

Prof. Raffaele DI GREGORIO

Universtiy of Ferrera, Italy

Selected Scholarly Contributions [Data Provided by **Scopus**]

Mucchi, E., Di Gregorio, R., Dalpiaz, G.

[Elastodynamic analysis of vibratory bowl feeders: Modeling and experimental validation](#)

(2013) Mechanism and Machine Theory, 60, pp. 60-72.

Di Gregorio, R.

[Instantaneous kinematics and singularities of two types of under-actuated parallel wrists](#)

(2012) ASME 2012 11th Biennial Conference on Engineering Systems Design and Analysis, ESDA 2012, 3, pp. 117-125.

Di Gregorio, R.

[Kinematics of a novel single-loop under-Actuated wrist](#)

(2012) Proceedings of the ASME Design Engineering Technical Conference, 4 (PARTS A AND B), pp. 427-434.

Di Gregorio, R.

[Type synthesis of underactuated wrists generated from fully-parallel wrists](#)

(2012) Journal of Mechanical Design, Transactions of the ASME, 134 (12), art. no. 124501, .

Di Gregorio, R.

[Kinematic Analysis of the \(nS\)-2SPU Underactuated Parallel Wrist](#)

(2012) Journal of Mechanisms and Robotics, 4 (3), art. no. 031006, .

Di Gregorio, R.

[Position Analysis and Path Planning of the S-\(nS\)PU-SPU and S-\(nS\)PU-2SPU Underactuated Wrists](#)

(2012) Journal of Mechanisms and Robotics, 4 (2), art. no. 021006, .

Fiorati, S., Mucchi, E., Di Gregorio, R., Dalpiaz, G.

[Experimental validation and updating of the flexible multibody model of a commercial 3R planar manipulator](#)

(2011) Proceedings of the ASME Design Engineering Technical Conference, 4 (PARTS A AND B), pp. 1131-1140.

Di Gregorio, R.

[Kinematics of the \(nS\)-2SPU wrist](#)

(2011) Proceedings of the ASME Design Engineering Technical Conference, 6 (PARTS A AND B), pp. 1093-1099.

Di Gregorio, R.

[On the S-\(nS\)PU-SPU and S-\(nS\)PU-2SPU under-actuated wrists](#)

(2011) Proceedings of the ASME Design Engineering Technical Conference, 6 (PARTS A AND B), pp. 891-897.

Di Gregorio, R.

[A general algorithm for analytically determining all the instantaneous pole axis locations in single-DOF spherical mechanisms](#)

(2011) Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 225 (9), pp. 2062-2075.

Mucchi, E., Fiorati, S., Di Gregorio, R., Dalpiaz, G.

[Determining the rigid-body inertia properties of cumbersome systems: Comparison of techniques in time and frequency domain](#)

(2011) Experimental Techniques, 35 (3), pp. 36-43.

Di Gregorio, R.

[Singularities of single-dof spherical mechanisms identified by means of pole axes' properties](#)

(2010) Proceedings of the ASME Design Engineering Technical Conference, 2 (PARTS A AND B), pp. 1663-1670.

Grosch, P., Di Gregorio, R., López, J., Thomas, F.

[Motion planning for a novel reconfigurable parallel manipulator with lockable revolute joints](#)

(2010) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 5509305, pp. 4697-4702.

Delvecchio, S., D'Elia, G., Mucchi, E., Di Gregorio, R.

[On the monitoring and diagnosis of assembly faults in diesel engine cold tests: A case study](#)

(2010) Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009, 1 (PART A), pp. 3-12.

Grosch, P., Di Gregorio, R., Thomas, F.

[Generation of under-actuated parallel robots with non-holonomic joints and kinetostatic analysis of a case study](#)

(2010) Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009, 7 (PART B), pp. 979-986.

Simionescu, P.A., Talpasanu, I., di Gregorio, R.

[Instant-center based force transmissivity and singularity analysis of planar linkages](#)

(2010) Journal of Mechanisms and Robotics, 2 (2), pp. 1-12.

Grosch, P., di Gregorio, R., Thomas, F.

[Generation of under-actuated manipulators with nonholonomic joints from ordinary manipulators](#)

(2010) Journal of Mechanisms and Robotics, 2 (1), pp. 1-8.

Grosch, P., Di Gregorio, R., Thomas, F.

[Generation of under-actuated parallel robots with non-holonomic joints and kinetostatic analysis of a case study](#)

(2009) Proceedings of the ASME Design Engineering Technical Conference, 7 (PARTS A AND B), pp. 979-986.

Mucchi, E., Bottoni, G., Di Gregorio, R.

[Determining the rigid-body inertia properties of a knee prosthesis by FRF measurements](#)

(2009) Conference Proceedings of the Society for Experimental Mechanics Series, 9 p.

