

## **CURRICULUM VITAE**

Family Name: **BRAYDA-BRUNO**

First Name: **MARCO**

Fluent knowledge of English and French, good knowledge of Spanish.

Sportsman, fond of mountain.

Since 2000: Member of Rotary Club Milano Visconteo.

Since 2011: Co-Founder and Board Member/Scientific Director of no-profit **Italian Scoliosis Foundation**

Since 2017: Co-Founder and Member of Rotary Club Milano Digital

### **Institution**

IRCCS GALEAZZI Orthopaedic Institute

Spine Surgery III – Scoliosis Center (Spine Care Group)

Via Galeazzi, 4 -20161 MILANO, Italy

### **Education and qualifications**

**10.04.1979: Doctor in Medicine and Surgery.** University of Turin, Italy.

Final Graduation cum laude with an experimental thesis.

**12.11.1982: Residency in Orthopaedics and Traumatology.** University of Turin, Italy.

### **Professional activity**

Since 1980 until 1999: Junior and then Senior Consultant of Spinal Surgery

Scoliosis Center - Queen Maria Adelaide Orthopaedic Institute. Turin, Italy.

1999-2000: Director of Spinal Diseases Dept - San Siro Institute (San Donato Hospital Group). Milan, Italy.

**Since July 2000: Director of Spine Surgery III – Scoliosis Dept.**

**IRCCS Galeazzi Orthopaedic Institute. Milan, Italy.**

Since July 2004: Founder and Director of SPINE CARE GROUP , an associated group of spine specialists for the treatment of spinal diseases and for related research projects.

### **Post-University Experience**

**1985 : a 6-months travelling fellowship in USA to attend :**

- Paediatric Orthopaedic Dept (Dr J.E. Hall) -**Children’s Hospital. Harvard Medical School - Boston**  
(Spine Surgery in childhood).
- Orthopaedic Surgery Dept (Dr J.P. Kostuik) -**General Hospital of Toronto, Canada**  
(Spine Surgery in adulthood and tumours).
- **The Twin Cities Scoliosis Center** (Dr D.Bradford, Dr J.E.Lonstein) -Fairview St. Mary’s Hospital,  
**University of Minnesota. Minneapolis** (Spine Surgery in Scoliosis, Kyphosis, Spastic Cerebropathologies and Miodistrophy).

**1989-1990 : 6 months fellowship at Paediatric Orthopaedic Surgery Dept (Prof. J.Dubousset) –**

**Saint Vincent de Paul Hospital -Paris, France**

(CD Technique and Instrumentation – Orthopaedic out-patients' Department – Biomechanical Research Center).

**1990** : Winner of a 6/ms Grant from **S.I.O.T.** – Italian Orthopaedic Society, at **Alyn and Hadassah Hospital.**

**University of Jerusalem, Israel**

(Treatment of children with severe neurological and neuromuscular deformities).

**1991-1996** : Short periods of fellowship in several foreign Centers:

- Saint Vincent de Paul Hospital (Prof J. Dubousset) -Paris, France (Scoliosis in neurological and neuromuscular patients).
- Spine Surgery Dept. (Prof Hopf) -University of Mainz, Germany (CD anterior Technique).
- Spine Surgery Dept. (Prof Harms) -Surgical and Rehabilitative Hospital – Karlsbad, Germany - (MOSS Technique – Spondylolisthesis).
- Neurosurgery Dept. (Prof Rosenthal) -University of Frankfurt, Germany (Thoracic endoscopy).

#### **Teaching activity in Italy and abroad**

1991-1994 Faculty in 5 Basic Courses on CD Technique in Italy

- 1991: First Italian Course on CD Instrumentation. Padova
- 1992: Second Italian Course on CD Instrumentation. Bari
- 1993: Third Italian Course on CD Instrumentation. Bologna
- Sept. 1994: Fourth Italian Course on CD Instrumentation. Rome
- Nov. 1994: Fifth Italian Course on Compact CD Instrumentation

1992 – 1998 : Professor of Orthopaedics (Adult Spinal Deformities) **School of Physical Therapy, C.R.I.** – CTO - Turin, Italy.

1993 : Faculty in GICD Advanced Course -Nantes, France.

1994 : Faculty in CD Instrumentation International Advanced Course -Padova, Italy.

