical Target.*
- [Unit Leader] *November 2015 - currently: Impact of carotid endarterectomy and stenting on hemodynamics, fluid-structure interaction, autonomic modulation, and cognitive brain function*, Ricerca finalizzata 2013 - Ministero della Salute, coordinator: Dr. M. Marrocco. Webpage: <http://www-2.unipv.it/compmech/barox.html>
- [Team Member] *Jan 2014 - Dec 2016: Fondazione Cariplo, Regione Lombardia, iCardioCloud: bringing cardiovascular vital reality to clinical bedside practice through cloud platform: implementation of a US excellence paradigm into Lombardia SSR.*, coordinator: Prof. F. Auricchio.
- [Team Member] *Jan 2014 - Dec 2014: Progetto Bandiera - CNR (National Research Council), Fab@Hospital. Hospital Factory for Manufacturing Customized, Patient Specific 3D Anatomic-Functional Model and Prostheses.*, coordinator: Dr. E. Lanzarone (IMATI ). [http://www.camelopardo.com/03\\_fabbricadelfuturo/progetti/sottoprogetto-2/progetto-fabathospital/](http://www.camelopardo.com/03_fabbricadelfuturo/progetti/sottoprogetto-2/progetto-fabathospital/)
- [Team Member] *November 2011 - November 2015: FP7 Ideas ERC Starting Grant, ISOBIO-Isogeometric Methods for Biomechanics*, coordinator: Prof. A. Reali.
- [Team Member] *2010 - 2013: CILEA, Bando L.I.S.A., BIO-FSI: fluid-structure interaction (FSI) to evaluate the impact of root compliance on valve physiology*, coordinator: Prof. F. Auricchio.
- [Team Member] *June 2009 - December 2012: Fondazione Cariplo, Aortic Valve Sparing: toward an innovative PROsthesiS design (through the exploitation of advanced materials and computational mechanics)*, coordinator: Prof. F. Auricchio.

### 4 Research activity

#### Abroad research period

- *September 2015:* Institute: UMCU (University Medical Center Utrecht), Utrecht, NL; topic: Aortic Biomechanics (Erasmus Plus Grant).
- *February 2013:* Institute: UCSD (University of California at San Diego), San Diego, USA; topic: Computational fluid-dynamics of carotid arteries.
- *September 2011:* Institute: KAUST (King Abdullah University of Science and Technology), Thuwal, South Arabia; topic: generation of multi-patch domains for patient-specific iso-geometric analysis.

- *from June 2006 to September (periodically)*: Institute: IBiTech (Institute Biomedical Technology), Ghent University, Ghent, Belgium; topic: numerical simulation of carotid stenting.

## Editorial activity

- **Reviewer** of several scientific peer-review journals. Among them: Journal of Biomechanics, Medical Engineering & Physics (MEP), Computer Methods in Biomechanics and Biomedical Engineering (CMBBE), IEEE-Transactions on Biomedical Engineering (TBME), Journal of Endovascular Therapy (JEVT), International Journal for Numerical Methods in Biomedical Engineering, Annals of Biomedical Engineering (ABME), BioMedical Engineering OnLine, Cardiovascular Engineering and Technology (CVET), International Journal of Artificial Organs (IJAo), Computer Methods in Applied Mechanics and Engineering (CMAME), PLOS ONE, Journal of Material and Design (JMAD), Computers in Biology and Medicine (CBM), Journal of Biomechanical Engineering - ASME, Scientific Reports, Journal of Clinical Medicine.
- **Associate Editor** of International Journal of Artificial Organs for *Focus Issue 3D printing for biomedical applications*.
- **Topic Editor** of 3D printing: shaping biomaterials in Frontiers Research Topics <https://www.frontiersin.org/research-topics/12283/3d-printing-shaping-biomaterials>

## Commissions of trust

- JULY 2019: committee member of PhD graduation of Dr. A. Ielapi, Ghent University, Ghent, Belgium.
- MAY 2019: committee member of PhD graduation of Dr. M. Selmi, University of Verona, Verona, Italy.
- MAY 2018: committee member of PhD graduation of Dr. G. De Nisco, Politecnico di Torino, Turin, Italy.
- 2017-2018: project reviewer for Netherlands Organisation for Scientific Research (NWO)
- FEBRUARY 2017: project reviewer for Natural Sciences and Engineering Research Council of Canada
- DECEMBER 2017: project reviewer for Swiss National Science Foundation (SNSF)
- MAY 2016: project reviewer for Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO)
- JANUARY 2016: committee member of PhD graduation of Dr. N. Debusschere, Ghent University, Ghent, Belgium.
- JULY 2014: project reviewer for EU FORTISSIMO call (HORIZON2020).
- JUNE 2014: committee member of PhD graduation of Dr. F. Iannaccone, Ghent University, Ghent, Belgium.

