

Cristina Bignardi CV

Biodata

name: Cristina Bignardi
birth date: July 2, 1960
place of birth: Torino, Italy
nationality: Italian
civil status: [REDACTED]

Cristina Bignardi obtained a degree in Mechanical Engineering at the Politecnico di Torino (Torino, Italy) in 1985.

She obtained a PhD in Mechanical Systems and Structures at the Politecnico di Torino in 1990.

Institutional appointments

She joined the Faculty in 1989 becoming researcher in the Mechanical Design area at the Mechanical Department of the Politecnico di Torino.

From 2001 she is associate professor in the Industrial Bioengineering area at the Department of Mechanical and Aerospace Engineering of Politecnico di Torino.

Since 1995 she has been teaching courses with Biomechanical contents at the Politecnico di Torino and at the University of Torino (Odontoiatry and Dental Prosthesis Degree, Sport Science Degree, School of Specialization in Orthopaedic and traumatology and Physical medicine and rehabilitation).

She taught the course "Design of instruments and devices for orthopedic surgery" in the ambit of the Master "Innovation and Surgery" at the Politecnico di Milano (Milano, Italy) in 2008.

She taught the course "Patient-specific planning of arthroplasty: from CT scans to structural models" in the ambit of the 3rd IEEE Italy Section Summer School "Smarter Engineering towards Industry 4.0" at the University of Perugia (Perugia, Italy) in 2017.

She held invited seminars regarding her research activity at the International Centre of Biocybernetics (Warsaw, Poland, 1996), at the Perm State Technical University (Ust-Kachka, Russia, 1999) and at the Technischen Universität München (München, Germany, 2005).

She is a member of the Biomedical Engineering Executive Board of the Politecnico di Torino.

She has been Coordinator of Doctorate School in Biomedical Engineering, Politecnico di Torino (2011-2017).

She is Member of Health and Welfare Regional Council (CORESA), advisory body of the Regional Council on social-health topics (Piedmont Region) as Representative of Politecnico di Torino, from 2006.

She is Member of the Ethical Committee of Puzzle Centre (Centre for cranium-encephalic trauma and serious acquired encephalic lesions), Torino.

Main areas of research are:

1. Numerical and experimental structural analysis methods
2. Human joints and arthroprostheses
3. Biomechanics of the spinal column
4. Dental biomechanics

5. Biomechanics of the pelvic floor
6. Characterization of biological tissue at different scales of investigation
7. Bioreactors for regenerative medicine

She is responsible of national and international research projects in the orthopaedic biomechanics field and scientific leader of research contracts with public and private corporations.

Projects responsibility

Responsible of Politecnico di Torino Unit for the European project - ORTHOCAP - Non invasive verification of the scoliotic curve correction obtained by means of the use of orthopaedic corsets (1999)

Responsible of Politecnico di Torino Unit for the National Project PRIN 2004 –Development of new numerical and experimental procedures for the hip arthroplasty secondary stability design

Responsible of Politecnico di Torino Unit for the National Project PRIN 2009 – Development and validation of hybrid models of blood flows for patient specific fluid dynamics analysis as a support of clinical medicine

Responsible of Politecnico di Torino Unit for the Polo di Innovazione Biotecnologie e Biomedicale Project FIDIS – Inner Dynamic Sensorized Fixator (2011)

Responsible of Politecnico di Torino Unit for the National Project (Accordo MISE-ICE-CRUI – 2010) PROBING – Engineered Bioreactors Prototype (2012)

Responsible of Politecnico di Torino Unit for the Polo di Innovazione Biotecnologie e Biomedicale Project BBS - Bioactive Bone Substitutes (2012)

Responsible of Politecnico di Torino Unit for the Italian Cluster Scienze della Vita Project IRMI (Italian Regenerative Medicine Infrastructure) (2013-2018)

Responsible of Politecnico di Torino Unit for the National Project (Accordo MISE-ICE-CRUI – 2014) E.F.I.N. (Expandable Intra Medullary Nail) (2015-2018)