1996 : Visiting Professor at the Catholic University of San Paolo, **Brazil** and other brazilian Universities (Riberáo Preto, San José Do Rio Preto, Mogi das Cruzes, Bahia, Rio Grande Do Sul, Curitiba, Paranà, Rio de Janeiro ).

1994-1995 : Professor at large - School of Orthopaedics and Traumatology. **University of Turin, Italy.**

1999/2002 : Lectures on “Posterior and anterior surgical approaches to the spine and new strategies in spinal surgery”. Course of Normal Human Anatomy. School of Medicine -**University of Turin, Italy.**

2002-2012 : Professor of Spinal Surgery - School of Orthopaedics and Traumatology. **Bicocca University.**

**Milan, Italy.**

2009-2013: Member and Chairman of Educational Committee of Eurospine- SSE to implement a **European Spine Surgery Curriculum**

2014: Member of core committee **of UEMS** for a European Spine Surgery Curriculum

2016-now: Spine Resident Tutoring – School of Orthopaedics and Traumatology – **Statale University, Milan, Italy**

### **Scientific Societies membership**

Since 1987 : Member of **SIOT** (Italian Society of Orthopaedics and Traumatology)

Since 1988 : Member of **GIS** (Scoliosis Italian Society), now **SICV-GIS**

Since 1990 : Member of **GICD** (Cotrel-Dubousset International Group) and actually Board member of **IGASS** (International Group for Advanced Spine Surgery)

Since 1993 : Member of **ESDS** (European Spinal Deformities Society).

Since 1994 : Honorary member of **S.A.P.C.V.** (Argentine Spinal Surgery Society).

1996 –1997 : Member of Italian Spinal Pathology Society-GIS Board of Directors.

Since 1998 : Active Member of **S.R.S.** (Scoliosis Research Society).

Since 1999 : Member of the Editorial Board and reviewer of **ESJO** (European Spine Journal).

1999-2003 : Member of S.R.S. Committee for **IMAST** (International Meeting on Advanced Spine Technique).

Since 2000 : Member of **EUROSPINE** - Spine Society of Europe (SSE)

2005-2008: Member of Award Committee of SSE-Spine Society of Europe

2008/2010: Member of Education Committee of EUROSPINE -Spine Society of Europe for implementation of a European Education Curriculum

Since 2010: member and tutor of **AO Spine Europe**

2010-2013: **Chairman of Education Committee of EUROSPINE**

2015-now Member of Education Committee of **SRS**

Since 2015 : Member of the Editorial Board and reviewer of **Spine Deformity** (official Journal of SRS)

### **Research activity**

1995 -1996 : Member of the Restricted European Group (8 Centers) for the development of the CD Horizon Instrumentation.

1996 -1999 : Scientific Coordinator of an experimental research on “Systemic body diffusion of metallic ions due to metallosis caused by spinal implants”. Experimental Surgery Dept. -IRCCS Rizzoli Orthopaedic Institute. Bologna, Italy.

2001- 2005 : Scientific Coordinator of an “In vivo study about osteointegration of different pedicular screws in osteoporotic animals”. Experimental Surgery Dept. -IRCCS Rizzoli Orthopaedic Institute. Bologna, Italy.

2005 -2006 : Scientific Coordinator of a “Biomechanical experimental study on DIAM interspinous device” - IRCCS Galeazzi Orthopaedic Institute and LABS-Biomechanics, Politecnico, University of Milan, Italy

2006 : Scientific Coordinator for 3 randomized Clinical Studies – IRCCS Galeazzi Orth. Inst. Milan, Italy

2008- 2013 : Coordinator of a five-years **European Research Project “GENODISC”** about Genetics of disc degeneration for IRCCS Galeazzi – Orth. Inst. Milan, Italy , as partner of the European Consortium.

Since 2009: Coordinator of Research Project on “**Plasmatic Markers in AIS**”, in cooperation with University of Montreal, Canada.

Since 2009: partner in several studies in **spinal biomechanics** and in **spinal biology**, in IRCCS Galeazzi – Orth. Inst. Milan, Italy

Since 2014: Coordinator of Research Project on “Optimizing scoliosis school screening in scholars” using EOS imaging, optical tools and blood tests, in IRCCS Galeazzi – Orth. Inst. Milan, Italy

Since Nov 2018: **Director of Spinal Research** in IRCCS Galeazzi – Orth. Inst. Milan, Italy

### **Spine Surgery Scientific Consultancies**

Since 1993 : Member of SOFAMOR-DANEK (now **MEDTRONIC**) (Memphis, USA) S.A.B. in Italy for the evolution of spinal instrumentations.