## Main research interests

- a. **Numerical simulation of minimally-invasive cardiovascular devices.**
- b. **Development of informatics tools for medical imaging analysis.**
- c. **Experimental set-up for in-vitro tests of endovascular devices.** See <http://www.unipv.it/compmech/beta-lab.html>
- d. **Isogeometric analysis for biomechanics.** See <http://www.unipv.it/alereali/isobio.html>.
- e. **3D (bio)printing/additive manufacturing for biomedical applications.** See <http://www.unipv.it/compmech/proto-lab.html>.

## 5 Scientific/scholarly publications

### Publication resume - Scopus

- Search criterion: AU-ID ( "Conti, Michele" 26427976600 )
- From 2009 to 01/02/2020
- Documents: 86
- Sum of the Times Cited: 748
- h-index: 15

### Journal Articles

1. Spinella, G., Finotello, A., Pisa, F. R., **Conti, M.**, Mambrini, S., Pratesi, G., ... & Pane, B. (2020). *Geometrical evaluation of aortic sac remodeling during two-step thoraco-abdominal aortic aneurysm endovascular repair*. *Annals of Vascular Surgery*.
2. Pisani, S., Dorati, R., Scocozza, F., Mariotti, C., Chiesa, E., Bruni, G., Genta, I., Auricchio, F., **Conti, M.**, Conti, B. *Preliminary investigation on a new natural based Poly (gamma-glutamic acid) /Chitosan bioink*. *Journal: Journal of Biomedical Materials Research Part B: Applied Biomaterials*. Accepted for publication.
3. **Conti, M.**, & Marconi, S. (2019). Three-dimensional printing for biomedical applications (Editorial). *The International Journal of Artificial Organs* 2019, Vol. 42(10) 537-538
4. Fantini, V., Bordoni, M., Scocozza, F., **Conti, M.**, Scarian, E., Carelli, S., Di Giulio, A. M., Marconi, S., Pansarasa, O., Auricchio, F., Cereda, C. (2019). *Bioink Composition and Printing Parameters for 3D Modeling Neural Tissue*. *Cells*, 8(8), 830.
5. Auricchio, F., **Conti, M.**, & Romarowski, R. M. (2019). Usefulness of computational fluid dynamics in penetrating aortic ulcer. *Annals of Cardiothoracic Surgery*, 8(4), 492-493. ISO 690
6. D Spinelli, S Marconi, R Caruso, **M Conti**, F Benedetto, H Beaufort De, F Auricchio, S Trimarchi. *3D printing of aortic models as a teaching tool for improving understanding of aortic disease*. *The Journal of cardiovascular surgery*. 2019 Oct;60(5):582-588. doi: 10.23736/S0021-9509.19.10841-5. Epub 2019 Jun 26.
7. Auricchio, F., **Conti, M.**, Romarowski, R. M., De Beaufort, H. W., Grassi, V., & Trimarchi, S. (2019). Computational tools for thoracic endovascular aortic repair planning. *Italian Journal of Vascular and Endovascular Surgery*, 26(1), 51-58.
8. G. Spinella, A. Finotello, B. Pane, G. Salsano, S. Mambrini, A. Kamenskiy, V. Gazzola, G. Cittadini, F. Auricchio, D. Palombo, **M. Conti**. *In Vivo Morphological Changes of the Femoropopliteal Arteries due to Knee Flexion After Endovascular Treatment of Popliteal Aneurysm*. *Journal of Endovascular Therapy*, 2019.
9. Hajikhani A, Scocozza F, **M. Conti**, Marino M, Auricchio F, Wriggers P. Experimental characterization and computational modeling of hydrogel cross-linking for bioprinting applications. *The International Journal of Artificial Organs*. 2019
10. van Bakel TM, Romarowski RM, Morganti S, van Herwaarden JA, Moll FL, de Beaufort HW, Marrocco-Trischitta MM, Secchi F, **M. Conti**, Auricchio F, Trimarchi S. *Blood flow after endovascular repair in the arch: a computational analysis*. *AORTA*, 6(03), 081-087.
11. G. Spinella, A. Finotello, **M. Conti**, E. Faggiano, B. Pane, F. Auricchio, D. Palombo. *Assessment of geometrical remodeling of the aortic arch after hybrid treatment*. *European Journal of Cardio-Thoracic Surgery*, Volume 55, Issue 6, June 2019, Pages 1045?1053, <https://doi.org/10.1093/ejcts/ezy397>
12. **M. Conti**, S. Marconi, G. Muscogiuri, M. Guglielmo, A. Baggiano, G. Italiano, F. Auricchio, D. Andreini, M. G. Rabbat, A. I. Guaricci, G. Fassini, A. Gasparetti, F. Costa, C. Tondo, A. Maltagliati, M. Pepi, G. Pontone. *Left atrial appendage closure guided by 3D computed tomography printing technology: a case control study*. Accepted for publication in *Journal of Cardiovascular Computed Tomography*.

