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Associate Professor

Department of Mechanical, Energy and Management Engineering - University of Calabria
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Education

- Feb. 2004 – **Ph.D. in Computational Mechanics**, University of Calabria, Italy
Thesis title: A new methodology for the design of helical non-circular gears
- July 1999 – **Master Degree cum Laude in Mechanical Engineering**, University of Calabria
Thesis title: Theoretical and experimental analysis of performances and emissions of a motorbike

Fields of Interest

- Gearing and mechanical power transmissions
- Vehicle dynamics
- Numerical modelling and experimental analysis for noise & vibration characterisation of advanced materials (composite materials, metamaterials)
- Kinematic synthesis and analysis of planar mechanisms

Current position

- 29/12/2011 – Today: Associate Professor, University of Calabria

Previous Job

- 01/08/2002 - 28/12/2011: Assistant Professor, University of Calabria

Classes Taught (University of Calabria)

- Mechanical vibrations - Master Program in Mechanical Engineering
- Vehicle dynamics - Master Program in Mechanical Engineering
- Modelling and simulation of mechanical systems - Master Program in Automation Engineering

Current involvement in academic activities

- Head of the Dynamics of Mechanical Systems (DMS) division of Mechanical Engineering Laboratory (MECH-LAB)
- Department Delegate for Research and Technology Transfer at the Department of Mechanical, Energy and Management Engineering - University of Calabria
- Member of the Committee for the Doctoral Programme in Civil and Industrial Engineering, University of Calabria
- **Member of the Technical Committee for Linkages and Mechanical Control** of IFToMM (International Federation for the Promotion of Mechanism and Machine Science), 2015 – Today
- **Member of the Technical Committee for Gearing and Transmissions** of IFToMM (International Federation for the Promotion of Mechanism and Machine Science), 2017 – Today

Editorial and Evaluation activities

- **Associate Editor** *Mechanism and Machine Theory*, Elsevier (2016 – Today)
- **Associate Editor** for the *Mathematical Problems in Engineering* journal, Hindawi (2014 – 2017)

- **Editor-in-Chief** for the *Case Studies in Mechanical Systems and Signal Processing* journal, Elsevier (2014 – 2016)
- **Expert Evaluator** for the Research Executive Agency of the European Commission for MSCA calls under H2020 (ITN-2014, ITN-2015 and ITN-2016 calls).
- **Expert Evaluator** for the Italian Ministry of Education, University and Research (MIUR) for the SIR 2014 programme.
- **Organizer and Chairman** of a Special Session on Vehicle Concept Modelling at ISMA (the International Conference on Noise and Vibration Engineering, Leuven, BE), in 2012 and 2014
- **Organizer and Chairman** of a Special Session on Design of Mechanical Transmissions at ISMA (the International Conference on Noise and Vibration Engineering, Leuven, BE), in 2016
- **Scientific Committee Member**, the 2018 International Gear Conference, Lyon (France), 27-29 Aug 2018
- **Scientific Committee Member**, the 4th Conference on Mechanisms, Transmissions and Applications, MeTrApp 2017, Trabzon, Turkey, 3-5 Jul 2017
- **Scientific Committee Member**, the 1st International Conference of IFToMM Italy, Vicenza, 1-2 Dec 2016
- **Scientific Committee Member**, the 2nd International Conference of IFToMM Italy, Cassino, 29-30 Nov 2018
- **Scientific Committee Member** of the the 2018 International Conference on Noise and Vibration Engineering – ISMA 2018, Leuven (BE) 17-19 Sept. 2018
- **Scientific Committee Member** of the 5th Conference on Mechanisms, Transmissions and Applications, MeTrApp 2019, to be held in Dalian, China, 9-11 October 2019
- **Scientific Committee Member** of the 2020 International Conference on Noise and Vibration Engineering – ISMA 2020, to be held in Leuven (BE), 10-11 Sept. 2020
- **Scientific Committee Member** of the 3rd International Conference of IFToMM Italy, to be held in Napoli, 12-13 Sept. 2020
- **Reviewer for several international journals, including:** Mechanism and Machine Theory; Mechanical Systems and Signal Processing; Mathematical and Computer Modelling; Journal of Mechanical Design, Transactions of ASME; Journal of Mechanisms and Robotics, Transactions of ASME; Proceedings of the Institution of Mechanical Engineers, Part C, Journal of Mechanical Engineering Science; Proceedings of the Institution of Mechanical Engineers, Part D, Journal of Automobile Engineering; Computers & Structures; Mechanics Research Communication; Transactions of the Canadian Society of Mechanical Engineers; International Journal of Vehicle Design, Applied Mathematical Modeling; International Journal of Computer Applications in Technology (IJCAT); Journal of Vibration and Control; Meccanica; Finite Elements in Analysis and Design.