Since 1993 : Senior Consultant in Spinal Surgery at IRCCS Medea (La Nostra Famiglia). Bosisio Parini, Lecco, Italy.

1991-1996 and 1999-2003 : Consultant Spine Surgeon in Italian and foreign hospitals.

2001-2010: Member of **SPINEVISION** (Paris, France) S.A.B. for the development of a new Spinal Lumbar Instrumentation “UNI-Thread” and the navigation device “Pediguard”.

2002-2006: Consultant and faculty of **KYPHON** international training courses for Kyphoplasty. Kyphon Europe, Bruxelles.

Since 2004 : Consultant and European Advisory Board member of **MEDTRONIC SPINE**

2005-2010: Member of **Paradigm Spine** S.A.B. (Scientific Advisory Board)

Since 2009: Consultant of **DEPUY SPINE**

Since 2009: Consultant of **SPINEGUARD**

Since 2015: Consultant of **IMPLANET** for development of sublaminar bands

Since 2016: Advisory Board member with **K2M**, now **STRYKER SPINE** for BACS platform

Since 2017: Scientific consultant and SAB member of **HTA Medica-TissYou-SINTEA Factory** -Italy

### **Scientific Meetings and Courses**

1985 – 2013 : Chairman for the organization of 10 National and 12 International Meetings in Turin, Milan, Sorrento and Rome.

Every year active participation as faculty to several scientific Meetings.

2010-2015 : Chairman and faculty of European Spine Diploma Modules and Master Courses of **EUROSPINE**

2011 : Co-President of the **Annual Meeting of EUROSPINE** - Spine Society of Europe in MILANO - Italy

2018 : Local Host of Scoliosis Research Society – **SRS Annual Meeting** in Bologna - Italy

### **Publications**

#### **Books**

**1993** : Cotrel Y, Dubousset J -C D Strumentazione per la Chirurgia Vertebrale. -Italian Edition by Marco Brayda-Bruno,MD. -Sauramps Médical. Montpellier, France.

**1995** : Osteoporosi: Valutazione del rischio di frattura e sua applicazione allo screening dell'osteoporosi in postmenopausa.-Report of OMS-WHO Study Group.-Italian Edition by Marco Brayda-Bruno,MD.Ed. F. Folini, Casalnoceto (AL), Italy.

2010-2020 : **5 Book Chapters**

**Original articles** : more than 50 publications on Italian Journals and **72 indexed peer-reviewed publications on International Journals.**

#### **List of the more recent publications:**

**2006:** Brayda-Bruno M, Lovi A, Teli M, Vincitorio F - La chirurgia mini-invasiva del disco lombare **GIORNALE ITALIANO DI ORTOPEDIA E TRAUMATOLOGIA (GIOT)- 32(Suppl.1): S32-S36**

**2007:** Bolger C, Kelleher MO, McEvoy L, Brayda-Bruno Marco, Kaelin A - Electrical conductivity measurement: a new technique to detect iatrogenic initial pedicle perforation - **EUROPEAN SPINE JOURNAL** – 16: 1919-1924

**2008:** Porcine models in spinal research: calibration and comparative finite element analysis of various configurations during flexion-extension. **COMPARATIVE MEDICINE** – Aziz H., Galbusera F., Bellini C., Mineo G, Addis A, Pietrabissa R, Brayda-Bruno M.

**2008:** Biomechanical studies on cervical total disc arthroplasty: A literature review. Galbusera F., Bellini C., Brayda-Bruno M., Fornari M. - **CLINICAL BIOMECHANICS** -23: 1095-1104

**2008:** Design concepts in lumbar total disc arthroplasty - Galbusera F., Bellini C., Zweig T., Raimondi M., Lamartina C., Brayda-Bruno M., Fornari M. **EUROPEAN SPINE JOURNAL** -17: 1635-1650

**2008:** Use of carboxymethylcellulose/polyethylene oxide gel in microdiscectomy with interlaminectomy: a case series comparison with long-term follow-up. - **SPINE** – Assietti R., Mora A., Brayda-Bruno M.

**2009:** Vertebroplasty and kyphoplasty: complementary techniques for the treatment of painful osteoporotic vertebral compression fractures. A prospective non-randomised study on 154 patients. - **EUROPEAN SPINE JOURNAL** – Lovi A., Teli M., Ortolina A., Costa F., Fornari M., Brayda-Bruno M.