List of scientific papers of Cristina Bignardi

National Journals

- Calderale P.M., Bignardi C., "Biomeccanica della protesi di spalla", **Minerva Ortopedica e Traumatologica**, 43, 6, 413-423, **1992**
- Calderale P.M., Bignardi C., "Biomeccanica della protesi di gomito", **Minerva Ortopedica e Traumatologica**, 43, 6, 431-444, **1992**
- Calderale P.M., Bignardi C., "Articolazione d'anca: biomeccanica e protesizzazione", **Ortho** **2000**, 2, 5, 11-18, **2000**
- Marino G., Bignardi C. "Realizzazione, applicazione e verifica di un modello numerico agli elementi finiti per lo studio del pavimento pelvico. Risultati preliminari", **Minerva Urologica e Nefrologica**, 54, 1-5, ISSN: 0393-2249, **2002**
- Castoldi F., Bignardi C., Bruzzone M., Rossi M.C., Dettoni F., Leoni E.T., Girardo M. "Causes of cut-out of the lag screw of fixation systems used for lateral fractures of the neck of femur", **Minerva Ortopedica e Traumatologica**, 53 (5-6), pp. 237-244, **2002**
- Lorenzon G., Bignardi C., Zanetti E.M., Pertusio R. "Analisi biomeccanica di sistemi implantari", **Dental Cadmos**, 10, 63-86, ISSN: 0011-8524, **2003**
- Girardo M., Castoldi F., Dettoni F., Lollino N., Bignardi C. "Cut-out and osteoporosis: Results of a preliminary biomechanical study", **Minerva Ortopedica e Traumatologica**, 55 (3), pp. 111-112, **2004**
- Marino G., Bignardi C., Pacca M., Ravarino N., Mosso L., Motta M. "Studio delle caratteristiche meccaniche della vescica umana e applicazione in un modello agli elementi finiti per lo studio del pavimento pelvico", **Minerva Urologica e Nefrologica**, 58, 213-219, ISSN: 0393-2249, **2006**
- Marmotti A., Realmuto C., Castoldi F., Rossi R., Bruzzone M., Bonasia D.E., Cottino U., Maiello A., Bignardi C., Piras L., Peirone B., Von Degerfeld M.M., "Riparazione osteocondrale "One Stage" con frammenti di cartilagine autologa in scaffold ibrido: studio in vitro su uomo e in vivo su modello animale (coniglio e capra)". **Minerva Ortop Traumatol** 61, Suppl 1 al n 5 p 65-68, **2010**

International Journals

- Bignardi C., Gielo-Perczak K., "A 3-dimensional biomechanical model and analysis of femoral loads". **Journal of Biomechanics**, 24, Issue 6, pp 486, **1991**
- Bignardi C., Manuello Bertetto A., Mazza L., "Photoelastic measurements and computation of the stress field and contact pressure in a pneumatic lip seal", **Tribology International**, 32, 1-13, ISSN: 0301-679X, **1999**
- Calderale P.M., Bignardi C., "The shoulder joint system: biomechanics and instability", **Russian Journal of Biomechanics**, 1, 62-74, ISSN: 1812-5123, **1999**
- Bignardi C., Calderale P.M., "Femur-prosthetic stem system: videodensitometric measurements and personalised finite element modelling", Relazione invitata al Russian Biomechanics Conference – 1999, Ust-Kachka (Russia), 2-4 giugno 1999; **Russian Journal of Biomechanics**, 2, 5-7, ISSN: 1812-5123, **1999**
- Bignardi C. Cavatorta M., Maggiore A., Calderale P.M., "A finite element model for the wear analysis of polyethylene inserts in total knee joints"; **International Journal of Applied Mechanics and Engineering**, 6, 4, 1109-1117, ISSN: 1425-1655, **2001**
- Taylor D., Casolari E., Bignardi C. "Predicting stress fractures using a probabilistic model of damage, repair and adaptation", **Journal of Orthopaedic Research**, 22, 487-494, ISSN: 0736-0266, **2004**
- Zanetti E.M., Crupi V., Bignardi C., Calderale P.M. "Radiograph-based femur morphing method", **Medical & Biological Engineering & Computing**, 43(2), 181-188, ISSN: 0140-0118, **2005**
- Bresciano M., Schierano G., Manzella C., Screti A., Bignardi C., Preti G. "Retention of luting agents on implant abutments of different height and taper", **Clinical Oral Implant Research**, 16, 594-598, ISSN: 0905-7161. doi:10.1111/j.1600-0501.2005.01159.x, **2005**
- Menicucci G., Ceruti P., Barabino E., Screti A., Bignardi C., Preti G. "A preliminary in vivo trial of load transfer in mandibular implant-retained overdentures anchored in 2 different ways: allowing and

counteracting free rotation", **International Journal of Prosthodontics**, 19(6), 574-576, ISSN: 0893-2174, **2006**