Recent research projects

- 09/2019 – 08/2022: **UNICAL Scientist-in-Charge for the Research Project “Progetto di ricerca di Rilevante Interesse Nazionale”** (PRIN 2017 - 2017948FEN) funded by the Italian Ministry of Research, entitled FASTire (Foam Airless Spoked Tire): Smart Airless Tyres for Extremely-Low Rolling Resistance and Superior Passengers Comfort. UNICAL budget 100 k€
- 01/2018 – 12/2021: UNICAL Scientist-in-Charge for the research project **COMET K2 Digital Mobility - Context-Embedded Vehicle Technologies**, funded by the Austrian Research Promotion Agency (FFG) and coordinated by Virtual Vehicle – VIF (Kompetenzzentrum - Das virtuelle Fahrzeug Forschungsgesellschaft mbH) in Graz (Austria). Research topics: parametric model order reduction applied to composite materials; metamaterials. UNICAL budget around 90 k€
- 01/2014 – 12/2017: Coordinator of the **FP7 Marie Curie IAPP 2012** Project n. 324336– “Design of Mechanical Transmissions: Efficiency, Noise and Durability Optimization” – DEMETRA – www.fp7demetra.eu - Total EU contribution 1,235 M€; UNICAL budget 330 k€

- 11/2011 - 10/2015: Coordinator of the **FP7 Marie Curie IAPP 2011** Project N. 285808 – “ Innovative Concept Modelling Techniques for Multi-Attribute Optimization of Active Vehicles” – INTERACTIVE – www.fp7interactive.eu - Total EU contribution 1,344 M€; UNICAL budget 438 k€

International mobility

- 02/2003 - 07/2003: **Visiting Researcher**, LMS International - Engineering Services, Leuven (Belgium)
Research topic: Dynamic characterization and FE modelling of automotive rubber connections
- 04/2005 - 08/2005: **Visiting Scholar**, Department of Mechanical Engineering, National Cheng Kung University - Tainan (TAIWAN), Advisor: Prof. H.S. Yan
Research topic: Optimal synthesis of combined cam-linkage planar mechanisms
- 07/2006 - 08/2006: **Visiting Researcher**, LMS International - Engineering Services, Leuven (Belgium)
Research topic: Identification of damping sources in car’s body
- 03/2007 - 08/2007: **Visiting Researcher**, LMS International - Engineering Services, Leuven (Belgium)
Research topic: Simplified modelling of beams and joints for the optimization of vehicle’s structures.
- 07/2008 - 08/2008: **Visiting Researcher**, LMS International - Engineering Services, Leuven (Belgium)
Research topic: Simplified modelling of 2D structures for the optimization of vehicle’s structures.
- 09/2011: **Visiting Scientist**, Czech Technical University of Prague,
Research project: VeCoM (Vehicle concept modelling) for overall period of 2 months in VECOM project
- 04/2012 - 05/2012: **Marie Curie fellowship for More Experienced Researcher**, LMS International – CAE Division, Leuven (Belgium) in the frame of the EU project INTERACTIVE – “Innovative Concept Modelling Techniques for Multi-Attribute Optimization of Active Vehicles”.

PUBLICATIONS

A. International journal papers:

- A.1 Bova, W., Lappano, E., Catera, P.G., Mundo, D., Development of a parametric model order reduction method for laminated composite structures, *Composite Structures*, 2020, 234 1 July 2020, 112219
- A.2 Cosco, F., Serratore, G., Catera, P.G.; Gagliardi, F., Luberto, E., Mundo, D., Experimental assessment of stiffness and energy dissipation properties of disk-shaped polymer-based composite specimens by in-plane torsion testing, *Polymer Testing*, 2020, Vol. 83
- A.3 Dooner, D., Vivet, M., Acinapura, A., Desmet, W., Mundo, D., On the determination of fully conjugate hypoid tooth flanks, *Mechanism and Machine Theory*, February 2020, Vol. 144, 103649
- A.4 Catera, P. G., Mundo, D., Gagliardi, F., Treviso, A., A comparative analysis of adhesive bonding and interference fitting as joining technologies for hybrid metal-composite gear manufacturing, 2020, *International Journal of Interactive Design and Manufacturing*
- A.5 Perrelli, M., Cosco, F., Carbone, G., Mundo, D., Evaluation of vehicle lateral dynamics behavior according to ISO-4138 Tests by implementing a 15-DOF vehicle model and an autonomous virtual driver, 2019, *International Journal of Mechanics and Control*, Vol 20 (02), 31-38
- A.6 Shweiki, S., Rezayat, A., Tamarozzi, T., Mundo, D., Transmission Error and strain analysis of lightweight gears by using a hybrid FE-analytical gear contact model, *Mechanical Systems and Signal Processing*, Volume 123, 15 May 2019, Pages 573-590
- A.7 Catera, G., Mundo, D., Treviso, A., Gagliardi, F., Visrolia, A., On the Design and Simulation of Hybrid Metal-Composite Gears, *Applied Composite Materials*, 2019, 26(3), pp. 817-833