**2009:** Molecular MR imaging for the evaluation of the effect of dynamic stabilization on lumbar intervertebral discs. – Vaga S., Brayda-Bruno M., Perona F., Fornari M., Raimondi M., Bellini c., Grava G., Costa F., Caiani E., Lamartina C. - **EUROPEAN SPINE JOURNAL** -18 Suppl 1: 40-48

**2010:** The treatment of vertebral and chest wall deformities with expandable thoracoplasty and a prosthetic expandable implant. – Kamerlink Jr, Engel I., Patwardhan A., Valdevit A., Lowery G., Brayda-Bruno M., Zeller R., Errico TJ. - **JOURNAL OF PEDIATRIC ORTHOPAEDICS**- 30(1): 90-8

**2010:** Results of the spine-to-rib-cage distraction in the treatment of early onset scoliosis. - **INDIAN JOURNAL OF ORTHOPAEDICS** – Teli M., Lovi A., Brayda-Bruno M.

**2010:** Higher risk of dural tears and recurrent herniation with lumbar micro-endoscopic discectomy. - **EUROPEAN SPINE JOURNAL** – Teli M., Lovi A., Brayda-Bruno M., Zagra L., Corriero A., Minoia L.

**2010:** Role of disability-case manager for chronic diseases: using the ICF as a practical background. - **DISABILITY AND REHABILITATION** – Albanesi F., Invernizzi V., Meucci P., Leonardi M., Caspani G., Pessina A., Brayda-Bruno M.

**2010:** Spine stability after implantation of an interspinous device: an in vitro and finite element biomechanical study. - **JOURNAL OF NEUROSURGERY-SPINE** – Brayda-Bruno M.

**2010:** Lumbar total disc replacement: A numerical study - Di Mascio V., Bellini C., Galbusera F., Raimondi M., Brayda-Bruno M., Assietti R. - **JOURNAL OF APPLIED BIOMATERIALS & BIOMECHANICS** - 8(2): 97-10

**2010:** Hybrid strategy for correction and T3-sacrum posterior fusion in a severe neuropathic spinal deformity. - Brayda-Bruno M., Lovi A., Luca A. - **EUROPEAN SPINE JOURNAL** -19(12): 2233-4

**2011:** Rigid and flexible spinal stabilization devices: A biomechanical comparison - **MEDICAL ENGINEERING AND PHYSICS** -Galbusera F., Bellini C.M., Anasetti F., Ciavarro C., Lovi A., Brayda-Bruno M.