Rosso V., Bignardi C., Girardo M., Trucchi F., Collo G., Castoldi F. "Interspinous process technology: why, when, where", **Journal of Orthopaedics and Traumatology**, 7, S1-S68, ISSN: 1590-9921, **2006**

Brianza S.Z.M., D'amelio P., Pugno N., Delise M., Bignardi C., Isaia G. "Allometric scaling and biomechanical behavior of the bone tissue: An experimental intraspecific investigation", **BONE**, 40, 1635-1642 ISSN: 8756-3282, **2007**

Peluccio M.S., Bignardi C., Lombardo S., Montevecchi F.M., Carossa S. "Comparative study of nanomechanical properties of cements used in teeth restoration", **Journal of Physics: Condensed Matter**, 19, 395003, ISSN: 0953-8984, **2007**

Lorenzon G., Bignardi C., Fanali S. "Implant Failure due to fracture. The role of fatigue in materials", **European Journal of Implant Prosthodontics**, 1(3), 7-17 ISSN: 1825-5213, **2007**

Bhushan B., Galasso B., Bignardi C., Nguyen C.V., Dai L., Qu L. "Adhesion, friction and wear on nanoscale of MWNT Tips and SWNT and MWNT arrays", **Nanotechnology**, 19, 125702, ISSN: 0957-4484, **2008**

D'Amelio P., Rossi P., Isaia G., Lollino N., Castoldi F., Girardo M., Dettoni F., Sattin F., Delise M., Bignardi C. "Bone mineral density and Singh Index predict bone mechanical properties of human femur", **Connective Tissue Research**, 49, 99-104, ISSN 0300-8207, **2008**

Brianza S.Z.M., D'Amelio P., Cerrato M., Bignardi C., Grimaldi A., Pescarmona G.P., Isaia G., "Dedicated Image Analysis Software Tool for the Evaluation of the Resorption Activity of Cultured Osteoclasts", **Journal of Imaging Science and Technology**, 52(3), 030508-030508-9, ISSN: 1062-3701, **2008**

Vitale M.C., Chiesa M., Coltellaro F., Bignardi C., Celozzi M., Poggio C. "FEM analysis of different dental root canal-post systems in young permanent teeth", **European Journal of Paediatric Dentistry**, 9(3):111-7, ISSN: 1591-996X, **2008**

Morbiducci U., Gallo D., Massai D., Consolo F., Ponzini R., Antiga L., Bignardi C., Deriu M., Redaelli A. "Outflow Conditions for Image-Based Haemodynamic Models of the Carotid Bifurcation. Implications for Indicators of Abnormal Flow", **J. Biomech. Eng.** doi:10.1115/1.4001886, vol. 132, September **2010**

Bignardi C., Petraroli M., Pugno N.M., "Nanoindentation on Conch Shells of Gastropoda and Bivalvia Molluscs reveal Anisotropic Evolution Against External Attacks", **J. of Nanoscience and Nanotechnology**, DOI: 10.1166/jnn.2010.2626, vol.10, Number 10, October, pp. 6453-6460, **2010**

Marmotti A., Castoldi F., Rossi R., Biondi A., Collo G., Tellini A., Germano M., Bignardi C., "Femoral Interference Screw Position In Transtibial Acl Reconstruction: How To Optimize Alignment With A Mathematical Model. A Cadaveric Study". **Knee Surg Sports Traumatol Arthrosc** 18 (Suppl 1):S215, **2010**

Deriu M.A., Bidone T.C., Carbone L., Bignardi C., Montevecchi F. M., Morbiducci U., "Multiscale modelling for investigating single molecule effects on the mechanics of actin filaments". **Journal of Physics. Conference Series**, vol. 329; p. 012028-, ISSN: 1742-6588, **2011**