- A.8 Acinapura, A., Fragomeni, G., Greco, P.F., Mundo, D., Carbone, G., Danieli, G., Design and prototyping of miniaturized straight bevel gears for biomedical applications, *Machines*, 2019, Vol. 7(2), Article number 38
- A.9 Vivet, M., Mundo, D., Tamarozzi, T., Desmet, W., An analytical model for accurate and numerically efficient tooth contact analysis under load, applied to face-milled spiral bevel gears, 2018, *Mechanism and Machine Theory*, 130, pp. 137-156
- A.10 Palermo, A., Britte, L., Janssens, K., Mundo, D., Desmet, W., The measurement of Gear Transmission Error as an NVH indicator: Theoretical discussion and industrial application via low-cost digital encoders to an all-electric vehicle gearbox, *Mechanical Systems and Signal Processing*, volume 110, 2018, pages 360-389
- A.11 Korta, J., Mundo, D., A population-based meta-heuristic approach for robust micro-geometry optimization of tooth profile in spur gears considering manufacturing uncertainties. *Meccanica*, 53 (1-2) (2018), pp. 447-464
- A.12 CATERA, G., Gagliardi, F., Mundo, D., De Napoli, L., Matveeva, A., Farkas, L., Multi-scale modeling of triaxial braided composites for FE-based modal analysis of hybrid metal-composite gears, *Composite Structures*, 2017, 182: 116-123
- A.13 Shweiki S., Palermo, A., Mundo, D., A study on the dynamic behaviour of lightweight gears, *Shock and Vibration journal*, Article ID 7982170 (2017)
- A.14 Lappano, E., Polanz, M., Desmet, W., Mundo, D., A parametric model order reduction technique for poroelastic finite element models, *Journal of the Acoustical Society of America*, 142(4) (2017), pp. 2376-2385
- A.15 Treviso, A., Mundo, D., Tournour, M., Dynamic response of laminated structures using a Refined Zigzag Theory shell element, *Composite Structures*, 159 (2017), pp. 197-205.
- A.16 J. A. Korta, D. Mundo, Multi-objective micro-geometry optimization of gear tooth supported by response surface methodology, *Mechanism and Machine Theory* 109 (2017) 278–295.
- A.17 Dooner, D.B., Vivet, M., Mundo, D., Deproximating Tredgold's Approximation, 2016, *Mechanism and Machine Theory*, 102, pp. 36-54
- A.18 Carpinelli M., Gubitosa, M., Mundo D., Desmet W., Automated independent coordinates switching for the solution of stiff DAEs with the linearly implicit Euler method, *Multibody System Dynamics*, 2016, *Multibody System Dynamics*, 36 (1), pp. 67-85.
- A.19 Treviso, A., Farkas, L., Mundo, D., Tournour, M., On the Sensitivity of Mechanical Properties of Woven-Fabrics to the Draping Process: Static and Dynamic Assessment Through a CAE-Based Approach, 2016, *Applied Composite Materials*, 23 (4), pp. 899-911.
- A.20 A. Treviso. B. Van Genechten, D. Mundo, M. Tournour. Damping in composite materials: Properties and models. *Composites Part B: Engineering*, Vol. 78 (2015), pp:144-152.
- A.21 A. Treviso, D. Mundo, M. Tournour. A C0-continuous RZT beam element for the damped response of laminated structures. *Composite Structures*, Vol. 131 (2015), pp: 987-994.
- A.22 De Gaetano, G., Mundo, D., Maletta, C., Kroiss, M., Cremers, L., Multi-Objective Optimization of a Vehicle Body by Combining Gradient-based Methods and Vehicle Concept Modelling, *Case Studies in Mechanical Systems and Signal Processing*, Issue n.1, 2015, doi:10.1016/j.csmssp.2015.06.002.
- A.23 Dooner D.B., Palermo A., Mundo D., , “An intermittent motion mechanism incorporating a geneva wheel and a gear train”, *Transactions of the Canadian Society for Mechanical Engineering*, Volume 38 (2014), Issue No. 3, pages 359 to 372
- A.24 Micu, D.A., Straface, D., Farkas, L., Erdelyi, H., Iozsa, M.D., Mundo, D., Donders, S., “A co-simulation approach for crash analysis”, 2014, *UPB Scientific Bulletin, Series D: Mechanical Engineering*, 76 (2), pp. 189-198.
- A.25 De Gaetano, G., Mundo, D., Cosco, F.I., Maletta, C., Donders, S., “Concept modelling of vehicle joints and beam-like structures through dynamic FE-based methods, *Shock and Vibration*, 2014, art. no. 303567
- A.26 Garre, C., Mundo, D., Gubitosa, M., Toso, A., Real-time and real-fast performance of general-purpose and real-time operating systems in multithreaded physical simulation of complex mechanical systems, *Mathematical Problems in Engineering*, 2014, art. no. 945850
- A.27 A. Palermo, D. Mundo, R. Hadjit, W. Desmet, “Multibody element for spur and helical gear meshing based on detailed three-dimensional contact calculations”, *Mechanism and Machine Theory*, 2013, vol. 62, p. 13-30
- A.28 D. Mundo, G. Stigliano, S. Donders, H. Van der Auweraer, “Concept design of vehicle bodies using reduced models of beams, joints and panels”, *International Journal of Vehicle Design*, 2011, vol. 57, p. 71-83

