



Congress Programme

Sunday 28th JUNE

15:00-18:00	Pre-Registration
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Monday 29th JUNE

8:00-9:00	Registration	
9:00-9:45	Grande Auditório	Opening Session
9:45-10:30	Grande Auditório	Keynote Lecture - Multibody dynamics approaches to the treatment of large rotations and large deformations - Jorge Ambrósio

10:30-11:00	Break
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Grande Auditório		ST12 - Heat and Mass Transfer			Chairs: Jesús María Blanco, Nuno Simões	
		Nº	Paper	Authors	Presenter	
11:00-11:15	1	21	Numerical simulation of liquid semi-crystalline planar film casting processes	Juan Ramos	Juan Ramos	
11:15-11:30	2	41	Control de la Isla de Calor Urbano (ICU) mediante simulación numérica	Miguel Ernesto Vazquez-Mendez, Lino J. Alvarez-Vazquez, Francisco J. Fernandez, Nestor Garcia-Chan and Aurea Martinez	Miguel Ernesto Vazquez-Mendez	
11:30-11:45	3	57	Mathematical model of mixing dopamine with human blood on an actual domain	Ciro-Filemon Flores-Rivera, Armando Flores-Moreno, Saul Dominguez-Casasola and Eden Mayor-Garcia	Ciro-Filemón Flores-Rivera	
11:45-12:00	4	218	Estudo numérico de transferência de massa em fatias de caju considerando seu encolhimento	Jacek Stanislaw Michalewicz, Jorge Recarte Henriquez, Flávio Augusto Bueno Figueiredo, Renata Andrade Figueiredo and Jose C. Charamba Dutra	Jacek Stanislaw Michalewicz	
12:00-12:15	5	219	Simulação numérica do processo de gaseificação aplicada a fontes de biomassa da região nordeste do Brasil.	Jorge R. Henriquez, Jarmison De Araújo Silva, Renata A. Figueiredo, Flávio A. B. Figueiredo, Jacek Michalewicz and Rômulo Menezes	Jorge R. Henriquez	

Sala 01.1		ST02 - Técnicas de Reducción de Modelos			Chairs: Elías Cueto, Pedro Díez, Antonio Huerta	
		Nº	Paper	Authors	Presenter	
11:00-11:15	1	419	The PGD-Latin method for the load flow problem in electric grids	Raquel García-Blanco and Pedro Díez	Pedro Díez	
11:15-11:30	2	101	Efficient dimensional reduction of nonlinear finite element models	Joaquín A. Hernández and Javier Oliver	Joaquín A. Hernández	
11:30-11:45	3	72	New effective basis system for the POD-snapshots based reduction models	Iñigo Bidaguren, Lakhdar Remaki and Jesús M. Blanco	Iñigo Bidaguren	
11:45-12:00	4	24	Combinação de análise de componentes principais com técnicas não paramétricas para estabelecer valores limite em gráficos de controle aplicados em dados de instrumentação de barragem	Emerson Lazzarotto, Anselmo Chaves Neto, Liliانا M. Gramani, Luiz A.T. Júnior and Edgar M.C. Franco	Emerson Lazzarotto	
12:00-12:15	5	51	Reduced Order Subcales for POD models	Joan Baiges and Ramon Codina	Joan Baiges	
12:15-12:30	6	420	Advanced techniques for coupling domains for generalized solutions computed by the Proper Generalized Decomposition	Enrique Nadal, Francisco Chinesta and Antonio Huerta	Antonio Huerta	

Sala 02.1		ST04 - Biomecânica Computacional e Aplicações			Chairs: João Folgado, Renato Natal Jorge, Begoña Calvo, Estefanía Peña	
		Nº	Paper	Authors	Presenter	

11:00-11:15	1	67	Redistribución de tensiones en el primer metatarso tras extracción de material óseo para trasplante autólogo de hueso	Javier Bayod, Ricardo Becerro de Bengoa Vallejo and Marta Elena Losa Iglesias	Javier Bayod
11:15-11:30	2	102	Biomechanical study of the vertiginous syndrome using the finite element method to improve vestibular rehabilitation	Carla Santos, Fernanda Gentil, Marco Parente, Jorge Belinha and Renato Natal Jorge	
11:30-11:45	3	118	Modelos 3D hueso-implante combinando TAC y CAD en mallas Cartesianas de elementos finitos h-adaptadas.	Luca Giovannelli, Onofre Marco, Francisco Javier Fuenmayor, Juan José Ródenas and Manuel Tur	Juan José Ródenas
11:45-12:00	4	125	Computer simulation of the electric activity of the heart using graphic processing units	Andrés Mena Tobar, Luis Mena Tobar and Jose F. Rodriguez Matas	Andrés Mena Tobar
12:00-12:15	5	169	Determination of bone remodeling process in insertion procedures of dental implants and minimplants by finite element method	José Alejandro Guerrero Vargas, Martín Casale, Estevam Barbosa and Diego Alexander Garzón Alvarado	José Alejandro Guerrero Vargas

Sala 02.2		ST20 - Fratura, Colapso e Comportamento Não-Linear em Estruturas de Betão e de Materiais Quási-Frágeis		Chair: Rui Faria, Xavier Oliver	
	Nº	Paper		Authors	Presenter
11:00-11:15	1	92	Modelling crack failure and repair by hybrid-Trefftz stress finite elements	Maria José Quirino Rosa Duarte and João António Teixeira de Freitas	Maria José Quirino Rosa Duarte
11:15-11:30	2	143	Numerical Assessment of the Out-of-plane Response of a Brick Masonry Structure Without Box Behaviour	Cesar Chacara, Paulo B. Lourenço and Nuno Mendes	Cesar Chacara
11:30-11:45	3	188	Formulación de un elemento viga-columna con discontinuidades interiores para el modelado del daño en elementos de concreto reforzado	Enrique Tenorio-Montero and Gelacio Juárez-Luna	Gelacio Juárez-Luna
11:45-12:00	4	199	Strain injection techniques for modelling tensile crack propagation in concrete gravity dams	Ivo Dias, Javier Oliver, J.V. Lemos and Oriol Lloberas-Valls	Ivo Dias
12:00-12:15	5	251	Meso-scale modelling of concrete behaviour with multiple cracks	Carlos Albino, Daniel Dias-Da-Costa, Rui Graça-E-Costa, Jorge Alfaiate and Eduardo Júlio	Daniel Dias-Da-Costa
12:15-12:30	6	270	Elemento finito para modelar a relação aderência-escorregamento incluindo o efeito da extensão do aço na análise de estruturas de betão armado	José Santos and António Abel Henriques	José Santos

Sala 02.3		ST10 - Recent Progresses in Derivative-Free Methods for Engineering Optimization		Chairs: José Aguilar Madeira, Ana L. Custódio	
	Nº	Paper		Authors	Presenter
11:00-11:15	1	42	Optimization of energy and water supply systems in S. Vicente, Cape Verde	Raquel Segurado, José Aguilar Madeira, Mário Costa, Neven Duic and Maria Da Graça Carvalho	Raquel Segurado
11:15-11:30	2	46	Minimizing sedimentation in canals: A gradient-free approach	Lino J. Alvarez-Vazquez, Aurea Martinez, Carmen Rodriguez, Miguel E. Vazquez-Mendez and Miguel A. Vilar	Lino J. Alvarez-Vazquez
11:30-11:45	3	55	Piezoelectric Vibrations Energy Harvesters Power Optimization Using the Finite Element Method	Agostinho Matos, José Guedes, Kuzhichalil Jayachandran and Hélder Rodrigues	Agostinho Matos
11:45-12:00	4	69	Clever Multistart in Multiobjective Directional Direct Search	Ana Custodio and Jose Madeira	Ana Custodio
12:00-12:15	5	87	Multiobjective design optimization of cruciform specimens for biaxial fatigue loading as a function of material and manufacturing limitations	Ricardo Baptista, Luis Reis, Manuel Freitas, Ricardo Claudio and José Aguilar Madeira	Ricardo Baptista
12:15-12:30	6	96	Diseño óptimo del sistema de control PID basado en tareas para un robot manipulador utilizando evolución diferencial	Carlos Ricaño Rea, Miguel Gabriel Villarreal Cervantes and Mario Aldape Pérez	Carlos Ricaño Rea