Marmotti A., Bruzzone M., Castoldi F., Rossi R., Bonasia D.E., Cottino U., Maiello A., Bignardi C., "One stage osteochondral repair with cartilage fragments in a hybrid scaffold: rabbit and goat animal model". **J Orthopaed Traumatol** 12 (Suppl 1):S161, **2011**

Canavese G., Stassi S., Stralla M., Bignardi C., Pirri C.F., "Stretchable and conformable metal-polymer piezoresistive hybrid system". **Sensors and Actuators A: Physical**, doi:10.1016/j.sna.2012.01.037, **2012**

Zanetti E. M., Perrini M., Bignardi C., Audenino A. L., "Bladder tissue passive response to monotonic and cyclic loading". **Biorheology** 49, 1, pp. 49–63 IOS Press DOI: 10.3233/BIR-2012-0604, ISSN 0006-355X (Print) 1878-5034 (Online), **2012**

Zanetti E.M., Bignardi C., Audenino A.L., "Human pelvis loading rig for static and dynamic stress analysis". **Acta of Bioengineering and Biomechanics**, ISSN: 1509-409X, Volume 14(2), pp 61-66, **2012**

Zanetti E. M., Bignardi C., Franceschini G., Audenino A. L., "Amateur football pitches: Mechanical properties of the natural ground and of different artificial turf infills and their biomechanical implications". **Journal of Sports Sciences**, 31(7), pp 767-778. doi: 10.1080/02640414.2012.750005, **2013**

Morbiducci U., Ponzini R., Gallo D., Bignardi C., Rizzo G. "Inflow Boundary conditions for image-based computational hemodynamics: impact of idealized versus measured velocity profiles in human aorta". **Journal of Biomechanics**, 46, pp 102-109, **2013**

Boero Baroncelli A., Reif U., Bignardi C., Peirone B. "Effect of screw insertion torque on push-out and cantilever bending properties of five different angle-stable systems". **Veterinary Surgery**, 42(3), pp 308-315, doi: 10.1111/j.1532-950X.2013.01088, **2013**

Marmotti A., Bruzzone M., Bonasia D.E., Castoldi F., Von Degerfeld M.M., Bignardi C., Mattia S., Maiello A., Rossi R., Peretti G.M. "Autologous cartilage fragments in a composite scaffold for one stage osteochondral repair in a goat model". **European Cells and Materials**, 26, pp 15-32, ISSN 1473-2262, **2013**

Massai D., Cerino G., Gallo D., Pennella F., Deriu M.A., Rodriguez A., Montecvecchi F.M., Bignardi C., Audenino A., Morbiducci U. "Bioreactors as engineering support to treat cardiac muscle and vascular disease". **Journal of Healthcare Engineering**, Vol. 4, No. 3, pp-329-370, ISSN 2040-2295, **2013**

Zanetti E.M., Bignardi C. "Mock-up in hip arthroplasty pre-operative planning" **Acta of Bioengineering and Biomechanics**, DOI: 10.5277/abb130315, Volume 15(3), pp 123-128, **2013**

Manzella C., Burello V., Bignardi C., Carossa S., Schierano G. "A method to improve passive fit of frameworks on implant-supported prostheses: an in vivo study". **Int J Prosthodont.**, Nov-Dec;26(6), pp 577-9. doi: 10.11607, **2013**

Massai D, Pennella F, Gentile P, Gallo D, Ciardelli G, Bignardi C, Audenino A, Morbiducci U. "Image-based three-dimensional analysis to characterize the texture of porous scaffolds". **Biomed Res Int**. Hindawi Publishing Corporation, pp.8 ISSN: 2314-6133, **2014**

Giachino M., Aprato A., Ali S., Bonanni A., Khattab A., Bignardi C., Masse` A. "Optimization of external fixation treatment in pelvic ring lesions by three-dimensional modelling and finite element analysis" **J Orthopaed Traumatol**, vol. 15, (Supp 1), S17-18, DOI 10.1007/s10195-014-0314-y, **2014**.