- A.29 A. Maressa, D. Mundo, S. Donders, W. Desmet, "A wave-based substructuring approach for concept modeling of vehicle joints", *Computers & Structures*, 2011, vol. 89, p. 2369-2376
- A.30 G. Gatti, D. Mundo, "On the Direct Control of Follower Vibrations in Cam-Follower Mechanisms", *Mechanism and Machine Theory*, 2010, Vol. 45, Issue 1, pp. 23-35
- A.31 G. Gatti, D. Mundo, Danieli G., "Kinematic analysis and performance evaluation of 6R instrumented spatial linkages", *Transactions of the Canadian Society for Mechanical Engineering*, Volume 34 (2010), Issue No. 1, pages 57 to 63
- A.32 Mundo, R. Hadjit, S. Donders, M. Brughmans, P. Mas and W. Desmet, "Simplified modelling of joints and beam-like structures for BIW optimization in a concept phase of the vehicle design process", *Finite Elements in Analysis and Design Journal*, 2009, Vol. 45, Issues 6-7
- A.33 D. Mundo, G. Gatti, and D.B. Dooner, "Optimized five-bar linkage with non-circular gears for exact path generation", *Mechanism and Machine Theory*, 44 (2009), pp. 751-760
- A.34 D. Mundo, G. Gatti, "A graphical-analytical technique for the synthesis of non-circular gears in path-generating geared five-bar mechanism", *Transactions of the Canadian Society for Mechanical Engineering*, Volume 32 (2008), Issue No. 3-4, pages 487 to 497.
- A.35 E. Ottaviano, D. Mundo, G.A. Danieli, and M. Ceccarelli, "Numerical and experimental analysis of non-circular gears and cam-follower systems as function generators", *Mechanism and Machine Theory*, 2008, Vol. 43, Issue 8, pp. 996-1008
- A.36 Gatti G., Mundo D., "Optimal synthesis of six-bar cammed-linkages for exact rigid- body guidance". *Mechanism and Machine Theory*, 2007, Vol. 42, n. 9, pp. 1069-1081.
- A.37 D. Mundo and H.S. Yan, "Kinematic Optimization of Ball-Screw Transmission Mechanisms", *Mechanism and Machine Theory*, 2007, Vol. 42, Issue 1, pp. 34-47
- A.38 Fragomeni G., Mundo D., Gatti G., Moschella D., Danieli G., "Preliminary Design of a Knee External Fixator based on Planar Geometric Synthesis". *Transactions of the Canadian Society for Mechanical Engineering*, 2006, Vol. 30, n. 4, pp. 567-579
- A.39 Mundo D., Danieli G., Yan H., "Kinematic Optimization of Mechanical Presses by Optimal Synthesis of Cam-Integrated Linkages". *Transactions of the Canadian Society for Mechanical Engineering*, 2006, Vol. 30, n. 4, pp. 519-532.
- A.40 D. Mundo, J.Y. Liu and H.S. Yan, "Optimal Synthesis of Cam-Linkage Mechanisms for Precise Path Generation", *ASME Transactions – Journal of Mechanical Design*, Vol. 128 (6), November 2006, pp. 1253-1260
- A.41 J.Y. Liu, S.L. Chang and D. Mundo, "Study on the use of a non-circular gear train for the generation of Figure-8 patterns", *Proceedings of the Institution of Mechanical Engineers, Part C, Journal of Mechanical Engineering Science*, 2006, Vol. 220 (8), pp.1229-1236
- A.42 D. Mundo, P. Mas and D. Clausi, "Dynamic Characterization and Numerical Modelling of Automotive Rubber Connections", *Proceedings of the Institution of Mechanical Engineers, Part D, Journal of Automobile Engineers*, 2006, Vol. 220, pp. 425-434.
- A.43 Danieli G., Mundo D., Colacino F. M., Fragomeni G., "Design and testing of a laser system developed for two-dimensional displacement detection". *Problems of Applied Mechanics*, 2006, Vol. 24, n. 3, pp. 17-25
- A.44 D. Mundo, "Geometric Design of a Planetary Gear Train with Non-Circular Gears", *Mechanism and Machine Theory*, 2006, Vol. 41, Issue 4, pp. 456-472
- A.45 G.A. Danieli and D. Mundo, "New Developments in Variable Radius Gears Using Constant Pressure Angle Teeth", *Mechanism and Machine Theory*, 2005, Vol. 40, Issue 2, pp. 203-217
- A.46 D. Mundo, G.A. Danieli, "Use of Non-Circular Gears in Pressing Machine Driving System" *IASME Transactions*, ISSN 1790-031X Issue 1, Vol.1, January 2004
- A.47 G. A. Danieli, G. Fragomeni, D. Mundo, "Bridge deck displacement continuous measuring device and periodical realignment systems for slow moving landslips designed to minimize traffic interruptions", *Problems of Applied Mechanics*, ISSN 1512-0740, N.1 (14) / 2004