12:30-14:00 **Lunch**

Grande Auditório		ST12 - Heat and Mass Transfer		Chairs: Jesús María Blanco, Nuno Simões	
	Nº	Paper		Authors	Presenter
14:00-14:15	1	232	Effective thermal and electric conductivities of Sn-Pb welding for finite element analysis of thermoelectrics	Said Abouali, Jose Luis Perez Aparicio and Roberto Palma	Said Abouali
14:15-14:30	2	252	Application of Kalman Filter to support decision-making in the maintenance of heat exchangers in slurry polymerization processes	Leandro Lopes, Cristiano Fontes and Karen Pontes	Karen Pontes
14:30-14:45	3	258	Hydration of bean (<i>Phaseolus vulgaris</i>) var. "Pinto" by ultrasound	Leopoldo Rafael López-López, José Armando Ulloa, Pedro Ulises Bautista-Rosales, Petra Rosas-Ulloa, José Carmen Ramírez-Ramírez and Yessica Silva-Carrillo	Pedro Ulises Bautista-Rosales

14:45-15:00	4	268	Simulação CFD da limpeza de trocadores de calor com uso de granalha de aço	Pedro Henrique Almeida Brayner, José Claudino Lira Júnior, José A.P. Da Costa and Jorge Henriquez	José Claudino Lira Júnior
15:00-15:15	5	296	Optimal finite differences scheme for the prediction of the time lag in gas membrane permeation	Haoyu Wu, Neveen Al-Qasas, Boguslaw Kruczek and Jules Thibault	Jules Thibault

Sala 01.1		ST02 - Técnicas de Reducción de Modelos		Chairs: Elías Cueto, Pedro Díez, Antonio Huerta	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	380	Asymptotic analysis of a viscous flow in a curved pipe with elastic walls	Gonzalo Castiñeira and José Manuel Rodríguez	Gonzalo Castiñeira
14:15-14:30	2	82	Aplicación de la PGD en la resolución del problema de equilibrio estático en catenarias ferroviarias	Santiago Gregori, Manuel Tur, F. Javier Fuenmayor and Francisco Chinesta	Santiago Gregori
14:30-14:45	3	181	Real-time simulation of surgical cutting in haptic environments using computational vademecums	Carlos Quesada, David González, Iciar Alfaro, Elías Cueto and Francisco Chinesta	Carlos Quesada
14:45-15:00	4	318	Avaliação do erro em modelos de ordem reduzida do tipo PGD para a análise de lajes de Kirchhoff	Jose Paulo Moitinho de Almeida and Carlos Tiago	
15:00-15:15	5	36	Reducción de modelos para el análisis de estructuras en tiempo real: primeros pasos	Santiago Montagud, José Vicente Aguado, Francisco Chinesta and Elías Cueto	
15:15-15:30	6	18	A study for computational cost optimization for influenza flu including vaccination's impact	Claudia Dias, Edilson Arruda and Pablo Souza	Claudia Dias

Sala 02.1		ST04 - Biomecânica Computacional e Aplicações		Chairs: João Folgado, Renato Natal Jorge, Begoña Calvo, Estefanía Peña	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	364	Female pelvic cavity finite element model for pelvic disorders study	Paulo Rocha, Marco Parente, Sofia Brandão, Teresa Mascarenhas, António Augusto Fernandes and Renato Natal Jorge	Marco Parente
14:15-14:30	2	376	Constitutive model of the pelvic floor muscles with damage process	Dulce Oliveira, Marco Parente and Renato Natal Jorge	Dulce Oliveira
14:30-14:45	3	363	Mechanical properties of hyperelastic materials using different loading conditions	Pedro Martins, Carla Roque and Renato Natal Jorge	Pedro Martins
14:45-15:00	4	200	Inverse FEM Corneal tissue characterization methodology for contact tonometry test	Miguel Angel Ariza, Angel Ortilles, Jose Felix Rodriguez and Begoña Calvo	Begoña Calvo
15:00-15:15	5	39	Estudo de uma prótese total na cadeia ossicular do ouvido médio	Fernanda Gentil, Marco Marques, Marco Parente, Carla Santos and Renato Natal	Fernanda Gentil
15:15-15:30	6	383	Using an inverse Method to obtain the Material Parameters of the Mooney-Rivlin Constitutive Model for Pelvic Floor Muscles	Elisabete Silva, Marco Parente, Teresa Mascarenhas, Renato Natal Jorge and Sofia Brandão	Elisabete Silva

Sala 02.2		ST20 - Fratura, Colapso e Comportamento Não-Linear em Estruturas de Betão e de Materiais Quási-Frágéis		Chair: Rui Faria, Xavier Oliver	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	275	Viscoelastic concrete behaviour analysis using rigid particle detailed modelling	Carlos Serra, Nuno Monteiro Azevedo and António Lopes Batista	Carlos Serra
14:15-14:30	2	343	Continuum multi-scale modeling of fracture in cementitious-like materials	Manuel Alejandro Caicedo Silva, Emmanuel Roubin and Javier Oliver	Manuel Alejandro Caicedo Silva
14:30-14:45	3	330	On POD based reduction-order modeling in multi-scale material failure simulation	E. Roubin, M. Caicedo, J.A. Hernandez, A.E. Huespe and J. Oliver	Emmanuel Roubin
14:45-15:00	4	353	Simulação numérica do comportamento termomecânico do envolvimento em betão da espiral de uma turbina hidroelétrica	José Conceição, Rui Faria and Miguel Azenha	Rui Faria
15:00-15:15	5	372	Modelação Computacional do Comportamento Mecânico de Betão com Agregados de Borracha	António P. C. Duarte, Bruna A. Silva, Nuno Silvestre, Jorge de Brito and Eduardo Júlio	Antonio Duarte
15:15-15:30	6	405	Crushing and oedometric deformation of rockfill using DEM	Joao Manso, Joao Marcelino and Laura Caldeira	Joao Manso

Sala 02.3		ST10 - Recent Progresses in Derivative-Free Methods for Engineering Optimization		Chairs: José Aguilar Madeira, Ana L. Custódio	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	108	Frame structure optimization and material choice using genetic algorithms	Diogo Rechená, António Brites, Luís Sousa and João Sousa	Diogo Rechená

14:15-14:30	2	133	Optimization method for the design of microwave filters based on sequential stages	Ana Morán López and Jorge Ruiz Cruz	Ana Morán López
14:30-14:45	3	168	Shape optimization of cold-formed steel sections using DMS algorithm	Jose Madeira, Joaquim Dias and Nuno Silvestre	Jose Madeira
14:45-15:00	4	196	A Derivative-free Tunneling Method to Characterize Oil Reservoirs	Susana Gomez and Gustavo Ramos	Susana Gomez
15:00-15:15	5	382	Diseño paramétrico óptimo del mecanismo de marcha de un robot bípedo utilizando evolución diferencial	Jesús Said Pantoja-García, Miguel Gabriel Villarreal-Cervantes and Juan Carlos González-Robles	Jesús Said Pantoja-García
15:15-15:30	6	428	Vibration reduction in composite plate structures using constrained layer damping and multiobjective optimization	Jose Aguilar Madeira, Aurelio Araujo, Cristóvão Manuel Mota Soares and Carlos Alberto Mota Soares	Aurelio Araujo

15:30-16:00 **Break**

Grande Auditório		ST12 - Heat and Mass Transfer		Chairs: Jesús María Blanco, Nuno Simões	
	Nº	Paper	Authors	Presenter	
16:00-16:15	1	392	Comportamento de ETICS quando sujeitos à transferência de calor em regime dinâmico	Inês Simões, Nuno Simões and António Tadeu	Inês Simões
16:15-16:30	2	407	Characterization of heat transfer coefficients under closed loop controlled constant contact pressures at different die temperatures	Eneko Saenz De Argandoña, Lander Galdos and Joseba Mendiguren	Eneko Saenz De Argandoña
16:30-16:45	3	158	Análise da Transferência de Calor Transiente em Barragem de Concreto Através do Método dos Elementos Finitos	Tasia Hickmann, Everton Garcia, Eloy Kaviski and Liliana Gramani	Tasia Hickmann
16:45-17:00	4	76	Influence of the optical tissue parameters on the transmitted and reflected signals from a short-pulse laser	Pedro Pereira, Pedro Coelho and Maxime Roger	Pedro Coelho

Sala 01.1		ST08 - Inverse Problems		Chair: Roberto Palma	
	Nº	Paper	Authors	Presenter	
16:00-16:15	1	66	Análisis de sensibilidad mediante elementos finitos discontinuos Galerkin en evaluación no destructiva de materiales mediante técnicas de termografía activa	Ángel Javier Omella and Ricardo Celorrio	Ángel Javier Omella
16:15-16:30	2	98	Problema inverso de la determinación de resistencias eléctricas en suelos de dos capas mediante el método de redes	Freddy Antonio Ramírez Medrano, Ivan Alhama Manteca and Pedro Martinez Pagán	Freddy Antonio Ramírez Medrano
16:30-16:45	3	175	Derivada Topológica de Primeira e Segunda Ordem no Problema de Tomografia por Impedância Elétrica	Andrey Ferreira and Antonio Novotny	Andrey Ferreira