Bignardi C., Zanetti E.M., Terzini M., Pisani G., Audenino A.L., "Cranial Cruciate Ligament Rupture: A Multi-Body Analysis Comparing Corrective Tibial Osteotomies, **International Journal of Artificial Organs**, pp. 1, Vol. 37, ISSN: 0391-3988, **2014**

Terzini M., Bignardi C., Castagnoli C., Zanetti E.M., Catapano G., Audenino A.L., "Influence of cell removal treatment on dermis mechanical behaviour" **International Journal of Artificial Organs**, pp. 1, Vol. 37, ISSN: 0391-3988, **2014**.

Massai D., Pisani G., Rodriguez A., Logrand F., Isu G., Falvo D'Urso Labate G., Xu X.Y., Bignardi C., Tarone G., Morbiducci U. "A bioreactor-based model system for cardiac tissue investigation and culture" **Journal of Tissue Engineering and Regenerative Medicine**, John Wiley & Sons, Ltd., pp. 1, Vol. 8, ISSN: 1932-7005, DOI: 10.1002/term.1932, **2014**

Aimetti M., Mariani G.M., Ferrarotti F., Ercoli E., Audagna M., Bignardi C., Romano F. "Osseous resective surgery with and without fibre retention technique in the treatment of shallow intrabony defects: a split-mouth randomized clinical trial" **J Clin Periodontol**. 2015 Feb;42(2):182-9. doi: 10.1111/jcpe.12343. Epub 2015 Jan 14. **2015**

Manzella C, Bignardi C, Burello V, Carossa S, Schierano G. "Method to improve passive fit of frameworks on implant-supported prostheses: An in vitro study" **J Prosthet Dent**. Jul;116(1):52-8. doi: 10.1016/j.prosdent.2016.01.006, Epub 2016 Mar 2, **2016**

Terzini M, Bignardi C, Castagnoli C, Cambieri I, Zanetti EM, Audenino AL. "Dermis mechanical behaviour after different cell removal treatments". **Med Eng Phys**. 2016 Mar 17. pii: S1350-4533(16)30006-6. doi: 10.1016/j.medengphy.2016.02.012, **2016**

Terzini M., Bignardi C., Castagnoli C., Cambieri I., Zanetti E.M., Audenino A.L. "Ex Vivo Dermis Mechanical Behavior in Relation to Decellularization Treatment Length". **The Open Biomedical Engineering Journal**, 10, 34-42 DOI: 10.2174/1874120701610010034, **2016**

Zanetti EM, Terzini M, Mossa L, Bignardi C, Costa P, Audenino AL, Vezzoni A. "A structural numerical model for the optimization of double pelvic osteotomy in the early treatment of canine hip dysplasia" **Vet Comp Orthop Traumatol**. Jun 21;30(4). doi: 10.3415/VCOT-16-05-0065, **2016**

Manavella V, Romano F, Garrone F, Terzini M, Bignardi C, Aimetti M. "A novel image processing technique for three-dimensional volumetric analysis of severely resorbed alveolar sockets with cone beam

computed tomography" **Minerva Stomatol.** Jun;66(3):81-90. Epub Feb 9.2017 doi: 10.23736/S0026-4970.17.04029-8, **2017**

Bozzi S, Morbiducci U, Gallo D, Ponzini R, Rizzo G, Bignardi C, Passoni G. "Uncertainty propagation of phase contrast-MRI derived inlet boundary conditions in computational hemodynamics models of thoracic aorta." **Comput Methods Biomech Biomed Engin.** May 29:1-9. doi: 10.1080/10255842.2017.1334770, **2017**

Zanetti EM, Aldieri A, Terzini M, Cali M, Franceschini G, Bignardi C. "Additively manufactured custom load-bearing implantable devices: grounds for cautions". **AMJ:** 10(8): 694-700 ISSN 1836-1935, doi.org/10.21767/AMJ.2017,3093, **2017**

Aimetti M, Manavella V, Corano L, Ercoli E, Bignardi C, Romano F. "Three-dimensional analysis of bone remodeling following ridge augmentation of compromised extraction sockets in periodontitis patients: a randomized controlled study". **Clinical Oral Implants Research** Nov 17. doi: 10.1111/clr.13099, **2017**