- 2011:** In vivo preclinical evaluation of the influence of osteoporosis on the anchorage of different pedicle screw designs. - Giavaresi G., Fini M., Giardino R., Salamanna F., Sartori M., Borsari V., Spriano S., Bellini C.M., Brayda-Bruno M.- **EUROPEAN SPINE JOURNAL** - 20(8): 1289-1296
- 2012:** Mid-term evaluation of the effects of dynamic neutralization system on lumbar intervertebral discs using quantitative molecular MR imaging. - Ciavarro C., Caiani E.G., Brayda-Bruno M., Zerbi A., Galbusera F., Vaga S., Lamartina C. - **JOURNAL OF MAGNETIC RESONANCE IMAGING** - 35(5): 1145-51
- 2012:** Surgeons and scientists: symbiosis in spinal research? - Lazary A., Ito K., Eisenstein S., Fairbank J., Roberts S., Kletsas D., Kumin M., Brayda-Bruno M., Varga P.P. - **EUROPEAN SPINE JOURNAL** – 21(9): 1681-1683
- 2012:** Metabolic effects of vitamin D active metabolites in monolayer and micromass cultures of nucleus pulposus and annulus fibrosus cells isolated from human intervertebral disc - Colombini A., Lanteri P., Lombardi G., Grasso D., Recordati C., Lovi A., Banfi G., Bassani R., Brayda-Bruno M. - **INTERNATIONAL JOURNAL OF BIOCHEMISTRY AND CELL BIOLOGY** – 44(6): 1019-1030
- 2012:** Longevity of elastin in human intervertebral disc as probed by the racemization of aspartic acid - Sivan S.S., Van El B., Merkher Y., Schmelzer C.E.H., Zuurmond A.-M., Heinz A., Wachtel E., Varga P.-P., Lazary A., Brayda-Bruno M., Maroudas A. - **BIOCHIMICA ET BIOPHYSICA ACTA -GENERAL SUBJECTS** - 1820 (10): 1671-1677
- 2012:** Post-traumatic high thoracic angular kyphosis: Posterior approach with correction and fusion in two steps - Brayda-Bruno M., Luca A., Lovi A., Zambotti M., Sinigaglia A., Lamartina C. - **EUROPEAN SPINE JOURNAL** - 21(12): 2724-2726
- 2012:** What do patients know about their low back pain? An analysis of the quality of information available on the Internet - Galbusera F., Brayda-Bruno M., Freutel M., Seitz A., Steiner M., Wehrle E., Wilke H.-J. - **TECHNOLOGY AND HEALTH CARE** - 20(6): 447-455
- 2013:** Is the Transport of a Gadolinium-Based Contrast Agent Decreased in a Degenerated or Aged Disc? A Post Contrast MRI Study - Tibiletti M., Galbusera F., Ciavarro C., Brayda-Bruno M. - **PLOS ONE** - 8-10
- 2013:** Relationship between vitamin D receptor gene (VDR) polymorphisms, vitamin D status, osteoarthritis and intervertebral disc degeneration - Colombini A., Cauci S., Lombardi G., Lanteri P., Croiset S., Brayda-Bruno M., Banfi G. - **JOURNAL OF STEROID BIOCHEMISTRY AND MOLECULAR BIOLOGY** – 138: 24-40
- 2013:** Influence of sagittal balance on spinal lumbar loads: A numerical approach - Galbusera F., Wilke H.-J., Brayda-Bruno M., Costa F., Fornari M. - **CLINICAL BIOMECHANICS** – 28(4): 370-7 -
- 2013:** Advances in the diagnosis of degenerated lumbar discs and their possible clinical application - Brayda-Bruno M., Tibiletti M., Ito K., Fairbank J., Galbusera F., Zerbi A., Roberts S., Wachtel E., Merkher Y., Sivan S. - **EUROPEAN SPINE JOURNAL** – 1: 9



**2014:** Molecular interactions between human cartilaginous endplates and nucleus pulposus cells: A preliminary investigation - Neidlinger-Wilke C., Boldt A., Brochhausen C., Galbusera F., Carstens C., Copf F., Schultheiss M., Lazary A., Brayda-Bruno M., Ignatius A., Wilke H.-J. – **SPINE** - 39 (17): 1355-1364 –

**2014:** Is post-contrast MRI a valuable method for the study of the nutrition of the intervertebral disc? - Galbusera F., Brayda-Bruno M., Wilke H.-J. - **JOURNAL OF BIOMECHANICS** - 47(12): 3028-3034

**2014:** Fokl polymorphism in the vitamin D receptor gene (VDR) and its association with lumbar spine pathologies in the Italian population: A case-control study - Colombini A., Brayda-Bruno M., Lombardi G., Croiset S.J., Vrech V., Maione V., Banfi G., Cauci S. - **PLoS ONE** - 9 (5)

**2014:** Numerical evaluation of the correlation between the normal variation in the sagittal alignment of the lumbar spine and the spinal loads - Galbusera F., Brayda-Bruno M., Costa F., Wilke H.-J. - **JOURNAL OF ORTHOPAEDIC RESEARCH** - 32 (4): 537-544

**2014:** Disc degeneration-related clinical phenotypes - Battié M.C., Lazáry Á., Fairbank J., Eisenstein S., Heywood C., Brayda-Bruno M., Varga P.P., McCall I. - **EUROPEAN SPINE JOURNAL** - 23 (SUPPL. 3): S305-S314

**2014:** Management of catastrophising and kinesiophobia improves rehabilitation after fusion for lumbar spondylolisthesis and stenosis. A randomised controlled trial - Monticone M., Ferrante S., Teli M., Rocca B., Foti C., Lovi A., Brayda Bruno M.- **EUROPEAN SPINE JOURNAL**- 23 (1): 87-95

**2014:** Advances in the diagnosis of degenerated lumbar discs and their possible clinical application - Brayda-Bruno M., Tibiletti M., Ito K., Fairbank J., Galbusera F., Zerbi A., Roberts S., Wachtel E., Merkher Y., Sivan S.S. - **EUROPEAN SPINE JOURNAL** - 23 (SUPPL. 3): S315-S323