Sala 02.1		ST25 - Physics and Mechanics at Micro and Nanoscale		Chair: Nuno Silvestre	
	Nº	Paper	Authors	Presenter	
16:00-16:15	1	309	Analysis of the behaviour of polycrystalline materials through micromechanical simulations	Shenghua Wu, F.M. Andrade Pires and Nannan Song	Shenghua Wu
16:15-16:30	2	334	Determination of macroscopic yield surfaces through homogenization-based microscale analyses	Rodrigo Pinto Carvalho, Igor André Rodrigues Lopes, Shenghua Wu and Francisco Manuel Andrade Pires	Rodrigo Pinto Carvalho
16:30-16:45	3	370	Non-Linear Behaviour of Nanotubes under Coupled Bending-Twisting	Nuno Silvestre, Bruno Faria and José N. Canongia Lopes	Nuno Silvestre
16:45-17:00	4	310	Interaction between carbon nanotubes and ionic liquids	Bruno Faria, José Nuno Canongia Lopes, Nuno Silvestre, Karina Shimizu and Carlos Bernardes	Bruno Faria

Sala 02.2		ST20 - Fratura, Colapso e Comportamento Não-Linear em Estruturas de Betão e de Materiais Quási-Frágéis		Chair: Rui Faria, Xavier Oliver	
	Nº	Paper	Authors	Presenter	
16:00-16:15	1	327	Comportamento Dinâmico de Torres Trelaçadas em Concreto Armado para Turbinas Eólicas Offshore	Luiz Antonio Soares De Souza, Carlos Chastre, Válder José Da Guia Lúcio and Sueli Tavares De Melo Souza	Luiz Antonio Soares De Souza
16:15-16:30	2	171	Mixed FE for strain localization in plasticity	Miguel Cervera, Lorenzo Benedetti, Michele Chiumenti and Ramon Codina	Miguel Cervera
		ST16 - Computational Fracture Mechanics for Polymer Composites		Chair: Pedro Camanho	
16:30-16:45	3	161	Failure envelope determination in fibre reinforced composites using asymptotic homogenization techniques	Rafael Quelho De Macedo, José Miranda Guedes, Maurício Vicente Donadon and Rafael Thiago Luiz Ferreira	Rafael Quelho De Macedo

16:45-17:00	4	300	Desarrollo de un sistema para la caracterización mecánica de materiales poliméricos aplicados a nuevos diseños de partes antivibratorias.	José Alfredo González Esquivel, Raúl Lesso Arroyo, Agustín Vidal Lesso, José Manuel Ávila Aguilar, Juan Antonio Brito de La Torre and Jaime Galván Ugalde	José Alfredo González Esquivel
17:00-17:15	5	418	Analysis of composite structures using finite fracture mechanics	Pedro Camanho, Albertino Arreiro and Giuseppe Catalanotti	Pedro Camanho

Sala 02.3		ST06 - Evolutionary Algorithms And Metaheuristics In Civil Engineering and Construction Management			Chair: Jorge Magalhães Mendes	
		Nº	Paper	Authors	Presenter	
16:00-16:15	1	19	Multiobjective optimization: time-cost application in construction	Jorge Magalhaes-Mendes	Jorge Magalhaes-Mendes	
16:15-16:30	2	35	Tridimensional numerical finite element method to simulate deep tunnels with shotcrete lining	Paola Villalba Fiore, Américo Campos Filho and Denise Bernaud Maghous	Denise Bernaud Maghous	
16:30-16:45	3	113	Procedimiento para la optimización de forma de dispositivos de coronación para mejora de la eficacia de pantallas acústicas	Rayco Toledo, Juan José Aznárez, Orlando Maeso and David Greiner	Rayco Toledo	
16:45-17:00	4	115	Multi-agent combination of evolutionary algorithms and data mining for improved search in real-world optimization problems	Joaquin Izquierdo, Enrique Campbell, Idel Montalvo and Rafael Perez-Garcia	Joaquin Izquierdo	
19:00-20:30	Museu de Lisboa	Welcome Reception				

Tuesday 30th JUNE

9:00-9:45	Grande Auditório	Keynote Lecture - Numerical Simulation of Fluid Structure Interaction Problems in Graphics Processing Hardware; Experimental Validation - Mario Storti
9:45-10:30	Grande Auditório	Keynote Lecture - Mixed Methods in Solid Mechanics with Large Deformations - Javier Bonet

10:30-11:00	Break	
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Grande Auditório		ST17 - Computational Fluid Dynamics		Chairs: Juan Carlos Ramos, Gorka Sánchez Larraona	
	Nº	Paper	Authors		Presenter
11:00-11:15	1	10	A Riemann solver for slightly compressible flow equations		Joan Soler and Pablo Gamazo
11:15-11:30	2	28	Multilevel Monte-Carlo methods applied to the stochastic analysis of aerodynamic		Gabriel Bugada and Jordi Pons-Prats
11:30-11:45	3	45	Numerical Analysis for Particle Capture Characteristic and Curve Steepness of Impaction Sizer		C-H Huang and Y-Y Chang
11:45-12:00	4	54	Análise numérica da influência de agulhas no perfil de velocidades de um escoamento em um túnel de vento		Luiz Fernando Ribeiro Ledo, Sérgio de Moraes Hanriot and Cristiana Brasil Maia
12:00-12:15	5	59	Numerical Modelling of Highly Complex Flows		Jorge M M Barata and André R R Silva

Sala 01.1		ST01 - Processamento de Imagem e Visualização		Chair: João Manuel R.S. Tavares	
	Nº	Paper	Authors		Presenter
11:00-11:15	1	88	Surface insertion in a tetrahedral mesh using the Meccano method		Guillermo Valentín Socorro Marrero, Eloi Ruiz-Gironés, Albert Oliver Serra, José Manuel Cascón Barbero, José María Escobar Sánchez, José Sarrate Ramos and Rafael Montenegro Armas
11:15-11:30	2	121	Computer-aided recognition of the fossa ovalis in cardiac CT datasets		Pedro Morais, Daniel Barbosa, Jan D'Hooge, João L. Vilaça and João Manuel R. S. Tavares
11:30-11:45	3	162	IGRAFBIOTENIST – Interface gráfica de monitorização biomecânica de tenistas		António Gomes, João Tavares and Joaquim Gabriel
11:45-12:00	4	320	Reconhecimento automático de placas de veículos utilizando processamento digital		Marcelo Silva, Ricardo Valentim, Robinson Alves and Ivanilson Júnior
12:00-12:15	5	326	Generación automática de mallas cartesianas 3D geométricamente h-adaptadas considerando representación exacta de la geometría		Onofre Marco, Luca Giovannelli, José Albelda, Manuel Tur and Juan José Ródenas

Sala 02.1		ST11 - Coupled Problems and Parallel Computing in Engineering		Chair: Paulo Amado Mendes	
	Nº	Paper	Authors		Presenter
11:00-11:15	1	60	Diseño Acoplado de Celdas y Recargas de Combustible Nuclear mediante Algoritmos Genéticos		Juan Jose Ortiz-Servin, David A. Pelta, Jose Luis Montes and Alejandro Castillo
11:15-11:30	2	119	Aeroelastic Analysis of Aircraft Wings		André de Sousa Cardeira and André Calado Marta
11:30-11:45	3	120	Hybridized Mixed Finite Element Methods for the Coupling Stokes-Darcy Flow		Iury Igreja, Abimael F. D. Loula and Cristiane O. Faria
11:45-12:00	4	131	Application of LMS method to solve non-dynamics of cable equation. Coupling with second order wave solver and application on offshore structures		José Enrique Gutiérrez Romero, Julio García Espinosa, Blas Zamora Parra and Jerónimo Esteve Pérez
12:00-12:15	5	226	Non-linear finite element formulation of elasto-thermo-electric beams applied to model thermo-elements in peltier devices		Roberto Palma, José Luis Pérez-Aparicio and Emma Moliner

Sala 02.2		ST18 - Estabilidade, Comportamento Não Linear e Dimensionamento de Estruturas Metálicas		Chairs: Dinar Camotim, Rodrigo Gonçalves	
	Nº	Paper	Authors		Presenter
11:00-11:15	1	95	Análise de Estabilidade e Vibração de Barras de Parede Fina Fletidas com Seção em I através da Teoria Generalizada de Vigas (GBT)		Andréa G. Rodrigues, Marcílio Freitas, Dinar Camotim and Pedro Borges Dinis