13. M. M. Marrocco-Trischitta, R. M. Romarowski, H. W. de Beaufort, **M. Conti**, R. Vitale, F. Secchi, F. Auricchio, S. Trimarchi. *The modified arch landing areas nomenclature identifies hostile zones for endograft deployment: A confirmatory biomechanical study in patients submitted to thoracic endovascular aortic repair*. Accepted for publication in European Journal of Cardio-Thoracic Surgery (EJCTS).
14. R. M. Romarowski, **M. Conti**, S. Morganti, V. Grassi, M. M. Marrocco-Trischitta, S. Trimarchi, F. Auricchio. *Computational simulation of TEVAR in the ascending aorta for optimal endograft selection: a patient-specific case study*. Accepted for publication in Computers in Biology and Medicine.
15. **M. Conti**, S. Vanderberghe, S. Marconi, E. Ferrari, F. Auricchio, S. Demertzis. *Reversed auxiliary flow to reduce embolism risk during TAVI: a computational simulation and experimental study, to Cardiovascular*. Accepted for publication in CVET.
16. G.M. Formato, M. Lo Rito, F. Auricchio, A. Frigiola, **M. Conti**. *Aortic Expansion Induces Lumen Narrowing in Anomalous Coronary Arteries: A Parametric Structural Finite Element Analysis*. J Biomech Eng. 2018;140(11):111008-111008-9. doi:10.1115/1.4040941.
17. A. Finotello, E. Faggiano, **M. Conti**, G. Spinella, B. Pane, D. Palombo and F. Auricchio. *Medical image analysis to measure the follow-up geometry of thoraco-abdominal aortic aneurysms treated with multilayer flow modulator stent*. Accepted for publication in Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization.
18. Marconi S., Lanzarone E., Van Bogerijen G., **M. Conti**, Secchi F., Trimarchi S., and Auricchio F. *A compliant aortic model for in vitro simulations: design and manufacturing process*. Accepted for publication in Medical Engineering & Physics.
19. A. Finotello, S. Marconi, B. Pane, **M. Conti**, V. Gazzola, S. Mambrini, F. Auricchio, D. Palombo, G. Spinella. *12-year follow-up post-TEVAR in type B aortic dissection shown by 3D printing*. Accepted for publication in Annals of Vascular Surgery.
20. Marone E.M., Auricchio F., Marconi S., **M. Conti**, Rinaldi L. F., Pietrabissa A., Argentero A. *Effectiveness of 3D printed models in the treatment of complex aortic diseases*. Accepted for publication in J Cardiovasc Surg
21. Romarowski R.M., Faggiano E., **M. Conti**, Morganti S., Reali A., Auricchio F. *A computational framework for thoracic aortic endograft simulation: from imaging to virtual haemodynamics*. Accepted for publication in Computer and Fluids
22. G. Spinella, A. Finotello, E. Faggiano, B. Pane, M. C. Perfumo, **M. Conti**, S. Morganti, F. Auricchio, D. Palombo. *Mid-term follow-up geometrical analysis of thoraco-abdominal aortic aneurysms treated with multilayer flow modulator*. Annals of Vascular Surgery, 2018, available online.
23. M. M. Marrocco-Trischitta, T. M. van Bakel, R. M. Romarowski, H. W. de Beaufort, **M. Conti**, J.A. van Herwaarden, F. Moll, F. Auricchio, S. Trimarchi. *The Modified Arch Landing Areas Nomenclature (MALAN) Improves Prediction of Stent Graft Displacement Forces: Proof of Concept by Computational Fluid Dynamics Modelling*. European Journal of Vascular and Endovascular Surgery 2018; 55(4), pp. 584-592
24. H. W. de Beaufort, A. Ferrara, **M. Conti**, F.L. Moll, J.A. van Herwaarden, C.A. Figueroa, J. Bismuth, F. Auricchio, S. Trimarchi. *Comparative analysis of porcine and human thoracic aortic stiffness*. European Journal of Vascular and Endovascular Surgery 2018; 55(4), pp. 560-566
25. M. Gallo, A. Putzu, **M. Conti**, S. Demertzis, E. Ferrari. *Emboic protection devices for transcatheter aortic valve replacement*. European Journal of Cardio-Thoracic Surgery, 2017; 53(6), 1118-1126.
26. H. de Beaufort, M. Coda, **M. Conti**, D. van Bakel, F. Nauta, E. Lanzarone, F. L. Moll, J. A. van Herwaarden, F. Auricchio, S. Trimarchi. *Changes in aortic pulse wave velocity of four thoracic aortic stent grafts in an ex vivo porcine model*. Accepted for publication in PLOS ONE.
27. H. de Beaufort, **M. Conti**, A. Kamman, F. Nauta, E. Lanzarone, F. L. Moll, J. A. van Herwaarden, F. Auricchio, S. Trimarchi. *Stent Graft Deployment Increases Aortic Stiffness in an Ex-vivo Porcine Model*. Annals of Vascular Research. Available on-line. DOI: <http://dx.doi.org/10.1016/j.avsg.2017.04.024>