B. International Conference papers and extended abstracts:

- B.1. Carbone, G., Acinapura, A., Mundo, D., Gorgulu, I., Can Dede, M.I., Structural Compliance Effects on the Accuracy and Safety of a R-CUBE Haptic Device, *Proceedings of the 28th International Conference on Robotics*

in Alpe-Adria-Danube Region, RAAD 2019; Kaiserslautern (Germany), 19-21 June 2019, also published in *Advances in Intelligent Systems and Computing*, Volume 980, 2020, Pages 463-470

- B.2. Alessio, C., Park, D., Mundo, D., Tamarozzi, T., Rezayat, A., Modal behavior and transient dynamic analysis of a planetary gear train with time-varying mesh stiffness using a multibody model, *Proceedings of ISMA 2018 - International Conference on Noise and Vibration Engineering and USD 2018 - International Conference on Uncertainty in Structural Dynamics* pp. 2577-2591
- B.3. Vanclooster, K., Spina, L., Donders, S., Lombardi, R., D'Ippolito, R., Farkas, L., Mundo, D., Linking manufacturing simulation with functional performance engineering for composites applications, *Proceedings of ISMA 2018 - International Conference on Noise and Vibration Engineering and USD 2018 - International Conference on Uncertainty in Structural Dynamics* pp. 2197-2211
- B.4. Vivet M., Acinapura A., Dooner D., Mundo D., Tamarozzi T., Desmet W. (2018). Loaded tooth contact analysis of spiral bevel gears with kinematically correct motion transmission. In: *Proceedings of the International Gear Conference 2018 (223-232)*. Presented at the International Gear Conference 2018, Lyon Villeurbanne (France), 27 Aug 2018-29 Aug 2018.
- B.5. Mundo, D., Shweiki S., CATERA, P.V., On the impact of transmission error on the dynamic behavior of geared-linkages, *Mechanism and Machine Science*, 52 (2018) pp. 232-239
- B.6. Shweiki S., Mundo, D., Palermo, A., Gagliardi, F., System-level multi-body simulations of a wind turbine gearbox, 24th International Congress on Sound and Vibration, ICSV 2017, London (UK), 23-28 July 2017
- B.7. Korta, J., Mundo, D., Ambrogio, G., Folino, B., Shweiki S., Filice, L., Topology Optimization and Analysis of Static Transmission Error in Lightweight Gears, the First International Conference of IFToMM Italy, 1-2 December 2016, Vicenza (Italy)
- B.8. Shweiki, S., Korta, J., Palermo, A., Mundo, D., Heirman, H.K.G., On the effects of blank lightweighting on gear dynamics, 2016 International Conference on Power Transmissions ICPT2016, ChongQing University, China, 27-30 October 2016
- B.9. Vivet, M., Heirman, H.K.G., Tamarozzi, T., Desmet, W., Mundo, D., An ease-off based methodology for contact detection and penetration calculation, 2016 International Conference on Power Transmissions ICPT2016, ChongQing University, China, 27-30 October 2016
- B.10. Lappano, E., Naets, F., Desmet, W., Mundo, D., Nijman, E., A greedy sampling approach for the projection basis construction in parametric model order reduction for structural dynamics models, *Proceedings of ISMA 2016 International Conference on Noise and Vibration Engineering*, Leuven (Belgium), 19-21 September 2016.
- B.11. Shweiki, S., Korta, J., Oranges, P., Palermo, A., Mundo, D., Investigation of mesh phasing in a planetary gear train using a coupled FEM - Multibody simulation, *Proceeding of ISMA 2016 International Conference on Noise and Vibration Engineering*, Leuven (Belgium), 19-21 September 2016.
- B.12. Vivet, M., CATERA, P., Heirman, H.K.G., Mundo, D., Tamarozzi, T., Desmet, W., Global mesh stiffness calculation for lightweight spiral bevel gears, *Proceeding of ISMA 2016 International Conference on Noise and Vibration Engineering*, Leuven (Belgium), 19-21 September 2016.
- B.13. Shweiki S., Korta, J., Palermo, A., Adduci, R., Mundo, D., Combining Finite Element analysis and analytical modelling for efficient simulations of non-linear gear dynamics. VII European Congress on Computational Methods in Applied Sciences and Engineering ECCOMAS 2016, Crete Island, Greece, 5-10 June 2016
- B.14. Lappano, E., Naets, F., Vermaut, M., Desmet, W., Mundo, D., Development of a Parametric Model Order Reduction Approach for Beam-Based Structures, 2016 SAE Technical Paper ISNVH2016, June 2016, Graz (Austria)
- B.15. Korta, J., Palermo, A., Mundo, D., Shweiki, S., Combining Finite Element and Multibody Modeling Techniques for Time-Efficient Simulation of Nonlinear Gear Dynamics, the Seventh International Conference on Advances in System Simulation - SIMUL 2015, Barcelona (Spain), November 15-20, 2015
- B.16. Lappano, E., Naets, F., Vermaut, M., Desmet, W., Mundo, D., A parametric model order reduction approach for beam-based structures, Extended abstract presented at the Workshop on Reduced Basis, POD and PGD Model Reduction Techniques, November 2015, Cachan, France.
- B.17. Cosco F., Borozan I., Candreva S., Mundo D., Active Suspension LQ Control for Improving Riding Comfort, International Conference on Engineering Vibration Ljubljana, Slovenia, 7-10 September 2015