11:15-11:30	2	126	Interacção Local-Distorcional-Global em Colunas de Aço Enformadas a Frio com Secção em C	Pedro Dinis, Dinar Camotim and Ben Young	Pedro Dinis
11:30-11:45	3	159	Interacção Local-Distorcional em Colunas de Aço Enformadas a Frio com Secção em C Reforçadas na Alma	André Martins, Pedro Dinis, Dinar Camotim and Paulo Providência	André Martins
11:45-12:00	4	166	Encurvadura de Barras de Parede Fina com Secção Fechada sujeitas a Carregamento Arbitrário: Aplicação da Teoria Generalizada de Vigas	Rui Bebiano, Cilmar Basaglia, Dinar Camotim and Rodrigo Gonçalves	Dinar Camotim
12:00-12:15	5	254	Distorção em secções de parede fina aberta simétricas e periódicas	Rodrigo Gonçalves and Dinar Camotim	Rodrigo Gonçalves
12:15-12:30	6	256	Análise da Estabilidade em Colunas de Aço Formadas a Frio com Seções Enrijecidas	Hélio Françaço Junior, Cilmar Basaglia, Dinar Camotim and João Alberto Venegas Requena	Hélio Françaço Junior

Sala 02.3		ST26 - Topology Optimization		Chair: José M. Guedes	
	Nº	Paper	Authors	Presenter	
11:00-11:15	1	63	Topological Optimization Modelling considering Uncertainties	Paulo Cezar Vitorio Junior and Edson Denner Leonel	Hugo L. Oliveira
11:15-11:30	2	210	Adecuación para fabricación de estructuras óptimas basado en esqueletonización	Asahel Mendoza San Agustín and Fernando Velázquez Villegas	Asahel Mendoza San Agustín
11:30-11:45	3	222	Diseño óptimo de estructuras satelitales	Fernando Camacho and Fernando Velázquez	Fernando Camacho
11:45-12:00	4	242	Robust Topology Optimization of Structures using Kriging models	Pascual Martí-Montrull, Alberto Cordero-Martínez and Mariano Victoria-Nicolás	Pascual Martí-Montrull
12:00-12:15	5	250	Robust topology design of continuum structures using isolines under loading uncertainty	Mariano Victoria-Nicolás, Alberto Cordero-Martínez and Pascual Martí-Montrull	Alberto Cordero-Martínez
12:15-12:30	6	247	Maximizing the stiffness in composite laminated structures using DMO and a commercial FE software	Goncalo Rodrigues, João Folgado and José Miranda Guedes	Goncalo Rodrigues

12:30-14:00	Lunch (including SEMNI + APMTAC Meetings)				
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Grande Auditório		ST17 - Computational Fluid Dynamics		Chairs: Juan Carlos Ramos, Gorka Sánchez Larraona	
	Nº	Paper	Authors	Presenter	
14:00-14:15	1	70	Análisis y optimización de un caudalímetro de placa de orificio mediante CFD	Gorka S. Larraona, Ricardo Javier Bonilla, Alejandro Rivas, Raúl Antón and Juan Carlos Ramos	
14:15-14:30	2	86	High-order CFD computations with stabilized Powell-Sabin elements	Giorgio Giorgiani, Hervé Guillard and Boniface Nkonga	Giorgio Giorgiani
14:30-14:45	3	154	Influência do regime de escoamento em uma chaminé solar de pequeno porte	Janaina de Oliveira Castro Silva, Tauane Shaisly Fernandes, Paulo Fonsêca Marinho Júnior, Luiz Fernando Ribeiro Ledo, Sérgio de Moraes Hanriot and Cristiana Brasil Maia	Janaina de Oliveira Castro Silva
14:45-15:00	4	177	CFD analysis of the aerodynamic response of a twin-box deck considering different gap widths	Ruben Sanchez, Felix Nieto Mouronte, Kenny Kwok and Santiago Hernández	Felix Nieto Mouronte
15:00-15:15	5	193	Discrete adjoint mixing-plane formulation for multi-stage turbomachinery design	Simão Rodrigues and André Marta	Simão Rodrigues
15:15-15:30	6	265	Embedded Approaches: Towards the Virtual Wind Tunnel	Riccardo Rossi, Antonia Larese, Pooyan Davvand, Masoud Davari and Pavel Ryzhakov	Riccardo Rossi

Sala 01.1		ST01 - Processamento de Imagem e Visualização		Chair: João Manuel R.S. Tavares	
	Nº	Paper	Authors	Presenter	
14:00-14:15	1	390	Classificação das Atividades de Segurança de Barragens quanto às Taxonomias de Realidade Aumentada	Fabiana Peres, Sérgio Scheer, Étore de Faria, Claudio Roberto Mauricio and Adriano Da Silva	Fabiana Peres
14:15-14:30	2	400	Plataforma de Redes Sociais como Ferramenta de Ensino a Distância	Thiago Dias, Patricia Dias, Elton Rabelo and Gray Moita	Thiago Dias
14:30-14:45	3	404	Lossless coding analysis of medical images sequences based on HEVC	Paulo J. Cordeiro, Pedro Assunção and Juan A. Gómez-Pulido	Paulo J. Cordeiro
14:45-15:00	4	80	Image-based Localization of Wireless Capsule Endoscope	Isabel N. Figueiredo, Carlos Leal, Luis Pinto, Pedro N. Figueiredo and Richard Tsai	Luis Pinto

Sala 02.1		ST11 - Coupled Problems and Parallel Computing in Engineering		Chair: Paulo Amado Mendes	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	229	Penalty-Projection method for monolithic fluid structure interaction solver	Daniele Cerroni, Filippo Menghini and Sandro Manservigi	Daniele Cerroni
14:15-14:30	2	262	Numerical scheme based on convolution integrals to study thermoelectric non-equilibrium interactions with relaxation times	Roberto Palma and José Luis Pérez-Aparicio	José Luis Pérez-Aparicio
14:30-14:45	3	313	Performance analysis of a particle-in-cell plasma physics code on homogeneous and heterogeneous hpc systems	Xavier Sáez, Alejandro Soba, Edilberto Sánchez, Mervi Mantsinen and José María Cela	Xavier Sáez
14:45-15:00	4	355	Rigidez dinámica de cimentaciones tripilote para aerogeneradores marinos.	Fidel García, Guillermo M. Álamo, Luis A. Padrón, Juan J. Aznárez and Orlando Maeso	Fidel García
15:00-15:15	5	413	Parallel implementation of a coupled Dirichlet-Neumann algorithm for the solution of deformable two-body contact problem	Matias Rivero, Juan Carlos Cajas, Guillaume Houzeaux and Mariano Vazquez	Matias Rivero

Sala 02.2		ST21 - Steel and Composite Structures		Chair: Nuno Lopes	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	137	Encurvadura por esforço transversal em vigas metálicas com apoios de extremidade não rígidos a temperaturas elevadas	André Reis, Nuno Lopes and Paulo Vila Real	
14:15-14:30	2	147	Análise ao fogo de elementos estruturais em aço com secções esbeltas através de elementos finitos de viga aplicando uma lei constitutiva efetiva	Nuno Lopes, Daniela Rodrigues and Paulo Vila Real	Nuno Lopes
14:30-14:45	3	172	Three dimensional simulation of partially encased beams at elevated temperatures	Paulo A.G. Piloto, David Almeida, A. B Ramos-Gavilán and Luís Mesquita	Paulo A.G. Piloto
14:45-15:00	4	225	Avaliação numérica e experimental da resistência de vigas com secções em ómega (Ω) enformadas a frio de paredes esbeltas furadas	Flávio Arrais, André Reis, Nuno Lopes and Paulo Vila Real	Flávio Arrais
14:45-15:00	5	192	Estudo do comportamento de estruturas sandwich com núcleo em espuma metálica através de ensaios de penetração com um punção esférico	Helder Mata, Renato Natal Jorge, Abel Santos, Marco Parente, Robertt Valente and António Fernandes	Helder Mata

Sala 02.3		ST26 - Topology Optimization		Chair: José M. Guedes	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	298	Nuevos desarrollos para la optimización topológica de estructuras con restricciones en tensión	José París, Iván Couceiro, Ignasi Colominas, Fermín Navarrina and Manuel Casteleiro	José París
14:15-14:30	2	421	On multi-scale structural topology optimization and material design	Alex Ferrer, Juan Carlos Cante and Javier Oliver	Alex Ferrer
14:30-14:45	3	435	Optimização de Localização de Reforços em Painéis Planos e Cilíndricos	Hugo Hugo Filipe Macedo de Pina, Jose M. Guedes, Helder Rodrigues	Hugo Pina
14:45-15:00	4	75	A comparative study of different optimal control strategies of medicine administration for HIV virus treatment	Roberto Thomé, Edilson Arruda, Claudia Dias, Dayse Pastore and Hyun Yang	Roberto Thomé

