



CONFERENCE PROGRAM

OVERALL PROGRAM

SUNDAY JUNE 26TH

19:00	21:00	Welcome Reception
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MONDAY JUNE 27TH

08:00	09:00	Registration
09:00	09:30	Opening Speech
09:30	10:30	Session 1
10:30	11:00	Coffee Break
11:00	13:00	Session 2
13:00	15:00	Lunch
15:10	16:30	Session 3
16:30	17:00	Coffee Break
17:00	18:20	Session 4
19:30	22:00	Old Town Guided Tour - <i>Pintxos</i> Dinner

TUESDAY JUNE 28TH

08:30	08:50	Registration
08:50	10:30	Session 5
10:30	11:00	Coffee Break
11:00	13:00	Session 6
13:00	15:00	Lunch
15:00	22:00	Urdaibai - Gernika Tour

WEDNESDAY JUNE 29TH

09:10	10:50	Session 7
10:50	11:20	Coffee Break
11:20	13:00	Session 8
13:00	15:00	Lunch
15:10	16:30	Session 9
16:30	17:00	Coffee Break
17:00	18:30	Computational Kinematics TC Meeting
21:00	23:30	Gala Dinner - <i>Sociedad Bilbaina</i>

THURSDAY JUNE 30TH

09:30	10:50	Session 10
10:50	11:20	Coffee Break
11:20	13:00	Session 11
13:00	13:30	Closing Ceremony & Awards
13:30	15:30	Farewell Reception
16:00	18:00	<i>Sailing to sea</i> - Boat Trip



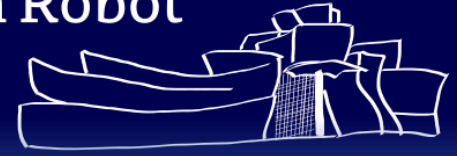
CONFERENCE PROGRAM

SUNDAY, JUNE 26TH 2022

19:00	21:00	<i>Welcome Reception</i>
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MONDAY, JUNE 27TH 2022

08:00	09:00	<i>Registration</i>	
09:00	09:30	<i>Opening Speech</i>	
SESSION 1			CHAIR: Marco Carricato
09:30	09:50	Möbius Linkages	<u>M.L. Husty</u>
09:50	10:10	On Origami-Like Quasi-Mechanisms with an Antiprismatic Skeleton	<u>G. Nawratil</u>
10:10	10:30	Line-Point Constraints and Robot Surgery	<u>J.M. Selig</u>
10:30	11:00	<i>Coffee Break</i>	
SESSION 2			CHAIR: Manfred L. Husty
11:00	11:20	On the Use of Ternary Products to Characterize the Dexterity of Spatial Kinematic Chains	<u>B. Bongardt</u> , A. Müller
11:20	11:40	Extended Rotation Matrix for Kinematics of Pointing Mechanism	<u>S. Bai</u>
11:40	12:00	A Linearization Method based on Lie Algebra for Pose Estimation in a Time Horizon	<u>N. Torres Alberto</u> , L. Joseph, V. Padois, D. Daney
12:00	12:20	Hyper-Multidual Algebra and Higher-Order Kinematics	<u>D. Condurache</u>
12:20	12:40	Geometry based Analysis of 3R Serial Robots	<u>D.H. Salunkhe</u> , J. Capco, D. Chablat, P. Wenger
12:40	13:00	Classification of Mobilities - New Insights on an Old Topic	T. Hoeltgebaum, L. Meneghini, V.N. Artmann, <u>D. Martins</u>
13:00	15:00	<i>Lunch</i>	
SESSION 3			CHAIR: Jean-Pierre Merlet
15:10	15:30	6R Linkages with Hidden Singularities	Z. Li, <u>A. Müller</u>
15:30	15:50	Best Operation Regions in a Planar Cable-Driven System	L. Mejia, F. Frantz, D. Ponce, <u>D. Martins</u>
15:50	16:10	Stiffness and Transparency of a Collaborative Cable-Driven Parallel Robot	<u>M. Métilion</u> , C. Charron, K. Subrin, S. Caro
16:10	16:30	An Approach for Predicting the Calibration Accuracy in Planar Cable-Driven Parallel Robots	<u>B. Wang</u> , P. Cardou, S. Caro
16:30	17:00	<i>Coffee Break</i>	
SESSION 4			CHAIR: Andrés Kecskeméthy
17:00	17:20	A Panorama of Methods for Dealing with Sagging Cables in Cable-Driven Parallel Robots	<u>J.-P. Merlet</u> , R. Tissot
17:20	17:40	Sensitivity of the Direct Kinematics of Underactuated Cable-Driven Parallel Robots to Redundant Sensor-Measurement Errors	S. Gabaldo, <u>E. Idà</u> , M. Carricato
17:40	18:00	Stacked Tensegrity Mechanism for Medical Application	D. Khanzode, R. Jha, E. Duchalais, <u>D. Chablat</u>
18:00	18:20	Kinematic and Static Analysis of a Cable-Driven 2-X Tensegrity Manipulator for Two Actuation Strategies	<u>V. Muralidharan</u> , P. Wenger, C. Chevallereau
19:30	22:00	<i>Old Town Guided Tour – Pintxos Dinner</i>	