Mucchi, E., Fiorati, S., Di Gregorio, R., Dalpiaz, G.

[Determining the rigid-body inertia properties of cumbersome systems: Comparison of techniques in time and frequency domain](#)

(2009) Conference Proceedings of the Society for Experimental Mechanics Series, 10 p.

Mucchi, E., Bottoni, G., Di Gregorio, R.

[Indirect measurement of the inertia properties of a knee prosthesis through a simple frequency-domain technique](#)

(2009) Journal of Medical Devices, Transactions of the ASME, 3 (4), art. no. 044501, .

Delvecchio, S., D'Elia, G., Mucchi, E., Di Gregorio, R.

[On the monitoring and diagnosis of assembly faults in diesel engine cold tests: A case study](#)

(2009) Proceedings of the ASME Design Engineering Technical Conference, 1 (PARTS A AND B), pp. 3-12.

Gregorio, R.D.

[Determination of the instantaneous pole axes in single-DOF spherical mechanisms](#)

(2009) 2008 Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, DETC 2008, 2 (PART B), pp. 1401-1412.

Borràs, J., Di Gregorio, R.

[Polynomial solution to the position analysis of two assur kinematic chains with four loops and the same topology](#)

(2009) Journal of Mechanisms and Robotics, 1 (2), pp. 1-11.

Di Gregorio, R.

[A novel method for the singularity analysis of planar mechanisms with more than one degree of freedom](#)

(2009) Mechanism and Machine Theory, 44 (1), pp. 83-102.

Gregorio, R.D.

[Determination of the instantaneous pole axes in single-DOF spherical mechanisms](#)

(2008) Proceedings of the ASME Design Engineering Technical Conference, 2 (PARTS A AND B), pp. 1401-1411.

Di Gregorio, R.

[Singularity analysis of multi-dof planar mechanisms](#)

(2008) 2007 Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, DETC2007, 8 PART B, pp. 951-961.

di Gregorio, R.

[An algorithm for analytically calculating the positions of the secondary instant centers of indeterminate linkages](#)

(2008) Journal of Mechanical Design, Transactions of the ASME, 130 (4), art. no. 042303, .

Di Gregorio, R.

[A novel geometric and analytic technique for the singularity analysis of one-dof planar mechanisms](#)

(2007) Mechanism and Machine Theory, 42 (11), pp. 1462-1483.

Gregorio, R., Parenti-Castelli, V., O'Connor, J.J., Leardini, A.

[Mathematical models of passive motion at the human ankle joint by equivalent spatial parallel mechanisms](#)

(2007) Medical and Biological Engineering and Computing, 45 (3), pp. 305-313.

Di Gregorio, R.

[A novel point of view to define the distance between two rigid-body poses](#)

(2006) Advances in Robot Kinematics: Analysis and Design, pp. 361-369.

Di Gregorio, R.

[Forward position analysis of the SP-PS-RS architectures](#)

(2006) International Journal of Robotics and Automation, 21 (4), pp. 295-301.

Di Gregorio, R.

[A general geometric method for identifying singular configurations of one-dof planar mechanisms](#)

(2006) Proceedings of the ASME Design Engineering Technical Conference, 2006, 9 p.

Di Gregorio, R.

[Analytic form solution of the forward position analysis of three-legged parallel mechanisms generating SR-PS-RS structures](#)

(2006) Mechanism and Machine Theory, 41 (9), pp. 1062-1071.

Di Gregorio, R.

[Closure to "Discussion of 'Kinematics of the translational 3-URC mechanism'" \(2006, ASME J. Mech. Des., 128, pp. 812-813\)](#)

(2006) Journal of Mechanical Design, Transactions of the ASME, 128 (4), p. 814.

Di Gregorio, R.

[Analytic form solution of the direct position analysis of a wide family of three-legged parallel manipulators](#)

(2006) Journal of Mechanical Design, Transactions of the ASME, 128 (1), pp. 264-271.

Di Gregorio, R.

[Dynamic model and performances of 2-DOF manipulators](#)

(2006) Robotica, 24 (1), pp. 51-60.

Di Gregorio, R.

[Forward position analysis of the SP-PS-RS architectures](#)

(2005) 22nd International Symposium on Automation and Robotics in Construction, ISARC 2005, 7 p.

Di Gregorio, R.

[On the polynomial solution of the synthesis of five plane-sphere contacts or PPS chains that guide a rigid body through six assigned poses](#)

(2005) Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference - DETC2005, 7 B, pp. 1039-1045.

Di Gregorio, R., Cammarata, A., Sinatra, R.

[On the dynamic isotropy of mechanisms with two degrees of freedom](#)

(2005) Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference - DETC2005, 6 B, pp. 1059-1066.

Di Gregorio, R., Parenti-Castelli, V.