15:30-16:00 **Break**

Grande Auditório		ST17 - Computational Fluid Dynamics		Chairs: Juan Carlos Ramos, Gorka Sánchez Larraona	
		Nº	Paper	Authors	Presenter
16:00-16:15	1	292	Assessment of an explicit finite element scheme to simulate viscoelastic flow	Vitoriano Ruas, Fabrício Sousa and Murilo Tomé	Vitoriano Ruas
16:15-16:30	2	294	Three-dimensional simulations of a conserved binary mixture using Model B	Rudimar Nos, Hector Cenicerros and Alexandre Roma	Rudimar Nos
16:30-16:45	3	325	Numerical analysis of a dynamic problem involving bulk-surface surfactants	Jose R. Fernandez and Cristina Núñez García	Cristina Núñez García
16:45-17:00	4	373	Some progress in the discretization of convection diffusion equations with arbitrary coefficients and source to reach machine accuracy	Antonio Pascau, Francisco Alcrudo and Muslum Arici	Antonio Pascau
17:00-17:15	5	359	Linear vs Non-linear Aeroelastic Analysis of High Aspect-Ratio Wings	Frederico Afonso, José Vale, Gonçalo Leal, Éder Oliveira, Fernando Lau and Afzal Suleman	Frederico Afonso
17:15-17:30	6	360	Active flutter suppression using aileron control	José Vale, Éder Oliveira, Frederico Afonso, Fernando Lau and Afzal Suleman	José Vale

Sala 01.1		ST27 - Caracterização da Enformabilidade, Dano e Fractura Dúctil em Processos de Conformação Plástica		Chairs: Abel D. Santos, Lander Galdos, J. César de Sá	
		Nº	Paper	Authors	Presenter

16:00-16:15	1	408	Influencia de la implementación de un coeficiente de fricción variable en el proceso de embutición	Imanol Gil, Joseba Mendiguren, Lander Galdos and Eneko Saenz De Argandoña	Imanol Gil
16:15-16:30	2	40	Modelo numérico experimental da rugosidade no fresamento frontal de acabamento do aço AISI 4140 endurecido	Sergio L R Almeida, Marco Antonio Stipkovic, Ed Cláudio Bordinassi, Sergio Delijaicov and Marco Stipkovic Filho	Sergio L R Almeida
16:30-16:45	3	409	Fractional calculus based extension of the classic elastic law to represent non-linear elastic behaviors	Lander Galdos, Eneko Saenz De Argandoña and Joseba Mendiguren	Joseba Mendiguren
16:45-17:00	4	347	Forming Limits by Necking and Fracture in Sheet Metal Forming	Ricardo Martins, Maria Beatriz Silva and Paulo Martins	
17:00-17:15	5	410	Analysis of the variability on the model parameter search methodology for the Chaboche kinematic hardening model	Elena Silvestre, Joseba Mendiguren, Eneko Saenz De Argandoña and Lander Galdos	Lander Galdos
17:15-17:30	6	332	An Elasto-Viscoplastic Damage Model: Formulation and Numerical Implementation	Fernando Pala Beirão Macedo and Francisco Manuel Andrade Pires	Fernando Pala Beirão Macedo

Sala 02.1		ST11 - Coupled Problems and Parallel Computing in Engineering		Chair: Paulo Amado Mendes	
	Nº		Paper	Authors	Presenter
16:00-16:15	1	414	A Lagrangian Particle Transport Solver Using a Coupled Software	Edgar Olivares Mañas, Juan Carlos Cajas and Guillaume Houzeaux	Edgar Olivares Mañas
16:15-16:30	2	422	FEMPAR: a domain-decomposition-based code for parallel finite element multiphysics simulations	Santiago Badia, Alberto Martín and Javier Principe	Javier Principe
16:30-16:45	3	160	A two-step numerical procedure for the analysis of re-radiated noise from underground transportation means	Luis Godinho, Paulo Amado Mendes and Pedro Alves Costa	Luis Godinho
16:45-17:00	4	338	Computational Strategies to Speed Up the Solution of Homogenization-based Multi-Scale Problems	Igor André Rodrigues Lopes and Francisco Manuel Andrade Pires	Igor André Rodrigues Lopes

Sala 02.2		ST21 - Steel and Composite Structures		Chair: Nuno Lopes	
	Nº		Paper	Authors	Presenter
16:00-16:15	1	282	Shape & size optimization of truss structures applied to power transmission towers	Iván Couceiro, Santiago Martínez, José París, Luis Ramírez and Ignasi Colominas	Iván Couceiro
16:15-16:30	2	303	Avaliação do Efeito da Interação Solo-Estrutura sobre a Resposta Estrutural de Edifícios Mistos (Aço-Concreto)	José Guilherme Santos Da Silva, Ana Cristina Castro Fontena Seira and Flávio Dos Ramos Sousa Mendonça	Flávio Dos Ramos Sousa Mendonça
16:30-16:45	3	374	Resistência de ligações aparafusadas autoperfurantes de chapas finas de perfis enformados a frio a temperaturas elevadas	Luís M. R. Mesquita, Armandino Parente, Rui Dias, Luisa Barreira and Paulo Piloto	Luís M. R. Mesquita
16:45-17:00	4	216	Modelagem da Deflexão de uma Placa Retangular através do Método das Diferenças Finitas	Adilandri Mércio Lobeiro, Giovani de Madureira Alves Sobrinho and Liliana Madalena Gramani	Liliana Madalena Gramani

Sala 02.3		ST07 - Computational Modeling in Mechanobiology and Tissue Engineering		Chair: Paulo Fernandes	
	Nº		Paper	Authors	Presenter
16:00-16:15	1	90	Three Dimensional Colonic Crypt Model	Giuseppe Romanazzi, Isabel Figueiredo and Carlos Leal	Giuseppe Romanazzi
16:15-16:30	2	211	The Correction of the Vestibular System Inertial Biosensors	Vladimir Aleksandrov, María Alicia Lizbeth Ángeles Vázquez, Maribel Reyes Romero, Tamara B. Alexandrova, Katerina V. Tikhonova, Rosario Vega and Enrique Soto	Maribel Reyes Romero
16:30-16:45	3	223	The effect of BMP-2 on large bone defects: an in silico study	Frederico Ribeiro, Maria-José Gómez-Benito, João Folgado, Paulo Fernandes and José-Manuel García-Aznar	Frederico Ribeiro
16:45-17:00	4	434	Multibody Minimum-energy Trajectory with Application to Protein Folding	Carlos Leandro, Carlos Alves, Jorge Ambrósio	

18:00-19:00	Sala 02.1	SEMNI Assembly
	Sala 02.2	APMTAC Assembly

Wednesday 1st JULY

9:00-9:45	Grande Auditório	Keynote Lecture - Advances in the Meso-modeling of Laminates for the Prediction of Energy Absorption - Olivier Allix
9:45-10:30	Grande Auditório	Keynote Lecture - High-Fidelity Multidisciplinary Design Optimization for the Next Generation of Aircraft - Joaquim Martins

10:30-11:00	Break
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Grande Auditório		ST17 - Computational Fluid Dynamics		Chairs: Juan Carlos Ramos, Gorka Sánchez Larraona	
	Nº	Paper		Authors	Presenter
11:00-11:15	1	417	On the calculation of the flow around 2-D square cylinder with rounded corners	Hugo Abreu, Luís Eça and Guilherme Vaz	Hugo Abreu
		ST19 - Higher-Order Finite Volume Methods		Chair: Xesus Nogueira	
11:15-11:30	2	32	A high-order finite volume method for all speed flows	Xesus Nogueira, Luis Ramírez Palacios, Sofiane Khelladi, Jean-Camille Chassaing and Ignasi Colominas	Xesus Nogueira
11:30-11:45	3	316	A higher-order collocated finite volume method for the resolution of the incompressible navier stokes on unstructured grids	Luis Ramirez, Xesus Nogueira, Sofiane Khelladi, Jean-Camille Chassaing, Iván Couceiro and Ignasi Colominas	Luis Ramirez
11:45-12:00	4	344	eXtended Hybridizable Discontinuous Galerkin (X-HDG) for bimaterial problems	Sonia Fernandez-Mendez, Ceren Gurkan, Esther Sala-Lardies and Martin Kronbichler	Sonia Fernandez-Mendez
12:00-12:15	5	345	A quality-based framework to generate and validate curved meshes for unstructured high-order methods	Abel Gargallo-Peiró, Eloi Ruiz-Gironés, Xevi Roca, Jaime Peraire and Josep Sarrate	Jose Sarrate