28. A. Desyatova, J. MacTaggart, R. Romarowski, W. Poulson, **M. Conti**, A. V. Kamenskiy. *Effect of Aging on Mechanical Stresses, Deformations, and Hemodynamics in Human Femoropopliteal Artery due to Limb Flexion*. Biomechanics and modeling in mechanobiology, 2018; 17(1), 181-189..
29. G. Alaimo, F. Auricchio, **M. Conti**, M. Zingales. *Multi-objective optimization of Nitinol stent design*. Medical Engineer & Physics 2017; 47: 13-24.
30. S. Marconi, E. Lanzarone, H. De Beaufort, **M. Conti**, S. Trimarchi, F. Auricchio. A novel insight on the role of entry tears in type B aortic dissection: pressure measurements in an in vitro 3D printed model. International Journal of Artificial Organs 2017; 40(10), pp. 563-574
31. X. Zou, **M. Conti**, P. Diez, F. Auricchio. *A non-intrusive proper generalized decomposition scheme with application in biomechanics*. Int J Numer Meth Engng. 2017;1-22.
32. H. de Beaufort, E. Cellitti, Q.M. de Ruiter, **M. Conti**, E. Cellitti, S. Trimarchi, F. Moll, C. Hazenberg, J. A. van Herwaarden. *Midterm outcomes and evolution of gutter area after endovascular aneurysm repair with the chimney graft procedure*. Journal of vascular surgery, 2018; 67(1), 104-112.
33. Foeke J.H. Nauta, Guido H.W. van Bogerijen, **M. Conti**, Chiara Trentin, Frans L. Moll, Joost A. Van Herwaarden, Ferdinando Auricchio, Santi Trimarchi. *Pulsatile aortic strain and impact of thoracic endovascular repair in acute type B aortic dissection: preliminary results*. AORTA, April 2017, Volume 5, Issue 2:42-52.
34. E.M. Marone, L.F. Rinaldi, S. Marconi, **M. Conti**, F. Auricchio, A. Pietrabissa, A. Argenterì. *A 3D printed patient-specific model to assist decision making in endovascular treatment of thoraco-abdominal aortic aneurysm*. The Journal of Cardiovascular Surgery 2018; 59: 291-3
35. H. de Beaufort, F. Nauta, **M. Conti**, E. Cellitti, C. Trentin, E. Faggiano, G. van Bogerijen, F. Moll, J. A. van Herwaarden, F. Auricchio, A. Figueroa, S. Trimarchi. *Extensibility and Distensibility of the Thoracic Aorta in Patients with Aneurysm*. European Journal of Vascular and Endovascular Surgery (EJVES) 53(2), 199-205 (2017).
36. F. Nauta, H. de Beaufort, **M. Conti**, S. Marconi, A. Kamman, A. Ferrara, J. van Herwaarden, F. Moll, F. Auricchio, S. Trimarchi. *Impact of Thoracic Endovascular Aortic Repair on Radial Strain in an Ex-vivo Porcine Model*. European Journal of Cardio-Thoracic Surgery (EJCTS). Available online. doi:10.1093/ejcts/ezw393
37. G. Scalet, **M. Conti**, F. Auricchio. *Computational analysis of advanced shape-memory alloy devices through a robust modeling framework*. Shape Memory and Superelasticity, 3 (2), 109-123 (2017).
38. F. Nauta, G. van Bogerijen, C. Trentin, **M. Conti**, F. Auricchio, F. Moll, J. A. van Herwaarden, S. Trimarchi. *Impact of Thoracic Endovascular Aortic Repair on Pulsatile Circumferential and Longitudinal Strain in Patients with Aneurysm*. Journal of Endovascular Therapy, 24(2), 281-289 (2017).
39. **M. Conti**, M. Marconi, G. Campanile, A. Reali, D. Adami, R. Berchiolli, F. Auricchio. *Patient-specific finite element analysis of popliteal stenting*. Meccanica 52: 633-644 (2017)
40. S. Trimarchi, A. Kamman, C. Lomazzi, S. Segreti, M. Cova, C. De Vincentiis, A. Frigiola, L. Menicanti, M. Marrocco-Trischitta, V. Grassi, S. Morganti, **M. Conti**, F. Auricchio, V. Rampoldi. *Activities at Thoracic Aortic Research Center, IRCCS Policlinico San Donato*. European Heart Journal Supplements 2016 18 (suppl E): E57-E63.
41. F. Nauta, **M. Conti**, S. Marconi, A. Kamman, G. Alaimo, S. Morganti, A. Ferrara, J. van Herwaarden, F. Moll, F. Auricchio, S. Trimarchi. *An Experimental Investigation of the Impact of Thoracic Endovascular Aortic Repair on Longitudinal Strain*. European Journal of Cardio-Thoracic Surgery (EJCTS) 50(5), 955-961 (2016).
42. D. Gallo, A. Lefieux, S. Morganti, A. Veneziani, A. Reali, F. Auricchio, **M. Conti**, U. Morbiducci. *A Patient-Specific Follow Up Study of the Impact of Thoracic Endovascular Repair (TEVAR) on Aortic Anatomy and on Post-Operative Hemodynamics*. Computers and Fluids 141, 54-61 (2016)
43. **M. Conti**, C. Long, M. Marconi, R. Berchiolli, Y. Bazilevs, A. Reali. *Carotid artery hemodynamics before and after stenting: a patient specific CFD study*. Computers and Fluids 141, 62-74 (2016).