- B.18. Shweiki, S., Palermo, A., Toso, A.; Mundo, D., Desmet, W., Effects of center distance and microgeometry on the dynamic behaviour of a spur gear pair, International Conference on Engineering Vibration - ICOEV 2015 , Ljubljana (Slovenia), September 7-10, 2015
- B.19. Palermo, A., Toso, A.; Shweiki, S., Mundo, D., Desmet, W., Effects of transmitted load on the dynamic behaviour of a spur gear pair, International Conference on Structural Engineering Dynamics - ICEDyn 2015, Lagos, Algarve (Portugal), June 22-24, 2015
- B.20. S. Candreva, D. Straface, C. Garre, D. Mundo, L. Farkas, S. Donders, P. Mas, Sensitivity study on the equivalent mechanism model for conceptual design of vehicle body crashworthiness, ISMA International Conference on Noise and Vibration Engineering, Leuven (Belgium), September 2014.
- B.21. G. De Gaetano, G. Vena, M. Kroiss, L. Cremers, D. Mundo, A Study on Vehicle Body Concept Modelling: Beam to Joint Connection and Multi-Attribute Size Optimization of Beam-like Structures, ISMA International Conference on Noise and Vibration Engineering, Leuven (Belgium), September 2014.
- B.22. S. Candreva, D. Mundo, M. Gubitosa, A.Toso, "On the correlation between a 3D high-fidelity multi-body vehicle model and a 15-DOFs vehicle concept model", ISMA International Conference on Noise and Vibration Engineering, Leuven (Belgium), September 2014.
- B.23. A. Treviso, B. Van Genechten, D. Mundo, M. Tournour, NVH assessment of polymer-based composite structures, ISMA International Conference on Noise and Vibration Engineering, Leuven (Belgium), September 2014.
- B.24. Palermo, A. Toso, G. Heirman, R. C. Rodriguez, M. Gulinelli, D. Mundo, W. Desmet, Structural coupling and non-linear effects in the experimental modal analysis of a precision gear test rig, International Gear Conference, 26-28 August 2014, Lyon (France)
- B.25. A. Toso, A. Palermo, A. de-Juan, R. Cerda, A. Agazzi, D. Mundo, W. Desmet, G. Heirman, A comparison and experimental validation of gear contact models for spur and helical gears, International Gear Conference, 26-28 August 2014, Lyon (France)
- B.26. A. Treviso, B. Van Genechten, D. Mundo, CAE-based assessment of manufacturing process impact on NVH performance of composite structures, Extended abstract, The Twenty-second Annual International Conference on COMPOSITES/NANO ENGINEERING (ICCE-22), July 13-19, 2014 Malta
- B.27. Carlos Garre, Domenico Straface, Stefano Candreva, Domenico Mundo, Laszlo Farkas, Stijn Donders, Peter Mas, "A library for conceptual design of vehicle body crashworthiness using equivalent mechanisms", FISITA World Automotive Congress, Maastricht (Netherlands), June 2014.
- B.28. A. Palermo, L. Britte, K. Janssens, D. Mundo, W. Desmet, Various torsional vibration measurement methods for optimal trade-off between high accuracy and ease of instrumentation, Proceedings of the Torsional Vibration Symposium, Salzburg, Austria, May 2014.
- B.29. Garre C., Mundo D., Gubitosa M., Toso A., Performance comparison of real-time and general-purpose operating systems in parallel physical simulation with high computational cost, SAE Technical Papers 104424, Volume 1, SAE 2014 World Congress and Exhibition, Detroit, MI (United States), 8-10 April 2014.
- B.30. De Gaetano G., Cosco F., Garre C., Maletta C., Donders S., Mundo D., Innovative concept modelling of sandwich beam-like structures, the 11th International Conference on Vibration Problems, Z. Dimitrovová et al. (eds.), Lisbon, Portugal, 9-12 September 2013
- B.31. Carpinelli M., Gubitosa, M., Mundo, D., Desmet W., Parameter identification of strategy for a generalized vehicle concept model for ride and handling analysis, ASME Proceedings of the 15th International Conference on Advanced Vehicle Technologies, AVT15, August 4-7, 2013, Portland, Oregon, USA
- B.32. Carpinelli M., Gubitosa, M., Mundo, D., Desmet W., Comparison of Different Coordinates Formulation for Efficient Modeling of a Vehicle Suspension System, ECCOMAS Thematic Conference on Multibody Dynamics 2013, Zagreb (Croatia), 1-4 July 2013
- B.33. De Gaetano G., Cosco F.I., Maletta C., Donders S., Mundo D., Concept modelling of vehicle joints and beam-like structures through dynamic FE-based methods, International Conference on Structural Engineering Dynamics, ICEDyn 2013, Sesimbra (Portugal), 17-19 June 2013
- B.34. A. Palermo, J. Anthonis, D. Mundo, W. Desmet, A novel gear test rig with adjustable shaft compliance and misalignments. Part I: Design. 3rd International Conference on Condition Monitoring of Machinery in Non-Stationary Operations (CMMN02013), Ferrara (Italy), 8-9 May 2013
- B.35. A. Palermo, J. Anthonis, D. Mundo, W. Desmet, A novel gear test rig with adjustable shaft compliance and misalignments. Part II: Instrumentation. 3rd International Conference on Condition Monitoring of Machinery in Non-Stationary Operations (CMMN02013), Ferrara (Italy), 8-9 May 2013

