

PROGRAM
Second European-Latin-American Conference of Theoretical and Applied
Mechanics
University of Havana, February 11-13, 2019

Web-site: <http://www.elactamcuba.com>

Note: The talks of 30 min are 25 minutes + 5 min for questions.

Place	Time	Monday 11.02.18	Tuesday 12.02.18	Wednesday 13.02.18
Classroom 5	8:30-9:00	Registration Faculty of Mathematics (Building Felipe Poey, 1 st floor) and Opening Ceremony	T13	T31
	9:00-9:30		T14	T32
	9:30-10:00		T15	T33
	10:00-10:30	T1	T16	T34
	10:30-11:00	T2	T17	T35
	11:00-11:30	Coffee break		
	11:30-12:00	T3	T18	T46
	12:00-12:30	T4	T19	T37
	12:30-13:00	T5	T20	T38
	13:00-13:30	T6	T21	T39
	13:30-15:30	Lunch		
Classroom 6	8:30-9:00	Registration Faculty of Mathematics (Building Felipe Poey, 1 st floor) and Opening Ceremony	T22	T40
	9:00-9:30		T23	T41
	9:30-10:00		T24	
	10:00-10:30	T7	T25	
	10:30-11:00	T8	T26	
	11:00-11:30	Coffee break		
	11:30-12:00	T9	T27	
	12:00-12:30	T10	T28	
	12:30-13:00	T11	T29	
	13:00-13:30	T12	T30	
	13:30-15:30	Lunch		
	17:30-19:30	<i>Welcome Cocktail</i>		

Participants

T1. Audrey Sedal, Alan Wineman. *NONLINEAR VISCOELASTIC EFFECTS IN PRESSURIZED FIBER REINFORCED TUBES*. University of Michigan. USA. lardan@umich.edu

T2. Silvia Budday, Melika Sarem, Laurent Starck, Gerhard Sommer, Nichapa Phunchago, Friedrich Paulsen, Paul Steinmann, Ellen Kuhl, V. Prasad Shastri, Gerhard A. Holzapfel. *TOWARDS MICROSTRUCTURALLY MOTIVATED CONSTITUTIVE MODELING OF*

BRAIN TISSUE. Friedrich-Alexander University Erlangen-Nürnberg. Germany. silvia.budday@fau.de

T3. Rafael Estevez. *EXPERIMENTAL STUDY AND MODELLING FOR THE PREDICTION OF THE MECHANICAL INTEGRITY OF METAL FILM ON POLYMER SUBSTRATE FOR FLEXIBLE ELECTRONICS*. Université de Grenoble Alpes, France. rafael.estevez@univ-grenoble-alpes.fr

T4. Chiara Giverso, Luigi Preziosi. *MODELING THE MECHANICAL BEHAVIOR OF MULTICELLULAR AGGREGATES*. Politecnico di Torino – Torino, Italy. chiara.giverso@polito.it

T5. Raúl Felipe Sosa (Ponent), Andrés Fraguela Collar, Ozkar Hernández Montero *PERIODIC SOLUTIONS OF THE MONO-DOMAIN MODEL FOR THE ELECTRICAL ACTIVITY OF HEART*. Facultad de Ciencias Físico Matemáticas, BUAP, México. rfsosa@cfm.buap.mx

T6. Davide Ambrosi. *MECHANICAL ASPECTS IN CELL MIGRATION*. Politecnico di Torino, Italy. davide.ambrosi@polito.it

T7. Andres Fraguela Collar. *THE SLIDING CONDITION IN A SIMPLIFIED MODEL OF SEISMIC ACTIVITY AND ITS EFFECT ON THE DESTABILIZATION OF THE TECTONIC PLATES*. Benemérita Universidad Autónoma de Puebla, Facultad de Ciencias Físico Matemáticas, Centro Multidisciplinario de Modelación Matemática y Computacional. fraguela@cfm.buap.mx