De Nisco, G., Zhang, P., Calò, K., Liu, X., Ponzini, R., Bignardi, C., Rizzo, G., Deng, X., Gallo, D., Morbiducci, U. "What is needed to make low-density lipoprotein transport in human aorta computational models suitable to explore links to atherosclerosis? Impact of initial and inflow boundary conditions", **Journal of Biomechanics** Feb 8;68:33-42. doi: 10.1016/j.jbiomech.2017.12.009, **2018**

Cali M., Zanetti E.M., Oliveri S.M., Asero R., Ciaramella S., Martorelli M, Bignardi C. "Influence of thread shape and inclination on the biomechanical behaviour of plateau implant systems", **Dental Materials**, Mar; 34(3): 460-469 <https://doi.org/10.1016/j.dental.2018.01.012>, **2018**

Manavella V, Romano F, Corano L, Bignardi C, Aimetti M. "Three-Dimensional Volumetric Changes in Severely Resorbed Alveolar Sockets After Ridge Augmentation with Bovine-Derived Xenograft and Resorbable Barrier: A Preliminary Study on CBCT Imaging". **Int J Oral Maxillofac Implants** March/April;33(2):373–382. doi: 10.11607/jomi.5684, **2018**

Bignardi, C., Terzini, M., Audenino, A.L., Massai, D., Aprato, A., Massè, A., Costa, P., Zanetti, E.M. "Pelvic manipulator for fractures reduction" **International Journal of Mechanical Engineering and Technology** 9(3): 570-580, **2018**.

Putzer, D., Nogler, M., Terzini, M., Mannara, R., Bignardi, C. "A finite element analysis for a new short stem concept design with spherical bone interface for hip resurfacing" **International Journal of Mechanical Engineering and Technology** 9(3): 923-935, **2018**.

Proceedings of National Congresses

Calderale P.M., Rossetto M., Bignardi C., "Influenza del coefficiente di Poisson nell'analisi delle sollecitazioni in strutture ossee", Riunione Congiunta SIB-SIBOT, Trieste, June 30th-July 2nd **1988** (Poster)

Calderale P.M., Bignardi C., "L'osso come materiale nell'interpretazione del tecnologo", Invited relation at the Riunione Congiunta SIB-SIBOT, Trieste, June 30th-July 2nd **1988**

Bignardi C., Calderale P.M., "Influenza della lunghezza dello stelo nell'accoppiamento tra protesi d'anca e osso", XVIII Convegno Nazionale AIAS, Amalfi, September 12-15th, 93-102, **1990**

Calderale P.M., Bignardi C., Giacosa F., Vivalda P., "Biomeccanica del rimodellamento", Proc. Imaging nel follow-up della patologia articolare e muscolo-tendinea, Bari, October 14-16th, 77-81, **1993**

Calderale P.M., Bignardi C., Giacosa F., Vivalda P., "Analisi per imaging del rimodellamento: parte I - Studio del sistema osso-impianto", XXIII Convegno Nazionale AIAS, Rende, September 21-24th, 579-586, **1994**

Calderale P.M., Bignardi C., Giacosa F., Vivalda P., "Analisi per imaging del rimodellamento: parte II - Applicazione a casi di artroprotesi d'anca", XXIII Convegno Nazionale AIAS, Rende, September 21-24th, 587-594, **1994**

Bignardi C., Ieropoli O., Calderale P.M., "Considerazioni su costruzione e identificazione di modelli FEM di ginocchio in relazione alla progettazione di artroprotesi e all'applicazione clinica", XXIII Convegno Nazionale AIAS, Rende, September 21-24th, 621-628, **1994**

Calderale P.M., Bignardi C., Giacosa F., Ieropoli O., "Modellazione semplificata del sistema osso-impianto", XXIII Convegno Nazionale AIAS, Rende, September 21-24th, 629-636, **1994**

Calderale P.M., Bignardi C., Giacosa F., Ieropoli O., "Personalizzazione dei modelli FEM del sistema osso-impianto e valutazioni cliniche", XXIII Convegno Nazionale AIAS, Rende, September 21-24th, 637-644, **1994**