**2014:** Ageing and degenerative changes of the intervertebral disc and their impact on spinal flexibility - Galbusera F., Van Rijsbergen M., Ito K., Huyghe J.M., Brayda-Bruno M., Wilke H.-J. - **EUROPEAN SPINE JOURNAL** - 23 SUPPL. 3: S324-S332

**2014:** Revision surgery for implant failure after PSO - Brayda-Bruno M., Luca A., Gobetti F., Lovi A. - **EUROPEAN SPINE JOURNAL** - 23 (3): 706-707

**2014:** Fibrin in Intervertebral Disc Tissue Engineering - Colombini A., Ceriani C., Banfi G., Brayda-Bruno M., Moretti M. - **TISSUE ENGINEERING** - Reviews 20(6): 713-721

**2014:** Inverse numerical prediction of the transport properties of vertebral endplates in low back pain patients - Galbusera F., Tibiletti M., Brayda-Bruno M., Neidlinger-Wilke C., Wilke H.J. - **BIOMEDIZINISCHE TECHNIK** - 59 (5): 385-397

**2014:** Revision surgery after PSO failure with rod breakage: a comparison of different techniques - Luca A., Lovi A., Galbusera F., Brayda-Bruno M. - **EUROPEAN SPINE JOURNAL** – 23: S610-S615

**2015:** Gender Differences in the VDR-FokI Polymorphism and Conventional Non-Genetic Risk Factors in Association with Lumbar Spine Pathologies in an Italian Case-Control Study - Colombini A., Brayda-Bruno M., Ferino L., Lombardi G., Maione V., Banfi G., Cauci S. - **INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES** - 16 (2): 3722-3739

**2015:** Planning the Surgical Correction of Spinal Deformities: Toward the Identification of the Biomechanical Principles by Means of Numerical Simulation - Galbusera F., Bassani T., La Barbera L., Ottardi C., Schlager B., Brayda-Bruno M., Villa T., Wilke H.J. - **FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY** - 3 : 178-188

**2016:** Adults with idiopathic scoliosis improve disability after motor and cognitive rehabilitation: results of a randomised controlled trial - Monticone M., Ambrosini E., Cazzaniga D., Rocca B., Motta L., Cerri C., Brayda-Bruno M., Lovi A. - **EUROPEAN SPINE JOURNAL** - 25 (10): 3120-3129 -

**2016:** MR Imaging and Radiographic Imaging of Degenerative Spine Disorders and Spine Alignment - Galbusera F., Lovi A., Bassani T., Brayda-Bruno M. - **MAGNETIC RESONANCE IMAGING CLINICS OF NORTH AMERICA** - 24 (3): 515-522

**2016:** Bsm1, Apal and TaqI Polymorphisms in the Vitamin D Receptor Gene (VDR) and Association with Lumbar Spine Pathologies: An Italian Case-Control Study - Colombini A., Brayda-Bruno M., Lombardi G., Croiset S. J., Ceriani C., Buligan C., Barbina M., Banfi G., Cauci S. - **PLoS ONE** - 11(5)

**2016:** Finite element analysis of the lumbar destabilization following pedicle subtraction osteotomy - Ottardi C., Galbusera F., Luca A., Prosdocimo L., Sasso M., Brayda-Bruno M., Villa T. - **MEDICAL ENGINEERING & PHYSICS** - 38 (5): 506-509 -

**2016:** Cyclic tensile stress of human annulus fibrosus cells induces MAPK activation: involvement in proinflammatory gene expression - Pratsinis H., Papadopoulou A., Neidlinger-Wilke C., Brayda-Bruno M., Wilke H.J., Kletsas D. - **OSTEOARTHRITIS AND CARTILAGE** - 24 (4): 679-687

**2016:** Interplay between low plasma RANKL and VDR-FokI polymorphism in lumbar disc herniation independently from age, body mass, and environmental factors: a case-control study in the Italian population - Sansoni V., Perego S., Colombini A., Banfi G., Brayda-Bruno M., Lombardi G. - **EUROPEAN SPINE JOURNAL** - 25 (1): 192-199 -

**2017:** Instrumentation failure following pedicle subtraction osteotomy: the role of rod material, diameter, and multi-rod constructs - Luca A., Ottardi C., Sasso M., Prosdocimo L., La Barbera L., Brayda-Bruno M., Galbusera F., Villa T. - **EUROPEAN SPINE JOURNAL** - 26(3): 764-770