- B.36. D. A. Micu, D. Straface, L. Farkas, H. Erdelyi, M. D. Iozsa, D. Mundo, S. Donders, Integration of a Concept Beam in a Complex Structure, In Proceedings of The International Conference on Innovation and Collaboration in Engineering Research, 2nd edition (INCER 2013), June 20-22, 2013, Bucharest, Romania
- B.37. A. Palermo, L. Britte, K. Janssens, D. Mundo, W. Desmet, Gear transmission error measurement accuracy using low-cost digital encoders, 11th International Conference on Recent Advances in Structural Dynamics RASD 2013, 1-3 July 2013, Pisa, Italy
- B.38. F. I. Cosco, G. Gatti, A. Toso, S. Donders and D. Mundo, An optimized identification method for modular models of rubber bushings, 11th International Conference on Recent Advances in Structural Dynamics RASD 2013, 1-3 July 2013, Pisa, Italy
- B.39. A. Palermo, D. Mundo, R. Hadjit, W. Desmet, Multibody modelling of shuttling excitation in spur and helical geared transmissions, ISMA2012 Noise and Vibration Engineering Conference, Leuven (Belgium), 17-19 September 2012
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- C.4. Palermo, A., Anthonis, J., Mundo, D., Desmet, W., A novel gear test rig with adjustable shaft compliance and misalignments part I: Design, (2014) Lecture Notes in Mechanical Engineering, 5, pp. 497-506.
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- D.2. A. Palermo, E. Lappano, D. Mundo, A. Toso, W. Desmet, Una tecnica per includere gli effetti della coppia istantanea sulla dinamica non lineare delle ruote dentate, Terzo Congresso Nazionale del Coordinamento della Meccanica Italiana, Napoli, 30 Giugno – 1 Luglio 2014.
- D.3. D. Mundo, L. Pagnotta, A. Palermo, S. Donders, G. Stigliano, Progettazione concettuale di telai automobilistici, Primo Congresso Nazionale del Coordinamento della Meccanica Italiana, Palermo, 20-22 Giugno 2010.
- D.4. Moschella, G. Gatti, E. Aulicino, I. Lopresti, D. Mundo, G. Fragomeni, A. Coltella, G. Danieli, Determination of the optimal position of an external fixator to guide knee motion, Congresso Nazionale di Bioingegneria, Pisa, 3-5 Luglio 2008.
- D.5. G.A. Danieli, G. Fragomeni, G. Gatti, D. Moschella, D. Mundo, Measuring knee Flexion-Extension in healthy patients - 16th AIMETA Congress of Theoretical and Applied Mechanics – Ferrara (Italy), 12 September 2003
- D.6. G.A. Danieli, D. Mundo, F. Mundo and M.na Migliaccio, Theoretical and Experimental Analysis of Performance and emissions of a motorbike, Congresso ICE99, Capri, Settembre 1999, pp. 401-407
- D.7. G.A. Danieli, G. Fragomeni e D. Mundo, Proposta di un sistema di misura continua degli spostamenti e di riallineamento periodico degli impalcati di un ponte in zona di frana, atto a permettere una quasi continua percorribilità del viadotto stesso, in *Italian, Congress of AIMETA in Taormina*, September 2001