Sala 01.1		ST05 - Métodos sem Malha		Chairs: Jorge Belinha, Carlos Alves	
	Nº	Paper		Authors	Presenter
11:00-11:15	1	12	Mould Filling Simulation Using Finite Pointset Method	Felix R. Saucedo-Zendejo and Edgar O. Resendiz-Flores	
11:15-11:30	2	48	Inverse problem estimation of a two-dimensional thermal contact conductance using the reciprocity functional	Camila Lacerda and Marcelo Colaco	Marcelo Colaco
11:30-11:45	3	116	The crack propagation numerical analysis using a meshless method	Jorge Belinha, José Azevedo, Lúcia Dinis and Renato Natal Jorge	
11:45-12:00	4	157	Un Método de Colocación Sin Malla obtenido a partir de la Ecuación Integral de Contorno Indirecta y su Aplicación a Problemas de Laplace y Helmholtz	Sebastian Sensale, Alfredo Canelas and Berardi Sensale	Berardi Sensale
12:00-12:15	5	289	A qualitative analysis of fluid simulation using a SPH variation	André Luiz Vieira E Silva, Mozart William Almeida, Caio José Brito, Veronica Teichrieb, José Maria Barbosa and Cesar Augusto Moreno	Mozart William Almeida

Sala 02.1		ST22 - Geotechnics and Geoenvironment		Chair: Rafael Jiménez	
	Nº	Paper		Authors	Presenter
11:00-11:15	1	33	Numerical simulation of consolidation in layered soils under variable loads	Gonzalo García Ros, Iván Alhama Manteca and Francisco Alhama López	Gonzalo García Ros
11:15-11:30	2	74	Modelado numérico del fenómeno de torque y arrastre y centralización en tuberías de completación de pozos de petróleo y gas	Geralf Pineda, Manuel J. Martinez, Vicente L. Ciccola and Zamaira E. Chacon	
11:30-11:45	3	79	A numerical study for the simplification of large scenarios of seepage under dams	Pablo Ortiz, Iván Alhama and Francisco Alhama	Pablo Ortiz
11:45-12:00	4	186	Inverse sensitivity analyses for Decision Analyses related to Contaminant Remediation	Velimir Vesselinov	Velimir Vesselinov
12:00-12:15	5	190	Propuesta de algoritmo genético con operadores personalizados para el análisis de la estabilidad de taludes	Rafael Jiménez-Rodríguez and Rafael Jurado-Piña	Rafael Jiménez-Rodríguez
12:15-12:30	6	212	Análisis del efecto arco en suelos no-cohesivos a partir de modelos numéricos continuos (FLAC) y discretos (PFC)	Salvador Senent, José Vieira Lemos and Rafael Jimenez	Salvador Senent

Sala 02.2		ST03 - Métodos Computacionais em Acústica e Vibrações		Chairs: Luis Godinho, Jaime Ramis	
	Nº	Paper		Authors	Presenter
11:00-11:15	1	145	Approximation of waves written in mixed form in time dependent domains	Ramon Codina, Oriol Guasch, Marc Arnela and Héctor Espinoza	Ramon Codina

11:15-11:30	2	14	High-order Hermitian Algorithm for Non-linear Dynamics	José Laier	José Laier
11:30-11:45	3	38	The computation dynamics of electromagnetic radiation in 3D dispersive metamaterials.	Gennadiy Burlak	Gennadiy Burlak
11:45-12:00	4	104	Modelado de motores de compresión utilizando la teoría de circuitos y el método de las soluciones fundamentales	Jaime Ramis, Paulo A. Mendes, Luis M. C. Godinho and Jesús Carbajo	Jaime Ramis
12:00-12:15	5	136	Resistencia al flujo de paneles perforados	Jesús Carbajo, Luís Godinho, Paulo Amado Mendes and Jaime Ramis	Jesús Carbajo
12:15-12:30	6	81	BEM-FEM formulation in time domain for SSI analyses in layered soils	Antonio Romero Ordóñez, Daniel López-Mendoza and Pedro Galvín Barrera	Daniel López-Mendoza

Sala 02.3		ST27 - Caracterização da Enformabilidade, Dano e Fractura Dúctil em Processos de Conformação Plástica		Chairs: Abel D. Santos, Lander Galdos, J. César de Sá	
		Nº	Paper	Authors	Presenter
11:00-11:15	1	244	On the hardening curve determination using uniaxial tensile and hydraulic bulge test – application to dual-phase steels (DP500, DP600 and DP780)	Rui Amaral, Abel D. Santos, A. B. Lopes and José A. Sousa	Rui Amaral
11:15-11:30	2	246	Determinação da curva de encruamento de chapas metálicas com o ensaio hidráulico de expansão	Hugo Campos and Abel Santos	Hugo Campos
11:30-11:45	3	361	Assessment of high and low stress triaxiality ductile failure models	Pedram Farahnak, Erfan Azinpour, Abel D. Santos and Jose M. A. Cesar de Sa	Abel D. Santos
11:45-12:00	4	279	Flange forming simulation using finite element analysis	Amando Gallardo and Raúl Lesso	Amando Gallardo
12:00-12:15	5	378	Thermal gradients prediction in the gleeble system using a 3D finite element model	João Martins, Luís Alves, Diogo Neto, Marta Oliveira and Luís Menezes	João Martins
12:15-12:30	6	377	Numerical Modelling of Single Point Incremental Sheet Forming Process	Diogo M. Neto, Marta C. Oliveira, Luís F. Menezes and José L. Alves	Diogo M. Neto

12:30-14:00	Lunch				
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Grande Auditório		ST25 - Physics and Mechanics at Micro and Nanoscale		Chair: Nuno Silvestre	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	84	Stability of structured grain boundaries in graphene	Francisco Arca, Juan Mendez and Pilar Ariza	Pilar Ariza
14:15-14:30	2	85	Atomistic modeling of heat conduction in nanomaterials	Carlos S. Martin, Michael Ortiz and Pilar Ariza	Carlos S. Martin
14:30-14:45	3	259	Efficient simulation of the effective g -factor for carriers confined in semiconductor nano-objects	Li-Wei Yang, Chin-Min Yang, Yiming Li and Oleksandr Voskoboynikov	Oleksandr Voskoboynikov
14:45-15:00	4	314	Important Input to Modelling Solidification	Dieter Herlach	Dieter Herlach
15:00-15:15	5	432	Finite element model of voice control system	Raycho Ilarionov, Todor Todorov, Georgi Tsanev and Stanimir Yordanov	Georgi Tsanev
15:15-15:30	6	248	Numerical modeling of wave propagation in elastic media using time and space implicit finite differences	Ursula Iturraran-Viveros and Reymundo Itza	Ursula Iturraran-Vivero

Sala 01.1		ST05 - Métodos sem Malha		Chairs: Jorge Belinha, Carlos Alves	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	291	Implementação do método Smoothed Particle Hydrodynamics para modelagem de escoamento de fluido interagindo com estrutura	Edgar Andrés Patino Narino and Luiz Otávio Saraiva Ferreira	Edgar Andrés Patino Narino
14:15-14:30	2	352	Análise axissimétrica de placas circulares usando o método de interpolação radial pontual	Behzad Vasheghani Farahani, José Manuel Berardo, Rafal Drgas, José César de Sá, António Ferreira and Jorge Belinha	José Manuel Berardo
14:30-14:45	3	394	RBF interpolation in dimension D as MFS approximation in dimension D+1	Carlos J. S. Alves	Carlos J. S. Alves
14:45-15:00	4	427	An Isotropic Elastic Damage Model for Concrete Material Using a Meshless Method	Behzad Vasheghani Farahani, Francisco Pires, José César de Sá, António Ferreira and Jorge Belinha	Behzad Vasheghani Farahani
15:00-15:15	5	366	Debris flow modelling with high-performance meshless methods	Ricardo B. Canelas, Jose M. Domínguez, Alex J.C. Crespo, Miguel Silva and Rui Ferreira	Rui Ferreira

Sala 02.1		ST22 - Geotechnics and Geoen지니어ing		Chair: Rafael Jiménez	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	235	Método Probabilístico Avaliação da Estabilidade de Barragens de Aterro um Estudo de Itaipu	Tereza Rachel Mafioleti, Anselmo Chaves Neto, Josiele Patias, Sheila Regina Oro and Luiz Albino Teixeira Júnior	Tereza Rachel Mafioleti