T8. Dominic Soldner, Paul Steinmann, Julia Mergheim. *MACROSCOPIC SIMULATION OF SELECTIVE BEAM MELTING PROCESSES BY MEANS OF ADAPTIVITY AND MULTI-RATE-INTEGRATORS*. Friedrich-Alexander-Universität Erlangen-Nürnberg. Germany. dominic.soldner@fau.de

T9. Mikhail Itskov, Khiem Vu. *PHYSICALLY BASED MODELING OF MECHANOLUMINESCENCE IN ELASTOMERS*. RWTH Aachen University/Department of Continuum Mechanics. Germany. itskov@km.rwth-aachen.de

T10. Marcus Assmus, Konstantin Naumenko, Andreas Öchsner, Victor Anatolyevich Eremeyev, Holm Altenbach. *A GENERALIZED FRAMEWORK TOWARDS STRUCTURAL MECHANICS OF THREE-LAYERED COMPOSITE STRUCTURES*. Institute of Mechanics, Faculty of Mechanical Engineering, Otto von Guericke University, Magdeburg, Germany. marcus.assmus@ovgu.de

T11. Maximilian Volkan Baloglu, Prof Kai Willner. *MULTISCALE MODELING OF SHEET-LAYERED LAMINATION STACKS WITH DIFFERENT CONSTITUTIVE CONTACT LAWS*. Chair of Applied Mechanics, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany. volkan.baloglu@fau.de

T12. Patrice Longere, Hannah Lois-Dorothy, Andre Dragon. *LARGE SCALE MODELLING OF DYNAMIC SHEAR LOCALIZATION AND MICRO-VOIDING ASSISTED FAILURE OF VISCOPLASTIC STRUCTURES*. Institut Clément Ader, Toulouse, France. patrice.longere@isae.fr

T13. Jian Li, Viacheslav Slesarenko, Pavel Galich, [Stephan Rudykh](#). *ELASTIC INSTABILITIES IN HYPERELASTIC COMPOSITE*. Mechanical Engineering Dept., University of Wisconsin–Madison, USA and Aerospace Engineering Dept., Technion–I.I.T., Haifa, Israel. rudykh@wisc.edu

T14. [H. Altenbach](#), J. Eisenträger, K. Naumenko. *ON THE MECHANICAL BEHAVIOR OF POWER PLANT COMPONENTS*. Otto von Guericke University Magdeburg, Institute of Mechanics, Magdeburg, Germany. holm.altenbach@ovgu.de

T15. [Christian Licht](#), Thibaut Weller. *A MATHEMATICAL JUSTIFICATION OF THE REISSNER-MINDLIN PLATE MODEL*. Laboratoire de Mécanique et Génie Civil UMR5508 Université de Montpellier, Montpellier, France. christian.licht@umontpellier.fr, thibaut.weller@umontpellier.fr

T16. [Claude Boutin](#), Mr. Pascal Fossat, Mr. Kevin Viverge. *NON-CONVENTIONAL DYNAMICS OF HIGHLY CONTRASTED PLATES*. Ecole Nationale des Travaux Publics de l'Etat, Université de Lyon, France. claudio.boutin@entpe.fr

T17. Renald Brenner. *REALIZABLE EFFECTIVE FRACTIONAL VISCOELASTICITY IN HETEROGENEOUS MATERIALS*. CNRS, Sorbonne Université, France. renald.brenner@sorbonne-universite.fr

T18. Siegfried Schmauder. *MULTISCALE MATERIALS MODELING: NEW DEVELOPMENTS WITH SPECIAL EMPHASIS ON FATIGUE SIMULATION*. Institute for Materials Testing, Materials Science and Strength of Materials (IMWF), University of Stuttgart, Stuttgart, Germany. siegfried.schmauder@imwf.uni-stuttgart.de

T19. Tim Ricken. *MULTISCALE SIMULATION OF MULTIPHASE MATERIALS*. University of Stuttgart, Institute of Mechanics, Structural Analysis and Dynamics, Germany. tim.ricken@isd.uni-stuttgart.de