E. Patent applications:

- E.1. Mundo D., “Metodo di degradamento del comfort di marcia di un veicolo attraverso la variazione della geometria del sistema sospensivo, capace di generare un effetto di allerta per il guidatore e per gli altri passeggeri”, Domanda di Brevetto Italia G, CS2014A000025 2014.
- E.2. G.A. Danieli, G. Fragomeni, G. Gatti e D. Mundo "Navigator – Robot for Surgical Procedures", PCT/IT03/00322 del 27/05/2003, WO 03/4469/3 of December the 4th 2003
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- E.6. Mundo, D., Sistema innovativo di trasmissione del moto in un veicolo a pedali, capace di ridurre le fluttuazioni di coppia caratteristiche di una tipica pedalata amatoriale o professionistica grazie all’impiego di ruote dentate non circolari (A novel drive system for pedaling vehicles, able to reduce the torque fluctuations characteristics of a typical way of pedaling by means of non-circular gears), Italian Patent Request n. CS2004A000017, 2004

F. Invited lectures

- F.1. Seminar entitled “Multi-material design of metal-composite gears for system right-weighting in mechanical power transmissions”, National Composite Center di Bristol (UK), 02 July 2018
- F.2. Summer School on Mechanism Design for Applications MDA 2016, “Optimal synthesis of cam- and geared-linkages”, Museo Motori, Università di Palermo, Italy, 14 September 2016

- F.3. Summer School on Mechanism Design for Applications MDA 2016, “Advanced dynamic modelling and simulation of mechanical transmissions”, Museo Motori, Università di Palermo, Italy, 15 September 2016
- F.4. Invited talk at the workshop “Sviluppo intelligente del territorio tra Programmi Operativi Regionali e Horizon 2020”, Cittadella Regionale, Catanzaro, 27 November 2015
- F.5. Marie Curie Graduate School on Vehicle Mechatronics & Dynamics – Leuven (Belgium) – Katholieke Universiteit of Leuven, lecture on “Vehicle concept modelling methodologies and representative case-studies”, 7 February 2013
- F.6. KOKA 2012 Conference - Czech Technical University di Prague, lecture on “Vehicle Concept Modelling for Linear and Non-linear Dynamics Simulations”, 05 September 2012
- F.7. Workshop on Vehicle Concept Modelling – Czech Technical University di Prague, lecture on “Vehicle dynamics: issues and solutions”, 08 November 2011
- F.8. Invited Keynote Speaker at the Bio-medical Engineering International Symposium, National Ping Tung University of Science and Technology, Taiwan (ROC), “Synthesis of Special Mechanisms for Biomechanical Applications”, 13 October 2006
- F.9. Invited Keynote Speaker at the workshop “Idea, Design and Practice”, National Formosa University, Taiwan (ROC), “A new Methodology for the Synthesis of Non-Circular Gears”, 13 July 2005