**2017:** Herniectomy versus herniectomy with the DIAM spinal stabilization system in patients with sciatica and concomitant low back pain: results of a prospective randomized controlled multicenter trial - Krappel F., Brayda-Bruno M., Alessi G., Remacle J.M., Alberto Lopez L., Javier Fernandez J., Maestretti G., Pfirrmann C. W. A. - **EUROPEAN SPINE JOURNAL** - 26(3): 865-876

**2017:** Semiautomated 3D Spine Reconstruction from Biplanar Radiographic Images: Prediction of Intervertebral Loading in Scoliotic Subjects. - Bassani T., Ottardi C., Costa F., Brayda-Bruno M., Wilke H.J., Galbusera F. - **FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY** - 5: 1-10

**2017:** Semi-quantitative evaluation of signal intensity and contrast-enhancement in Modic changes. - Tibiletti M., Ciavarro C., Bari V., McCall I.W., Urban J.P.G., Brayda-Bruno M., Galbusera F. - **EUROPEAN RADIOLOGY EXPERIMENTAL** - 1(1): 5-15

- 2017:** Expert's comment concerning Grand Rounds case entitled "Circumferential fusion for degenerative lumbar spondylolisthesis complicated by distal junctional grade 4 spondylolisthesis in the sub-acute post-operative setting" by Alexander A. Theologis et al. - Brayda-Bruno M. - **EUROPEAN SPINE JOURNAL** - 26 (12): 3082-3083
- 2017:** High Levels of Circulating Type II Collagen Degradation Marker (CTX-II) Are Associated with Specific VDR Polymorphisms in Patients with Adult Vertebral Osteochondrosis - Cauci S., Vigano' M., De Girolamo L., De Luca P., Orfei C.P., Banfi G., Lombardi G., Brayda-Bruno M., Colombini A. - **INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES** - 18(10): 2073-78
- 2017:** Anterior support reduces the stresses on the posterior instrumentation after pedicle subtraction osteotomy: a finite-element study - Luca A., Ottardi C., Lovi A., Brayda-Bruno M., Villa T., Galbusera F. - **EUROPEAN SPINE JOURNAL** - 26 : 450-456
- 2017:** Plasma vitamin D and osteo-cartilaginous markers in Italian males affected by intervertebral disc degeneration: Focus on seasonal and pathological trend of type II collagen degradation - Brayda-Bruno M., Vigano' M., Cauci S., Vitale J.A., De Girolamo L., De Luca P., Lombardi G., Banfi G., Colombini A. - **CLINICA CHIMICA ACTA** - 471: 87-93
- 2017:** A comparative analysis of a disposable and a reusable pedicle screw instrument kit for lumbar arthrodesis: integrating HTA and MCDA - Ottardi C., Damonti A., Porazzi E., Foglia E., Ferrario L., Villa T., Aimar E., Brayda-Bruno M., Galbusera F. - **HEALTH ECONOMICS Review** - 7(1) : 17
- 2018:** Vitamin D's Effect on the Proliferation and Inflammation of Human Intervertebral Disc Cells in Relation to the Functional Vitamin D Receptor Gene FokI Polymorphism - De Luca P., De Girolamo L., Orfei C.P., Vigano' M., Cecchinato R., Brayda-Bruno M., Colombini A. - **INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES** - 19 (7): 2002
- 2018:** Artificial neural networks for the recognition of vertebral landmarks in the lumbar spine - Galbusera F., Bassani T., Costa F., Brayda-Bruno M., Zerbi A., Wilke H.J. - **COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING: IMAGING AND VISUALIZATION** - 6(4): 447-452
- 2018:** Biomechanical advantages of supplemental accessory and satellite rods with and without interbody cages implantation for the stabilization of pedicle subtraction osteotomy - La Barbera ., Brayda-Bruno M., Liebsch C., Villa T., Luca A., Galbusera F., Wilke H.J. - **EUROPEAN SPINE JOURNAL** - 27(9): 2357-2366
- 2018:** Endplate lesions in the lumbar spine: a novel MRI-based classification scheme and epidemiology in low back pain patients - Brayda-Bruno M., Albano D., Cannella G., Galbusera F., Zerbi A. - **EUROPEAN SPINE JOURNAL** - 27 (11): 2854 2861
- 2019:** Is rasterstereography a valid noninvasive method for the screening of juvenile and adolescent idiopathic scoliosis? - Bassani T, Stucovitz E, Galbusera F, Brayda-Bruno M. - **EUROPEAN SPINE JOURNAL** - 28(3): 526-535
- 2019:** Fully automated radiological analysis of spinal disorders and deformities: a deep learning approach. - Galbusera F, Niemeyer F, Wilke HJ, Bassani T, Casaroli G, Anania C, Costa F, Brayda-Bruno M, Sconfienza LM. - **EUROPEAN SPINE JOURNAL** - 28(5):951-960
- 2019:** Evaluation of iliac screw, S2 alar-iliac screw and laterally placed triangular titanium implants for