T20. J. Kaplunov, A. Mubarak, D.A. Prikazchikov, L. Sultanova. *ASYMPTOTIC THEORY FOR SURFACE WAVES ON COATED SOLIDS*. School of Computing and Mathematics, Keele University, Keele, UK. j.kaplunov@keele.ac.uk

T21. [Michael Caspari](#), Philipp Landkammer, Paul Steinmann. *NODE-BASED FORM FINDING WITH ALTERNATING NUMBER OF NODES CAUSED BY REMESHING*. Institute of Applied Mechanics/Friedrich-Alexander Universität Erlangen-Nürnberg. Erlangen, Germany. michael.caspari@fau.de

T22. Tim Weidauer, Kai Willner. *MODAL CHARACTERISTICS OF GYROSCOPIC SYSTEMS IN ALE FORMULATION*. Chair of Applied Mechanics, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany. tim.weidauer@fau.de

T23. Jose Ignacio Hernandez Lopez. *TWO-DIMENSIONAL FIRST INTEGRAL OF VISCORESISTIVE MAGNETOHYDRODYNAMICS*. Department of Mechanics, Mackenzie Presbyterian University, Brasil. jihlopez@mackenzie.com.br

T24. [Dominik Budday](#), Prof Sigrid Leyendecker, Prof Mark Wilson, Prof Henry van den Bedem. *PROTEIN GEOMETRIC CONSTRAINT NETWORKS UNCOVER SHIFTING*

CONFORMATIONAL DYNAMICS. Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany. dominik.budday@fau.de

T25. Carlos Alberto Ruiz Colunga, Víctor Manuel Sámano Ortega, Nicolas Guerrero Sanchez, Arnoldo Maeda Sánchez, José Martín Medina Flores. MODEL, SIMULATION AND ANALYSIS OF AN ALKALINE ELECTROLYZER FOR REDUCING EMISSIONS IN INTERNAL COMBUSTION ENGINES. Universidad Politécnica de Guanajuato, Guanajuato. México. caruiz@upgto.edu.mx

T26. Humberto Híjar. COUPLING OF HYDRODYNAMIC AND ELASTIC MODES IN LIQUID CRYSTALS SIMULATED BY MULTI-PARTICLE COLLISION DYNAMICS. Engineering School, La Salle University Mexico, Mexico City, México. humberto.hijar@lasallistas.org.mx

T27. Daniel Juhre, Mr. Resam Makvandi. PHASE-FIELD MODELLING OF FRACTURE BASED ON STRAIN GRADIENT THEORIES. Institute of Mechanics/Otto von Guericke University Magdeburg. daniel.juhre@ovgu.de

T28. Rolf Mahnken, Martin Düsing. A COUPLED PHASE FIELD/MECHANICAL/DIFFUSIONAL APPROACH FOR BAINITIC TRANSFORMATION. Chair of Engineering Mechanics, Paderborn University, Germany. mahnken@ltm.upb.de

T29. Mariana Doina Banea, Sandip Budhe, Silvio de Barros. PREDICTING THE ELASTIC MODULUS OF NATURAL FIBER HYBRID COMPOSITE USING CLASSICAL LAMINATION THEORY. CEFET/RJ, Rio de Janeiro, Brazil. mdbanea@gmail.com

T30. Peter Rosko. PROBABILITY BASED TOPOLOGY OPTIMIZATION OF STRUCTURES. Vienna University of Technology, Austria. peter.rosko@tuwien.ac.at

T31. Rani Elhajjar, Chiu Law. MAGNETOSTRICTION FOR HEALTH MONITORING AND STRESS SENSING USING NATURAL MATERIALS. University of Wisconsin, Milwaukee, USA. elhajjar@uwm.edu

T32. Julián Bravo-Castillero, Rogelio Oscar Caballero-Pérez, Federico Juan Sabina, Renald Brenner, Raúl Guinovart-Díaz, Reinaldo Rodríguez-Ramos, Leslie Darién Pérez-Fernández, Lazaro Maykel Sixto-Camacho. MACROSCOPIC BEHAVIOR OF 1-3 THERMOPIEZOELECTRIC PERFORATED STRUCTURES AND ENERGY HARVESTING APPLICATIONS. Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas, Universidad Nacional Autónoma de México, CDMX, México. julian@mym.iimas.unam.mx