44. F. Auricchio, A. Constantinescu, **M. Conti**, G. Scalet. *Fatigue of metallic stents: from clinical evidence to computational analysis*. Annals of Biomedical Engineering 44(2): 287-301 (2016).
45. M. Ferraro, F. Auricchio, E. Boatti, G. Scalet, **M. Conti**, S. Morganti, A. Reali. *An efficient finite element framework to assess flexibility performances of SMA self-expandable carotid artery stents*. Journal of functional biomaterials 6.3 (2015): 585-597.
46. F. Auricchio, **M. Conti**, M. Ferraro, S. Morganti, A. Reali, R.L. Taylor. *Innovative and efficient stent flexibility simulations based on Isogeometric Analysis*. Computer Methods in Applied Mechanics and Engineering 295 (2015): 347-361.
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74. **M. Conti**, M. De Beule, P. Mortier, D. Van Loo, P. Verdonck, F. Vermassen, P. Segers, B. Verheghe, F. Auricchio. *Nitinol Embolic Protection Filters: Design Investigation By Computational Tools*. Journal of Materials Engineering and Performance, 18(5-6): 787-792 (2009).

## Book chapters

1. F. Auricchio, **M. Conti**, S. Morganti. *Aortic biological prosthetic valve for open-surgery and percutaneous implant: procedure simulation and performance assessment*. Studies in Mechanobiology, Tissue Engineering and Biomaterials (Springer book).
2. Auricchio Ferdinando, Boatti Elisa, **M. Conti** - SMA biomedical application - Book title: Shape memory alloy engineering: for aerospace, structural and other applications - Editors: Antonio Concilio, Leonardo Lecce, Vincenza Antonucci, Elio Sacco and Ferdinando Auricchio - Publisher: Elsevier.