14:15-14:30	2	237	Respuesta sísmica de estructuras de edificación cimentadas sobre pilotes inclinados	Cristina Medina, Luis A. Padrón, Juan J. Aznárez and Orlando Maeso	Cristina Medina
14:30-14:45	3	240	Work – Energy balance for Discrete Element Method on the example of shear stress tests.	Varvara Roubtsova, Mohamed Chekired, Mourad Karray and Smaneh Amirpour	Varvara Roubtsova
14:45-15:00	4	283	Modelagem de equações estruturais aplicada na avaliação dos fatores relacionados com a variabilidade dos dados de monitoramento de uma barragem de concreto	Sheila Regina Oro, Anselmo Chaves Neto, Suellen Ribeiro Pardo Garcia and Tereza Rachel Mafioleti	Sheila Regina Oro
15:00-15:15	5	433	Numerical analysis of sedimentation grading size distribution experiment using the Discrete Element Method	R. Bravo, J.L. Pérez-Aparicio, J.J. Gómez-Hernández	Rafael Bravo
15:15-15:30	6	109	Influência de escoamento vertical na capacidade resistente de fundações superficiais impermeáveis	Francisco Melo Franco, Armando Nunes Antão, Mário Vicente Da Silva and Nuno Guerra	Francisco Melo Franco

Sala 02.2		ST03 - Métodos Computacionais em Acústica e Vibrações		Chairs: Luis Godinho, Jaime Ramis	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	152	Estudo de problemas de vibrações em barragens usando análise isogeométrica	Rodny J. Mendoza Fakhye, Roberto Dalledone Machado, Mateus Rauen and Marcos Arndt	Rodny J. Mendoza Fakhye
14:15-14:30	2	165	2.5D numerical analysis of the acoustic behaviour of sonic crystal type barriers	Paulo Amado-Mendes, Luis Godinho, Pedro Gil Santos, Jaime Ramis and Jesús Carbajo	Paulo Amado-Mendes
14:30-14:45	3	271	Aplicação do Método do Elementos Finitos , Análise Isogeométrica e Métodos Enriquecidos a análise dinâmica 1D	Paulo De Oliveira Weinhardt, Mateus Rauen, Marcos Arndt and Roberto Dalledone Machado	Roberto Dalledone Machado
14:45-15:00	4	277	CFD study of the acoustic performance of simple expansion chamber mufflers	Juan Luis Cepeda Aguilar, Omar López, Julian Arroyo and Andres Gonzalez-Mancera	Juan Luis Cepeda Aguilar
15:00-15:15	5	395	Estudo sobre a Propagação Acústica em Águas Rasas	Emerson S. Costa and Eduardo B. Medeiros	Emerson S. Costa
15:15-15:30	6	2	Ensaio sobre a fluência na vibração de colunas	Alexandre Wahrhaftig and Reyolando M. L. R. F. Brasil	Alexandre Wahrhaftig

Sala 02.3		GS03 - Metodos Computacionais em Previsão		Chair: José M. Guedes	
		Nº	Paper	Authors	Presenter
14:00-14:15	1	111	Uso de métodos ensemble para la predicción de la radiación solar	Gustavo Montero, Felipe Díaz, Hendrix Montero, Eduardo Rodríguez, José María Escobar and Rafael Montenegro	Gustavo Montero
14:15-14:30	2	227	Modelo matemático estatístico-genético de Boltzmann-Gibbs de distribuição de diamantes nos kimberlitos por massa dos seus cristais	Vladimir Zinchenko, Viktor Dech and João Tunga Felix	Vladimir Zinchenko
14:30-14:45	3	241	Monitoramento de movimentos relativos em barragem de concreto via modelo estatístico multivariado	Suellen Ribeiro Pardo Garcia, Anselmo Chaves Neto, Cláudio Neumann Júnior and Sheila Regina Oro	Anselmo Chaves Neto
14:45-15:00	4	263	Desarrollo de un método ensemble para la predicción del viento a escala local usando elementos finitos	Eduardo Rodríguez, Albert Oliver, Rafael Montenegro and Gustavo Montero	Eduardo Rodríguez
15:00-15:15	5	324	Large scale analysis of the river flow fluctuations in Brazil	Adriana C. Braga, Ademir A. Ribeiro, Manoel M. A. De Jesus, Rodolfo T. Teixeira and Haroldo V. Ribeiro	Anselmo Chaves Neto
15:15-15:30	6	358	Nuevas estrategias de cálculo numérico de tirantes normales en canales rectangulares	Wilson Rodríguez Calderón and Myriam Rocío Pallares Muñoz	Myriam Rocío Pallares Muñoz

15:30-16:00	Break				
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Grande Auditório		ST04 - Biomecânica Computacional e Aplicações		Chairs: João Folgado, Renato Natal Jorge, Begoña Calvo, Estefanía Peña	
		Nº	Paper	Authors	Presenter
16:00-16:15	1	336	Experimental and numerical procedure to determine the failure properties due to deep penetration of vena cava tissue	Quercus Hernández and Estefanía Peña	Estefanía Peña
16:15-16:30	2	337	Development of a general Ground Contact model for Analysis and Simulation of Human Gait	João A. Marques, Sérgio Gonçalves and Miguel T. Silva	João A. Marques
16:30-16:45	3	335	Estudio numérico-experimental del comportamiento mecánico de la fascia superficial y profunda	Juan Antonio Peña, David Ruiz-Alejos, Miguel A. Martínez and Estefanía Peña	Juan Antonio Peña

16:45-17:00	4	228	Modelo biomecânico do membro superior com uma articulação do ombro com 6 graus de liberdade	Carlos Quental, João Folgado, Jorge Ambrósio and Jacinto Monteiro	Carlos Quental
17:00-17:15	5	169	Determination of bone remodeling process in insertion procedures of dental implants and minimplants by finite element method	José Alejandro Guerrero Vargas, Martín Casale, Estevam Barbosa and Diego Alexander Garzón Alvarado	José Alejandro Guerrero Vargas

Sala 01.1		ST13 - Numerical Methods for Building Energy Simulation		Chair: Jesús María Blanco, Nuno Simões	
		Nº	Paper	Authors	Presenter
16:00-16:15	1	64	Characterization of wood samples through numerical simulation based on a test validation bench procedure	Belinda Pelaz, Jesús Cuadrado, Jesús M. Blanco and Eduardo Rojí	Belinda Pelaz
16:15-16:30	2	65	Numerical model development for the optimization of wood coating enclosures	Belinda Pelaz, Jesús Cuadrado, Jesús M. Blanco and Eduardo Rojí	Jesús M. Blanco
16:30-16:45	3	393	Study of ventilated solar walls in a Mediterranean climate, installed in residential and office buildings.	Nuno Simões, Mário Manaia and Inês Simões	Nuno Simões
16:45-17:00	4	416	EnergyPlus Simulator of the Civil Engineering building of the IST Alameda campus	Gonçalo Marçal, Mário Matos and Luís Eça	Gonçalo Marçal

Sala 02.1		ST22 - Geotechnics and Geoengineering		Chair: Rafael Jiménez	
		Nº	Paper	Authors	Presenter
16:00-16:15	1	110	Determinação de impulsos de terras através de implementação numérica dos teoremas estático e cinemático	Nuno Deusdado, Armando Nunes Antão, Mário Vicente Da Silva and Nuno Guerra	Nuno Deusdado
16:15-16:30	2	138	VGCM2D-Flexible: A generalized particle contact model for rock fracture taking into account particle deformability	Nuno Azevedo, Maria Luísa Braga Farinha and Mariline Candeias	Nuno Azevedo
16:30-16:45	3	139	A Particle/Particle Interface Model Including Surface Roughness for Stability Analysis of Arch Dam Foundations	Nuno Azevedo and Maria Luísa Braga Farinha	Maria Luísa Braga Farinha
16:45-17:00	4	389	Impact of different subballast solutions on the service life of the railway substructure	Tiago Moço-Ferreira and Paulo Teixeira	Tiago Moço-Ferreira