T33. Rogelio Oscar Caballero-Pérez, Julián Bravo-Castillero, Federico Sabina, Raúl Guinovart-Díaz, Reinaldo Rodríguez-Ramos, Leslie Darién Pérez-Fernández. HOMOGENIZATION OF THERMO-MAGNETO-ELECTRO-ELASTIC MULTILAMINATED COMPOSITES WITH IMPERFECT CONTACT. Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas, UNAM, México. rogelio.caballero@iimas.unam.mx

T34. David Yañez Olmos. HOMOGENIZATION AND EFFECTIVE COEFFICIENTS OF PERIODIC TWO-PHASE FIBROUS COMPOUNDS WITH COMPLEX DIELECTRIC PROPERTIES. Institute for Research in Applied Mathematics and Systems IIMAS-UNAM, México. yanezold@gmail.com

T35. Ernesto Iglesias-Rodríguez, Julian Bravo-Castillero, Manuel E. Cruz, Leslie D. Pérez-Fernández, Federico J. Sabina. HOMOGENIZATION IN A MULTISCALE CONDUCTION PROBLEM. IIMAS, UNAM, Ciudad de México, México. ernestoiglesias91@gmail.com

T36. Leandro Daniel Lau Alfonso, Reinaldo Rodríguez Ramos, Carlos Alberto Gandarilla Perez, Raul Guinovart Diaz, Julian Bravo Castillero. EFFECTIVE ELASTIC PROPERTIES USING MAXWELL APPROACH FOR TRANSVERSELY ISOTROPIC COMPOSITES AND COMPARISONS WITH NANOTUBE REINFORCEMENTS. Instituto de Cibernética, Matemática y Física, ICIMAF, Habana, Cuba. leandro@icimaf.cu

T37. Giani Egaña Fernández, Mariano Rodríguez Ricard. TURING-HOPF INSTABILITIES IN KELLER-SEGEL MODEL WITH GLYCOLYTIC REACTION. Universidad de La Habana, La Habana, Cuba. gegana@matcom.uh.cu

T38. Manuel Cruz Rodriguez, Victoria Hernández, Jorge Estrada, Eduardo Moreno. MODELO Y RESOLUCIÓN DEL DESPLAZAMIENTO DE UNA ONDA EN UNA LÁMINA MEDIANTE FEM. ICIMAF, La Habana, Cuba. manuelcruzrodriguez92@gmail.com

T39. Alejandro Javier Quintero Roba, Juan C. Lopez Realpozo, Reinaldo Rodríguez Ramos. COEFICIENTES EFECTIVOS DE UN COMPUESTO LAMINADO PIEZOELÉCTRICO CON CONTACTO IMPERFECTO NO UNIFORME EN LA INTERFASE. Facultad de Matemática y Computación de la Universidad de La Habana, Cuba. ale.quinte96@gmail.com

T40. Jorge Marchena, Reinaldo Rodríguez-Ramos. MACROSCOPIC THERMAL PROFILE OF HETEROGENEOUS CANCEROUS BREASTS WITH VASCULAR NETWORKS. Departamento de Matemáticas, Facultad de Matemática y Computación, Universidad de La Habana, Cuba. jmarchenaster@gmail.com

T41. Pablo Padilla, Ángel Báez, Ernesto Iglesias, Alan Lobato, y Marcel Ramírez. HOMOGENEIZACIÓN DE UN TIBURÓN ESFÉRICO Y RUGOSO: EL EFECTO DE LA SELECCIÓN NATURAL SOBRE LA OPTIMIZACIÓN DE CARACTERÍSTICAS HIDRODINÁMICAS DEL NADO DE ANIMALES. IIMAS, UNAM, México. pabpad@gmail.com