[Systematic sensitivity analysis of spatial one-DOF models of diarthrodial joints](#)

(2005) Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference - DETC2005, 7 A, pp. 449-457.

Di Gregorio, R.

[Analytic form solution of the forward position analysis of three-legged parallel mechanisms generating SR-PS-RS structures](#)

(2005) 22nd International Symposium on Automation and Robotics in Construction, ISARC 2005, 6 p.

Di Gregorio, R.

[Direct position analysis of parallel manipulators which generate SP-2PS structures](#)

(2005) Robotica, 23 (4), pp. 521-526.

Di Gregorio, R., Parenti-Castelli, V.

[On the characterization of the dynamic performances of planar manipulators](#)

(2005) Meccanica, 40 (3), pp. 267-279.

Di Gregorio, R.

[Forward problem singularities in parallel manipulators which generate SX-YS-ZS structures](#)

(2005) Mechanism and Machine Theory, 40 (5), pp. 600-612.

Di Gregorio, R.

[Properties of the SX-YS-ZS structures and singularity determination in parallel manipulators which generate those structures](#)

(2004) Proceedings of the ASME Design Engineering Technical Conference, 2 A, pp. 185-193.

Di Gregorio, R.

[Determination of singularities in delta-like manipulators](#)

(2004) International Journal of Robotics Research, 23 (1), pp. 89-96.

Di Gregorio, R.

[Direct position analysis in analytical form of parallel manipulators generating structures with topology SR-2PS](#)

(2004) Proceedings of the ASME Design Engineering Technical Conference, 2 A, pp. 115-121.

Di Gregorio, R.

[Dynamic model and performances of 2-dof mechanisms](#)

(2004) Proceedings of the ASME Design Engineering Technical Conference, 2 A, pp. 347-355.

Di Gregorio, R.

[Analytic form solution of the direct position analysis of the SP-2RS architectures](#)

(2004) Proceedings of the ASME Design Engineering Technical Conference, 2 A, pp. 123-129.

Di Gregorio, R., Parenti-Castelli, V., O'Connor, J.J., Leardini, A.

[Equivalent spatial parallel mechanisms for the modelling of the ankle passive motion](#)

(2004) Proceedings of the ASME Design Engineering Technical Conference, 2 A, art. no. 57251, pp. 679-688.

Di Gregorio, R.

[Kinematics of the translational 3-URC mechanism](#)

(2004) Journal of Mechanical Design, Transactions of the ASME, 126 (6), pp. 1113-1117.

Di Gregorio, R.

[The 3-RRS wrist: A new, simple and non-overconstrained spherical parallel manipulator](#)

(2004) Journal of Mechanical Design, Transactions of the ASME, 126 (5), pp. 850-855.

Di Gregorio, R.

[Kinematics of the 3-RSR wrist](#)

(2004) IEEE Transactions on Robotics and Automation, 20 (4), pp. 750-754.

Di Gregorio, R.

[Statics and singularity loci of the 3-UPU wrist](#)

(2004) IEEE Transactions on Robotics and Automation, 20 (4), pp. 630-635.

Di Gregorio, R.

[Forward problem singularities of manipulators which become PS-2RS or 2PS-RS structures when the actuators are locked](#)

(2004) Journal of Mechanical Design, Transactions of the ASME, 126 (4), pp. 640-645.

Di Gregorio, R.

[On the direct problem singularities of a class of 3-DOF parallel manipulators](#)

(2004) Robotica, 22 (4), pp. 389-394.

Di Gregorio, R., Parenti-Castelli, V.

[Dynamics of a class of parallel wrists](#)

(2004) Journal of Mechanical Design, Transactions of the ASME, 126 (3), pp. 436-441.

Parenti-Castelli, V., Leardini, A., Di Gregorio, R., O'Connor, J.J.

[On the Modeling of Passive Motion of the Human Knee Joint by Means of Equivalent Planar and Spatial Parallel Mechanisms](#)

(2004) Autonomous Robots, 16 (2), pp. 219-232.

Di Gregorio, R.

[Forward problem singularities of manipulators which become PS-2RS or 2PS-RS structures when the actuators are locked](#)

(2003) Proceedings of the ASME Design Engineering Technical Conference, 2 B, pp. 1117-1123.

Di Gregorio, R.

[Inverse position analysis, workspace determination and position synthesis of parallel manipulators with 3-RSR topology](#)

(2003) Robotica, 21 (6), pp. 627-632.

Di Gregorio, R., Zanforlin, R.

[Workspace analytic determination of two similar translational parallel manipulators](#)

(2003) Robotica, 21 (5), pp. 555-566.

Di Gregorio, R., Parenti-Castelli, V.