CONFERENCE PROGRAM

TUESDAY, JUNE 28TH 2022

08:30	08:50	<i>Registration</i>	
SESSION 5			CHAIR: Federico Thomas
08:50	09:10	Complete Inverse Geometric Model Computation of the Quattro Parallel Kinematic Robot	<u>H. Chanal</u> , R. Rizk, N. Bouton, B. Blaysat
09:10	09:30	A New Approach to Forward Kinematics for a SILS Robotic Orientation Platform based on Perturbation Theory	<u>I. Birlescu</u> , C. Vaida, A. Pusca, D. Pislă
09:30	09:50	Forward Kinematics of a Novel 6-DoF Spatial Hybrid Manipulator	S. Ramesh, P. Golla, P. Kumar Prasad, S. Bandyopadhyay
09:50	10:10	Structural and Dimensional Synthesis of Overconstraint Symmetric 3T2R Parallel Robots using Tait-Bryan-Angle Kinematic Constraints	<u>M. Schappler</u>
10:10	10:30	Inverse Kinematics for Functional Redundancy of Symmetric 3T1R Parallel Manipulators using Tait-Bryan-Angle Kinematic Constraints	<u>M. Schappler</u>
10:30	11:00	<i>Coffee Break</i>	
SESSION 6			CHAIR: Oussama Khatib
11:00	11:20	Analysis of a Compliant Parallel Manipulator for Torso Balance Rehabilitation	<u>F.J. Campa</u> , D. Diaz-Caneja, M. Diez, O. Altuzarra
11:20	11:40	Design and Analysis of a Compliant Parallel Robot with Cardan Joints for a Cryogenic Working Environment	<u>P. Jahn</u> , J. Hentschel, A. Raatz
11:40	12:00	Design and Inverse Kinematics of a Novel Tendon-Driven Continuum Manipulator Capable of Twisting Motion	<u>Y. Lei</u> , Y. Sugahara, Y. Takeda
12:00	12:20	Geometric Insights into Kinematically-Singular Configurations of Planar Continuum Robots	N. Shihora, <u>N. Simaan</u>
12:20	12:40	A Gazebo Simulator for Continuum Parallel Robots	<u>A. Gotelli</u> , F. Zaccaria, O. Kermorgant, S. Briot
12:40	13:00	Exploring Electric Field Perturbations as the Actuator for Nanorobots and Nanomachines	C. Mundrane, M. Chorsi, O. Vinogradova, H. Ilies, <u>K. Kazerounian</u>
13:00	15:00	<i>Lunch</i>	
15:00	22:00	<i>Urdaibai - Gernika Tour</i>	