3. Auricchio Ferdinando, Boatti Elisa, **M. Conti** - Cardiovascular applications and computer-based design - Book title: Shape memory alloy engineering: for aerospace, structural and other applications - Editors: Antonio Concilio, Leonardo Lecce, Vincenza Antonucci, Elio Sacco and Ferdinando Auricchio - Publisher: Elsevier.
4. Lefieux, A., Auricchio, F., **M. Conti**, Morganti, S., Reali, A., Trimarchi, S., Veneziani, A. (2016). Computational Study of Aortic Hemodynamics: From Simplified to Patient-Specific Geometries. In *Advances in Computational Fluid-Structure Interaction and Flow Simulation* (pp. 397-407). Springer International Publishing.
5. Computational methods in cardiovascular mechanics. F. Auricchio, M. Conti, A. Lefieux, S. Morganti, A. Reali, G. Rozza, A. Veneziani. In *Cardiovascular Mechanics* Edited by Michel R. Labrosse. CRC Press. Taylor & Francis Group. ISBN 9781138197237
6. E. Lanzarone, S. Marconi, **M. Conti**, F. Auricchio, I. Fassi, F. Modica, C. Pagano and G. Pourabdollahian. *Hospital Factory for Manufacturing Customized, Patient Specific 3D Anatomic-Functional Models and Prostheses*
7. E. Faggiano, G. Spinella, M. Fedele, A. Finotello, **M. Conti**, B. Pane, M. C. Perfumo, F. Auricchio, D. Palombo. *The Theoretical And Experimental Basis Of The Multilayer Flow Modulator*. The current role of multilayer flow modulator stents in complex aortic pathology. PALOMBO D., PANE B., SPINELLA G. I edizione (2017). ISBN: 978-88-7711-891-2
8. van Bakel, T. M. J., Nauta, F. J. H., **Conti, M.**, Romarowski, R., Morganti, S., van Herwaarden, J. A., ... & Trimarchi, S. (2019). *Novel Understanding on Thoracic Aortic Diseases from Bioengineering Concepts*. In *Surgical Management of Aortic Pathology* (pp. 141-148). Springer, Vienna.

#### **International conference proceedings:** - recent and selected

1. Zou, X., Diez, P., **Conti, M.**, Auricchio, F. Towards a non-intrusive Proper Generalized Decomposition scheme for model order reduction (2016) ECCOMAS Congress 2016 - Proceedings of the 7th European Congress on Computational Methods in Applied Sciences and Engineering, 2, pp. 4248-4262.
2. C. Trentin, E. Faggiano, **M. Conti**, F. Auricchio. *An automatic tool for thoracic aorta segmentation and 3D geometric analysis* in *Image and Signal Processing and Analysis (ISPA)*, 2015 9th International Symposium on , pp.60-65, 7-9 Sept. 2015 doi: 10.1109/ISPA.2015.7306033
3. E. Lanzarone, F. Auricchio, **M. Conti**, A. Ferrara. *Bayesian Estimation of the Aortic Stiffness based on Non-Invasive Computed Tomography Images*. *Bayesian Statistics from Methods to Models and Applications from BAYSM 2014*. ISSN 2194-1009

## **6 Invited seminars/talks**

- recent and selected

1. *L'analisi fluido-dinamica (CFD) nella patologia dell'arteria poplitea*. National congress of Società Italiana di Chirurgia Vascolare ed endovascolare (SICVE). Florence (IT), 17-19, October, 2019.
2. *Effectiveness of 3D printed models in the treatment of complex aortic diseases*. 11<sup>th</sup> meeting pf European Society of Vascular Biomechanics. Strasbourg (FR), 17-19, October, 2019.
3. *Prototipazione rapida da immagini per una medicina personalizzata*. GRUPPO NAZIONALE DI BIOINGEGNERIA - XXXVII Scuola Annuale, Bressanone (IT), September, 2019)
4. *Biomechanical simulations and 3D printing for endovascular device testing*. 2° Annual Meeting 3Rs in Italian Universities. 20-21 June 2019, Genoa, IT.
5. *Material testing and mechanical modelling in bioprinting*. THE EUROPEAN CELLINK COLLABORATIVE PARTNERSHIP CONFERENCE (10 May 2019, Milan, Italy).
6. *Simulazioni dello stent coperto popliteo: dalle immagini mediche al trattamento chirurgico*. Workshop Gore, Sorrento (IT), 1 December, 2017)