sacropelvic fixation in combination with posterior lumbar instrumentation: a finite element study. - Casaroli G, Galbusera F, Chande R, Lindsey D, Mesiwala A, Yerby S, Brayda-Bruno M. - **EUROPEAN SPINE JOURNAL** - 28(7): 1724-1732

**2019:** A Differential Hypofunctionality of Gxi Proteins Occurs in Adolescent Idiopathic Scoliosis and Correlates with the Risk of Disease Progression. - Akoume MY, Elbakry M, Veillette M, Franco A, Nada D, Labelle H, Mac-Thiong JM, Grimard G, Ouellet J, Parent S, Rivard CH, Lombardi G, Colombini A, Banfi G, Brayda-Bruno M, Gorman KF, Moreau A. - **SCIENTIFIC REPORTS** - 9(1): 10074

**2019:** Physiological variations in the sagittal spine alignment in an asymptomatic elderly population. - Bassani T, Galbusera F, Luca A, Lovi A, Gallazzi E, Brayda-Bruno M. - **THE SPINE JOURNAL** - 19(11): 1840-1849

**2019:** Biomechanical in vitro comparison between anterior column realignment and pedicle subtraction osteotomy for severe sagittal imbalance correction. - La Barbera L, Wilke HJ, Liebsch C, Villa T, Luca A, Galbusera F, Brayda-Bruno M. - **EUROPEAN SPINE JOURNAL** - 29(1): 36-44

**2019:** Nutritional support for enhanced recovery programs in orthopedics: Future perspectives for implementing clinical practice. - Briguglio, M, Gianola, S, Aguirre, M, Sirtori, P., Perazzo, P., Pennestri, F., Brayda-Bruno, M., Sansone, V., Banfi, G. - **NUTRITION CLINIQUE ET METABOLISME** - 33(3): 190-198

**2020:** Biomechanics of sacropelvic fixation: a comprehensive finite element comparison of three techniques. - Galbusera F, Casaroli G, Chande R, Lindsey D, Villa T, Yerby S, Mesiwala A, Panico M, Gallazzi E, Brayda-Bruno M. - **EUROPEAN SPINE JOURNAL** - 29(2): 295-305 (Epub 2019)

**2020:** What do we know about the biomechanics of the sacroiliac joint and of sacropelvic fixation? A literature review. - Casaroli G, Bassani T, Brayda-Bruno M, Luca A, Galbusera F. - **MEDICAL ENGINEERING & PHYSICS** - 76: 1-12 (Epub 2019)

**2020:** The strain distribution in the lumbar anterior longitudinal ligament is affected by the loading condition and bony features: An in vitro full-field analysis. - Palanca M, Ruspi ML, Cristofolini L, Liebsch C, Villa T, Brayda-Bruno M, Galbusera F, Wilke HJ, La Barbera L. - **PLOS ONE** - 15(1)

**2020:** Digital Image Correlation (DIC) Assessment of the Non-Linear Response of the Anterior Longitudinal Ligament of the Spine during Flexion and Extension. - Ruspi ML, Palanca M, Cristofolini L, Liebsch C, Villa T, Brayda-Bruno M, Galbusera F, Wilke HJ, La Barbera L. - **MATERIALS** - 13(2).

**2020:** Intervertebral disc and endplate cell characterisation highlights annulus fibrosus cells as the most promising for tissue-specific disc degeneration therapy. - De Luca P, Castagnetta M, de Girolamo L, Coco S, Malacarne M, Ragni E, Viganò M, Lugano G, Brayda-Bruno M, Coviello D, Colombini A - **EUROPEAN CELLS & MATERIALS** - 39: 156-170