[A spatial mechanism with higher pairs for modelling the human knee joint](#)

(2003) Journal of Biomechanical Engineering, 125 (2), pp. 232-237.

Di Gregorio, R.

[Kinematics of the 3-UPU wrist](#)

(2003) Mechanism and Machine Theory, 38 (3), pp. 253-263.

Di Gregorio, R.

[Translational parallel manipulators: New proposals](#)

(2002) Journal of Robotic Systems, 19 (12), pp. 595-603.

Di Gregorio, R.

[The 3-RRS wrist: A new, very simple and not overconstrained spherical parallel manipulator](#)

(2002) Proceedings of the ASME Design Engineering Technical Conference, 5 B, pp. 1193-1199.

Di Gregorio, R.

[Rotation singularities in the delta-like manipulators](#)

(2002) Proceedings of the ASME Design Engineering Technical Conference, 5 A, pp. 569-576.

Di Gregorio, R., Parenti-Castelli, V.

[Dynamics of a class of parallel wrists](#)

(2002) Proceedings of the ASME Design Engineering Technical Conference, 5 A, pp. 269-277.

Di Gregorio, R., Sinatra, R.

[Singularity curves of a parallel pointing system](#)

(2002) Meccanica, 37 (3), pp. 255-268.

Di Gregorio, R., Parenti-Castelli, V.

[Fixation devices for long bone fracture reduction: An overview and new suggestions](#)

(2002) Journal of Intelligent and Robotic Systems: Theory and Applications, 34 (3), pp. 265-278.

Di Gregorio, R.

[A new family of spherical parallel manipulators](#)

(2002) Robotica, 20 (4), pp. 353-358.

Di Gregorio, R., Parenti-Castelli, V.

[Mobility analysis of the 3-UPU parallel mechanism assembled for a pure translational motion](#)

(2002) Journal of Mechanical Design, Transactions of the ASME, 124 (2), pp. 259-264.

Di Gregorio, R.

[Singularity-locus expression of a class of parallel mechanisms](#)

(2002) Robotica, 20 (3), pp. 323-328.

Gregorio, R.D.

[Analytic determination of workspace and singularities in a parallel pointing system](#)

(2002) Journal of Robotic Systems, 19 (1), pp. 37-43.

Di Gregorio, R., Parenti-Castelli, V.

[Kinematics of a six-dof fixation device for long-bone fracture reduction](#)

(2001) Journal of Robotic Systems, 18 (12), pp. 715-722.

Di Gregorio, R., Parenti-Castelli, V.

[Three-equation kinematic models for the human knee passive motion simulation](#)

(2001) Proceedings of the ASME Design Engineering Technical Conference, 2, pp. 939-945.

Di Gregorio, R., Parenti-Castelli, V.

[A method for determining movements of a deformable body from spatial coordinates of markers](#)

(2001) Journal of Robotic Systems, 18 (12), pp. 731-736.

Di Gregorio, R., Parenti-Castelli, V.

[A new decoupled 6-DOF parallel mechanism for long bone fracture reduction](#)

(2001) Systems Science, 27 (4), pp. 47-58.

Parenti-Castelli, V., Di Gregorio, R.

[A dexterous humanoid shoulder mechanism](#)

(2001) Journal of Robotic Systems, 18 (12), pp. 737-745.

Di Gregorio, R.

[Analytic formulation of the 6-3 fully-parallel manipulator's singularity determination](#)

(2001) Robotica, 19 (6), pp. 663-667.

Di Gregorio, R.

[Kinematics of a new spherical parallel manipulator with three equal legs: The 3-URC wrist](#)

(2001) Journal of Robotic Systems, 18 (5), pp. 213-219.

Di Gregorio, R.

[A new parallel wrist using only revolute pairs: The 3-RUU wrist](#)

(2001) Robotica, 19 (3), pp. 305-309.

Di Gregorio, R., Parenti-Castelli, V.

[Position analysis in analytical form of the 3-PSP mechanism](#)

(2001) Journal of Mechanical Design, Transactions of the ASME, 123 (1), pp. 51-55.

Di Gregorio, R.

[Statics and singularity loci of the 3-UPU wrist](#)

(2001) IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM, 1, pp. 470-475.

Di Gregorio, R.

[Kinematics of the translational 3-URC mechanism](#)

(2001) IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM, 1, pp. 147-152.

Parenti-Castelli, V., Di Gregorio, R., Bubani, F.

[Workspace and optimal design of a pure translation parallel manipulator](#)

(2000) Meccanica, 35 (3), pp. 203-214.

Parenti Castelli, V., Di Gregorio, R.

[A new algorithm based on two extra-sensors for real-time computation of the actual configuration of the generalized Stewart-Gough manipulator](#)

(2000) Journal of Mechanical Design, Transactions of the ASME, 122 (3), pp. 294-298.