CONFERENCE PROGRAM

WEDNESDAY, JUNE 29TH 2022

SESSION 7			CHAIR: M. John D. Hayes
09:10	09:30	General Procedure for Path Generation Synthesis based on Kinematic Constraints	<u>A. Muñozerro</u> , A. Hernández, M. Urizar, O. Altuzarra
09:30	09:50	Finding Straight Line Generators through the Approximate Synthesis of Symmetric Four-Bar Coupler Curves	<u>A. Baskar</u> , M. Plecnik, J. Hauenstein
09:50	10:10	A Method for the Complete Set of Solutions of the Finite-Position Synthesis Problem	<u>A. Pérez Gracia</u>
10:10	10:30	Synthesis of Gripper Mechanisms Derived from Baranov Chains	F.V. Morlin, V.N. Artmann, <u>A. Piga Carboni</u> , D. Martins
10:30	10:50	First and Second Order Centroides of Slider-Crank Mechanisms by using Instantaneous Invariants	C. Lanni, <u>G. Figliolini</u> , L. Tomassi
10:50	11:20	<i>Coffee Break</i>	
SESSION 8			CHAIR: Vincenzo Parenti Castelli
11:20	11:40	Spherical 4R Linkage Algebraic v_i-v_j Input-Output Equations	<u>M.J.D. Hayes</u> , Mirja Rotzoll, Z. Copeland
11:40	12:00	Kinematics of a Gear-Based Spherical Mechanism	<u>F. Thomas</u>
12:00	12:20	Modeling of a Remote Center of Motion Spherical Parallel Tensegrity Mechanism for Percutaneous Interventions	<u>H. El Jjouaoui</u> , G. Cruz-Martinez, J-C. Avila Vilchis, A. Vilchis González, S. Abdelaziz, P. Poignet
12:20	12:40	WriFlex: Design and Kinematic Analysis of a Self-Aligning Parallel Wrist	<u>H. Simas</u> , R. Simoni, R. Di Gregorio
12:40	13:00	Kinematic Analysis of a Novel Humanoid Wrist Parallel Mechanism	<u>C. Stoeffler</u> , A. del Rio Fernandez, H. Peters, M. Schilling, S. Kumar
13:00	15:00	<i>Lunch</i>	
SESSION 9			CHAIR: M. Alba Pérez García
15:10	15:30	Smooth Wrapping of Stretchable Thick Strands Over a Surface - The 2D Case	<u>K. Müller</u> , A. Kecskemethy
15:30	15:50	Exploiting Reciprocity between Constraints and Instantaneous Motion to Reconstruct Individual Knee Kinematics	M. Conconi, <u>N. Sancisi</u> , V. Parenti-Castelli
15:50	16:10	Generation of Parametric Gait Patterns	<u>J. Ziegler</u> , H. Gattringer, A. Müller
16:10	16:30	Parametrization of Compliant, Object-Level Controllers from Human Demonstrations	<u>E. Galbally Herrero</u> , A. Piedra, C. Brosque, O. Khatib
16:30	17:00	<i>Coffee Break</i>	
17:00	18:30	Computational Kinematics TC Meeting	
21:00	23:30	<i>Gala Dinner – Sociedad Bilbaina</i>	



CONFERENCE PROGRAM

THURSDAY, JUNE 30TH 2022

SESSION 10			CHAIR: Philippe Wenger
09:30	09:50	Geometric Model for Serial-Chain Robot Inverse Kinematics in Case of Two Translational DoF, Spatial Rotation and Functional Redundancy	<u>M. Schappler</u> , T. Blum, T-D. Job
09:50	10:10	The Distance Geometry of the Generalized Lobster's Arm	F. Thomas, <u>J.M. Porta</u>
10:10	10:30	Degenerate Cases in the Inverse Kinematics Problem of a General 6R Serial Robot	A. Das, <u>A. Nag</u> , S. Kumar Saha
10:30	10:50	The Spatial Pantograph and its Mass Balance	<u>V. van der Wijk</u>
		A New Family of Overconstrained P5R-Mechanisms	<u>Z. Li</u>
10:50	11:20	<i>Coffee Break</i>	
SESSION 11			CHAIR: Jadran Lenarcic
11:20	11:40	Trajectory Planner for Type II Singularities Avoidance based on Output Twist Screws	<u>J.L. Pulloquina</u> , R.J. Escarabajal, M. Vallés, Á. Valera, V. Mata
11:40	12:00	Kinematically Adapted Sampling-based Motion Planning Algorithm for Robotic Manipulators	<u>A. Shahidi</u> , T. Kinzig, M. Hüsing, B. Corves
12:00	12:20	Robotic Analysis Methodology for Multidirectional Additive Manufacturing Process Configuration	<u>M. Schmitz</u> , F. Menz, M. Hüsing B. Corves
12:20	12:40	An Artificial Potential Field Algorithm for Path Planning of Redundant Manipulators based on Navigation Functions	<u>I. Soodmand</u> , M. Kebbach, S. Herrmann, C. Woernle, R. Bader
12:40	13:00	Reactive Locomotion of a Hexapod for Navigation across Irregular Ground	<u>J. Coelho</u> , B. Dias, G. Lopes, F. Ribeiro, P. Flores
		Trajectory Tracking by Fuzzy-based Super-Twist Sliding Mode Control of a Parallel PnP Robot	<u>G. Wu</u> , H. Shen
13:00	13:30	<i>Closing Ceremony and Awards</i>	
13:30	15:30	<i>Farewell Reception</i>	
16:00	18:00	<i>Sailing to sea - Boat Trip</i>	

SPONSORS