7. *Simulations for endovascular surgery: from medical images to clinical reality through computational and experimental biomechanics.* (Leibniz Universitat Hannover, Hannover (DE), 27 November, 2017)
8. *Simulation of endovascular surgery: from medical images to clinical reality through computational and experimental biomechanics.* (Politecnico di Torino, Turin (IT), 8 April, 2016)

## 7 Contributions to international conferences

- recent and selected

1. **M. Conti** et al. *Particle tracking in the carotid circulation to estimate risk of Amaurosis Fugax.* ICBT Hannover, November 2019.
2. I. Genta, E. Chiesa, D. Pasini, R. Dorati, T. Modena, F. Scocozza, **M. Conti**, F. Auricchio, B. Conti.  *$\gamma$ PGA based hydrogels for 3D bioprinting.* First International Conference on Materials, Mimicking, Manufacturing from and for Bio Application (BioM&M). Milan, 27-29 June 2018.
3. F. Scocozza, S. Marconi, V. Fantini, M. Bordoni, C. Cereda, F. Auricchio, **M. Conti**. *3D printing of hydrogel-based bio-ink: a protocol for parameter setting and effectiveness evaluation.* First International Conference on Materials, Mimicking, Manufacturing from and for Bio Application (BioM&M). Milan, 27-29 June 2018.
4. **M. Conti**, S. Vandenberghe, R. Romarowski, S. Morganti, E. Faggiano, S. Demertzis and F. Auricchio. *Hemodynamic shield for endovascular aortic embolization: in vitro and in silico analysis.* IACM Finite Elements in Flow (FEF) Problems Conference. Rome (IT), 5-7 April, 2017
5. **M. Conti**, S. Vandenberghe, S. Marconi, E. Ferrari, S. Demertzis and F. Auricchio. *Assessment of intraprocedural embolization in TAVI: an in vitro approach.* 31st Annual Meeting of European Association of Cardio-Thoracic Surgery (EACTS), 7-11 October 2017, in Vienna, Austria.
6. **M. Conti**, S. Vandenberghe, R. Romarowski, S. Marconi, S. Morganti, E. Ferrari, S. Demertzis, F. Auricchio. *Design of embolic protection during Transcatheter Aortic Valve Implant (TAVI): integration of in-vitro and in-silico analysis.* ICBT 2017: 3rd International Conference on Biomedical Technology, Hannover, 6-8 November 2017

## 8 Post Lauream courses

- *03-15 June 2012:* CFM-FSI Computational Fluid Mechanics and Fluid-Structure Interaction: A Short Course (Rome, Italy).
- *23-25 November 2011:* Course about VTK and Paraview for advanced visualization in technology and science (CILEA, Segrate (MI), Italy).
- *20-21 July 2010:* ESB2010 Tutorials on arterial mechanics (The University of Edinburgh, Edinburgh, Scotland).
- *20-21 January 2010:* Introduction to Python and Scripting in Abaqus (Ghent University, Ghent, Belgium).
- *3-4 December 2008:* basic course AIM: fatigue in metallic materials (Associazione Italiana Metallurgia, Milan, Italy).
- *15-19 September 2008:* smart wearable devices for human health and safety (XXVII Scuola Annuale di Bioingegneria, Bressanone (PD), Italy).

## 9 Others

- co-founder of P4P srl (<https://www.registroaziendecommerciali.com/settore/p4p-srl-101389>)

## 10 Languages and computer knowledge

Languages:

- Italian (mother language).
- English (oral: excellent, written: excellent).
- Certification: Preliminary English Test (PET)-May 2003.

**Computer knowledge:**

- *Operative systems:* Windows, Linux.
- *Programming languages:* Python, Java, JSP, MATLAB, SQL, HTML.
- *Softwares:* L<sup>A</sup>T<sub>E</sub>X, MS Office, finite element solvers (FEAP, ABAQUS, ANSYS etc.).

I hereby certify that the information given in my Curriculum Vitae is correct and complete to the best of my knowledge and understand that any misleading statements, failure to disclose information or deliberate omissions will be regarded as grounds for withdrawal of offer or subsequent disciplinary action which may result in dismissal.