Calderale P.M., Bignardi C., Giacosa F., Zanetti E., "Analisi per imaging del rimodellamento osseo nello studio del sistema osso-impianto", Giornata SIB '94, Brescia, December 15th, 42-45, **1994**

Calderale P.M., Appendino P., Bignardi C., Ferraris M., Vernè E., "Ruolo e prospettive dei biomateriali nella progettazione e costruzione di impianti: ricerche al Politecnico di Torino", II Giornata di Studio su - Biomateriali e loro applicazione nella pratica chirurgica -, Catania, June 16-17 th, 5-12, **1995**

Bignardi C., Bondente P.G., Rosso V., Calderale P.M., Rossi P., "Verifica non invasiva della correzione della curva scoliotica ottenuta mediante l'uso di corsetti ortopedici", XII Congresso Nazionale FIOTO, Bari, September 18-21st **1997** (Abstract)

Bignardi C., Bondente P.G., Rosso V., Calderale P.M., Rossi P., "Verifica non invasiva della correzione della curva scoliotica ottenuta mediante l'uso di corsetti ortopedici", EXPOSANITA' - 11° Mostra Internazionale al Servizio della Sanità (11th International Healthcare Exhibition), Bologna, May 21-24th **1998** (Poster)

Bignardi C. Giacosa F., "Contributo allo studio del sistema osso-impianto", XXVII Convegno Nazionale AIAS, Perugia, September 8-12th, 1211-1220, **1998**

Angelini E., Berutti E., Bignardi C., Moretto M., "Strumenti endocanalari rotanti in Ni-Ti: modellizzazione FEM di un utensile e studio delle leghe", IV Giornata di Studio su - Biomateriali – Applicazioni delle leghe NiTi in campo medico. Stato dell'arte in Endodonzia - Catania, June 4-5th, **1999**

Bignardi C., Bondente P.G., Rosso V., "Dispositivo di misura delle pressioni esercitate dai corsetti ortopedici", XXVIII Convegno Nazionale AIAS, Vicenza, September 8-11th, 37-46, **1999**

Marino G., Bignardi C., Tallarico P., "Applicazione di un modello numerico per lo studio del pavimento pelvico. Risultati preliminari", 73° Congresso della Società Italiana di Urologia, Bologna, May, 28-31st **2000** (Poster)

Calderale P.M., Bignardi C., Crupi V., De Luca D., Zanetti E.M., Audenino A.L., "Simulazione della fase di inserimento di una protesi press-fit e studio del contatto", V Giornata di Studio su – Biomateriali e loro applicazione in Biomeccanica – Sistemi biomeccanici ed interazione con i tessuti biologici, Catania, July 6th, 56-63, **2001**

Crupi V., Zanetti E.M., Audenino A.L., Bignardi C., Calderale P.M. "Analisi del rimodellamento tramite l'elemento finito 'osso' e validazione dei risultati mediante radiografia", XXX Convegno Nazionale AIAS, Alghero (SS), September 12-15th, 31-40, **2001**

Bignardi C., Zanetti E.M., Lorenzon G. "Analisi strutturale di due diverse modalità di intervento sulla mascella edentula", VI Giornata di Studio su Materiali Innovativi in Biomeccanica, Catania, December 12th, 67-74, **2003**

Bignardi C., Zanetti E., Lorenzon G. "Studio biomeccanico di soluzioni protesiche del mascellare superiore", 1° Congresso Nazionale AISI, Torino, October 14-15th, **2005**

Zanetti E.M., Bignardi C., Ciuffi L., Calderale P.M. "Applicazione di tecniche mock-up alla pianificazione pre-operatoria di interventi di artroplastica", VII Giornata di Studio su Materiali innovativi in Biomeccanica, Università degli Studi di Messina, Messina, July 1st, 68-75, **2005**

Zanetti E.M., Strano V., Bignardi C., Audenino A.L. "Caratterizzazione biomeccanica di campi da calcio in erba sintetica: sperimentazione su zolla e confronto con terreno naturale", VII Giornata di Studio su Materiali innovativi in Biomeccanica, Università degli Studi di Messina, Messina, July 1st, 142-151, **2005**

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