Sala 02.2		ST24 - Dynamic Effects in High-Speed Railway Tracks		Chair: Cristina Alves Ribeiro	
		Nº	Paper	Authors	Presenter
16:00-16:15	1	122	Soil-structure interaction effects on the transverse response of beam bridges under moving loads and its application to railway traffic	Alejandro Doménech, Antonio Romero Ordóñez, Maria D. Martínez-Rodrigo and Pedro Galván Barrera	Maria D. Martínez-Rodrigo
16:15-16:30	2	144	Assessment of the short and long term behaviour of the track at a railway transition zone	Cristina Alves Ribeiro, Rui Calçada and Raimundo Delgado	Cristina Alves Ribeiro
16:15-16:31	3	213	Analysis of the influence of the permanent deformation of ballast layer in the railway track degradation based on numerical simulations	Diogo Catarino, Cristina Alves Ribeiro and Cecília Vale	Cristina Alves Ribeiro

Sala 02.3		GS03 - Metodos Computacionais em Previsão		Chair: Nuno Silvestre	
		Nº	Paper	Authors	Presenter
16:00-16:15	1	369	Previsão de série temporal de subpressão usando regressão dinâmica múltipla com modelagem de série temporal de resíduos aplicada à barragem principal de Itaipu	Júlio César Royer, Volmir Eugênio Wilhelm and Josiele Patias	Júlio César Royer
16:15-16:30	2	425	Un modelo numérico para cuantificar la reducción de la vida útil del firme producida por la carga dinámica de rodadura	Fermín Navarrina, Luis Ramírez, José París, Xesús Nogueira, Ignasi Colominas, Manuel Casteleiro and José Ramón Fernández-De-Mesa	Fermín Navarrina
16:30-16:45	3	381	Modelação numérica de edifícios de alvenaria de pedra calibrados com ensaios de caracterização dinâmica	Ivo Dias, Jorge Gomes, Alfredo Costa and Paulo Candeias	Ivo Dias
16:45-17:00	4	106	Previsões Pontuais e Intervalares Híbridas de Deslocamento de Barragens	Jairo Marlon Corrêa, Anselmo Chaves Neto, Luiz Albino Teixeira Júnior, Edgar Manuel Carreño Franco, Reinaldo Souza Castro and Alvaro Eduardo Faria	Jairo Marlon Corrêa

20:00-22:30	Kais Restaurant	Conference Dinner			
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Thursday 2nd JULY

9:45-10:30	Grande Auditório	Keynote Lecture - Purely-elastic instabilities in microscale flows of complex fluids - Manuel A. Alves		
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10:30-11:00	Break			
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Grande Auditório		ST09 - Isogeometric Analysis (IGA)		Chairs: Fermín Navarrina, Robertt Valente	
	Nº	Paper	Authors	Presenter	
11:00-11:15	1	93	On the alleviation of locking pathologies in Isogeometric Analysis: An Assumed Natural Strain (ANS) NURBS solid-shell formulation for the analysis of thin structures	João Caseiro, Robertt Valente, Josef Kiendl, Alessandro Reali, Ferdinando Auricchio and Ricardo Alves de Sousa	Robertt Valente
11:15-11:30	2	357	Development of an open source pedagogical tool for modelling with T-Splines	M. Airoso, D. Cardoso, R.A.F. Valente, J.F. Caseiro and J.A. Oliveira	Marlene Airoso
11:30-11:45	3	367	Development of an open-source computational framework based on Isogeometric Analysis	D. Cardoso, J.F. Caseiro, M. Airoso, J. Dias-De-Oliveira and R.A.F. Valente	Diogo Cardoso
11:45-12:00	4	156	Elasto-plastic analysis of structures using an Isogeometric formulation	João Pedro Ferreira, Marco Parente and Renato Natal Jorge	Renato Natal Jorge

Sala 01.1		GS02 - Optimização		Chair: José M. Guedes	
	Nº	Paper	Authors	Presenter	
11:00-11:15	1	53	Otimização da análise de variabilidade de blocos chaves da barragem de Itaipu com o uso de novas estratégias na coleta de dados e técnicas para normalização dos escores fatoriais	Orlando Silva, Jair Marques, Cleverson Santos, Cassius Scarpin and Itamar Nieradka	Cleverson Gonçalves dos Santos
11:15-11:30	2	114	Um Método Misto de Barreira e de Barreira Modificada e o Fluxo de Potência Ótimo	Jéssica Antonio Delgado, Edméa Cássia Baptista, Edilaine Martins Soler, Antonio Roberto Balbo and Leonardo Nepomuceno	Edméa Cássia Baptista
11:30-11:45	3	255	Uma abordagem sequencial para otimização de rotas dos caminhões de coleta de resíduos sólidos	Thelma Pretel Brandão Vecchi, Luiz Mario M. Jorge, Mauro Antonio S. S. Ravagnani, Ademir A. Constantino, Douglas Fukunaga Surco, Maria Teresinha A. Steiner and Paulo Roberto Paraíso	Thelma Pretel Brandão Vecchi
11:45-12:00	4	329	Comparison of Minimization Techniques for Untangling and Smoothing High-order Meshes	Eloi Ruiz-Gironés, Shadi Alameddin, Xevi Roca and Jose Sarrate	Eloi Ruiz-Gironés

Sala 02.1		GS01 - Mathematical Problems in Engineering		Chair: Nuno Silvestre	
	Nº	Paper	Authors	Presenter	
11:00-11:15	1	78	Analysis and design of horn antennas with arbitrary profile using Mode-Matching	Lucas Polo-López, Jorge A. Ruiz-Cruz, Juan Córcoles and Carlos A. Leal-Sevillano	Lucas Polo-López
11:15-11:30	2	94	Resolución de problemas de contacto 3D en mallas Cartesianas con representación exacta de la geometría.	José Manuel Navarro-Jiménez, Onofre Marco, Manuel Tur and Juan José Ródenas	José Manuel Navarro-Jiménez
11:30-11:45	3	399	The bipenalty method in computational dynamics	Jack Hetherington, Antonio Rodriguez-Ferran and Harm Askes	Antonio Rodriguez-Ferran
11:45-12:00	4	260	Numerical study of multiphase flows of viscoelastic fluids in a sudden contraction-expansion	Artur Sucena, Alexandre Afonso, Manuel Alves and Fernando Pinho	
12:00-12:30	5	280	Análisis de sistemas de protección mediante tomas de tierra en subestaciones eléctricas compactas	Raquel Guizán, Ignasi Colominas, José París, Fermín Navarrina and Manuel Casteleiro	Raquel Guizán

Sala 02.2		GS04 - Algoritmos Genéticos e Redes Neurais		Chair: João Folgado	
	Nº	Paper	Authors	Presenter	
11:00-11:15	1	47	Application of genetic algorithms for the calibration of an air quality model and its validation using pollutant measures from the surroundings of an electric power plant	Jabel Ramirez, Albert Oliver and Eduardo Rodríguez	Jabel Ramirez

11:15-11:30	2	124	A Genetic Algorithm based on Abstract Data Types for Internet Traffic Optimization	Higor D. C. Cabral, Roberta V. V. Lopes, Marcelo Embiruçu and Karen V. Pontes	Higor D. C. Cabral
11:30-11:45	3	127	An Genetic Algorithm Based on Abstract Data Types for Electrocardiography Wave Detection	Carlos Cabral, Karen Pontes, Cristiano Fontes and Roberta Lopes	Carlos Cabral
11:45-12:00	4	214	Projeção do diâmetro e altura de árvores em uma Floresta Estacional Semidecidual por meio de redes neurais artificiais	Renato Castro, Carlos Soares and Ana Flávia Castro	

Sala 02.3		GS05 - Métodos Computacionais em Processos Industriais		Chair: Miguel T. Silva	
	Nº	Paper	Authors	Presenter	
11:00-11:15	1	97	Novo método para a caracterização de compressores na presença de incerteza	Rodrigo Lima Meira, Glória Meyberg Nunes Costa, Ricardo de Araújo Kalid and Karen Valverde Pontes	Rodrigo Lima Meira
11:15-11:30	2	281	Simulation of a Pressure Swing Adsorption system – modeling a modular adsorption unit	Márcio Neto, Rafael Ferreira and Marcelo Cardoso	Márcio Neto
11:30-11:45	3	285	Optimal Allocation and Sizing of Distributed Generation in Distribution Network	Babak Farhang Moghaddam and Elham Farhash	Babak Farhang Moghaddam
11:45-12:00	4	146	Comparative Analysis of Power Divider Networks with Large Number of Ports using different Numerical Methods	Raul Haro Baez, Jorge Ruiz Cruz, José Luis Masa and Pablo Sánchez Olivares	Jorge Ruiz Cruz
12:15-12:30	5	322	Integration of a phenomenological elastic-plastic model within a commercial FEA package	Vitor Anes, Manuel Freitas and Luis Reis	Vitor Anes

12:30-13:00	Grande Auditório	Closing Session			
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